

**United Nations Development Programme**  
**Country: SOUTH AFRICA**  
**PROJECT DOCUMENT<sup>1</sup>**



**Project Title:** Securing multiple ecosystems benefit through SLM in the productive but degraded landscapes of South Africa

**UNDAF Outcome(s):** The transition to a 'green economy' is accelerated through policies that promote the creation of green jobs, increased energy production from renewable sources, greater energy efficiency and increased reliance on low carbon development.

**UNDP Strategic Plan Outcome 1: Integrated Results and Resources Framework:** Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded.

**UNDP Strategic Plan: Integrated Results and Resources Framework Output 1.3:** Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste

**Expected CP Outcome(s):** Increase in the number of sustainable 'green jobs' created in the economy

**Expected CPAP Output (s)** Output 2: Enhancing biodiversity management

**Executing Entity/Implementing Partner:** Department of Environmental Affairs

Department of Agriculture, Forestry and Fisheries (DAFF), Endangered Wildlife Trust (EWT), Rhodes University, Council for Scientific and Industrial Research (CSIR), Agricultural Research Council (ARC)

**Implementing Entity/Responsible Partners:**

Programme Period:	2015–2021
Atlas Award ID:	_____
Project ID:	_____
PIMS #	5054
Start date:	July 2015
End Date	_____
Management Arrangements	_____
PAC Meeting Date	_____

Total resources required	US\$44,759,690
Total allocated resources:	_____
• Regular	_____
• Other:	
○ GEF	US\$4,237,900
○ UNDP	US\$1,000,000
○ Government	US\$39,189,790
○ EWT	US\$332,000

Agreed by (Government):

\_\_\_\_\_  
Date/Month/Year

Agreed by (Executing Entity/Implementing Partner):

\_\_\_\_\_  
Date/Month/Year

Agreed by (UNDP):

\_\_\_\_\_  
Date/Month/Year

<sup>1</sup> For UNDP supported GEF funded projects as this includes GEF-specific requirements

### **Brief Description**

Over 80% of South Africa's land is used for agriculture with livestock herding being the dominant rural land use. Approximately 1.5 million hectares of land in South Africa is degraded leading to the loss of ecosystem services. Arresting land degradation and achieving sustainable land management (SLM) is critical for ensuring ecosystem integrity, as well as continued productivity and benefits to livelihoods. The project has identified three sites – in the Karoo, Eastern Cape and the Olifants landscapes – within which innovative pilot approaches to addressing land degradation will be implemented.

The long-term preferred solution is to reduce the costs of ecological restoration in South Africa and increase the productivity of the land. This requires an innovative approach to SLM and will entail: i) enhancing the capacity of government, institutions and local communities to mainstream SLM into policies, plans and programmes; and ii) implementing climate-smart ecosystem rehabilitation and management measures. The project will build capacity for the integration of SLM into development planning. This will include developing tools for the analysis of vulnerability and the development of innovative SLM interventions. The identified activities will be demonstrated at the local level and will build on existing knowledge and best available technologies. These activities will address soil erosion and land degradation. Consequently, the ecological functioning and resilience in the Karoo, Eastern Cape and the Olifants landscapes will increase.

There are two primary barriers to attaining the long-term preferred solution. Firstly, under the existing scenario, the relevant authorities and stakeholders do not have coordinated access to the knowledge and information required to make informed decisions. Secondly, South Africa lacks an integrated and coherent framework to support the identification and strategic implementation of SLM initiatives. The first barrier speaks to the need to build the capacity necessary to generate and monitor successful examples of SLM practices. Whist the second barrier speaks to the need to strategically finance, implement and govern the application of SLM best practices to achieve landscape-level results.

The proposed project has four outcomes which will contribute to the reduction of land degradation and improve ecosystem services in the Karoo, Eastern Cape and the Olifants landscapes. Outcome 1 will result in improved natural resource management. Local communities and land users will be responsible for the implementation of climate-smart land/ecosystem rehabilitation and management measures. Furthermore, a long-term strategy will be developed for monitoring and evaluating the success of the climate-smart ecosystem rehabilitation and management measures. Outcome 2 will result in increased technical capacity and management of land degradation risks and uncertainties. The availability of land degradation data will be increased through the establishment of a geo-based, climatic, agro-ecological, hydrological information system. This information will be used to inform the analysis of climate-driven vulnerabilities, as well as the cost-effective planning of climate-smart ecosystem rehabilitation and management measures. In addition, training programmes and skills development will be established for officials at the national, provincial and local level, as well as for local communities. The training and skills development will enable the implementation of climate-smart land/ecosystem rehabilitation and management measures in degraded areas. Outcome 3 will create an enabling environment and facilitate access to the carbon market as an incentive for the adoption of SLM. A methodology for collecting baseline data will be developed. In addition, the project will build capacities to ensure that the requisite Project Documents are developed and farmers have access to the carbon market. Furthermore, ~1,000 hectares of spekboomveld in the Eastern Cape will be restored. Outcome 4 will result in the development of financial and governance frameworks to support the adoption of SLM approaches. In addition, strategies will be developed for the integration of land degradation considerations into provincial development and municipal land-use plans and policies. Proven measures to reduce land degradation will inform the adoption of climate-smart ecosystem rehabilitation and management measures nationwide.

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## List of Acronyms

APR	Annual Project Report
ARC	Agricultural Research Council
AwP	Area-wide Planning
AWP	Annual Work Plans
CARA	Conservation of Agricultural Resources Act
CASP	Comprehensive Agricultural Support Programme
CBA	Critical Biodiversity Areas
CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resource Management
CBO	Community Based Organization
CC	Climate Change
CCBA	Climate, Community and Biodiversity Alliance
CEPF	Critical Ecosystems Partnership Fund
CMA	Catchment Management Agencies
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMA	Catchment Management Agency
COP	Convention of Parties
CPAP	Country Program Action Plan
CSA	Conservation South Africa
CSO	Civil Society Organisation
CSIR	Council for Scientific and Industrial Research
DAFF	Department of Agriculture, Forestry and Fisheries
DBSA	Development Bank of South Africa
DEA	Department of Environmental Affairs
DEADP	Department of Environmental Affairs and Development Planning
DENC	Department of Environment and Conservation
DME	Department of Minerals and Energy
DRDLR	Department of Rural Development and Land Reform
DWS	Department of Water and Sanitation
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
EPWP	Expanded Public Works Programme
ERC	Evaluation Resource Centre
EWT	Endangered Wildlife Trust
FAA	Finance and Administrative Assistant
FAO	Food and Agricultural Organization
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
GIS	Geographical Information System
IDP	Integrated Development Planning
IGDP	Integrated Growth and Development Plan
INC	Initial National Communication
ISRDP	Integrated Sustainable Rural Development Programme
LADA	Land Degradation Assessment
LOA	Letter of Agreement
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
MEA	Multinational Environmental Agreements
METT	Management Effectiveness Tracking Tool
MoU	Memorandum of Understanding
MPRDA	Minerals and Petroleum Resources Development Act
MTSF	Medium-term Strategic Framework
NAP	National Adaptation Plan
NBSAP	National Biodiversity Strategy and Action Plan

NCCRS	National Climate Change Response Strategy
NDP	National Development Plan
NEMA	National Environmental Management Act
NEM:BA	National Environmental Management: Biodiversity Act
NEM:PAA	National Environmental Management: Protected Areas Act
NEX	National Execution Modality
NPM	National Project Manager
NGO	Non-Government Organization
NRF	National Research Foundation
NRMP	Natural Resource Management Programme
NWA	National Water Act
PA	Protected Area
PB	Project Board
PD	Project Document
PIR	Project Implementation Review
PMU	Project Management Unit
PPG	Project Preparation Grant
R-PP	Readiness Preparation Proposal
RAMSAR	Convention on Wetlands of International Importance
RCU	Regional Coordinating Unit
REDD+	Reducing Emissions from Deforestation and Forest Degradation (in developing countries) + Conservation, Sustainable Forest Management, and Enhancement of Forest Carbon Stocks
RTA	(UNDP) Regional Technical Advisor
SADC	Southern African Development Community
SANBI	South African National Biodiversity Institute
SAWEP	South African Wind Energy Project
SDF	Spatial Development Framework
SEA	Strategic Environmental Assessment
SFM	Sustainable Forest Management
SKEP	Succulent Karoo Ecosystem Programme
SLM	Sustainable Land Management
SNC	Second National Communication
STEP	Sub-tropical Thicket Ecosystem Programme
UKZN	University of KwaZulu Natal
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Program
UNDP CO	UNDP Country Office
UNESCO	United Nations Education, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
WESSA	Wildlife and Environment Society of South Africa
WfW	Working for Water
WWF-SA	World Wildlife Fund South Africa
WOCAT	World Overview of Conservation Approaches and Techniques
WUA	Water Users Association

**List of Annexes**

**Annex 8.1: Terms of Reference**

**Annex 8.2: UNDP Environmental and Social Screening**

**Annex 8.3: Extended Site Descriptions**

**Annex 8.4: Letters of Co-financing**

**Annex 8.5: Tracking Tool for Land Degradation (LD-PMAT)**

## 1. SITUATION ANALYSIS

### 1.1. Context

1. South Africa has a total land area of 1.2 million km<sup>2</sup> with a population of approximately 54 million. Land use in South Africa is a major driver of land degradation, with many activities on the land having negative effects on ecosystem goods and services. Currently, over 80% of South Africa's land surface area is used for agriculture and approximately six million households depend upon agriculture for their livelihoods. Despite this, the agricultural sector comprises only 2.5% of South Africa's GDP. Livestock herding is the dominant rural land use and grazing occurs across more than 650,000 km<sup>2</sup> of South Africa<sup>2</sup>. Halting and reversing current levels of land degradation will improve productivity and increase resilience to climate change. This would lead to improvements in local communities' livelihoods. Furthermore, since restoration of degraded landscapes is a labour-intensive process that leads to skills development restoration initiatives will simultaneously address the problems of unemployment and landscape degradation in productive but degraded landscapes within South Africa.

2. Traditionally, assessments of South Africa's biodiversity have focused on animal and plant species. Despite its size – occupying only 2% of the world's surface area – South Africa has considerable biodiversity and hosts approximately 10% of the world's plant species, 7% of the world's vertebrate species, and 5.5% of the world's known insect species<sup>3</sup>. It is estimated that 24,000 plant species exist across nine vegetation biomes including *inter alia* the Fynbos, Succulent Karoo, Nama-Karoo, Grassland, Savanna and Albany Thicket Biomes. However, the future of this biodiversity is uncertain as only 6.71% of the nation – approximately 8 million ha – is under formal protection<sup>4</sup>.

3. In 2004, the National Spatial Biodiversity Assessment (NSBA) used systematic biodiversity planning techniques to determine the status of South Africa's various ecosystems and identified priority areas for conservation. Of South Africa's 440 terrestrial ecosystems, 34% were found to be threatened<sup>5</sup>. The degradation of these ecosystems has had a negative effect upon ecosystem services. In particular, land degradation has resulted in loss of agricultural productivity. Those communities whose livelihoods are dependent upon natural resources feel these losses disproportionately. The management and condition of ecosystems is consequently integral to poverty reduction initiatives.

4. Several ecosystems and their animal/plant species are used for both commercial and subsistence purposes. Some of these activities are managed based on scientific evidence and appropriate protocols. However, rates of use often exceed the carrying capacity of the relevant natural resources resulting in unsustainable use and ultimately land degradation. This is particularly the case in communal areas where subsistence resource use is a major element of the livelihood strategies of local communities.

5. There is substantial overlap between areas of high biodiversity importance and those with high agricultural potential in South Africa. This has resulted in conflicts over land use. Where possible, biodiversity conservation considerations need to be included in land-use planning. In addition, climate change considerations need to be integrated into planning and decision-making. Local communities are highly vulnerable to the predicted effects of climate change including frequent floods and droughts, which is exacerbated by poverty and their reliance upon rain-fed agriculture. The effects of climate change will be compounded by loss, fragmentation and degradation of natural habitats and ecosystems<sup>6</sup>. Consequently, addressing land degradation is of strategic importance to both preserving ecosystem services and for local communities dependent upon natural resources for their livelihoods.

6. This project is designed to pilot sustainable land management approaches to addressing ecosystem degradation in three sites within South Africa. Areas of severe degradation and desertification are perceived to correspond closely with the distribution of communal rangelands, particularly within the

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<sup>2</sup> This accounts for approximately 83% of all agricultural land. The remaining 17% is dedicated to crop production.

<sup>3</sup> National Biodiversity Strategy Action Plan, 2005.

<sup>4</sup> South Africa's Initial National Communication under the United Nations Framework Convention on Climate Change, 2000.

<sup>5</sup> National Biodiversity Strategy Action Plan, 2005.

<sup>6</sup> South Africa's Initial National Communication under the United Nations Framework Convention on Climate Change, 2000.

Eastern Cape and Limpopo provinces. These provinces exhibit the highest rates of vegetation degradation because they have high proportions of grazing lands and experience problems with vegetation cover, bush encroachment and alien plant invasions, as well as changes in plant species compositions. In addition, deforestation is prominent within several districts of the Limpopo and Eastern Cape Provinces. There is an increase in deforestation particularly within communal areas. Reasons for such deforestation include communities clearing trees and converting the land for cultivation or settlement purposes. In addition, communities use wood and non-wood forest products. In contrast, commercial farming areas within the Western Cape and Northern Cape Provinces exhibit severe soil and vegetation degradation. As a result, the project will focus upon pilot areas within the Karoo, the Eastern Cape (Baviaanskloof and Machubeni) and the Olifants River Catchment. (See Annex 8.3 for details of the project sites).

*Pilot site one: The Karoo*

7. The Karoo is a vast semi-desert region of more than 400,000 km<sup>2</sup> stretching over the Eastern, Northern and Western Cape Provinces. The Nama-Karoo and the Succulent Karoo vegetation types define the Karoo. Both vegetation types are considered to be unique and of high global significance. The Nama-Karoo biome is the largest biome in South Africa, covering more than 27% of the country. Project activities will focus primarily on two watersheds in the Nama-Karoo: the Sak and Krom river catchments. Both of these sites provide opportunities for integrating SLM principles and demonstrations into current farming practices within commercial and land reform contexts...

8. The Nama Karoo Biome occurs on the central plateau of the western half of South Africa and lies at an altitude of 500–2,000 m – with the majority of the biome at an altitude of 1,250 m<sup>7</sup>. Over 80% of the soil is lime-rich and weakly developed shallow soils over rock. With a typically dry climate, droughts are common and rainfall is highly seasonal, peaking between December and March. Annual rainfall ranges between 100mm and 500 mm and decreases from east to west and from north to south. Variability in inter-annual rainfall tends to increase with increasing aridity and evapotranspiration exceeds annual rainfall. Seasonal and daily temperatures fluctuate considerably. Temperature variations of 25°C between day and night are common. Mean maximum temperatures in mid-summer (January) exceed 30°C, whereas mean minimum mid-winter (July) temperatures are below freezing.

9. Vegetation is dominated by dwarf shrubs (*chaemaphytes*) and grasses (*hemcryptophytes*) with their abundance dependent upon rainfall and soil. For example, grasses tend to be more common in depressions and on sandy soils but are less abundant on clayey soils, whilst trees and taller woody shrubs are located within watercourses. Common species of trees include *Vachellia karro*, *Diospyros lycoides* and *Grewia robusta* amongst others. Fires are rare within the Nama-Karoo biome because the amount and nature of the biomass load is insufficient to carry fires.

10. The primary land use is rangeland agriculture and urbanisation is minimal. Crop irrigation is confined to the Orange River valley and riparian areas along smaller perennial Karoo streams. Most of the Karoo region is now used as rangeland for small-stock grazing, i.e. sheep and goats. The Karoo contributes substantially to South Africa's food security. Moreover, the region supplies: i) over one third of the country's red meat needs; ii) a quarter of the wool; and iii) 100% of the mohair industry. The majority of the population in the Karoo is directly or indirectly dependent on jobs created and money generated by the agricultural sector. Approximately 100,000 people are employed on Karoo farms. In addition, the sector indirectly supports approximately one million people. To meet the socio-economic demands, farmers have implemented certain land management practices. Some of which have adversely affected the small-scale stock industry and the environment directly.

11. The Riverine Rabbit (*Bunolagus monticularis*) is endemic to the Nama-Karoo biome. It is listed as Critically Endangered in the South African Red Data Book for mammals, as well as the IUCN Red list of Threatened Species. It is also classified as one of the top ten Evolutionarily Distinct<sup>8</sup> and Globally

<sup>7</sup> <http://www.plantzafrica.com/frames/vegfram.htm>. Accessed on 3 March 2015.

<sup>8</sup> There is only this species in the genus.

Endangered (EDGE) mammal species in the world. Therefore, it is a globally unique species. The Riverine Rabbit is threatened by habitat loss and transformation in the riparian ecosystems of the Karoo. Previous research has shown that the presence of Riverine Rabbits is an indicator of healthy riparian ecosystem conditions in the Karoo.

12. This Karoo project site is located in a region facing all the barriers described in Section 1.3 – including land degradation, climate change risk, limited capacity for and knowledge of SLM practices, and limited cooperative governance of natural resources. The project will capitalise on the investments already made by some of these institutions in the area, as well as on the well-established relationships between these institutions, local communities and landowners. In addition, there is already an understanding of the critical gaps and actions required to address land degradation. The restoration of Karoo ecosystems has great potential for being incorporated into an incentive-driven natural resources management programme with sustainable private and public funding partnerships.

#### *Pilot site two: The Eastern Cape*

13. The project will focus upon two areas within the Eastern Cape: i) the communal grazing lands of Machubeni; and ii) spekboomveld in Baviaanskloof. The Eastern Cape is the second poorest province in South Africa<sup>9</sup>, with ~39% of the rural population classified as living in poverty. There is thus a need to increase access to livelihood opportunities in rural communities, particularly those in traditional land-tenure systems that rely on agriculture for their livelihoods.

14. The Machubeni communal lands are located in the Emalahleni district. Machubeni is part of the Cacadu River catchment within the Mount Arthur and Stormberg mountain ranges. The landscape is hilly with altitudes ranging from 1,300 to 2,100 m above sea-level. The mean annual rainfall is 590 mm and occurs mainly during the summer months between October and March. The area's geology consists of mudstones, sandstones and occasional shallow and stony dolerite intrusions and topsoil. The predominant vegetation is grassland with Tsomo Grasslands and Southern Drakensberg Highland Grasslands.

15. Although there is some cultivated agriculture, the most common land use is grazing with over 30% of households engaged in these activities. The grazing areas are primarily open access. Consequently, grazing forage quality is low as a result of over-grazing. Invasion by unpalatable shrubs such as *Euryops floribundus* pose further challenges to grazing. The Machubeni communal area is managed through a combination of traditional institutional structures – chiefs and headmen – and democratic local government structures – municipal and provincial authorities.

16. The Baviaanskloof is part of the Albany Thicket Biome, which is a unique biome restricted to a relatively small area of the Eastern Cape and Western Cape Provinces. The biome is located along a rainfall gradient of 250–800 mm per annum. The highly variable topography, geology and climatic gradients have resulted in 122 unique thicket types. Plant endemism in the Baviaanskloof is estimated to be 322 species. The vegetation ranges in height from the low and dry noorsveld (1–2 m) – dominated by dwarf *Euphorbias*<sup>10</sup> – to tall mesic thickets (3–5 m) found in the deep river valleys from the Gouritz to the Great Kei Rivers. The vegetation is typically dense or closed canopy, with spiny trees and shrubs. Succulents dominate drier thickets, which include spekboom (*Portulacaria afra*), tree aloes<sup>11</sup> or tree *Euphorbias*<sup>12</sup>. Many endemic small shrubs or dwarf succulents and bulbs fill the under-storey. The endemism is concentrated in the *Crassulaceae*, *Euphorbiaceae*, *Asphodelaceae*, *Aizoaceae* and *Apocyanaceae* families.

17. Land ownership is divided between state, private, and communal lands. Private lands account for ~46,000 hectares – ~12,000 hectares of which were historically spekboomveld. Currently, 740 hectares of

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<sup>9</sup> Human Sciences Research Council. 2014. State of Poverty and its Manifestation in the Nine Provinces of South Africa.

<sup>10</sup> *Euphorbia bothae*, *Euphorbia ledienii* and *Euphorbia coerulescens*.

<sup>11</sup> *Aloe africana*, *Aloe ferox*, and *Aloe speciosa*.

<sup>12</sup> *Euphorbia triangularis*, and *Euphorbia tetragona*.

land are under cultivation, compared to 1,006 hectares historically. This equates to a 26% reduction in cultivated land. Reasons cited by farmers for the loss of cultivated land include insufficient water and rising input costs.

18. The Albany Thicket Biome has significant potential for carbon sequestration. The carbon pools are considered high for a semi-arid system. However, large areas have been degraded due to inappropriate agricultural practices, particularly grazing. Land degradation has led to losses of: i) soil fertility; ii) biodiversity; iii) carbon stocks; and iv) water retention.

#### *Pilot site three: Olifants*

19. The Olifants River catchment is a sub-basin of the Limpopo River Basin. The Olifants River Catchment has a summer rainfall pattern – November to March – with the highest rainfall occurring in January and the lowest rainfall in June and July. Synoptic information indicates that the long-term mean annual precipitation of the area is ~550 mm per annum. This is exceeded by the mean annual evaporation of 1,850 mm per annum by a factor of three.

20. Project activities will focus upon the B52B quaternary, which is ~630 km<sup>2</sup> in extent. The catchment is dominated by subsistence agriculture (47%) and thicket bushland, (24%). Vegetation cover is sparse with little to no basal cover, which results in large areas of erosion. Sekhukhune Plains Bushveld and Sekhukhune Mountain Bushveld are the dominant vegetation types. The natural vegetation is modified by: i) extensive cultivation; ii) wood harvesting; iii) heavy grazing; and iv) encroachment of invasive plant species. Therefore, the vegetation within the plains is generally quite degraded.

21. Land use consists primarily of: i) irrigated and dry land cultivation; ii) improved and unimproved grazing; iii) mining; iv) industry; v) forestry; and vi) urban and rural settlements.<sup>13</sup> Although agricultural activities contribute considerably to the economy, most farming is done on a subsistence basis and only 30% of the district's land is utilised for commercial farming.

22. The Limpopo Province is regarded as one of the poorest provinces in South Africa, with Sekhukhune District being the poorest district in the province. This municipal district embodies the historical conflicting goals of production and the environment, which is evidenced by the multitude of unresolved land dispute claims. The impact of the land claims has been to restrict local economic development opportunities. Furthermore, the level of skills in Sekhukhune is the lowest of any district in the Limpopo. This hampers the district's ability to be innovative in implementing economic and productive ventures. Furthermore, the local economy is currently reliant upon service delivery by the government. Therefore, the Olifants site is an ideal pilot area for testing sustainable land management practices. The project will put in place measures to stop and/or reverse the adverse effects of years of unsustainable land use practises. By doing so, the project will simultaneously build ecosystem resilience to projected changes in the climate and ensure the sustainability of farming in the long-term. This makes it worth investing in the Greater Sekhukhune District within the Olifants landscape.

#### *Policy and legislative context*

23. The National Environmental Management Act (NEMA) is the overarching legislation for environmental management in South Africa. Numerous laws fall under this umbrella framework, including the National Environmental Management: Biodiversity Act (NEM:BA) and the National Environmental Management: Protected Areas Act (NEM:PAA).

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<sup>13</sup> The upper reaches are characterized by large-scale coal mining, coal-fired power generation plants, irrigated agriculture, a diverse array of heavy and light industries, and several towns and smaller urban centres. The middle reaches contain extensive areas of irrigated agriculture as well as several platinum, chrome and vanadium mines, two ferro-chrome refineries and numerous smaller urban centers. In addition, the lower reaches contain several small mines and the important copper and phosphate-mining complex.

24. The NEM:BA is the key legislation governing biodiversity management. The main objective of the NEM:BA is to expand conservation activities to encompass whole ecological landscapes, with a focus on biomes in particular. The NEM:BA promotes: i) integration of conservation objectives into productive sectors; ii) strengthening land-use planning and monitoring functions; iii) developing and supporting implementation of conservation models; iv) establishing new institutional and operational mechanisms; and v) establishing new conservation partnerships bridging the public and private sectors.<sup>14</sup>

25. The NEM:PAA sets out to protect ecologically viable areas representative of South Africa's biological diversity and its natural landscapes – and seascapes – within a system of protected areas. This is facilitated through the establishment of biodiversity stewardship programmes, whereby a contract is signed between landowners and national or provincial authorities. There are a range of fiscal, financial and other incentives which support stewardship programmes. Biodiversity stewardship agreements provide a mechanism for expanding protected areas whilst simultaneously respecting the rights and interests of landowners. If all contracts under negotiation are successfully concluded, stewardship programmes would cover 430,000 hectares – ~15% of the 2013 protected area expansion target.

26. The Conservation of Agricultural Resource Act (CARA) provides a framework for the utilisation of natural agricultural resources. This is provided for by addressing the maintenance of the production potential of land, by the combating and prevention of erosion and weakening or destruction of the water sources. Furthermore, vegetation will be protected through combating of weeds and invader plants. CARA makes provision for control measures to be implemented relating to, amongst others: i) utilising and protecting cultivated land; ii) grazing capacity of veld, maximum number and kind of animals which may be kept on veld; iii) restoring or reclaiming eroded land and land which is otherwise disturbed or denuded; and iv) the construction, maintenance, alteration or removal of soil conservation works or other structures on land. These control measures may contain a prohibition or an obligation with regard to the above matters.

#### *Institutional context*

27. The Constitution of the Republic of South Africa creates an overall framework for environmental governance in South Africa by establishing the right to an environment that is not harmful to health and well-being. Moreover, the Constitution balances the right to have the environment protected with rights to valid social and economic development and allocates environmental functions to a wide range of governmental agencies in all spheres. This requires extensive cooperation between government agencies and spheres of government. Therefore the Constitution places emphasis on cooperative governance, which is a departure from the traditional hierarchical tiers of government with ultimate control vested in the national government. Instead, the three spheres of government are considered distinctive, interdependent and interrelated.

28. In South Africa, biodiversity conservation is well established. Although the Department of Environmental Affairs (DEA) is the primary custodian, several ministries and departments share the responsibility. These include the Department of Water and Sanitation (DWS), Department of Agriculture, Forestry and Fisheries (DAFF), South African National Biodiversity Institute (SANBI) and other public and private institutions. During the PPG phase, an institutional analysis was undertaken to assess the institutional capacities and mandates of various government departments and other stakeholders. The information below details the roles and responsibilities of stakeholders at both national and sub-national government.

29. DEA is the primary custodian of environmental issues in South Africa. It is responsible for setting environmental policy and legislation, and for monitoring compliance with these policies. DEA has policy, legislative and coordination responsibilities in the following relevant areas: i) co-operative environmental governance; ii) biodiversity and protected areas; and iii) international environmental conventions and agreements. These responsibilities are divided between the five branches within DEA. Those of

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<sup>14</sup> National Environmental Management: Biodiversity Act, 10 of 2004.

relevance to the project are Biodiversity and Conservation; Environmental Quality and Protection; Tourism; and the Chief Operating Officer – responsible for poverty relief programmes, corporate and financial affairs.

30. DAFF is primarily responsible for policy development, regulatory functions, communication and information services, as well as research on agriculture, forestry and fisheries resources. Responsibilities include approving applications for cultivating virgin land and burning of veld<sup>15</sup>, and applications for subdivision in terms of the Subdivision of Agricultural Land Act 70 of 1970. Other key focus areas of DAFF include agricultural trade and business development, agricultural production, and sustainable resource management. Research is traditionally contracted out to the Agricultural Research Council (ARC).

31. The Department of Rural Development and Land Reform (DRDLR) will play a strategic role in the project. In particular, they will be responsible for the mapping, registration and redistribution of lands.

32. The Provincial Departments of Agriculture are responsible for providing extension support to farmers and land users. The agriculture departments are responsible for: i) farmer settlement and development; ii) agricultural economics; iii) technology research and development iv) sustainable resource management; v) veterinary services; and vi) agricultural training<sup>16</sup>. Provincial agricultural departments are usually larger in terms of staff complements compared with the equivalent environmental departments.

33. Municipalities have a broad mandate for making decisions regarding land use. This authority includes extending permission to develop or change the use of land in terms of the Integrated Development Plan, Spatial Development Framework, Environmental Management Framework and biodiversity-specific plans. National and provincial governments may delegate authority for specific activities to municipalities.

## 1.2. Threats to landscapes

### *Overview of South Africa Land Degradation*

34. As noted in Section 1.1, over 80% of South Africa's landscape is dedicated to productive agriculture. Although agricultural lands define most of the landscape and are critical for securing the nation's economic well-being, agricultural lands are often highly degraded<sup>17</sup>. The primary cause of such degradation is inappropriate soil management practices related to agriculture. Land degradation on the productive landscape is contributing to the loss of ecosystem services and commensurate declines in water quality and quantity, biodiversity and agricultural productivity. Although the actual costs of land degradation are not well understood, land degradation has considerable economic consequences. For example, dam sedimentation and increased water treatment costs South Africa ~R2 billion annually as a result of soil degradation<sup>18</sup>. (See Annex 8.3 for details of the pilot sites)

35. The absence of an up-to-date national dataset on degradation and desertification makes it difficult to quantitatively determine the extent of land degradation in South Africa. Approximately 91% of South Africa comprises dry lands that are particularly susceptible to desertification and have low rates of recovery after restoration/rehabilitation interventions. Agricultural rangelands are the single largest land use in South Africa. Nearly 66% of which are moderately to seriously degraded. Moreover, South Africa has serious physical soil degradation, including soil crusting/sealing and soil compaction. In addition, sheet and gully erosion cover an area of ~0.72 million hectares, whilst water erosion is South Africa's most widespread soil degradation problem and affects 70% of the land. Consequently, South Africa's rangeland ecosystems are mostly in a degraded state.

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<sup>15</sup> As governed by the Conservation of Agricultural Resources Act 43 of 1983.

<sup>16</sup> Strategic Plan for the Department of Agriculture, 2005.

<sup>17</sup> The soils are extremely vulnerable to degradation and have low recovery potential. Approximately 25% of South Africa's soils are highly susceptible to wind erosion.

<sup>18</sup> Department of Environmental Affairs and Tourism. 2006. South Africa Environment Outlook. A report on the state of the environment. Accessible at <http://www.soer.deat.gov.za/47.html>. Accessed on 31 March 2015.

36. Land degradation in South Africa is often accompanied with and driven by invasive plant species. More than 750 tree species and 8,000 herbaceous species have been introduced and these have spread over 10 million hectares of land. According to the Working for Water (WfW) Programme, unregulated invasive alien plant infestations are expected to double within 15 years<sup>19</sup>.

37. Development pressure and land use change are additional causes of habitat modification and loss. Land degradation and poor land management practices are estimated to cost the country billions of Rands per year as a consequence of *inter alia*: i) reduced production; ii) loss of soil and soil nutrients; iii) pollution of rivers; iv) poor water quality; and v) flooding.

38. Although soil degradation is prevalent on both private and communal lands, the former homeland areas of the Eastern Cape, Limpopo, North West, Northern Cape and Mpumalanga Provinces are amongst the most severely degraded in the country. Agricultural land in the former homelands is often overgrazed and over-cropped with extreme land degradation occurring.

39. Land and ecosystem degradation is likely to be exacerbated by the effects of climate change, which will exacerbate existing droughts and natural disasters. South Africa has been ~2% hotter and at least 6% drier over the ten years between 1997 and 2006 compared with the 1970s<sup>20</sup>. Droughts are a frequent occurrence and often have serious ecological and economic consequences. Consequently, water is the limiting resource upon which future biological, cultural and economic activity in South Africa will depend. According to the South African Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC), rising temperatures and variable rainfall patterns are currently having impacts on water resources and will likely result in more droughts in the west of South Africa, and impact groundwater recharge significantly in the semi-arid parts of the interior and the west<sup>21</sup>. Predicted and observed impacts include: i) erratic and unseasonal rainfall; ii) higher temperatures; iii) increased evapotranspiration; iv) changes in vegetation composition; v) increase in flooding and drought events; and vi) overstocking during critical periods as a result of increased economic pressure posed by increasingly difficult farming conditions in marginal arid areas. Fodder production will be affected and farmlands already under stress from land degradation are particularly vulnerable to climate change<sup>22</sup>.

#### *Karoo pilot site*

40. The main types of land degradation in the Karoo, in order of priority are: i) loss of vegetation cover; ii) quality and animal/plant species composition/diversity decline; and iii) surface erosion. The primary drivers of such land degradation include unsustainable livestock grazing and management, spread of invasive alien plant species and climate change.

41. Agricultural activities are concentrated on the fertile deposits of alluvial floodplains in the riparian areas. Therefore, riparian areas within the Karoo are under particular stress. More than 60% of these riparian habitats have been transformed by grazing – and to a lesser extent cultivation – and are degraded. The extensive cultivation of alluvial soils in riparian ecosystems for dry land and irrigated agriculture has resulted in the removal of vegetative cover and loss of riparian corridors in the landscape. Consequently, the soil surface is exposed and surface flows increase, which reduces the infiltration of water into soils.

42. Degradation is affecting the Karoo's biodiversity, which is borne out by the change in vegetation composition within the Karoo. The decrease in palatable plant species and increase in unpalatable plant species has led to a decrease in grazing capacity. In addition, much of the riparian range of the critically

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<sup>19</sup> Department of Environmental Affairs and Tourism. 2006. South Africa Environment Outlook: A report on the state of the environment. Accessible at <http://www.soer.deat.gov.za/themes.aspx?m=420>. Accessed on 31 March 2015.

<sup>20</sup> South Africa's Initial National Communication under the United Nations Framework Convention on Climate Change, 2000.

<sup>21</sup> South Africa's Second National Communication under the United Nations Framework Convention on Climate Change, 2011.

<sup>22</sup> South Africa's Initial National Communication under the United Nations Framework Convention on Climate Change, 2000.

endangered Riverine Rabbit has been lost to cultivation and overgrazing. The absence of the Riverine Rabbit from riparian areas is therefore a key indicator of land degradation.

43. Land degradation is weakening the ecosystem services that underpin the region's agricultural economy. As noted, the raising of livestock is very important to the economic and social fabric of the Karoo. Both private landowners and "open access" rangelands have seen a reduction in productivity because of land degradation. Today, many commercial farmers are faced with: i) dryland degradation; ii) decreasing carrying capacities; iii) lower product income; and iv) higher input costs. The farming community is vulnerable to the effects of climate change because of frequent and intense droughts and flooding, which will be exacerbated by climate change. Farmers are not appropriately trained to implement measures to promote ecosystem resilience. This is largely as a result of limited awareness and knowledge, as well as limited coordination between local municipalities and farmers to adapt to the effects of climate change.

#### *Eastern Cape: Baviaanskloof pilot site*

44. Land degradation in the Baviaanskloof is almost exclusively due to overstocking of livestock – particularly goats. In certain instances, overgrazing is a result of farms that are too small to be economically viable for small-stock farming units. For example, domesticated ostriches have led to complete desertification within certain camps. Consequently, plant cover has been reduced and the plant species composition within the thicket and succulent shrub communities has been altered.

45. Approximately 8,500 hectares of Baviaanskloof thicket have been moderately to severely degraded. Land degradation in the Albany thicket biome adversely affects biodiversity, water quality/quantity, erosion, climate change mitigation and adaptation, as well as productivity. In addition, thicket has very high carbon capture capacity, which is greatly decreased by degradation.

#### *Eastern Cape: Machubeni pilot site*

46. Machubeni is one of the most degraded communal areas in South Africa. Both gully erosion and sheet erosion due to poor grazing management practices are major problems. Invasive plant species such as Blue Brush (*Pteronia incana*) and Lapesi (*Euopys floribunda*) encroach upon rangelands. It is estimated that ~27,000 hectares of land are severely invaded by Blue Brush in the Eastern Cape.

47. Wildfires, overharvesting of forest resources, deforestation and unsustainable agricultural practices are major causes of land degradation. However, the majority of degradation is attributable to overgrazing with almost one third of all households in the area owning livestock. Densities of livestock range between three and six times the recommended stocking rates. This is exacerbated by the apparent breakdown in grazing regulatory institutions. Overgrazing by small stock in particular has reduced plant cover and changed the plant species compositions within thicket and succulent shrub communities. There have consequently been adverse effects on soil erosion, nutrient cycling and biodiversity.

#### *Olifants pilot site*

48. Approximately 10% of land in the Olifants River Catchment is classified as degraded. Forest and woodlands make up the greatest portion amounting to over 5%. Within the catchment, the Sekhukhune District is identified as the district most affected by land degradation. Because the population is highly dependent upon harvesting natural resources for survival, there is considerable pressure on the land, which is already in a degraded state. Land degradation is most severe and increasing in communal croplands, grazing lands and settlements. Contributory factors include the lack of infrastructure – such as fencing – which leads to intense overgrazing, as well as the abandonment of croplands as a result of crop damage by livestock.

49. Soils in this ecoregion are highly erodible. Over-utilisation and exploitation of the land consequently results in severe soil surface erosion and gully erosion. Decades of land mismanagement

have caused severe erosion and changed the plant species composition, rendering the land unproductive relative to its agricultural potential. Heavy grazing has led to loss of palatable plant species and an increase in unpalatable plant species. This exacerbates soil erosion because the unpalatable plant species tend to be dwarf shrubs, which – unlike grasses – are not highly effective binders of soil.

50. The lack of vegetation on the river banks combined with high velocity floods causes severe soil erosion of the main stream in the Olifants River. The modification of critical upstream areas – as a result of land use and poor land management – severely affects water availability. There is a loss of surface water availability owing to vegetation loss that results in: i) poor water retention; ii) floods during extreme events and the rainy season; and iii) sediment deposition/accumulation in the river system. Consequently, the demand for water for human and livestock consumption exceeds supply and is often supplied to the village by trucks.

51. Invasive alien plants – mostly *Eucalyptus* and wattle trees – are present in the riparian and mountain areas of the Olifants River catchment. While the detailed coverage of invasive alien plants is yet to be determined, it is estimated that their removal should eliminate 133m<sup>3</sup> of water losses per annum from the system. This is significant when considering the current water deficit in South Africa.

### **1.3. Long-term solution and barriers to achieving the solution**

52. South Africa's long-term vision is to establish a "green economy" underpinned by healthy, functioning ecosystems. Arresting land degradation and achieving sustainable land management is essential for achieving this goal. The preferred solution is a scenario wherein national, provincial and municipal level investments are strategically aligned to support SLM across broad landscapes. As a result, SLM would be mainstreamed into municipal land use planning, provincial development planning and annual work plans. Moreover, national SLM programmes would be coordinated to generate appropriate landscape level impacts.

53. In addition, comprehensive baseline assessments of the underlying ecological condition of catchment areas in the Karoo, Eastern Cape and Olifants landscapes – including the riparian zones and rangelands – would be undertaken<sup>23</sup>. These data would inform the development of a cost-effective restoration model for uptake by DEA, DAFF and other stakeholders. "On-the-ground" interventions would inform DEA, DAFF and other government policies and investments on how to strengthen the generation and upscaling of improved management practices. Increased knowledge would inform and support the mainstreaming of: i) land and ecosystem rehabilitation; ii) climate risk; and iii) ecosystem services into livelihoods and local economic development planning within the Karoo, Eastern Cape and Olifants landscapes. Best practices validated by a comprehensive monitoring programme would inform decision-making at national and sub-national government. As a result, future restoration actions by DEA, DAFF, other government agencies and private farmers would be based on sound scientific principles and rigorous data. Moreover, existing successful SLM technologies would be up-scaled. The result would be an efficient SLM programme supported by a strong framework of knowledge and governance.

54. In a preferred solution DEA, DAFF, other government officials and land use managers would also have the information necessary to make informed SLM decisions. The requisite institutional and policy frameworks would be in place to ensure that the information generated is appropriately applied to support the implementation of SLM in the Nama-Karoo, Thicket and Savanna biomes. Furthermore, stakeholders would benefit from replicable models and demonstrations of SLM practices that can be applied across South Africa, including different biomes and tenure systems. These models would address: i) regulatory challenges related to communal land or "open resource access"; ii) climate change; and iii) newly emerging challenges, such as fracking in the Karoo. Innovative financing tools would be implemented to incentivise management improvements thereby adding value to SLM. An innovative funding platform for SLM programming would be developed.

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<sup>23</sup> In relation to grazing capacity, grazing land condition, extent and status of degradation and barriers and capacity limitations.

55. Furthermore, DAFF's extension services would have increased technical capacity and expertise to deliver SLM knowledge to stakeholders, particularly landowners and/or farmers. In addition, mechanisms would be implemented for the generation and exchange of information between DEA, DAFF, provincial departments of agriculture and nature conservation, as well as other stakeholders. These mechanisms would be available to trained land owners and/or users, extension officers and local authorities. Public-private partnerships would also facilitate cooperative governance. The establishment or enhancement of structures – such as Soil Conservation Committees<sup>24</sup>, Conservation Committees and Water User Associations amongst others – would assist the relevant authorities in implementing and monitoring the effectiveness of SLM practices. Under this model, farmers and landowners would benefit from guidelines that support land-use and management decisions to achieve certain outcomes – e.g. sustainable livestock production, biodiversity conservation objectives and prevention of soil erosion – within the framework of SLM. Ultimately, SLM best practices would be adopted on a large-scale – including by surrounding landowners – through dissemination activities. By doing so, the responsibility for halting and reversing degradation would devolve back to the land-users who are trained and incentivised to practice improved SLM.

56. The preferred solution would also see DEA, DAFF and other stakeholders recognising the importance of adopting SLM. There are two primary barriers to attaining the long-term preferred solution. Firstly, under the existing scenario, the relevant authorities and stakeholders do not have coordinated access to the knowledge and information required to make informed decisions. Secondly, South Africa lacks an integrated and coherent framework to support the identification and strategic implementation of SLM initiatives. The first barrier speaks to the need to build the capacity necessary to generate and monitor examples of workable SLM solutions. Whilst the second barrier speaks to the need to strategically finance, implement and govern the application of best practices to achieve landscape-level results.

*Barrier 1: Limited capacity of government, farmers and land-users for SLM monitoring and evaluation*

57. *Baseline information, monitoring and the capture of lessons-learned:* South Africa does not have a comprehensive programme for measuring land degradation and monitoring the benefits of improved practices. Systems are not in place to objectively assess, compare and monitor the potential impacts of various land use practices on water, land, and biodiversity resources. Without adequate baseline information to inform monitoring, it is difficult to measure the effects of such land use practices.

58. Limited research has been undertaken within the last 30 years on the condition of the Karoo rangelands and suitable stocking capacities. In the 1970's, there was a concerted effort to determine sustainable stock capacity indices for Karoo farmland. The outcome of that research was the development of grazing assessment indices and recommended Grazing Capacity Norms or Stocking Rates for the Karoo. To date, little has been done to update these recommended stocking rates or practices.

59. South Africa has participated in the World Overview of Conservation Approaches and Technologies (WOCAT) and implemented the Land Degradation Assessment in Drylands (LADA) programme. Presently, DAFF is developing a land use system at a national scale, which includes large-scale and coarse-resolution information on land degradation. Although the government has the capacity to create layers for several SLM related factors, there is an immediate need to produce layers at a finer scale for use by municipalities, land managers, farmers, and other relevant stakeholders. However, the data is not yet available at a scale capable of measuring the positive effects of improved management practices. Therefore, a tool needs to be developed to assist stakeholders to determine best practices, measure the effects of those practices and inform land-use decision-making.

60. Institutions such as Rhodes University, the EWT and CSIR have developed tools for measuring aspects of ecosystem resilience, ecosystem services, climate change and water resources management. However, these tools have not been combined for the specific purposes of informing SLM. Nor have they

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<sup>24</sup> Soil Conservation Committees have previously proven successful in land management.

been applied to a cross-section of ecosystems. Moreover, not all of these tools have been developed in a participatory manner and do not benefit from local government and resource users' local knowledge and experience.

61. There are no comprehensive and user-friendly practices in place to assist stakeholders to monitor and measure SLM progress. Improved practices to measure and monitor integrated ecological changes to soil, climate, biodiversity, and water need to be developed. This would require linking finer scale monitoring tools to improved land use management practices. There is also a need to monitor improvements to productivity, including potential economic and social improvements resulting from the adoption of SLM best practices.

62. *Examples of best practices:* Despite the emergence of successful SLM supportive agricultural practices, there are few on-the-ground demonstrations. Moreover, there is no comprehensive process in place to assist stakeholders – from a variety of ecosystems – to assess examples of SLM at work. Although there are isolated examples of good management practices, these examples are not coordinated. DAFF and relevant stakeholders have struggled to upscale these activities. For example, land owners in the Karoo have worked to establish biodiversity stewardship programmes with CapeNature and the Northern Cape Department of Environment and Nature Conservation. As a result of such efforts ~300,000 hectares benefit from marginal conservation status. However, there are few incentives offered by existing government departments to upscale the conservation outcomes. Furthermore, the isolated examples of SLM within the partnerships have not been incorporated into a national system designed to support comprehensive land management improvements. There is consequently a need to collate efforts and demonstrate the potential of SLM across productive landscapes.

63. Furthermore, there are no departmental guidelines for managing productivity. Nor is baseline information generated to inform land users. Therefore, other land users are unable to benefit from the knowledge gained to date and/or build additional knowledge for future advances. In addition, few opportunities exist for farmers and land users to access training programmes and other opportunities to build this knowledge. Therefore, the ability of stakeholders to make informed decisions is restricted.

64. *Institutionalised capacity building:* National and sub-national government departments need to undertake capacity building. This is necessary to make certain that the allocation of funds from the national budget is transparent and based upon SLM priorities. Furthermore, there is a need to build capacity so that established programmes – such as DAFF's LandCare programme – are well monitored, lessons learned are captured, and these lessons are used to facilitate and prioritise upscaling across South Africa.

65. South African institutions do not have formal mechanisms in place for implementing SLM practices and ensuring farmers, land users and local communities receive the benefits thereof. Even where data and restoration methods are known, the sharing of knowledge with public and private sector stakeholders is ineffective. The development and implementation of restoration techniques to encourage regional uptake in farming landscapes is limited. Where examples of best practices, monitoring, and capturing of lessons do exist; there are few ways to transfer these techniques from theory to practice. Without established procedures and platforms for information delivery, local land users and institutions are inadequately equipped to fully understand the short- and long-term costs and benefits of land degrading activities versus SLM supportive practices. Furthermore, stakeholders are unlikely to have access to best national and international SLM practices.

66. Despite the overlap of programmes, there is limited interaction and knowledge sharing between institutions. NGOs – such as EWT – assist farmers through the implementation of programmes<sup>25</sup> –and working with academic institutions to undertake research around SLM practices. In addition, research institutions such as CSIR and Agricultural Resources Centre (ARC) also support the dissemination of

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<sup>25</sup> For example, the conservancy stewardship programme and riverine rabbit initiatives –

information to farmers and land users, as well as local communities. As a result of the limited integration, farmers, land users and local communities do not benefit from integrated programmes designed to achieve economies and impacts of scale.

67. Over the last three decades, commercial agriculture has seen a decline in price and infrastructure support<sup>26</sup>. Financial support from the National Department of Agriculture for designing and institutionalising SLM training programmes is limited. Extension services focus primarily upon issues of production, rather than maintenance and recovery of the ecosystem services upon which SLM depends<sup>27</sup>. Furthermore, extension officers have limited capacity to meet the demand for support to both existing and new farmers. There is also limited capacity and skills within the regional government's agricultural and conservation departments in terms of extension officers. Therefore, the ability of extension officers to assist land users – in terms of soil and water conservation, as well as livestock management – is restricted.

68. There is a need to improve the delivery of SLM knowledge to land users and officials within national and sub-national government. The awareness levels and capacity of farmers and land users, as well as government officials on the use of SLM practices needs to be enhanced to improve productivity, livestock management and marketing, as well as climate change adaptation strategies.

*Barrier 2: Limited exposure of government, land owners and land users to working models of effective SLM governance, financing, and implementation*

69. *Carbon market opportunities:* Land owners and users may – in time – generate revenue for veld restoration through the generation of carbon credits. Such generation of carbon credits through spekboomveld restoration is likely to be particularly feasible in the Eastern Cape, where spekboom-rich vegetation is located. The restoration of spekboomveld has two main benefits, namely: i) storing considerable amounts of carbon; and ii) maintaining ecosystem services. The degradation of spekboomveld has direct and negative effects on socio-economic conditions. The loss of vegetative cover results in erosion. Soils become depleted in carbon and nutrients, which lowers plant productivity and adversely affects livestock yields. Consequently, livelihoods and household incomes are negatively affected. Degraded sites restored with spekboom can potentially capture large amounts of carbon dioxide per year. Therefore the generation of carbon credits has the potential to provide a financial incentive for spekboomveld restoration. However, the present price of carbon – on voluntary and formal markets – and the current demand for carbon credits on the world market is negligible. Furthermore, farmers and land users do not readily have access to such markets. Therefore, the potential for carbon revenues to catalyse spekboomveld restoration is nascent at present as it the market in South Africa is not yet mature.

70. It is anticipated that because climate change is increasing in severity and the global community is becoming more committed to addressing this problem, an appropriate price for carbon will be determined in the near future<sup>28</sup>. There is cause for optimism that over the next decade there will be opportunities for revenue to be gained from carbon credits that are generated from spekboomveld restoration, particularly with a focus on soil carbon<sup>29</sup>. With the introduction of a carbon tax and offsetting mechanisms in South Africa, it is likely that the generation of carbon credits will provide a potential source of income for farmers that to pay the costs of restoration in the long-term<sup>30</sup>.

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<sup>26</sup> Black et al. 2014. "Should agriculture receive greater support as part of an inclusive growth strategy?". Available at <http://www.econ3x3.org/sites/default/files/articles/Black%20et%20al%202014%20Agriculture%20support%20-%20FINAL2.pdf>. Accessed on 7 April 2015.

<sup>27</sup> For instance, the Department of Agriculture in the Northern and Western Cape Provinces of South Africa has recently been subsumed into the "Farmer Support and Development" Programme. This department is now predominantly funding rural development, especially the provision of infrastructure for land reform farms. Whilst the Western Cape Department of Agriculture has a limited budget to provide support to the far greater proportion of land under private farmers. Limited support for extension advice is available to land reform farmers after funds have been directed towards infrastructure and equipment.

<sup>28</sup> The United Nations Climate Change Conference (COP 21) will take place in Paris, France in December. It is expected that this conference will propose a way forward over the next five years for finding an appropriate carbon price.

<sup>29</sup> There is considerable soil carbon and land use practices can shift soil organic matter up by a few tenths of a percent which can equate to large amounts of carbon.

<sup>30</sup> Department of National Treasury. May 2013. Carbon Tax Policy Paper.

71. The Government of South Africa wants to demonstrate the restoration of spekboomveld as an example for future land-restoration activities. Through the Land User Incentive Programme, the government is willing to support 50% of the costs associated with spekboomveld restoration<sup>31</sup>. In addition, government launched the Subtropical Thicket Restoration Programme (STRP) in 2004, to catalyse private sector investment into the restoration of degraded subtropical thicket. To date, ~US\$11 million has been spent by the government of South Africa and South African National Parks (SANParks) on spekboomveld restoration and over 11,000 hectares have been restored<sup>32</sup>. There are currently two projects with validated Verified Carbon Standard (VCS) Project Documents for spekboomveld restoration activities, namely the *Addo Elephant National Park, Baviaanskloof Nature Reserve and Great Fish River Nature Reserve Restoration Project* and the *Kuzuko Lodge Private Game Reserve thicket restoration project*. Both of these projects are well poised for earning and generating carbon credits when the voluntary carbon market improves and/or the formal market is established in South Africa. The latter will occur through the promulgation of the carbon tax in 2016.

72. For similar initiatives to take place on private land within the Baviaanskloof pilot site, baseline studies need to be undertaken to ensure that all farms that have planted spekboomveld can generate carbon credits in the future. Because of the need for external international validators/verifiers, VCS validation and verification is costly. These transaction costs necessitate the development of an appropriate South African methodology for collecting baseline data. To date, considerable time has been invested in the development of project design documents using VCS and/or CDM methodologies for calculating the potential for generating carbon credits through spekboomveld restoration. In 2011, the *Addo Elephant National Park, Baviaanskloof Nature Reserve and Great Fish River Nature Reserve Restoration Project* was validated under the VCS and the Climate, Community and Biodiversity Alliance (CCBA) using the CDM methodology AR-AM0002 "Restoration of degraded lands through afforestation/reforestation". Subsequently, a private sector project – the *Kuzuko Lodge Private Game Reserve thicket restoration project* – also received VCS and CCBA validation, but under the CDM methodology AR-ACM0003 "Afforestation and reforestation of lands except wetlands". However, both of these methodologies have since been revised or discontinued by the CDM<sup>33</sup>. Moreover, neither of these methodologies are well-suited to the particular ecological characteristics of spekboomveld.

73. The two projects described above have yet to begin selling carbon credits despite restoration activities having commenced in both project sites. This is because both voluntary and formal carbon markets have since collapsed and the likelihood of selling such credits in large volumes is negligible. Although the White Paper on Carbon Tax acknowledges that VCS and CCBA are appropriate standards to use, it is recognised that a simplified methodology would prove more effective in catalysing restoration of degraded lands in South Africa as a means of offsetting greenhouse gas (GHG) emissions. Such a simplified methodology would be aligned with the proposed carbon tax and associated offsetting mechanisms, as well as being tailored for local ecological conditions.

74. One of the challenges facing spekboomveld restoration and the industry is enabling small-scale farmers – who are restoring at the scale of a few hundred hectares – to access the carbon market. At present, this is not feasible because of the costs of validation and verification for VCS and CCBA. A project of several thousand hectares is required to afford/cover these costs, which are likely to exceed more than a million rand (~US\$100,000) for the development of the Project Document and validation thereof. To overcome the financial challenges, small-scale farmers would in all likelihood need to form a consortium or special purpose vehicle<sup>34</sup>, whereby the farmers share the transaction costs of Project Document development, valuation, monitoring of carbon stocks and verification. The establishment of a consortium will reduce transaction costs for small-scale farmers and enable carbon credits to be

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<sup>31</sup> This is an ongoing programme outside of the project, the purpose of which is to promote private sector investment in ecosystem services across the country.

<sup>32</sup> Restoration activities commenced in the Baviaanskloof Nature Reserve, the Baviaanskloof private lands (albeit limited), the Great Fish River Nature Reserve, the Greater Addo National Park, Camdeboo National Park and small privately owned farms.

<sup>33</sup> AR-ACM0003 has been revised and a new version (AAR-ACM0003 v2.0) was promulgated in October 2013.

<sup>34</sup> This can be in the form of a company, trust, NGO or cooperative.

generated across numerous small parcels of land through a Programme of Activities<sup>35</sup>. If the South African government wants to promote the restoration of spekboomveld via a future carbon market, one option available is to subsidise the formation of such consortiums.

75. Farmers do not generally take into consideration the long-term benefits that could arise from spekboomveld restoration<sup>36</sup>. Over the course of the STRP, there was an expectation that farmers would be able to forward sell the carbon credits to raise the capital to undertake the planting. That opportunity no longer exists because of the collapse in the carbon market. Therefore, bridging finance would now be required to cover the costs of planting the spekboom cuttings.

76. There is great uncertainty in this new industry of restoring spekboomveld using carbon credit revenues. The uncertainty is linked to both the price of carbon, as well as the length of time that it takes for the spekboomveld to mature, ranging from 30–60 years after planting. Consequently, income streams from spekboomveld restoration have not yet materialised. It is this uncertainty which is preventing the private sector from investing in spekboomveld restoration. Therefore, government subsidies are likely to be integral to restoring spekboomveld at present.

77. To operationalise a carbon-financing mechanism for spekboomveld restoration, the following elements would need to be in place.

- A consortium would need to be established and a special purpose vehicle formed to enable small-scale farmers access to the carbon market. Once this has been finalised, farm-by-farm degradation mapping of the restoration area would need to be undertaken.
- A Programme of Activities would need to be developed. This would provide details regarding the institutional setup and the activities envisaged. The Programme of Activities would include Project Documents and standard operating procedures.
- Baseline data would need to be collected using the new carbon methodology – that will be approved by government. The methodology would include monitoring and management plans.
- Project Documents would need to be validated and verified by a validator/verifier recognised by the South African Government.

78. Given the current state of the carbon market, the South African Government will in all likelihood need to fund spekboomveld restoration until such time as the carbon tax and offsetting is implemented. In the interim, it would be beneficial to landowners and farmers to establish a consortium to: i) reduce the transaction costs; ii) use the South African methodology to generate carbon credits; and iii) undertake the requisite baseline studies. The consortiums will then be in a good position to capitalise on the sale of carbon credits once the carbon tax and offsetting legislation is introduced.

79. *Strategic financing of SLM on the landscape level:* National, provincial, and municipal governments support the implementation of various SLM practices. However, this support is generally *ad hoc* and not strategically applied to generate changes at a landscape level that will deliver long-term SLM benefits. The capacity of national, provincial and local governments to identify effective SLM practices and allocate funding support to increase implementation thereof is limited. In South Africa, SLM often requires working across boundary lines – between lands that may share ecological connectivity. These adjacent properties may be separately owned and subject to different agency mandates. Overcoming this barrier requires government and other stakeholders to: i) identify best practices; ii) strategically support and apply these practices; and iii) incentivise the adoption of best practices by land users. Furthermore, there is a need for national, provincial and local governments to identify distinct locations, formulate a strategic plan to identify proven interventions to achieving SLM objectives, and stimulate the application of these interventions in a coordinated way to deliver long-term benefits.

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<sup>35</sup> <http://www.cdm.unfccc.int/ProgrammeOfActivities/index.html>. Accessed on 8 April 2015.

<sup>36</sup> These include restored ecosystem functioning, increased goat productivity, and reduced soil erosion and siltation of dams.

80. Nearly 80% of the agricultural land in South Africa is privately owned. The government does not provide any financial incentives for commercial farmers to take up rehabilitation and erosion control. The current priority is to redress the negative impacts of the political history on subsistence farmers<sup>37</sup>. DAFF's LandCare programme incentivises improved land management through Area-Wide Planning and grants for improved land use management. However, the programme has limited funds available and focuses upon small-scale and emerging agriculture. While the current emphasis is justified, there is a need to find ways to encourage land rehabilitation and uptake of SLM by all farmers if South Africa is to achieve the goal of building a green economy.

81. The LandCare programme and other Natural Resource Management Programmes – under DEA's Expanded Public Works Programme – have a strong focus on job creation. These programmes are not coordinated to protect and improve ecosystem services on degraded agricultural land at a national scale. Therefore, there is a clear need to build institutional capacity to prioritise funding and practices, making certain that limited resources are strategically applied to maximise results. In addition, programmes need to be self-sustaining and deliver tangible benefits to land users. These benefits will incentivise continuation without long-term financial support from government.

82. State-sponsored stock reduction schemes, which alleviated some of the impacts of stock on vegetation during droughts, have been discontinued. The provincial Departments of Agriculture have limited budgets to provide extension and climate change adaptation support to the large proportion of land under agriculture. In addition, the national Department of Agriculture is currently operating below optimal capacity because of the vast areas they are required to service with a minimum of skilled human resources. Legislation supports and streamlines environmental decision-making and biodiversity planning. However, such policies and legislation are not always understood, especially at the municipal level.

83. In a large, dry country like South Africa, the conservation of ecosystems cannot depend on government funds alone. Local communities need to take responsibility for their livelihood activities; implementing behaviour changes that align with best practice adaptation, as well as natural resource management and conservation priorities. Many of these rural communities need to be empowered to understand climate change and live sustainably in the face of unpredictable changes. Given the contribution of agriculture to the GDP – only ~2.5% – it is important that commercial farmers operating on a large-scale in arid environments are equipped to deal with the negative effects of climate change.

84. *SLM supportive governance:* South Africa's three tier system of governance is designed to encourage collaboration between the national, provincial and local governments. For this to work, decision-makers at national, provincial and local level must be in alignment and strategically coordinate their approaches. South Africa does not benefit from examples of such alignment. Currently, government departments operate independently – regardless of which level they are located. Furthermore, stakeholders do not have working examples of how to plan, implement and govern successful SLM practices. Consequently, investments are taking place outside of a strategically aligned framework designed to deliver and monitor long-term SLM benefits.

85. There are few regulatory and institutional SLM frameworks to encourage the application of evidence-based, proven SLM practices. Provincial government's agricultural and conservation departments have oversight of resource use relevant to SLM. However, these officials do not benefit from any formal capacity building programmes designed to increase their ability to implement and uphold SLM. Despite legislation providing various mechanisms to support and streamline environmental decision-making and biodiversity planning, these mechanisms are not always known or understood. The result is that stakeholders lack the institutional framework required to guide SLM supportive decision-making. There are models for improved SLM which inform management through the monitoring of key SLM indicators<sup>38</sup> However, there are no models for improved regulatory management that may be replicated nationally. Nor are there templates for municipal level SLM plans or strategies.

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<sup>37</sup> To this end, soil conservation subsidies provided in the past to farmers interested in land-reclamation were stopped in 2004.

<sup>38</sup> For example, the results of WOCAT/LADA information, water quality/quantity monitoring, climate change mitigation, and status of

86. Local governance institutions do not have the requisite capacity to mainstream the sustainable use of natural resources into planning and financing processes. Capacity limitations also hamper efforts to: i) improve co-operative governance; ii) enhance communication between stakeholders; iii) improve the sustainability outcomes from development planning processes; iv) improve the awareness of the benefits of SLM; and v) link SLM to strategic financing mechanisms.

87. Land-use planning policies at local level do not fully recognise the strategic importance of: i) ecosystem resilience and restoration for local development; ii) adaptation to climate change; and iii) on-going sustainability. The current *ad hoc* system of planning is not effective because SLM requires an integrated approach to addressing the sustainable use of land, soil, water, and biodiversity resources. The development of strategic SLM plans and policies requires capacity building of national and subnational government. This will result in the efficient delivery of SLM best practices. Such plans will need to consider regulatory approaches for pending threats – such as fracking<sup>39</sup> – as well as addressing existing challenges, including over-grazing, water use monitoring, and incentivising climate change adaptation interventions.

88. Mainstreaming SLM restoration, financing and best practices into agriculture has been limited by: i) the absence of technical guidelines to facilitate restoration at the landscape-level; ii) an institutional and policy barrier; and iii) knowledge and support gaps within communities that prevent resource users from effectively halting degradation. For example, no management guidelines exist for the sustainable utilisation of the unique riparian ecosystems in arid Karoo ecosystems. Nor are there spatial biodiversity layers to inform the identification of Critical Biodiversity Areas for large parts of the Karoo. These need to be compiled to enable informed decision-making.

89. Prior to 1994, the erstwhile DAFF actively promoted resource conservation through associations and unions. The collapse of some of the resource governance systems operating pre-1994 has subsequently left a gap<sup>40</sup>. The Conservation Committees and Soil Conservation Committees that persist are generally at the provincial level and do not have the requisite capacity to operate effectively. This hampers the establishment of Catchment Management Authorities (CMAs)<sup>41</sup> that could help to oversee SLM. The implementation of CMAs is integral to the South African water reform policy. Unfortunately, South Africa has struggled to generate a working example of this process<sup>42</sup>.

90. At the local level, South Africa does not have an operational example of a watershed forum with institutions benefiting from: i) improved SLM practices; ii) monitoring of those practices – including positive/negative impacts to water quality/quantity; and iii) linking this information to better decision making processes. Efforts to transform Irrigation Boards into more equitable Water Users Associations (WUAs) have been problematic. In addition, coordinating a stakeholder driven process for watersheds is not practical. There is a need to generate smaller, micro-watershed organisations designed to inform the larger process of natural resource management.

#### 1.4. Baseline analysis

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key indicator species such as Riverine rabbit.

<sup>39</sup> Local authorities have limited exposure and knowledge regarding the regulation of fracking. South Africa has not yet been able to compile a suitably rigorous and co-operative regulatory framework required to make certain fracking damage is contained. Even the current MPRDA (Mineral and Petroleum Development Act) legislation does not offer adequate environmental impact assessment guidance specific to fracking.

<sup>40</sup> Despite legislation making provision for Conservation Committees and Regional Conservation Committees, there are few operational structures in place.

<sup>41</sup> CMAs serve the purpose of integrating water users, and particularly small-scale farmers, into the process of water management. This sort of micro-watershed organizational structure applying Water User Association models is critical to the achievement of SLM so that water conservation and use may become a rallying point and indicator for improved land management.

<sup>42</sup> In 2008, the process was suspended for 4 years and by 2012 only two CMAs had been established. To address the technical capacity required to staff CMAs, and the challenges such a large number of institutions pose to the Department of Water Affairs (DWS) – in regulating their performance – the number of water management areas was reduced to 9 from the original proposal of 19 water management areas.

91. South Africa places a high premium on the role of land and the constituent ecosystems in the quest for a green economy. The government invests substantially in environmental and agricultural support programmes. There is a need to align many of these programmes more fully with SLM principles and practices. The proposed GEF project will therefore be a catalyst for change. The total baseline is estimated to be US\$ 63.83 million. A total of US\$ 21,317,042 has been committed as co-financing.

92. **Department of Environmental Affairs Natural Resource Management Programmes** (annual national budget of US\$280,970,750): The DEA oversees a large portfolio of programmes related to SLM through the Natural Resources Management Unit (NRMU). These include the: i) Working for Water Programme (WfW); ii) Subtropical Thicket Restoration Programme; iii) Working for Wetlands Programme; and; iv) the Biodiversity Stewardship Programme.

93. The WfW programme forms part of government's Expanded Public Works Programme, which draws unemployed people into the productive sector of the economy. The purpose of the WfW programme (annual budget of US\$ 11 million)<sup>43</sup> is to rehabilitate watersheds through the clearing of water-wasting invasive plant species that threaten South Africa's biodiversity, water security, the ecological functioning of natural systems and the productive use of land<sup>44</sup>. Through this programme, numerous jobs have been created, which are targeted at the poorer segments of society throughout the country. The programme works closely with other Government departments including: i) DAFF; ii) the Department of Tourism; iii) the Department of Trade and Industry; iv) various provincial departments of agriculture and environment; v) academic and research institutions; vi) and the private sector.

94. The WfW Programme champions the protection, rehabilitation and sustainable use of South Africa's wetlands through co-operative governance and partnerships. It also forms part of government's Expanded Public Works Programme.

95. The DEA initiated the STRP in 2004, building on extensive research – conducted by Rhodes University and Stellenbosch Universities – on the carbon sequestration potential of the Albany Thicket spekboom. The programme aims to provide a financial incentive for the restoration of subtropical thickets while alleviating poverty through the sale of carbon credits.

96. **DAFF's LandCare Programme** (annual budget of ~US\$14,000,000): Beyond core financing for mandatory programming – e.g., extension and soil conservation technical services – the primary programme relevant to SLM is the LandCare Programme. Launched in 1997, the LandCare Programme is a national community-based and government-supported programme to ensure environmental and ecological sustainability of agriculture. The purpose of the LandCare Programme is to optimise productivity and sustainability of natural resources to result in greater productivity, food security, job creation and a better quality of life for all.

97. The Provincial Departments of Agriculture allocate funding on an annual basis for the implementation of the LandCare Programme. Examples of efforts include: i) community level work on land rehabilitation; ii) fencing; iii) erosion control; iv) water management; and v) control of invasive alien plants. With this financing, the programme supports farmer awareness training and capacity building, including strengthening of extension support services. In addition, funds are utilised to support Community Based Natural Resources Management Programmes (CBNRM), job creation, and site-specific SLM investments – such as soil erosion, invasive species, and veld management.

98. The LandCare Programme issues a maximum of US\$12,500 to projects in support of its general objectives. To receive funding groups of farmers – 10–20 farmers per group – are organised into LandCare Committees. The funding received by such groups is relatively small and is generally allocated to communal and emerging farmers based primarily upon upgrading livelihoods.

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<sup>43</sup> Data provided from Gamtoos Irrigation Board (albeit incomplete) indicates that at least US\$ 11 million has been spent nationally on the eradication of invasive plants since the program started.

<sup>44</sup> In the Olifants River Catchment, the programme is supporting research to develop a statistically sound monitoring methodology for the comprehensive mapping of major IAP species at national, regional and quaternary catchment scales.

99. LandCare projects in the Western Cape Province follow the Area-wide Planning (AwP) approach. AwP recognises that many natural resource issues – such as erosion control, water management and control of invasive alien plants – need to be addressed at a community level, as well as at individual farm level. Therefore, AwP supports CBNRM and promotes partnerships among the communities, private sector and the government for the management of natural resources. The objectives of the programme are supported through a grants programme.

100. **The Endangered Wildlife Trust's Drylands Conservation Programme: Riparian Ecosystem Restoration Project:** This project was initiated in 2007 and is on-going in the Nama Karoo. The purpose of the project is to restore degraded riparian ecosystems, ecosystem services and connectivity at a landscape level. This is one of the few projects undertaking ecosystem restoration in the Nama-Karoo biome, as opposed to rehabilitation. Activities include mobilising land users within the stewardship framework – in the form of conservancies – to address SLM at grassroots level. The project currently encompasses a core area of ~350,000 hectares. The flagship animal species forming the focus of these efforts is the Critically Endangered Riverine Rabbit, an indicator species for Karoo riparian health. The project collaborates with land users to restore sections of degraded riparian habitats identified as priorities in terms of connectivity and ecosystem resilience. Due to the paucity of ecosystem specific restoration methodologies, a research approach is taken whereby methodologies for riparian restoration are being researched. Based on the research, best practice guidelines will be developed for assimilation by land users and other stakeholders. In order to optimise limited resources of NGOs and government service-providers, collaborations have been forged with the provincial agriculture and conservation departments, as well as academic institutions and the local municipalities. Certain aspects of restoration – such as erosion control – are particularly costly. Therefore, limited funding prohibits broadening the scope of the project.

101. **Endangered Wildlife Trust's Drylands Conservation Programme: Riverine Rabbit Programme** is based in the town of Loxton in the Northern Cape Province, South Africa. The study area is situated between Victoria West, Loxton and Beaufort West and straddles the boundaries of the Northern and Western Cape. The project is a landscape initiative encompassing ~350,000 hectares of farms that have entered into biodiversity stewardship agreements. These farms include commercial as well as land reform farms. The region supports the habitat upon which the Riverine Rabbit depends.

102. **Rhodes University** offers internationally and locally acclaimed training courses on: i) wetland rehabilitation and health assessment; ii) community-based natural resource management; iii) land degradation assessment; and iv) urban forestry. The expertise in running these courses and experience in working with poor rural communities in the Eastern Cape Province will enable Rhodes University to offer these short courses to local communities, government and non-governmental officials associated with the project. The courses will assist in developing local human capacity to facilitate SLM and the restoration of degraded areas through the combination of proven scientific knowledge and local ecological knowledge.

103. In addition, the project is aligned with the following ongoing initiatives within the pilot areas.

104. The **Land Degradation Assessment (LADA)** is funded by the Food and Agriculture Organisation (FAO) with logistical support provided by DAFF and is being implemented by the ARC. The purpose of the LADA is to obtain a better understanding of land degradation and conservation in South Africa at the magisterial district, regional, provincial and national level. This will inform decision-making towards the implementation of sustainable land management practices countrywide. The information generated by LADA will be used in the design, implementation and monitoring of future sustainable land management projects. An important output of the LADA is the creation of maps indicating future responses towards land degradation as areas where: i) preventative actions are needed, ii) mitigation is required; and/or iii) rehabilitation actions are needed to deal with specific problems. The prioritisation of such areas assists decision-makers focus limited resources on areas where it will have the biggest impact on SLM and food security. The LADA has established baseline degradation methodologies and data that will be utilised

during the implementation of the project. Data generated by LADA will be used to engage and facilitate the mainstreaming of the outcomes into existing networks of soil and water experts and stakeholders.

105. **Living Lands’ Spekboom Restoration:** In 2008, Living Lands commenced a spekboomveld restoration programme. Stakeholders include local communities, researchers and students, as well as government and NGOs. The programme has led to the restoration of 1,800 hectares of spekboomveld on privately owned lands. Objectives of the programme include: i) developing alternative income streams for the people living in the area; and ii) enabling large-scale restoration of hill slopes, wetlands, alluvial fans and other important areas. Living Lands is working with the Four Returns Development Company to establish community-owned enterprises that generate alternative income streams and allow the farmers to manage the land more sustainably. This will enable farmers to remove the livestock – primarily goats – from the degraded hill slopes to allow for restoration. These activities will contribute to the livelihoods of local people and to economic development of the area.

106. **USAID and Association for Water and Rural Development’s (AWARD) Resilience in the Limpopo Basin (Olifants) programme.** This is a five year programme, which was initiated in 2012. The overarching goal of the project is to reduce vulnerability to climate change through building improved transboundary water and biodiversity governance and management of the Olifants Basin. This will be facilitated by the adoption of science-based strategies that enhance the resilience of its people and ecosystems through systemic and social learning approaches. A grassroots approach has been adopted for: i) understanding the systemic causes of vulnerability, including include climate change vulnerability; and ii) promoting new ways of thinking and acting to support integrated water and biodiversity management.

107. The following GEF projects are also operational within South Africa. During the project design, every effort was made to make certain this project is complementary with these on-going efforts.

Project Title	Agency	GEF Investment (US\$)	Brief Project Description
Mainstreaming Biodiversity into Land Use Regulation and Management at the Municipal Scale	UNDP	8,177,730	Biodiversity Project objective: To mitigate multiple threats to biodiversity by increasing the capabilities of authorities and land owners to regulate land use and manage priority biodiversity at the municipal scale. Outputs: <ul style="list-style-type: none"> <li>• Policies and regulatory frameworks for production sectors</li> <li>• National and sub-national land-use plans that incorporate biodiversity and ecosystem services valuation</li> <li>• Certified production landscapes and seascapes.</li> </ul>
National Biodiversity Planning to Support the Implementation of the CBD 2011-2020 Strategic Plan in South Africa	UNDP	220,000	Biodiversity Project objective: This Biodiversity Enabling Activity for South Africa assists DEAT in developing a National Biodiversity Strategy and Action Plan (BSAP). The BSAP will build on and reinforce other existing national policies, particularly the White Paper on the Conservation and Sustainable use of South Africa’s Biological Diversity (1997) setting out the National Biodiversity Policy. The project adds to previous support allowing South Africa to participate in the Clearing House Mechanism of CBD, and in assisting the preparation of the first country Report to the Conference of Parties (COP).

Enabling South Africa to Prepare Its Third National Communication (3NC) and Biennial Update Report to the UNFCCC	UNEP	4,006,650	Climate Change Project objective: To prepare the Third National Communication (TNC) and first Biennial Update Report (BUR) of South Africa to enable the country fulfil its obligations under the UNFCCC, in accordance with Articles 4.1 and 12.1 of the Convention while strengthening its capacity to integrate climate change concerns into national and sectoral development plans and priorities through the implementation of the national climate change response strategy (NCCRS)
National Grasslands Biodiversity Programme	UNDP	8,300,000	Biodiversity Project objective: To mainstream biodiversity management objectives into the practices of the production sectors that provide the stimulus for land use changes that threaten biodiversity. Outcomes: <ul style="list-style-type: none"> <li>• Enabling environment for biodiversity conservation in production landscapes is strengthened</li> <li>• Grassland biodiversity conservation objectives mainstreamed into agriculture</li> <li>• The forestry sector directly contributes to biodiversity conservation objectives in the grasslands biome</li> <li>• Grassland biodiversity management objectives mainstreamed into urban economy in Gauteng</li> <li>• Biodiversity management secured in coal mining sector</li> </ul>
Greater Addo Elephant National Park Project	World Bank	5,500,000	Biodiversity Project objective: The proposed project is aimed at improving the conservation of biodiversity in the Greater Addo National Park. The project would specifically support activities to: i) identify and protect areas of unique biodiversity under threat; ii) identify the minimum area required to maintain ecological patterns and processes; iii) reduce critical threats facing the park; iv) develop and implement a conservation plan; v) promote sustainable ecotourism; and vi) promote capacity building in local communities to develop environmentally acceptable economic activities.
Improving Management Effectiveness of the Protected Area Network	UNDP	8,550,000	Biodiversity Project objectives: The Biodiversity of South Africa is protected from existing and emerging threats through the development of a financially sustainable, effective and representative national protected area network and improved land use practices in buffers around parks with a focus on community benefits and partnerships Outputs: <ul style="list-style-type: none"> <li>• Establishment of new protected areas</li> <li>• Improved PA management effectiveness delivers enhanced protection</li> <li>• PA Expansion costs per hectare reduced by 60% by introducing partnerships for PA</li> </ul>

			management and reducing direct purchase of state and other land for protected area expansion
Strengthening Law Enforcement Capabilities to Combat Wildlife Crime for Conservation and Sustainable Use of Species in South Africa	UNEP	2,690,455	Biodiversity Project objective: To improve the effectiveness of efforts to combat wildlife crime in South Africa's Protected Area system, focused on rhinoceros through improved forensic technologies and capacity, strengthened data gathering, sharing and analysis systems at national level, and enhanced cooperation structures and mechanisms at international level to support law enforcement efforts along the whole trafficking chain.
Conservation of Globally Significant Biodiversity in Agricultural Landscapes through Conservation Farming (Medium-sized project)	World Bank	750,000	Biodiversity Project objective: The objective of the project is to i) identify and evaluate the ecological costs and benefits of different farming practices and management strategies; ii) develop and compare ecological economic models for farming strategies; and iii) evaluate the role of conservation farming as part of national and regional strategies to conserve biological diversity.
Development and Implementation of the National Biodiversity Strategy and Action Plan (BSAP) in South Africa (Enabling project)	UNDP	409,200	Biodiversity Project objective: To integrate South Africa's obligations under the Convention on Biological Diversity (CBD) into its national spatial, development and sectoral planning frameworks through a renewed and participative biodiversity planning and strategizing process, in a manner that is in line with the global guidance contained in the CBDs Strategic Plan for 2011-2020.

## 1. STRATEGY

### 2.1. Country ownership: eligibility and drivenness

108. South Africa ratified the United Nations Convention to Combat Desertification (UNCCD) in September 1997. The National Portfolio Formulation Exercise (NPFE) undertaken by the key UNCCD and Land Management stakeholders in South Africa has prioritised this project. Furthermore, the project is aligned with key national policies and strategies, notably the National Development Plan: Vision for 2030 (NDP), the National Action Programme (NAP) for combatting desertification, and the Medium Term Strategic Framework (MTSF), amongst others.

109. The NAP was adopted in 2004 and seeks to protect and restore land resources, as well as promote awareness training and mitigation strategies. Aim of the NAP is to form linkages between sustainable development and efforts to combat desertification, whilst mitigating the effects of drought. The NAP seeks to harmonise a number of programmes and plans aimed at promoting SLM in South Africa. Implementation of the NAP requires a bottom-up approach – with a focus on municipal Integrated Development Plans (IDPs) – to combat desertification.

110. The National Greening Strategy supports the NAP. Although not focused specifically on desertification – but rather on “greening” urban and rural areas through forestry development – this strategy can play an important role in this effort. The main purpose of the strategy is to support the development and implementation of greening initiatives with provincial and local government, as well as

other stakeholders to improve environmental conditions in urban and rural areas. This is achieved through promoting greening plans and raising general awareness about the importance and value of trees.

111. The Comprehensive Rural Development Programme (CRDP) reduces poverty in South Africa through the creation of sustainable rural communities. The Department of Rural Development and Land Reform (DRDLR) is tasked with facilitating integrated development and social cohesion through partnerships with all sectors of society. The CRDP implements broad-based agrarian transformation and diversification of the rural economy. The success of this programme is dependent upon the participation of national and sub-national government and relevant stakeholders, including the local communities. Communal ownership and the effective contribution of local communities is integral to the sustainability of the CRDP.

112. The Agrarian Transformation Strategy is integral to the success of the CRDP. This strategy focuses on three key areas; i) sustainable land and agrarian transformation; ii) rural development; and iii) land reform based on restitution, redistribution and land tenure reform. Moreover, the strategy seeks to increase agricultural development and enhance the local economy. Thereby ensuring food security, dignity and improved rural livelihoods. The optimal and sustainable use of natural resources and appropriate technologies is also vital to the success of rural development. As is the ownership of projects and programmes through community buy-in. The project is aligned with the following key priorities of the strategy: i) improve productivity in land reform projects; ii) improve corporate governance and enhanced service delivery; and iii) implement proper change management and innovation strategies.

113. The NDP aspires to eliminate poverty and reduce inequality by 2030. As the primary economic activity in rural areas, the NDP identifies agriculture as having the potential to create ~1 million jobs by 2030. The NDP recommends that: i) investment in water resources and irrigation infrastructure is increased where the natural resource base allows; ii) tenure of security is created for communal farmers; iii) support for innovative public-private partnerships should be encouraged; iv) investment in research and development for the agricultural sector should be promoted; v) skills development and training in the agricultural sector, including entrepreneurship training should be promoted and extended – this should include the training of a new cadre of extension officers that will respond effectively to the needs of small-scale farmers; and vi) innovative means for agricultural extension and training by the government in partnership with industries should be sought.

114. The Medium Term Strategic Framework (MTSF) is a strategic plan for 2014–2019, highlighting government's commitment to implement, amongst others, the NDP. The priorities identified in the MTSF are incorporated into plans and programmes of national, provincial and municipal departments. The project is aligned with Priority Outcome 10: Protect and enhance our environmental assets and natural resources. This outcome is focused on the development of a framework for transitioning to an environmentally sustainable, climate-change resilient, low-carbon economy by 2030. The project will contribute to this outcome by addressing natural resource degradation, which is a key focus of the MTSF. In addition, the project will increase the technical capacity of government at national, provincial and local level to implement appropriate measures to address land degradation. Moreover, the generation of datasets will improve decision-making and governance.

115. DAFF's Integrated Growth and Development Plan (IGDP, 2012) provides a long-term strategy for the growth and development of South Africa's agriculture, forestry and fisheries sectors. The purpose is to develop a common vision encompassing all three sectors. The IGDP has been developed in response to the national goals outlined in the MTSF.

116. The Strategic Plan for the DAFF (2012/13–2016/17) addresses the challenges facing the agriculture, fisheries and forestry sectors. In addition, the medium-term strategy sets new targets for continued service delivery over the five year period. Focus areas include rural and economic growth, food security and inequality. These will be addressed through increased productivity and job creation. In light of the predicted effects of climate change, the Strategic Plan addresses the sustainable use and management of natural resources through the LandCare programme. The strategic goals of relevance

include: i) sustained management of natural resources; ii) effective national regulatory services and risk management systems; and iii) effective and efficient governance.

117. The Comprehensive Agricultural Support Programme provides agricultural support to land and agrarian reform projects. A particular focus of the programme is empowering provinces – and by virtue thereof agricultural support services – in regards to planning, implementation, information dissemination and reporting. Micro-finance and credit schemes have been developed to assist farmers. In addition, agricultural farmer co-operatives have been established, as well as farmer-to-farmer mentorship policies. Strategies have also been developed to address the challenges associated with sustainable agricultural production. For example, a livestock development strategy for emerging farmers addresses overstocking and poor productivity, which lead to overgrazing. Furthermore, production guidelines have been developed for farmers and extension officers.

118. The LandCare programme is a government supported and community based approach to the sustainable management and use of agricultural natural resources. The overall goal of the programme is to optimise productivity and sustainability of natural resources thereby increasing: i) productivity; ii) food security; iii) job creation; and iv) a better quality of life.

119. Other relevant documents include DAFF's White Paper on Agriculture, DRDLR (2011–2014), National Biodiversity Strategy and Action Plan (NBSAP, 2005), National Climate Change Response Strategy (NCCRS), New Growth Path and Green Economy Accord (2011).

120. The White Paper on Agriculture lists the following agricultural policy goals: i) developing a new order of economically-viable, market-directed commercial farmers, with the family farm as the basis; ii) broadening of access to agriculture via land reform should be enhanced by adequate agricultural policy instruments and supported through the provision of appropriate services; iii) financial systems should focus on the resource-poor and beginner farmers, enabling them to purchase land and agricultural inputs; iv) trade in and marketing of agricultural products should reflect market tendencies; v) agricultural production should be based on the sustainable use of natural agricultural and water resources; and vi) developing agriculture's important role in the regional development of southern Africa and other countries.

121. The NBSAP sets out a framework and plan of action for the conservation and sustainable use of South Africa's biological diversity, as well as equitable benefit sharing from the use thereof. To ensure conservation and sustainable use of biodiversity, the NBSAP focuses upon mainstreaming and integration, institutional effectiveness, co-operative governance and partnerships. The objectives of the NBSAP include: i) establishing an enabling policy and legislative framework that integrates biodiversity management objectives into the economy; ii) enhancing institutional effectiveness and efficiency thereby ensuring good governance in the biodiversity sector; iii) integrating terrestrial and aquatic management thereby minimising the impacts of threatening processes on biodiversity, enhancing ecosystem services and improving social and economic security; iv) enhancing human development and well-being through the sustainable use of biological resources and equitable sharing of the benefits; and v) conserving a network of conservation areas, which represent a sample of biodiversity, as well as maintaining key ecological processes across the landscape – and seascape.

122. The NCCRS (2004) details the national response to the challenges posed by climate change. The objectives of the strategy seek to achieve sustainable development whilst simultaneously fulfilling the need to respond to climate change. Those of relevance include: i) creating a synergy between national government objectives, sustainable development and climate change; ii) enabling the relevant national government departments to address climate change issues in South Africa; iii) offsetting South Africa's vulnerability to climate change; iv) creating a national greenhouse gas mitigation plan that furthers the process of sustainable development in South Africa in the light of CDM, technology transfer, donor funding, and capacity building opportunities; v) ensuring that government departments in all spheres work together on a cooperative basis in dealing with climate change; vi) ensuring that South African environmental law provides for climate change issues; vii) improving the level of education, training and awareness regarding climate change in South Africa and capacitate the government and other sectors to

deal with climate change issues effectively to the benefit of the country. The project is in alignment with the strategy and will address the following initiatives highlighted therein:

- adaptation of rangeland practices;
- adaptation in agriculture;
- reducing greenhouse gas emissions in the agriculture sector through the National Department of Agriculture;
- protecting plant biodiversity;
- protecting animal biodiversity; and
- formulating actions that will offset the economic vulnerability of South Africa to climate change response measures.

123. The New Growth Plan recognises the green economy as one of the essential drivers for climate change. Natural resource management is therefore a focus of the NGP. An additional driver is spatial development, in particular, rural development and the measureable improvement in livelihoods. The NGP provides support for small-scale agriculture – including community food gardens – and marketing, as well as service cooperatives.

124. The Green Economy Accord is a partnership between the public and private sector to promote the green economy and processes to green the economy. Climate change provides new opportunities and prospects for economic activity. The accord is a commitment to investing in the green economy and providing co-financing for commercially viable green economy projects. Green economy projects will be identified and marketed with the investor community – with private sector banks and financial institutions – to promote green funds and portfolios of investment that include exposure to the green economy. The accord will promote the green economy as an opportunity for investments that combine both social and economic returns.

## **2.2 Policy Rationale and Conformity**

### *Rationale and Summary of GEF alternative*

125. The proposed project will strengthen the capacity, knowledge and policies required to implement SLM in South Africa. This will include implementing SLM practices across a broader and larger range of landscapes that are currently under-represented within South Africa's SLM portfolio. The GEF investment will catalyse a coordinated approach to SLM. Working in three unique landscapes – Eastern Cape, Karoo and Olifants – the project will forge partnerships across the private sector, academic institutions, farmers, civil society and government. It will coordinate SLM practices across landscapes, incorporating private, communal, and government owned lands to achieve greater scales. Efforts will focus on incorporating all three spheres of government – national, provincial and municipal – to strategically align programmes to achieve greater efficiency and impact.

126. Improved SLM practices based upon best international and national practices will be developed and demonstrated. The project will coordinate efforts to develop and test knowledge-based techniques for securing ecosystem integrity and rehabilitating currently degraded land. These techniques will provide land users with practical approaches required to reduce further degradation of land and ecosystem services. Furthermore, they will demonstrate how the reduction of land-degradation stemming from agriculture and other productive sector activities can reduce investment risks and improve economic returns. The techniques will include a combination of technologies, capacities, incentives, policies and practices that integrate land and water in land use to increase primary productivity in a sustainable manner and enhance the resilience of the agro-ecological systems.

127. SLM will be incorporated within a much stronger monitoring framework. This framework will build upon the current baseline to assist land users “on-the-ground” to better understand the implications and options available regarding SLM practices. Monitoring efforts will assist stakeholders to better understand the positive and negative effects of particular land use decisions. Monitoring will also assist stakeholders

to better understand and predict trends so that interventions can be identified early to address emerging land degradation threats. The project will work to integrate land use management in ways that bring together the key elements required to achieve scale. This integrated approach will address and monitor land degradation symptoms, causes and effects related to agriculture, forestry, water use and biodiversity conservation.

128. Pathways for the efficient delivery of improved practices to a much larger audience will be established. The project will create mechanisms for government agencies, academic institutions, civil society and individuals to contribute to and increase South Africa's SLM knowledge base. The project will work to institutionalise learning so that as SLM advances and new practices are implemented this knowledge can be efficiently distributed to key stakeholders. This will be complemented by a specific package of training on advocacy and guidelines on SLM and ecosystem friendly management practices for extension services, which will be used to promote replication and upscaling of project experiences. Therefore, the capacity of extension services will be substantially enhanced. The project will innovate participatory approaches that encourage synergy and learning between the stakeholders. This will include peer-based training programmes and systems for farmers to improve management practices to prevent land degradation. The project will enhance the ability of academic institutions to generate, capture, and disseminate SLM learning tools. The project will reinvigorate mechanisms – such as Soil Conservation Committees – to help deliver SLM knowledge. In addition, best practice SLM guidelines will be created and widely distributed. These technical guidelines will be designed to support the demands of land users and regularly updated to reflect the lessons learned.

129. Financial measures introduced to incentivise SLM adoption will be more strategic. The project will support the innovation of the use of SLM as a mechanism for South Africans to access financing from the private sector or carbon markets. This model will be generated for spekboomveld on grazing lands. In addition, the project will demonstrate how to improve the effectiveness of providing SLM financial incentives. Strategies for strategic decision-making and allocation of government, donor, and private sector financing will be established for the three unique landscapes. The project will help coordinate currently *ad-hoc* financial grant schemes. Moreover, it will demonstrate the potential use of improved land management practices to help the productive sector increase product value and better capitalise upon opportunities to market SLM-friendly products. The result of the project's efforts will be increased cost-effectiveness and sustainability of incentive based programmes.

130. The capacity for government to engage strategic and informed decision-making will be enhanced. This is critical to underpin and support the adoption and continuation of project initiatives. The project will strengthen the capacity of stakeholders to address both existing and emerging land degradation challenges, including open-access grazing regimes, fracking, climate change mitigation and adaptation, as well as integrated water resources management. In addition, emphasis will be placed on inclusion and cohesion amongst stakeholders by building an enabling environment that coordinates conservation approaches across diverse land use management and ownership mosaics. Project efforts will provide information and knowledge necessary to inform decision-making by policy makers and the general public. Programmes will be designed to enable governance at both national and sub-national level. These will address and reverse land degradation through enhancing ecosystem integrity by supporting, planning, financing, and regulating natural resource. Land use planning policies of local authorities will be strengthened to incorporate and recognise the strategic importance of ecosystem resilience, moving towards practices that maintain water quality/quantity, biodiversity, and land productivity. Linkages with the enhanced knowledge base will shift the current baseline toward a much more coherent, strategic, and cost-effective approach to SLM decision-making. This will assist national and sub-national government to promote ecosystem integrity and land use management practices that will sustain rural economies and livelihoods.

*Fit with GEF Focal Area Strategy and Programme*

131. The project is aligned with Land Degradation Focal Area Objective 3: *Reduce pressures on natural resources from competing land uses in the wider landscape*. The following activities will contribute

towards achieving this objective: i) capacity development; ii) avoiding deforestation and degradation of spekboom, as well as Karoo riparian zones; iii) building technical and institutional capacities; iv) developing innovative financing mechanisms; v) improving agricultural management; and vi) improving integrated watershed management.

<b>LD 3: Integrated Landscapes – Reduce pressures on natural resources from competing land uses in the wider landscape.</b>		
<b>Objective</b>	<b>Expected Outcome</b>	<b>Expected Indicator (and project contribution to indicator)</b>
Outcome target: integrated management of 150 million hectares of production systems, and natural habitats, including in drylands and transboundary areas.	Outcome 3.1: Enhanced cross-sector enabling environment for integrated landscape management.	Indicator 3.1: Policies support integration of agriculture, rangeland, forest and other land uses.  Project contribution to indicator: The project will support the development of a variety of model SLM policies, including management planning for provinces and municipalities designed to enhance the application of improved land-use management practices.
	Outcome 3.2: Integrated landscape management practices adopted by local communities.	Indicator 3.2: Application of integrated natural resource management (INRM) practices in wider landscapes.  Project contribution to indicator: The project will augment existing “best” practices, develop additional practices, and support replication and amplification of these practices on a landscape level. This will be done across three different ecosystems, generating models that can be applied nationally and supported by improved monitoring and capacity building.
	Outcome 3.3: increased investments in integrated landscape management.	Indicator 3.3: Increased resources flowing to INRM and other land users from diverse sources.  Project contribution to indicator: The project will assist with the development of at least two types of innovative financing mechanisms. The project will assist the Government of South Africa to support the generation of financing from carbon markets for spekboomveld and lay the foundations for this on grazing land. The project will also assist the government to implement more strategic allocation of financing based upon the advancement of proven SLM practices.

132. The project is also consistent with Objective 5 of the GEF Climate Change Focal Area Strategy: *Promote Conservation and Enhancement of Carbon Stocks through Sustainable Management of Land use, Land Use Change and Forestry (LULUCF)*. The project will contribute to the following outcomes under Objective 5: i) good management practices in LULUCF adopted both within the forest land and in the wider landscape; ii) restoration and enhancement of carbon stocks in forests and non-forest lands, including peatlands; and ii) GHG emissions avoided and carbon sequestered.

## *UNDP's Comparative Advantage*

133. UNDP has substantial experience supporting projects in South Africa designed to increase ecosystem integrity and resilience. Past and on-going efforts include the CAPE (Action for People and Environment) project, the Agulhas Biodiversity Initiative, and The National Grasslands Programme. UNDP is the lead agency within the United Nations (UN) system helping countries to develop capacity for Ecosystems and Biodiversity Management. With 40 years of transformational work in Ecosystems and Biodiversity management, and building on an established global network of country offices and regional centres, UNDP has been supporting countries to shape and drive natural resources management for sustainable development—driven by national commitments, needs and priorities. More specifically, UNDP works directly with countries to integrate ecosystems management and biodiversity into poverty reduction, development planning and economic sectors through: (a) developing capacity at the individual, institutional and systemic levels to remove barriers to, and identify new options for, effective governance and finance for biodiversity and ecosystem management and (b) assisting countries to identify, access, combine and sequence environmental finance to address the biodiversity and ecosystem financing gap, mobilize pro-poor markets for ecosystem goods and services, and generate sustainable livelihoods. Approximately US\$1.0 million of co-financing from the UNDP's country programme will be provided throughout the duration of the project.

### **2.3. Project Objective, Outcomes and Outputs/Activities**

**Project Objective: To strengthen the enabling environment for the adoption of knowledge-based SLM models for land management and land/ecosystem rehabilitation in support of the green economy and resilient livelihoods through capacity building, improved governance and financial incentives demonstrated in the Karoo, Eastern Cape and Olifants landscapes.**

134. The project will support the mainstreaming of SLM into national and sub-national land use planning and decision-making. By doing so, the project will reduce land degradation in the Karoo, Eastern Cape and Olifants landscapes through the implementation of climate-smart land/ecosystem rehabilitation and management measures.

135. The project will address the barriers to mainstreaming SLM into development plans and policies by creating an enabling environment that will guide interventions on land/ecosystem rehabilitation. Furthermore, the interventions in this project will focus on demonstrating improved yields in ecosystem service provisioning, climate change resilience and improved livelihoods. The project activities will include capacity-building for women, CBOS/CSOs, NGOs, extension officers and other stakeholders.

136. The project aims to leverage scientific understanding, institutional and human capacities to put in place land management, livestock and agricultural production systems that simultaneously increase primary productivity, rehabilitate land and ecosystems and build resilience of natural resource dependent communities. The project will reduce the vulnerability of agro-ecosystems to environmental change – i.e. climate change, land degradation and other human induced impacts. To achieve the project objective and address the barriers (detailed in section 1.2), the project's interventions have been organised into two components, each with several outcomes and outputs – as described below in detail.

### **COMPONENT 1: KNOWLEDGE, SKILLS AND INSTITUTIONAL CAPACITIES TO SUPPORT SLM MODEL DEVELOPMENT, GUIDE ECOSYSTEMS AND LAND REHABILITATION PROGRAMMES AND INCREASE RESILIENCE**

137. The project will promote land-use practices that reduce land degradation and improve productivity. Sustainable land management (SLM) methods and approaches that reduce the extractive pressure on existing water and land resources will be developed to guide ecosystem rehabilitation to improve productivity and resilience under climate change scenarios. The list of potential SLM practices to be promoted by the project will be developed with explicit consideration of local socio-economic and environmental contexts in the Karoo, Eastern Cape and Olifants pilot areas. Criteria that will be

considered in the design of the SLM practices will include *inter alia*: i) demonstrable effects in reducing land degradation; ii) clear, viable and sustainable benefits to local communities; iii) cost-effectiveness; and iv) minimal maintenance requirements. Wherever possible, the project will promote techniques that are user-friendly and easy to maintain in favour of complex and expensive systems that require technical knowledge for maintenance and repairs. Such land use practices will include a range of climate-smart agriculture, erosion control and other ecosystem rehabilitation techniques in the Karoo, Eastern Cape and Olifants landscapes.

138. The identified SLM practices will: i) incorporate traditional and innovative SLM techniques; ii) require locally available or simple inputs; and iii) respond to the anticipated effects of land degradation on the local communities. This project will include local communities in selecting and prioritising SLM practices that are tailored to the local context. By adopting a participatory approach, the project will promote local community buy-in and ownership of the project's activities.

139. The project will strengthen capacities for the generation and timely use of information on land/ecosystem degradation. Local communities will be trained in the implementation and maintenance of various SLM techniques. In addition, awareness raising of the benefits of ecosystem rehabilitation and management will be undertaken in the selected pilot areas.

140. The project will build on lessons learned from other initiatives related to land degradation in South Africa. In addition, a comprehensive monitoring framework will be developed and implemented to: i) measure progress on pilot interventions to determine the efficacy of implementation; ii) track changes in vulnerability to land degradation to determine effectiveness of pilot interventions; and iii) support cost-benefit analysis of SLM practices.

**Outcome 1: Economically viable, climate-smart land/ecosystem rehabilitation and management practices operationalised across 117,300 hectares of the Karoo, Eastern Cape and Olifants landscapes (with potential for upscaling to cover 417,132 hectares).**

**Outcome indicator: Area of degraded land under improved SLM practices in three landscapes of the Karoo, Eastern Cape and Olifants**

141. Current land use and resource governance arrangements do not adequately facilitate the widespread adoption of land and resource management practices. In particular, practices that integrate ecological considerations in the pursuit of economic development are seldom implemented. The advent of the green economy creates an opportunity to strengthen land and resource governance in a manner that promotes securing ecosystem services. The project will facilitate the identification of SLM friendly land and ecosystem governance systems, which: i) are cognisant of the need to redress the negative impacts of the political history; and ii) promote ecologically viable land management practices. Systems and capacities for applying improved range management practices will also be identified and implemented. These systems and SLM models will be piloted in three areas in South Africa, namely the Karoo, Eastern Cape and Olifants landscapes. The lessons learned will be generated and used to inform the national debate on land/ecosystem rehabilitation and its role in the green economy.

142. Work under this outcome will be directed towards the development and enhancement of strong models for SLM improvement. The project will work at all three landscapes to generate models that will deliver consistent and ongoing positive effects, including: i) reducing land degradation from overstocking of cattle, goats and other livestock; and ii) enhancing ecosystem functions – such as water cycling, soil protection and biodiversity status. Increased technical capacity of DEA, DAFF and other government departments will facilitate the identification of economically viable, climate-smart land/ecosystem rehabilitation and management practices for over 100,000 hectares in the Karoo, Eastern Cape and Olifants landscapes. This will lead to improvement in livelihoods and vital ecosystem attributes in the landscapes – including reduced soil erosion, increased vegetative cover and increased structural complexity of agro-ecosystems.

143. The project will implement pilot interventions based upon the technical guidelines and recommendations from the integrated map-based assessments developed under Outcome 2. Practical interventions aimed at enhancing the community livelihoods portfolio with alternative ones will be piloted. These activities will be implemented on demonstration plots – either on communal land or on volunteer farmers' land<sup>45</sup> – in areas that have been identified as being particularly vulnerable to land degradation by the information system and maps generated. The pilot interventions will identify the best management techniques to preserve or enhance the land/ecosystem whilst maximising investment benefits. Practical, low-cost and low-input methods will be preferred. It is anticipated that many of these measures will be simple and can be implemented by the local communities.

144. The demonstration of SLM practices will be complemented by community outreach campaigns. The purpose of which is to sensitise communities to the benefits of the project's activities in an appropriate language and format. Local communities will receive training on appropriate techniques – under Outcome 2 – to address localised environmental degradation. In addition, the techniques will contribute to the development of multiple livelihood production system for local communities. The project team and implementing partners will work together with mobilised stakeholders to implement prioritised actions. Lessons learned and results from the pilot areas will be captured and presented at local, provincial and national government, as well as in print materials for wider outreach. The demonstration sites will model the ecosystem benefits of strategic, integrated, and well-aligned SLM interventions.

145. The three pilot areas will focus upon controlling land degradation and protecting natural resources – such as erosion, flood and landslide control – as well as restoring and rehabilitating degrading landscapes and increasing resilience to climate change. The activities will include: i) the advancement of climate smart agriculture practices such as no/low tillage and alternating cropping patterns; ii) shifting open-access grazing regimes to more sustainable community-based models; and iii) rehabilitating degraded watersheds to improve water quality/quantity and biodiversity conservation. The identified SLM practices will increase vegetation cover, water infiltration and base-flow of rivers, thereby increasing the ability of the landscape to regulate water flow during droughts and floods. As a result, the project will increase ecological protection from climate-change induced droughts and floods. Increased hectares under SLM practices will demonstrate improved yields in ecosystem service provisioning, climate change resilience and improved livelihoods.

146. Each of the pilot sites will focus upon a unique set of interventions. At the Karoo site, work will focus upon land-user friendly ecosystem restoration in conjunction with improved livelihoods, rangeland management and production improvements. This will include land rehabilitation for the Riverine Rabbit as an indicator species of ecosystem health, removing barriers leading to land degradation in the landscape, research and innovation around SLM, research and informing decision-making around fracking impacts and the expansion of ecosystem stewardship programmes. Work at the Eastern Cape site will focus on reforestation, SLM, climate-smart agriculture and grazing land management, as well as carbon credits and financing mechanisms. The Olifants work will promote community-based water/land resources management modelling, conservation agriculture and small-scale physical interventions to reduce the impacts of droughts/flooding and siltation in dams.

*Output 1.1: Improved land-use and livestock/range management practices implemented in two critical riverine systems in the Karoo.*

147. At the Karoo site, pilot interventions will focus upon rangeland management and production improvements. This will result in the rehabilitation of critical riverine and other important wetlands in the Karoo, where the presence/absence of the riverine rabbit will be used as an indicator for effective rehabilitation. The pilot interventions will reconnect remaining riverine habitat fragments. These riparian areas provide a variety of functions, including: i) store water; ii) reduce floods; iii) stabilise river banks; iv) improve water quality; v) trap sediments and nutrients; and vi) provide shelter and food. They also provide corridors for the movement and migration of different species. Moreover, the restored riparian areas will act as a buffer between aquatic ecosystems and adjacent land uses.

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<sup>45</sup> DAFF will work with Farmers Associations to identify volunteer farmers who have implemented different combinations of SLM.

148. Mapping and baseline assessments of the pilot areas will be undertaken to determine the baseline scenario. A fine scale map of the riparian areas will be generated utilising the information system developed under Output 2.5 and the WOCAT. The maps will be used to identify critical biodiversity areas (CBAs) and will include information on natural resources, ecosystem services, degradation, farm boundaries, and agricultural hotspots. Based upon the maps generated, priority riparian areas for rehabilitation and management will be identified.

149. The implementation of erosion control techniques will reduce accelerated rainfall runoff and flow of topsoil from surrounding landscapes to rivers. Controlling the runoff will also reduce the probability of flash floods. The proposed restoration techniques are aimed at trapping valuable water, topsoil, seeds and organic matter in man-made hollows or alternatively plough-pits. This entails digging pits measuring 0.8 m in diameter and 0.2 m in depth at a density of one per 4m<sup>2</sup> – i.e. 2,500 per hectare. The micro-catchments developed are suitable for the establishment of vegetation because the pits trap water and help reduce soil and water loss from the cleared land. In addition, the hollows retain seed and organic matter. The addition of mulches and brush packing will act as traps for seeds and organic matter. Consequently, fertile, well vegetated patches develop beneath them. In addition, erosion control fences will be implemented using simple low wire netting and shade-cloth fences or brush packing, where appropriate. A mulch layer will be added to slow and trap runoff water. In addition, the fence acts as a wind break and traps windblown dust and seeds. This becomes a productive vegetated belt across degraded veld or stabilises small dongas and drainages. These rehabilitation measures have proven to be cost effective with limited materials required<sup>46</sup>. Monitoring of the effectiveness of these micro-catchments and monitoring of the ecosystem services – associated with erosion control, re-vegetation, water infiltration and resting from grazing – will inform the development of guidelines for best practice restoration in riparian ecosystems.

150. There is an established Indigenous Plant Nursery in Loxton, which has proved successful in propagating seedlings for planting in ecosystem restoration sites. Suitable plant species for planting in the Karoo riparian areas include *Fingerhuthia africana*, *Tetragona fruticosa*, *Tripteris sinuata*, *Salsola aphylla*, *Zygophyllum retrofactum*, *Pteronia glauca*, *Pentzia incana*, *Malephora lutea*, *Leipoldtia schultzei*, and *Ruschia approximata*.<sup>47</sup> It is recommended that fences be erected around rehabilitation areas to protect reseeded and replanting efforts from livestock and wildlife. Where this is not feasible, thorn branches can be placed over young seedlings to protect them. Research is currently being undertaken on various methods of protecting plugs from herbivory. In addition, best practice germination techniques and viability of these species during propagation are being researched. The project will assist with the monitoring and upscaling of these experiments.

151. The project will support the integration of CBAs and priority ecosystem rehabilitation into policies which regulate natural resources management and planning. For example, local and district municipalities will be supported in the review of municipal land-use plans – Integrated Development Plans (IDPs) – through the development of evidence-based policy briefs. These briefs will inform policy- and decision-makers on the importance of ecosystem services. Consequently, IDPs will be revised to better reflect the risks posed to ecosystem services and provide a climate-smart ecosystem rehabilitation and management approach to planning. This will facilitate the assessment of cumulative impacts on the landscape. By doing so, a regulatory framework will be established for developments – such as fracking.

152. Currently, there are four conservancies within the Karoo covering ~350,000 hectares. Due to capacity and budgetary constraints, these conservancies have not been properly formalised and only one management plan has been prepared to date<sup>48</sup>. The project will provide support to the implementing

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<sup>46</sup> The hollows only require mulch and seed, whilst the erosion control fences can be made utilising scrap metal and wire netting material. The only material that would be possibly be required would be the just geotextile and the mulch. It is recommended that a rough wood-chip be used. Expenses may be incurred for the transportation of the mulch to the rehabilitation sites.

<sup>47</sup> Other suitable plant species include *Cenchrus ciliaris*, *Eragrostis curvula*, *Digitaria eriantha*, *Cynodon dactylon* and *Chloris guyana*.

<sup>48</sup> Pers comm. with Christy Bragg (EWT) on Monday, 16 March 2015.

partners and the relevant authorities – including EWT, CapeNature and DENC – to improve the awareness and understanding of the stewardship programmes. In addition, capacity-building will facilitate the consolidation of the conservancies, including the drafting and implementation of the requisite management plans and enhancing landowner monitoring capacities.

153. The project will support the improved integration of SLM within the Biodiversity Stewardship Programme. This will include generating knowledge to formulate Farm Management Plans that incorporate SLM. These plans will be audited and serve as an effective tool for landowners to adopt SLM practices. Furthermore, the project will support policy reform by setting in place the tools required for stakeholders to complete regional vulnerability assessments. This will facilitate: i) the formalisation of stewardship agreements to enhance community buy-ins; ii) capacity building of monitoring and management of resources; iii) improvements in the planning process of local governance; and iv) encourage cooperative governance.

154. Activities under this output will include:

- Consult with willing farmers and land users using the WOCAT methodology to determine what activities and best practices are currently being undertaken within the pilot area and demonstration sites. This includes a baseline assessment of the socio-ecological and economical *status quo* of the demonstration site.
- Identify critical landscapes for restoration and select the appropriate measures for restoration based on *inter alia* the fine-scale maps generated under Outcome 2.
- Select and implement appropriate measures for restoration using the SLM technical guidelines produced under Output 2.4. These interventions will be tailored to reflect the geographical context and the nature of the land degradation at individual sites. Examples of such interventions include conservation agriculture techniques, rotational grazing, re-vegetation, erosion control, supplementary feeding, controlled off take, ploughing using a modified scarifier, and the fence and gabion method<sup>49</sup>.
- Enhance and encourage the development of local nurseries for ecosystem restoration within local communities.
- Implement selected ecosystem restoration and management measures according to the technical guidelines developed under Output 2.4.
- Establish farmer study groups to facilitate a dialogue between NGOs, CBOs, experts and farmers on SLM and ecosystem stewardship. These study groups will share lessons learned and identify best practices.
- Provide support and assistance for the drafting and implementation of Farm Management Plans for conservancies, which integrate biodiversity conservation and SLM.
- Provide support for facilitating the capacity building of relevant government extension officers serving the Karoo rangelands under Outcome 2.

*Output 1.2: Ecologically-viable livestock farming, vegetative cover and range resources management practices adopted in the Eastern Cape.*

155. Pilot interventions in the Eastern Cape will focus upon reforestation, SLM, climate-smart agriculture and grazing land management. The negative impacts of overgrazing will be addressed through the piloting of an SLM compliant ecologically-viable livestock farming system. This will entail working with local government agencies to leverage participation of at least 1,000 farmers in the Eastern Cape prior to project close. In addition, the negative impacts of cultivation on soil erosion, declining soil fertility and reduced food production will be reduced via the adoption of conservation agriculture – which includes zero tillage – by at least 5,000 households. The project will support the development of model policies and associated capacity-building. The focus thereof will be to shift current open access pastureland management regimes to more sustainable community-based management regimes.

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<sup>49</sup> Fences are constructed across eroded or small gullies to trap silt, organic material and slow water flow.

156. It is acknowledged that restoration and management activities are costly to implement. However, these activities generally provide economic returns that exceed that of typical water development programmes using conventional hard infrastructure. There are several successful SLM multi-stakeholder initiatives currently being implemented in the Eastern Cape, particularly in communal rangelands<sup>50</sup>. These initiatives promote sustainable livestock production while improving livelihood opportunities for communal farmers. The implementation and management of stocking rates will be pursued indirectly in communal areas by employing innovative range management strategies. These will focus upon movement of livestock and improvements to marketing to reduce overstocking.

157. The implemented management approaches demonstrate the potential to regenerate natural resources and increase the productivity of local ecosystems. It is evident from these initiatives that improved rangeland management is therefore an effective method to address the effects of land degradation on water resources. The benefits of which include: i) reduced summer runoff from storm flows; ii) increased filtration of rainfall and resultants increased winter base flows; iii) reduced soil erosion; and iv) increased soil carbon content. In addition, SLM models support the maintenance and protection of areas of national and international importance in terms of biodiversity and water resources.

158. The recommendations arising from these initiatives include:

- Emphasise the improvement of livestock management rather than destocking of livestock – the latter approach is controversial because livestock are a form of income and an asset for financial security. It has been shown that improved livestock management contributes to maintaining and enhancing additional ecosystem goods and services – which marginalised groups are dependent upon.
- Focus on resting grazing areas and adaptive livestock management through herding instead of fencing off parcels of land. This requires setting aside adequate amounts of grazing areas during the summer to provide sufficient forage for winter.
- Diversify livelihood options for the local communities, including integrating livestock and crop production – i.e. investing in vegetable gardens – where possible.
- Emphasise communal property management and collective decision-making instead of privatising communal land. Marginalised groups are dependent upon communal rangelands to support their livelihoods.

159. When implementing SLM models, emphasis should be placed on collaboration between the public and private sector stakeholders to invest in sustainable land and water management. The socio-economic benefits thereof include contributing to poverty reduction and improving livelihood options based on livestock farming. Livestock owners will benefit from training programmes, as well as improved extension services which will both be addressed under Outcome 2. These activities will facilitate the adoption and implementation of SLM practices and improved livestock management by communal and commercial farmers within the pilot areas.

160. This output will include the adoption of climate-smart farming practices. Conservation agriculture (CA) has proven to be an effective solution to reversing declining productivity caused by land degradation. In particular, this project will promote those practices suitable for small-scale and poor resource farmers. When implemented correctly, CA will increase the efficiency of nutrient and water use, as well as generate higher yields. Intensive training and support for local farmers will be required. This will include training in conservation tillage – no/minimum tillage, ridge plantation and mulching. If done effectively, adoption of this form of cultivation can reduce production costs because it minimises the cost of ploughing while increasing yields.

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<sup>50</sup> These models are based on two proposed standards for red meat production, namely: i) the National Veld Raised Red Meat Standard piloted by Conservation South Africa; and ii) the Grass Regeneration and Sustainability Standard piloted by the Olive Leaf Foundation.

161. Recent trials in the Eastern Cape promote CA as a feasible technology that promotes improved productivity with low external inputs<sup>51</sup>. The project will facilitate the adoption of CA by land users and farmers by establishing demonstration sites on which the principles of CA will be implemented<sup>52</sup>. In particular, the project will support the design and development of equipment – such as seed planters – enabling farmers to implement this technology. The project will also facilitate the establishment of practical and interactive farmer training workshops

162. Activities under this output will include:

- Identify appropriate intervention measures for each demonstration site utilising maps and information generated under Output 2.5. These may include open game farming, sustainable veld products harvesting and conservation agriculture techniques.
- Implement selected ecosystem rehabilitation and management measures according to the technical guidelines developed under Output 2.4.
- Design and implement an appropriate pastoral system – through a participatory planning process – for communal rangelands based upon a combination of herding, kraaling and livestock movement.

*Output 1.3: Watershed management practices adopted by farmers in the Olifants landscape.*

163. The work in the Olifants will promote community-based water/land resource management modelling, conservation agriculture, and small-scale physical interventions such as check dams. The impacts of droughts, flooding and siltation in dams will be reduced through the establishment of strategic rehabilitation measures in sensitive areas including; i) construction of check dams to slow water flow; ii) rehabilitation of old gulleys/rills; iii) creation of and maintenance of large, structurally-complex patches of vegetation; and iv) improving/creating buffers around sensitive areas, e.g. river banks.

164. The land is severely degraded. Consequently, soil erosion reduces agricultural productivity. As part of the interventions of the project, training will be provided to local communities in the construction and maintenance of more technologically complex measures, including rainwater management techniques such as check dams and retention ponds. The training will promote the removal of silt, fine sand, clay and organic material to retain recharge rates. The use of such trapped sediment as mulch for the creation of inter-row ridges and micro-catchments for agricultural fields will also be promoted.

165. Restoration with climate-resilient plant species will: i) increase soil stability; ii) decrease sedimentation in watersheds downstream; iii) increase water infiltration and iv) increase the diversity of local communities livelihoods. Agroforestry using indigenous plant species will be introduced into adjacent agricultural land. The local communities adjacent to the restoration areas will be engaged in the selection process of plant species that provide preferred non-timber forest products for forest restoration and agroforestry. Technical planting protocols will also be designed. These will promote the role of natural plant species. Following the development of restoration protocols, nurseries will be constructed within local communities.

166. Activities under this output will include:

- Identify appropriate intervention measures for each demonstration sites utilising maps and information generated under Output 2.5. These will include soil erosion control, soil and water conservation, water harvesting, run-off reduction, vegetative cover and range resources management practices.
- Establish nurseries for ecosystem restoration and develop nursery management systems within local communities.

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<sup>51</sup> Murungu, F.S. 2012. Conservation Agriculture for smallholder farmers in the Eastern Cape Province of South Africa: Recent developments and future prospects. *African Journal of Agricultural Research* 7:5278–5284.

<sup>52</sup> The three management principles include: i) minimal soil disturbance (no-till or low till); ii) permanent soil cover; and iii) crop rotations.

- Implement selected ecosystem rehabilitation and SLM measures according to the technical guidelines developed under Output 2.4.
- Restore at least 1,600 hectares of degraded rangelands using indigenous plant species by providing plants from nurseries and raising awareness on the benefits of indigenous species.

*Output 1.4: A strategy for upscaling SLM practices within the Karoo, Eastern Cape and Olifants landscapes.*

167. Under this output, each of the lead technical partners (EWT, CSIR, and Rhodes University) will collaborate with stakeholder groups at the pilot site level to build the capacity of stakeholder groups to generate funding proposals for innovative SLM practices. Proposals will be generated and submitted with the participation of land users and structures developed under Outcome 2. This will serve as an incentive for stakeholders to participate and provide committed support or in-kind financing for project activities at the pilot sites. Funding will be released and managed directly by each of the primary technical partners. These partners will be responsible for technical oversight, financial management and making certain intended results are achieved, monitored, and reported. The proposals will be designed around activities that will be able to show SLM impacts within the project period, as well as quantification of long-term (post-project) impacts.

168. The proposals will address and support the concerns described in the funding strategy. It is envisioned that the technical partners will work with stakeholder groups to leverage additional financing from other sources as identified within the strategy. These funds will supplement the core funding provided through GEF sources. The proposals will be based upon SLM business plan templates to be generated by the project. Furthermore, the proposals will detail how the funding will be used to achieve SLM objectives and priorities for the pilot areas. Monitoring, implementation, oversight and costing responsibilities and methodologies will also be provided for in the proposal. Where feasible, the proposal process will be strategically aligned with and integrate lessons generated from the national GEF small grants program. Funding proposals will be reviewed and approved by the Project Board (PB). Continued funding support for individual initiatives will be based upon monitoring and reporting requirements, as well as the achievement of benchmarks as described in the SLM business plan.

169. The project will support the upscaling and demonstration of proven SLM practices across all three landscapes. This effort will build upon and integrate the actions established under Outputs 1.1–1.3 and Outcome 2, including monitoring, identification/trial of best SLM practices and capacity building. Under this output, the lessons learned under Outputs 1.1–1.3 will be used to demonstrate improved pathways for strategic support and allocation of financing to incentivise SLM across large landscapes. In addition, a strategy will be developed for the withdrawal of NGOs, CBOs and government agencies from the demonstration sites at the end of the project. This should detail the process of handing over responsibilities to community groups, youths and households.

170. The project will build upon the baseline information and analysis undertaken through Outcome 1 to engage, mobilise, and coordinate rural land managers, decision-makers and private sector partners. These stakeholders will work with the project's technical team to implement and test identified SLM approaches. Activities under this output will be designed to upscale proven SLM methods.

171. Activities under this output will include:

- Collate and synthesise lessons learned/best practices from project interventions.
- Develop a strategy for sustainability of activities of NGOs, CBOs and government agencies at the interventions sites at the end of the project.
- Develop business plan and templates for the proposals for innovative grant funding.
- Provide support for stakeholder development of proposals.
- Provide funding through a small grants facility/innovation fund to promote innovative SLM activities across all three sites.
- Develop a sustainability plan for the small grants facility to leverage additional funding opportunities.

*Output 1.5: A long-term strategy for participatory monitoring and evaluation by stakeholders (including lands users) of the effectiveness of SLM approaches in the Karoo, Eastern Cape and the Olifants landscapes.*

172. A participatory approach to reviewing, updating and enhancing existing SLM approaches will be adopted to create an atmosphere of co-learning. The project will design an integrated monitoring programme to assist stakeholders to better understand the ecological impacts of various land-use management decisions. The objective of the monitoring system will be to serve as a decision support tool for land users to help them in planning and implementing SLM practices. This will include building upon and augmenting existing monitoring programmes that tend to focus upon single issues – e.g. water quality/quantity, biodiversity, climate and/or soil. Knowledge building activities implemented under Outcome 2 will be informed by the on-going results and activities implemented under Outcome 1. This will include closely monitoring results to make certain pilot interventions will deliver intended results.

173. The participatory monitoring and evaluation (M&E) system will be designed and implemented at all intervention sites. Data from the integrated map based assessments will provide the baseline data against which to compare changes. Monitoring will be based upon observations of key areas and attributes<sup>53</sup>. The implementing partners at each site will be responsible for initiating and supporting project monitoring. The participation of local communities in M&E activities will increase local awareness of the benefits of climate-smart land/ecosystem rehabilitation and management measures, and inform a process of adaptive management. This will ensure that pilot interventions are continuously modified as the circumstances change to improve the efficiency of interventions and progress towards the achievement of intended results/indicators. The M&E system will include representatives from local community organisations, extension officers and NGOs throughout the implementation period. The inclusion of a variety of stakeholders will enable the replication and sustainability of pilot interventions beyond the period of implementation.

174. The monitoring results will provide the knowledge base for developing further and piloting SLM models that increase productivity while simultaneously rehabilitating degraded lands. In addition, the monitoring strategy will assist to increase resilience under uncertainty related to climate change. Furthermore, the monitoring strategy will include reference to cost-benefits associated with the adoption of SLM practices.

175. The monitoring strategy will assist with measuring land degradation impacts/trends and the effectiveness of piloted interventions. By project close, ~150,000 hectares of land in the Karoo, Eastern Cape and Olifants landscapes will be actively monitored according to improved ecosystem-monitoring methodologies/protocols generated as a result of project investment.

176. Activities under this output will include:

- Review current monitoring programs used by institutions and donor agencies to identify best practices and opportunities.
- Develop and implement a participatory M&E system based upon the information generated under the above activity.
- Assign responsibilities and mandates for data collection to specific institutions, agencies and community groups – follow up with required training, monitoring and support.
- Establish monitoring points at demonstration sites and set up to collect data on the long-term effects of climate-smart land/ecosystem rehabilitation and management measures.
- Analyse data from pilot sites and collate the results for dissemination to land-users, extension officers, SLM practitioners and other stakeholders.

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<sup>53</sup> The monitoring plots and attributes will be selected and finalised during the inception phase.

**Outcome 2: Increased knowledge and institutional capacity of DEA, DAFF, DWS, relevant departments and local communities to reduce degradation from livestock and crop production and to restore currently degraded lands through the application of knowledge-based land management practices.**

**Outcome indicator: Increased capacity of government officials, restoration practitioners and other stakeholders related to SLM practices (*Increased score from 2 to 4 as measured by the UNDP Capacity assessment scorecard*)**

177. The project will: i) create an efficient mechanism for the delivery of best SLM practices to on the ground stakeholders; ii) catalyse peer-to-peer learning; iii) facilitate the adoption of best SLM practices, action and learning; and iv) serve as a platform to organise resource users. The project will encourage landscape level conservation approaches<sup>54</sup>, generate opportunities for improved marketing and provide an entry point for sustainable SLM financing and improved SLM governance. Furthermore, it will support production improvements designed to achieve SLM objectives, including maintaining ecosystem integrity and building resilience against climate change.

178. The project will strengthen institutional and technical capacities to secure benefits emerging from the ecosystem under improved SLM practices. Under this outcome, the relevant authorities and local communities in the Karoo, Eastern Cape and Olifants landscapes, will be empowered with skills, knowledge, partnerships and institutions for managing natural resources. A comprehensive training and capacity-building programme will be developed integrating best practices and informed decision-making. Consequently, there will be an increase in ecological restoration and delivery of ecosystem services.

179. The operational capacity of DAFF's extension services will be enhanced to enable the integration of land degradation considerations into the implementation of baseline projects. Effective advisory services and deeper involvement of extension officers in both training and field activities will foster wider community acceptance of climate-smart land/ecosystem rehabilitation and management practices. In combination with local community awareness campaigns, these actions will promote the buy-in of local communities and the sustainability of the SLM pilot interventions beyond the duration of the project.

*Output 2.1: Capacity-building and -development programme for improving SLM knowledge and awareness at local, provincial and national level, including the establishment of multi-stakeholder forums for facilitating a dialogue on SLM and mainstreaming SLM into municipal, provincial and national policy programmes and processes.*

180. Activities under this output will create a comprehensive programme for enhancing stakeholder capacity to make informed decisions regarding SLM practices. In addition, a strategy for maintaining capacity of stakeholders will be formulated and implemented. Capacity-building activities will focus not only on national and subnational authorities, agricultural and environmental extension officers, but also on existing local user groups including Soil Conservation Committees, LandCare Committees, Water User Associations, Village Resource Management Committees, Farmer Associations, Farmer Study Groups and Biodiversity Stewardship representatives.

181. The project will support the establishment of multi-stakeholder forums to lead dialogue on mainstreaming SLM considerations into national and regional policies, plans and strategies. The multi-stakeholder forums will provide a mechanism for eliciting participation of different stakeholders in the formulation of the land/ecosystems rehabilitation and management practices. Membership of the forum will include representatives from government, NGOs, water and land user groups, community trusts and leaders, as well as private sector representatives. Emphasis will be placed on ensuring community participation in the forums, as this is traditionally a weakness in resource governance.

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<sup>54</sup> For example stewardship programmes.

182. The project will also utilise Village Resource Management Committees and build upon Village Resource Management Plans for poor communities in communal lands. In addition, existing Farmer Study Groups – supported by EWT and Living Lands – will be further assisted through capacity building.

183. The project will ensure that lessons learned are fully integrated and mainstreamed within local government decision-making. At each demonstration site, annual workshops will be held to bring together local government agencies responsible for natural resources management. Municipalities are the level of government closest to the resource users and should be actively involved in the process. Therefore workshops will occur at the district municipality level with the inclusion of relevant local municipality agencies<sup>55</sup>. Participants will include provincial level agencies responsible for agricultural and environmental issues – including the Northern Cape’s Department of Environmental Affairs and Nature Conservation, Western Cape’s Department of Environmental Affairs and Development Planning, CapeNature, Eastern Cape’s Department of Economic Development and Environmental Affairs and Limpopo’s Department of Economic development, Environment and Tourism and others.

184. The project’s implementing partners will be responsible for hosting these workshops, which will be used as a tool to: i) inform government decision-makers about the project activities; ii) integrate decision-makers into the project implementation process; and iii) improve their understanding of the project. These workshops will cover basic information related to each of the project outputs and will build synergy between the three pilot areas, thereby facilitating the establishment of a national program.

185. These training programmes will empower communities in the Karoo, Eastern Cape and Olifants landscapes through skills, knowledge, partnerships and institutions for managing natural resources. Consequently, increasing ecological viability, rehabilitation, ecosystem services delivery and resilience of these ecosystems. This will increase sustainable production, advance local level green economy and reduce vulnerability of the natural and social capital for over 50,000 households with potential for upscaling to cover 100,000 hectares.

186. At each pilot area, at least one volunteer advisory group will be established. These volunteer advisory groups will be organised around the conservation of individual micro-watersheds. In addition, such groups will create a platform for the mobilisation and monitoring of SLM approaches. The groups will also benefit from information generated from the results of the monitoring strategy implemented under Output 2.6. This will include information regarding water quality and quantity, vegetation cover, biodiversity status and conservation, as well as land degradation. The advisory groups will also serve a capacity building function benefiting from and informed by on-going project activities. In this manner, the advisory groups will assist project implementation by serving as a platform for stakeholder discussions regarding project investments and activity. This will motivate a higher level of participation. The recommendations from these groups will then be fed into the governance processes of the DWS’s existing and broader regional CMAs or relevant bodies who are responsible for natural resource management<sup>56</sup>.

187. Training will include relevant information on context appropriate SLM practices, soil erosion control and climate change adaptation. This will reduce the pressure on natural resources from agriculture, energy and livestock production systems. The project team will facilitate an inter-disciplinary approach that incorporates traditional technical knowledge on SLM technologies, livelihood support systems and coping mechanisms. This will be complemented by training on advocacy and guidelines on SLM and ecosystem rehabilitation and management practices for the extensions services, which will be relied upon to promote upscaling of project interventions. Specific topics to be included in the training programmes are: i) recognising SLM practices that decrease the vulnerability of land/ecosystems to land degradation; ii) adopting and maintaining climate-smart land/ecosystem rehabilitation techniques that increase resilience of the individual farms, communal lands and landscapes to land degradation while

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<sup>55</sup> The pilot sites cover a variety of district and local municipalities, including the following: i) Karoo – 2 district and 2 local municipalities; ii) Eastern Cape – 2 district and 2 local municipalities; and iii) Olifants – 1 district and 4 local municipalities.

<sup>56</sup> In accordance with the provisions of the National Water Act.

improving the productivity of the land; iii) maintaining soil and water conservation technologies and infrastructure on the individual farms and landscapes; and iv) monitoring trends in weather variation and using the information in decision-making.

188. By combining expertise with local community knowledge, the proposed training will be tailored specifically to the local situation while benefiting from the integration of best national and international principles and practices. It is foreseen that the training provided at each pilot site will vary slightly. The Karoo site will focus upon building the capacity of private farmers to improve livestock production and resort ecosystems while generating biodiversity benefits for key indicator species – such as Riverine Rabbits – and improving overall watershed health. This will include working with and enhancing existing producer groups such as the Red Meat Producers and Wool Growers Association. In the Eastern Cape, training will focus upon building capacity to shift current open access regimes to more community-based management approaches. At the Olifants site, the focus will be on addressing integrated water resources management, working with a variety of stakeholders to improve long-term watershed integrity and health. Together, these three approaches will form a foundation for upscaling of project interventions via DEA and DAFF.

189. DAFF's extension officers and NGOs will facilitate community-based work as part of the on-going learning-by-doing approach throughout the duration of the project. Such training will include adaptive management practices that will prepare communities to assume responsibility for management of the pilot interventions beyond the implementation period. To support the ongoing management of pilot interventions by community-based structures, the project will develop a strategy to gradually phase out the involvement of DEA, DAFF and other government departments from the demonstration sites.

190. The training and capacity building activities of this output will be complemented by activities focused on raising awareness of the benefits of climate-smart land/ecosystem rehabilitation and management practices. These campaigns will use locally appropriate media. Awareness-raising materials will be based on data and information generated by pilot interventions at demonstration sites under Outputs 1.1–1.3. The information gathered will be analysed and messages will be tailored for the demonstration sites where it will be disseminated. Local community discussion forums will be hosted to share lessons learned on SLM, conservation agriculture and other ecosystem management intervention successes and failures. These lessons will also be collated to create material for use in other discussion forums and the best practices manual under Output 1.4.

191. Activities under this output will include:

- Conduct a gap analysis of institutional and technical capacities for SLM amongst the relevant governmental departments and other stakeholders.
- Develop an organisational strategy for the establishment of multi-stakeholder forums.
- Develop an organisational strategy for the establishment of voluntary advisory groups.
- Develop and/or adapt training programmes for a wide range of stakeholders, including local communities, user groups, extension officers and department officials<sup>57</sup>. Information on the following is to be included: i) recognition of SLM practices that decrease the vulnerability of land/ecosystems to land degradation; ii) adoption and maintenance of climate-smart land/ecosystem rehabilitation techniques; iii) maintaining soil and water conservation technologies and infrastructure; and iv) monitoring trends in weather variation and veld condition using the information in decision-making.

*Output 2.2: Core staff of technical ministries, regional and local extension support departments and land users in the Nama-Karoo, Thicket and Savanna biomes trained on the use of improved data, tools and*

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<sup>57</sup> Incorporating: i) indigenous knowledge; ii) climate-smart land rehabilitation techniques that increase resilience of the ecosystems to the negative effects of land degradation while improving productivity of the land; and iii) maintaining soil and water conservation technologies and infrastructure on individual farms, communal lands and landscapes.

*methods of ecosystem livelihood and vulnerability assessments as the basis of decision-making on land use within the context of a green economy.*

192. Output 2.2 will provide knowledge and training for technical staff within DAFF, DEA and other government departments, as well as land managers to implement SLM practices. Training programmes will be formulated and used to increase skills for technical staff of relevant institutions, elected official and land users from the selected pilot areas in the Karoo, Eastern Cape and Olifants landscapes. The training will focus on SLM approaches, land/ecosystem rehabilitation, climate change and operational capacities for putting over 100,000 hectares under SLM. Participants will include national and provincial government officials from DAFF and DEA, district and local municipalities, representatives from CBOs and NGOs active in the pilot areas and resource users.

193. Existing training protocols and programmes within DEA, DAFF and other relevant authorities will be reviewed and updated. Training will be informed by international best practices as well as technical inputs generated by past and ongoing initiatives related to land degradation. Various innovative approaches for the design and implementation of both traditional and modern SLM, conservation agriculture and erosion control methods – amongst others – will also be included in the training. These programmes will build the capacity of local government to utilise, monitor, prioritise and fund the implementation of SLM best practices. Furthermore, the project will aid DAFF's extension services by assisting farmers to adopt these new and additional SLM technologies and methodologies.

194. Activities under this output will include:

- Develop an organisational strategy to strengthen line ministries and relevant departments' capacity for delivering training on SLM. This strategy will outline the respective roles of DEA, DAFF and other agencies in developing and delivering the training.
- Existing and new training protocols and programmes within government departments to be revised and updated. The training programmes will be tailored to the local context.
- Training will be informed by international best practices as well as technical inputs from past/ongoing initiatives in land degradation.
- Develop and disseminate easily comprehensible and user-friendly literature to stakeholders, including departmental officials, NGOs, CBOs and land users.
- Provide training to NGOs, CBOs, CSOs, local user groups and local communities – e.g. through Farmers' Association meetings – on the appropriate SLM techniques to be implemented.
- Implement community outreach campaigns to sensitise communities to the benefits of the project activities.
- Use local media to target specific audiences with appropriate land degradation and SLM information.

*Output 2.3: Structures for coordinated land-use planning and land/ecosystem rehabilitation practices (including operational bodies such as Conservation Committees) between municipal, provincial and national institutions in the Karoo, Eastern Cape and Olifants landscapes established.*

195. The requirements for creating an enabling environment for the adoption of knowledge-based SLM models for land/ecosystem rehabilitation and management include greater collaboration and coordination between national and subnational government departments and institutions. Coordination and cooperation from DEA, DAFF, the implementing partners and other agencies is essential for providing inputs necessary to sustain SLM practices.

196. The efficiency of governance at the national and sub-national level will be increased by developing mechanisms to improve coordination between line ministries, government departments and local government<sup>58</sup>. Improved coordination of development plans and policies will allow for the prioritisation of projects and streamlining of public expenditure. Consequently, the duplication and overlap

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<sup>58</sup> Examples of such mechanisms include, *inter alia* delegating technical staff from different line ministries to work for the project.

of activities related to land degradation – including soil and water conservation – will be reduced, resulting in more efficient use of investments and wider distribution of benefits to communities.

197. Local level institutions for the successful adoption of community-based natural resource management principles will be established and/or strengthened. These will include, amongst others, Soil Conservation Committees, Conservation Committees, Water User Associations, Catchment Management Agencies and Farmers' Associations. The focus thereof will be on land use planning, management and monitoring.

198. Activities under this output will include:

- Prepare recommendations to improve coordination of decision-making processes.
- Develop innovative institutional mechanisms to increase collaboration between line ministries, government departments and local government.
- Establish and/or provide support to local level institutions and user groups – e.g. Soil Conservation Committees, Water User Associations, Catchment Management Agencies – for the successful adoption of CBNRM principles.
- Strengthen existing multi-stakeholder forums – including civil society and government role players – to facilitate dialogue on SLM between stakeholders.
- Convene regular workshops to bring together local government and provincial agencies responsible for natural resources management.

*Output 2.4: Best practices and lessons learned on SLM in the Karoo, Eastern Cape and Olifants landscapes captured and disseminated nationwide*

199. The project will build on lessons learned from other initiatives with experience in land degradation in South Africa. Based upon these lessons – and in conjunction with the integrated map-based assessments generated under Output 2.6 – the project will develop technical guidelines for the design and implementation of appropriate SLM interventions. The project will also provide the technical support necessary to generate a set of regulatory and management guidelines. These knowledge products will provide guidance on how to: i) assess the economic viability of SLM practices; ii) carry out community-based vulnerability assessments for SLM; and iii) develop community-driven climate-smart land/ecosystem rehabilitation and management practices. The guidelines will ensure that lessons learned are carried forward and mainstreamed within national, provincial and local institutions.

200. Based upon the preliminary results of pilot interventions at the demonstration sites, the project will generate a best practices manual. The purpose of the manual is to serve as a teaching and training tool to build capacity for resource users and decision-makers throughout the remaining project period, including policy- and decision-makers. The initial manual will identify gaps in current approaches, consolidate best practices and prioritise approaches to be implemented during subsequent project years. Moreover, it will build upon the technical guidelines, as well technical guidelines developed by other organisations by summarising and collating on-going efforts<sup>59</sup>. Based upon the results of the long-term monitoring of interventions at the pilot sites, the technical guidelines will be revised and updated

201. Under this output, the research and knowledge products generated by the project's activities will be made publicly available to support other ongoing and future SLM initiatives. Best practices and lessons learned from the project on SLM practices will be disseminated nationally through the SLM platform. Knowledge-sharing platforms and multi-stakeholder forums will also be used to encourage joint planning. Conventional extension methodologies will be improved with the adoption of a facilitative "learning by doing" approach that introduces participatory experiential learning methods. Experience sharing programmes – combining workshops, visitations to model farming systems, networking and

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<sup>59</sup>Such as those by ARC and Grain South Africa's conservation agriculture program and the activities/lessons learned from regional programmes such as NEPAD/CAADP and TerrAfrica

distribution of training manuals and relevant literature – will be promoted by responsible organisations. This will facilitate the sharing of lessons and successful approaches on a national scale.

202. Each of the demonstration sites will focus upon a unique set of pilot interventions. All efforts will be cross-referenced to make certain that demonstration sites are working in a coordinated manner to share lessons learned and contribute to the ultimate objective of improving national SLM programme support. This will link closely with the ecosystem-based monitoring program established under Output 1.5.

203. The project will generate and maintain a website to serve as a national SLM knowledge base. During project year one, a strategy for the design and function of the website will be completed. The initial website will be launched prior to the close of project year one. The website will be regularly updated and populated with the results of project activities. It will serve as a node for project stakeholders to exchange information and lessons learned. This will include items such as the initial and updated best practices manual, training materials, technical guidelines, monitoring and progress reports from SLM interventions implemented at pilot sites. Prior to the project closure, a hand-over strategy will be generated which will include detailing where the SLM knowledge base will be housed, what agency will be responsible for maintaining and updating the knowledge base, and making certain that financial and technical capacities are in place to support the website's sustainable operation.

204. The project will also participate in the GEF-funded "Sustainable Land Management and Climate Change Mitigation Co-benefits" initiative, implemented by UNEP (hereafter referred to as "the UNEP project", see Annex 8.6). The UNEP project will collaborate with five GEF projects – including this project – to share lessons learned on modelling and monitoring of long-term carbon co-benefits generated by SLM projects. Representatives from participating projects will participate in international training workshops to be convened by the UNEP project. This training will build capacity for the implementation of carbon reporting strategies based on the tools developed by the UNEP project for assessments of mitigation benefits. Over three years, training will be provided on: i) modelling carbon sequestration; ii) assembling and analysing baseline data on land use/management (termed 'Initial Land Use' in the UNEP project); iii) developing baseline and project scenarios for specific reporting periods iv) conducting field sampling activities to develop project-specific stock change and emission factors. At the same time, this project will contribute lessons learned on SLM practices such as the use of WOCAT tools.

205. Activities under this output will include:

- Collate currently available best practices on implementation of SLM across all three pilot areas, including: i) recognition of SLM practices that decrease the vulnerability of land/ecosystem to land degradation; ii) adoption and maintenance of climate-smart land/ecosystem rehabilitation techniques; iii) maintaining soil and water conservation technologies and infrastructure; and iv) monitoring trends in weather variation and using the information in decision-making.
- Develop and publish technical guidelines for the implementation of selected SLM practices in each of the three pilot areas<sup>60</sup>. These guidelines should include *inter alia*: i) best practices for climate-resilient agriculture; ii) best practices for riparian restoration; iii) best practices for livestock and rangeland management; iv) best practices for grazing management for Karoo riparian areas; v) best practices for agro-forestry; and vi) best practices for watershed restoration in local languages.
- Synthesise these technical guidelines as well as lessons learned from this and other projects into a comprehensive manual/handbook for SLM in South Africa.
- Review and adapt technical guidelines – where necessary – based on the long-term monitoring results of the pilot site interventions.
- Disseminate best practices and lessons learned through the SLM platform under Output 2.5.
- Participate in international exchange opportunities for sharing lessons learned on SLM and carbon assessments through the UNEP project.

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<sup>60</sup> The technical guidelines will – at a minimum – address the following: i) ecosystem restoration in riparian areas; ii) restoration of degraded forests using indigenous species; iii) implementation of conservation agricultural and agroforestry; and iv) planting of spekboom cuttings.

*Output 2.5: A comprehensive GIS-based assessment of socio-ecological resilience to inform ecosystem restoration and SLM in the Karoo, Eastern Cape and Olifants landscapes.*

206. This output will increase the availability of information and knowledge to support the integration of SLM practices into planning and decision-making. The project will support the formulation of a robust geo-based agro-ecological and hydrological information system, which will enable the analysis of the linkages between land/ecosystem degradation, drought, climate-driven vulnerabilities and resilience of ecosystems and livelihoods. Based upon the information gathered, an integrated map of land degradation, climate-related hazards, vulnerabilities and climate-sensitive natural resources will be developed. This will provide the knowledge basis for developing and piloting land management models.

207. Under this output, the information and data generated by the information system will be used to: i) identify specific locations for ecosystem rehabilitation and management; ii) support long-term monitoring; and iii) support the proposed revision of provincial development plans and municipal land-use plans and policies. The information will be collated and detailed maps will be generated integrating socio-ecological vulnerabilities and resilience in the Karoo, Eastern Cape and Olifants landscapes.

208. The project will support better land-use planning with the development of the geo-based, climatic, agro-ecological and hydrological information system. The information system will combine multiple existing geospatial datasets – particularly those relating to ecosystems, natural resources, land use planning and climate change vulnerability – to support the identification of critical areas for agro-ecological and hydrological services and their role in livelihoods. The improved availability of geospatial information will form the basis for future monitoring of land degradation and the impacts thereof on ecosystems and the resilience of livelihoods. The information system will be used as a hub for all research and data collection on geo-based, climatic, agro-ecological and hydrological information including land use systems and changes. In addition, the information system will support other ongoing and future initiatives within the pilot areas.

209. The development of the tool will be supported by DAFF – building upon their prior LADA experience – with support from the project's technical team<sup>61</sup>. The system will enable analysis of the linkages between land and ecosystem degradation, drought, climate-driven vulnerabilities and resilience of ecosystems and livelihoods. The project will provide the knowledge basis for

210. The project will build upon the established WOCAT model. A high-resolution scale land degradation assessment will be done. The project will focus on building upon DAFF's current efforts to generate a computerised tool for standard assessment. This will be done at a finer scale appropriate for informing land use managers at a micro-watershed level. In addition, critical biodiversity assessment maps will be integrated, building upon current efforts by EWT. Linking information obtained through WOCAT questionnaires to GIS permits the production of maps, as well as area calculations on various aspects of land degradation and conservation. The map database and mapped outputs will provide a powerful tool to obtain an overview of land degradation and conservation in South Africa.

211. DEA, DAFF, the implementing partners and other relevant government departments will undertake integrated map-based assessments. The assessment will cover social, cultural, economic and ecological aspects to provide a comprehensive baseline of the state of the land/ecosystem and other resources. The levels of use and the dynamics shaping the interaction between the resources and people in a specific context will also be provided. Furthermore, the assessments will be complemented by analyses of critical supporting issues, such as: i) cost-effectiveness of land and ecosystem rehabilitation in the context of a green economy; ii) current carrying capacities of the land/ecosystems in the Nama-Karoo, Thicket and Savanna biomes and the discrepancies between the carrying capacities and the current demands on the ecosystems<sup>62,63</sup>; iii) integrated assessment of climate-related hazards; and iv)

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<sup>61</sup> This tool will eventually be nested within DAFF.

<sup>62</sup> These assessments will focus on small stock in the Karoo and Eastern Cape landscapes, as well as farming in the Olifants landscape.

vulnerabilities and climate-sensitive natural resources<sup>64</sup>. Collectively, these assessments will form the basis of knowledge-based recommendations for mitigating land degradation. The recommendations will address the challenges and opportunities present in the pilot areas and will inform the design and methodologies for the interventions proposed. Based upon these recommendations, context-specific strategies and techniques for ecosystem rehabilitation and management – to be implemented under Outcome 1 in the Karoo, Eastern Cape and Olifants landscapes – will be developed.

212. The project will collaborate with DEA's Environment Geographic Information Systems section and DAFF<sup>65</sup> to develop the skills required to: i) interpret multiple layers of information; ii) run simulation models/assessments; and iii) undertake land degradation analysis. These activities will support local municipalities, DAFF and other relevant departments with the integration of land degradation considerations into land use planning and decision-making. Furthermore, all the research and analysis on the potential benefits and effects of ecosystem rehabilitation and management will be made available to policymakers through the national platform established under Output 4.4.

213. Activities under this output will include:

- Collate existing data as well as remote sensing imagery to develop a GIS-based database of climate, geographical, hydrological, soil, agricultural and land use characteristics of the Karoo, Eastern Cape and Olifants landscapes. Data should include biophysical and meteorological data.
- Develop models that incorporate climate projections and land use changes to identify priority locations for ecosystem rehabilitation based on socio-ecological vulnerability.
- Undertake integrated map-based assessment of socio-ecological vulnerabilities and resilience in the Karoo, Eastern Cape and Olifants landscapes.
- Develop recommendations for mitigating threats to land degradation and enhancing socio-ecological resilience. These recommendations will be based upon *inter alia*: i) cost effectiveness of land/ecosystem rehabilitation; ii) current carrying capacities of land/ecosystems in the three selected biomes; iii) discrepancies between carrying capacities and current demands on ecosystems; iv) integrated assessment of climate-related hazards; and v) climate-sensitive natural resources.
- Undertake capacity assessments to identify gaps in staffing and skills of stakeholders in regards to using GIS.
- Develop a strategy to build technical capacity of stakeholders to interpret multiple layers of information and run simulation models/assessments.
- Train relevant line ministries and departmental officials, as well as institutions on SLM, the application of GIS and integrated map-based assessments.
- Use the information system to undertake land degradation analysis.
- Develop a website to act as the hub for SLM nationally.
- Make information from this and other projects available to relevant authorities, including local and district municipalities in the Karoo, Eastern Cape and the Olifants landscapes.

## **COMPONENT 2: FINANCIAL AND POLICY MECHANISMS FOR THE ADOPTION OF SLM DEVISED AND IMPLEMENTED AND GOVERNANCE SYSTEMS SUPPORT SLM**

214. The project will apply capacities built under Component one to generate pathways to strategically improve financing and governance of SLM. This will be achieved through the validation of voluntary carbon market supports for SLM and establishing an enabling environment to serve as a platform for tactical support of SLM. The project will investigate the potential financial incentives for the effective adoption of ecologically sustainable land and resource use practices. Under Outcome 3, the project will

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<sup>63</sup> Through these assessments, sustainable stocking rates for cattle carrying capacities and effects of the changing climate will inform decisions on livestock management and the sustainable utilisation of natural resources. Sustainable stocking rates will also be determined for each pilot area and mechanisms for meeting these will be pursued through a participatory, multi-stakeholder approach

<sup>64</sup> Which will identify threats to ecosystems and livelihood resilience.

<sup>65</sup> Geospatial services, technology and disaster management department.

support the development of an enabling environment for the validation of carbon credits through restoration of spekboom in the Thicket biome in the Eastern Cape by doing so, the project will facilitate the completion of basic feasibility studies for the carbon project expansion, including mapping the vegetation and extent of degradation – building on the LADA assessments. It will also ensure that the detailed baseline methodologies are followed for the Voluntary Carbon Standard (VCS) and CCBA validation purposes, and that Project Design Documents are compiled and completed in accordance with appropriate standards.

215. Activities under Outcome 4 will generate a governance foundation to provide long-term support for SLM programming. Improved governance will be informed by the results of on-going and completed project activities. Ecosystem-based climate change adaptation and SLM will be mainstreamed into daily activities and the planning processes of municipalities, rural communities and land users through integrated provincial and national policy and regulatory frameworks.

**Outcome 3: Enabling environment for promoting rehabilitation of degraded land through carbon sequestration (including accessing and capitalising on carbon markets and the preparation of MRV documentation) in the Eastern Cape strengthened.**

**Outcome indicator: Number of hectares of restored spekboomveld in the Baviaanskloof and prepared for access to carbon for finance as evidenced by the number of MoUs signed to form a Baviaanskloof Programme of Activities/Grouped Project and the official endorsement of a simplified methodology for calculation of certified emissions reductions/carbon credits**

216. Under this outcome, the project will create an enabling environment and facilitate access to carbon markets as an incentive for ecosystem restoration and the adoption of SLM practices. A particular focus will be placed upon the Baviaanskloof watershed, where activities will be implemented to: i) restore degraded spekboomveld; ii) sequester carbon; iii) assist in the protection of globally significant biodiversity; iv) establish alternative livelihood opportunities for farmers and land users; and v) establish a replicable model for similar models nationally. These activities will be designed to specifically address the existing capacity and incentive barriers and provide technical support to help farmers meet the stringent requirements of global and/or local carbon markets.

217. By project close, the project will have strengthened the enabling environment by addressing some of the current barriers that hinder ecosystem restoration as a tool for SLM and climate change mitigation. The project will have demonstrated the efficacy and benefits of spekboom restoration. Furthermore, it will catalyse implementation of carbon market programming that will potentially cover 9,000 hectares of currently degraded spekboomveld – and allow for expansion to other areas in the Thicket biome. Lessons learned will be captured through project activities, including the best practices manual, monitoring tool, knowledge base and the relevant financial and governance recommendations developed under Outcomes 2 and 4.

*Output 3.1: Government-approved methodology developed for the generation of carbon credits through restoration of spekboomveld.*

218. A simplified methodology for the restoration of spekboomveld will be developed by WWF-SA and Living Lands in collaboration with Rhodes University. This methodology will be endorsed by government under the carbon offsets mechanism that will form part of the national carbon tax to be implemented from 2016. In this way, land users will have easier access to funding for ecosystem restoration and SLM practices from the generation and sale of carbon credits. The simplified methodology will be based on approved VCS/CDM methodologies, but will be: i) tailored to the ecological characteristics of spekboomveld restoration; ii) designed to be more cost-effective in terms of monitoring, reporting and verification of certified emissions reductions; and iii) aligned with the national carbon tax and related offset mechanisms. Upon finalisation of the simplified methodology, protocols/standard operating procedures for the application of the simplified methodology will be developed to provide detailed guidelines on monitoring, reporting and verification of the carbon credits generated through spekboomveld restoration.

This will provide a rigorous basis for the future development of similar methodologies for generation of carbon credits through restoration and SLM in other ecosystems across South Africa.

219. Activities under this output will include:

- Undertake a comprehensive review of current methodologies approved by VCS and CDM for afforestation/reforestation activities.
- Develop a rigorous yet simplified methodology for the calculation of baseline, *ex ante* and *ex post* carbon stocks in above-ground and below-ground carbon pools – including soil organic carbon – for spekboomveld restoration. The simplified methodology will be based on current VCS and CDM methodologies but will be tailored to the ecological characteristics of spekboomveld ecosystems.
- Develop protocols/standard operating procedures for the application of the simplified methodology in spekboomveld restoration.
- Engage with relevant government agencies to ensure accreditation of the simplified methodology as a nationally-approved carbon standard that is eligible under the carbon tax and associated carbon offset mechanism.

*Output 3.2: Carbon baseline sampling and assessments undertaken for 3,500 hectares in the Baviaanskloof.*

220. Comprehensive baseline assessments will be undertaken as per the VCS requirements during the first year of project implementation. These assessments will estimate the current carbon stocks in above- and below-ground biomass as well as soil organic carbon<sup>66</sup> before the restoration of spekboomveld occurs. This process is a prerequisite to the generation of carbon credits as a means of determining the additionality of carbon sequestration activities. Without such assessments, land users will be unable to obtain certified emissions reductions and will consequently not be eligible to sell carbon credits accruing from restoration of degraded spekboomveld. In addition, existing planted areas will also be assessed in terms of baseline data so that a case can potentially be made for their inclusion in a carbon credit project.

221. Activities under this output will include:

- Undertake comprehensive baseline assessments of carbon stocks over 3,500 hectares of degraded spekboomveld in the Baviaanskloof in accordance with current VCS/CDM requirements.
- Develop monitoring plans for measurement, reporting and verification of carbon sequestration in restored spekboomveld.

*Output 3.3: Project Design Documents for a Baviaanskloof Programme of Activities/Grouped Project prepared and verified.*

222. The project will support land users to access carbon markets. Eligibility for sale of carbon credits depends on the validation of Project Design Documents. These documents detail the baseline, *ex ante* and *ex post* carbon stocks in relevant carbon pools. Land users wishing to sell carbon credits must have their restoration activities included in a validated Project Design Document to be able to access carbon markets. However, preparation and verification of such documents is a complex and costly process that requires specialised knowledge of *inter alia* ecosystem restoration, approved carbon methodologies and formal/voluntary carbon markets. Few land users have the resources – both technical and financial – to complete this process. As a consequence, successful implementation of restoration activities will not necessarily lead to the land user being able to obtain financial rewards through sale of carbon credits.

223. As a means of reducing the transaction costs involved in accessing carbon markets, a Baviaanskloof Programme of Activities/Grouped Project will be established. This approach allows for multiple parcels of land – e.g. smaller, individual farms – to collectively participate in ecosystem

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<sup>66</sup> If required by the VCS methodologies used by the project. In some methodologies, soil carbon is determined through formulae as opposed to direct measurement.

restoration for the generation of carbon credits. Individual land users will form a consortium or special purpose vehicle. The validation of a single Project Design Document that details the proposed Baviaanskloof Programme of Activities/Grouped Project will thus suffice to facilitate access to carbon markets both through activities supported by this project as well as support from elsewhere – e.g. private sector investment, the DEA NRM programme. This will continue beyond the project's period of implementation as such Programmes of Activities/Grouped Projects typically have a lifespan of ~50 years.

224. The project will work with the government and other stakeholders to identify opportunities to obtain bridging finance to support land users until such time as sale of carbon credits generates a viable revenue stream. This will incentivise land users to participate in the Baviaanskloof Programme of Activities/Grouped Project by offsetting opportunity costs related to ecosystem restoration and SLM practices.

225. Activities under this output will include:

- Engage with land users to facilitate their involvement in spekboomveld restoration. This will include development of diversified livelihoods opportunities – such as intensified agriculture, game farming and eco-tourism – to reduce pressure on spekboomveld.
- Assist farmers in establishing consortiums/special purpose vehicles.
- Develop Project Design Documents for a Baviaanskloof Programme of Activities/Grouped Project based on carbon sequestration through spekboomveld restoration.
- Verify the Project Design Documents with VCS/CCBA or through the national carbon offsets mechanism under the simplified methodology developed by this project.
- Register the Baviaanskloof Programme of Activities/Grouped Project for sale of carbon credits.

*Output 3.4: 1,000 hectares of degraded spekboomveld restored in the Baviaanskloof to deliver multiple ecosystem benefits including reduced soil erosion, enhanced water infiltration and increased vegetation cover.*

226. The project will fund the restoration of 1,000 hectares of spekboomveld in the Baviaanskloof area. This will occur in coordination with ongoing work by GoSA, private land owners, NGOs, research institutions and other organisations. In particular, the restoration costs supported by the project are likely to be matched by contributions under the DEA Natural Resource Management programme (this will be confirmed during project implementation). The implementation of project activities is thus likely to catalyse the restoration of up to 3,500 hectares of degraded spekboomveld in the Baviaanskloof.

227. The project will support the restoration of the Thicket biome through planting cuttings of the indigenous thicket tree *Portulacaria afra* (*P. afr* or spekboom) within the pilot areas. Restoration will improve ecosystem functioning in the project area. For example, restored spekboomveld will improve the microclimate and soil condition, which will lead to improved soil quality and improved infiltration through reducing rainwater runoff. These conditions also facilitate the natural recruitment of indigenous shrubs and trees<sup>67</sup>. The spekboom cuttings will bind the soil facilitate its stabilisation. This will aid in the reduction of runoff and erosion. Consequently, downstream siltation of rivers and dams will be reduced. Moreover, ecosystem functioning will improve. In addition to these benefits, animal species such as Black Rhinoceros and Cape Buffalo amongst others, thrive in spekboom-rich thicket<sup>68</sup>. Therefore, the restoration of the thicket will increase biodiversity and give rise to socio-economic opportunities through game farming and eco-tourism<sup>69</sup>. Other socio-economic opportunities include the planting of spekboom

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<sup>67</sup> Lechmere-Oertel, R. G., Kerley, G. I., & Cowling, R. M. (2005). Patterns and implications of transformation in semi-arid succulent thicket, South Africa. *Journal of Arid Environments*, 62, 459-474.

<sup>68</sup> Game stocking within the demonstration sites will need to be managed below the optimal stocking level.

<sup>69</sup>The benefits of spekboom restoration include: i) increasing biodiversity – particularly in shrub and tree diversity, and in wild game through increase browsing potential of the project area; ii) reducing soil erosion and improving the stabilization of slopes through the planting of spekboom cuttings; iii) improving the functioning of the pilot area as a water catchment to supply high quality water to downstream dams; iv) creating skilled and unskilled employment opportunities for labourers employed to plant the spekboom cuttings; and v) contributing to local capacity building, environmental education, awareness and knowledge transfer.

cuttings, which is labour intensive. Local communities will benefit directly through job creation, skills development, training and awareness as a result of their involvement in restoration activities.

228. Because restoration to generate carbon credits is a pioneering industry, it requires public sector funding. Banks are largely unwilling to loan funds for these types of innovative investments – particularly with the low level of confidence in the carbon market. Reasons for the lack of interest include the delay in accruing benefits – in terms of selling of carbon credits – which is only likely to occur several years after planting commences. In addition, the global financial and carbon markets have experienced a downturn in recent years. These factors have negatively affected investments in carbon sequestration initiatives.

229. Despite extensive research being undertaken in the Eastern Cape regarding the restoration of spekboomveld, appropriate planting methods for different soil types have not been established using rigorous data. At present, the methods are either mechanical using an auger with an adapted drill bit or manually using spades and pickaxes. The project will support the refinement of planting protocols for the restoration of spekboomveld. Consultations with land users and restoration practitioners will be undertaken to identify the equipment, tools and skills necessary for maximising spekboom cutting survivorship in different soils and for minimising costs of spekboom establishment. Local communities, land users and farmers will also receive training in planting techniques for spekboom as well as the maintenance thereof. Where ecological conditions such as drought result in mortality, supplemental planting will be undertaken to replace the cuttings that have died. The survivorship in each planting block will be closely monitored to maintain the effectiveness of the restoration process<sup>70</sup>. Replanting of the cuttings that have died is the only post-planting maintenance that will be required because the established spekboom plants do not require pruning or weeding to ensure continued healthy growth. The lessons learned from the demonstration sites will be used to inform and update the planting protocols. Once revised, these planting protocols will be disseminated to landowners and land users across the sub-tropical thicket biome.

230. Activities under this output will include:

- Identify the equipment, tools and skills necessary for planting of spekboom cuttings.
- Refine planting protocols to maximise survivorship and minimise costs in different soil types in spekboomveld restoration.
- Develop and implement training for local communities, restoration practitioners and land users on spekboomveld restoration and planting.
- Plant spekboom cuttings at a density of 2,500 per hectare over 1,000 hectares of land in the Baviaanskloof.
- Monitor the mortality rates of cuttings and undertake supplemental planting, where required.

#### **Outcome 4: Financing and governance frameworks strengthened to support the adoption of SLM approaches.**

##### **Outcome indicator: SLM mainstreamed into national and sub-national strategies for development and land-use planning and integrated into public expenditure, agricultural subsidies and land reform incentives**

231. Under this outcome, the project will facilitate the adoption and successful implementation of SLM practices piloted through the activities under Outcome 1. Experiences from the project's pilot interventions will be used to strengthen financing and governance frameworks for SLM across South Africa. This will promote mainstreaming of SLM practices on a national scale in the long term. This outcome will build on existing work in the area of natural capital accounting (NCA), and draw on tools such as Targeted Scenario Analysis and The Economics of Ecosystems and Biodiversity (TEEB) already under piloting in South Africa through the UNDP - implemented project on Biodiversity Finance Initiative (BIOFIN). It will also integrate lessons and the World Bank's Wealth Accounting and Valuation of Ecosystem Services

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<sup>70</sup> Cuttings are most at risk during establishment (1-2 years). Once established, there is a low likelihood of cuttings dying.

(WAVES), and using practical approaches such as the GIZ's 6-step methodology on Integration of Ecosystem Services into Development Planning to train practitioners and project stakeholders on the use and application of these tools.<sup>71</sup>

232. Activities under this outcome will strengthen governance foundation to provide long-term support for SLM programming. The project will facilitate the identification of SLM-friendly land and ecosystem governance systems cognisant of the need to redress the negative impacts of the political history in tandem with promoting ecologically viable land management practices. Improved governance will be informed by the results of on-going and completed on-the-ground project interventions. Ecosystem – based climate change adaptation and SLM will be mainstreamed into daily activities and the planning processes of municipalities, rural communities and land users through integrated provincial and country level policy and regulatory frameworks.

*Output 4.1: Comprehensive analysis of SLM options, including financial modelling, investigation of market opportunities, cost-benefits analyses and a public expenditure review undertaken.*

233. The project will contribute towards the sustainability of SLM practices by identifying opportunities for financing of such activities through both the public and private sectors. A comprehensive financial analysis of current and potential sources of financing for SLM practices will be undertaken. This will include reviews of public expenditure – e.g. through government programmes and agricultural subsidies – as well as private sector investments into SLM. In addition, formal and informal value chains for goods and services resulting from SLM practices – e.g. “eco-friendly” livestock products – and alternative livelihoods options – e.g. game farming and eco-tourism – will be identified and analysed. The analysis will be conducted with a view to understanding the underlying causes of land and water degradation and who depends on ecosystem services, and who impacts on them in order to analyse the potential trade-offs between different development activities such as mining, fracking, agriculture and other economic activities. This will contribute towards the development of a set of recommendations detailing opportunities for catalysing SLM practices by unlocking viable markets. This will serve to incentivise land users to adopt SLM practices by reducing the perceived levels of risks associated with such practices.

234. Activities under this output will include:

- Identify case studies of successful SLM practices from the Karoo, Eastern Cape and Olifants landscapes.
- Conduct a Targeted Scenario Analysis for each of these case studies.
- Undertake a public expenditure review of national and sub-national government initiatives on SLM.
- Conduct a comprehensive study of market opportunities and value chains for agricultural and other products from sustainably managed landscapes.
- Develop recommendations for SLM options based on the results of the comprehensive analysis.

*Output 4.2: National and sub-national strategies for mainstreaming of SLM into provincial development and municipal land-use planning policies developed.*

235. The project will support the process of mainstreaming SLM into provincial development and municipal land-use planning policies. The mainstreaming process will be supported through the strengthening of inter-ministerial and departmental cooperation under Output 2.3. Relevant line ministries' staff and department officials will be capacitated to understand how to integrate data and information on the effects of land degradation on local communities and ecosystems into local policies.

236. The process of strategy development will be inclusive. This will catalyse stakeholder involvement in the identification and deliberation of best practices, challenges, SLM management objectives and prioritised interventions. Discussions and outreach with stakeholders at the national, provincial, municipal

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<sup>71</sup> Based on the TEEB, What is IES? A stepwise Approach to systematically evaluate and value Ecosystem Services and to integrate them in development processes.

and resource-user levels will be undertaken. In addition, the project will collaborate with Soil Conservation Committees, Conservation Committees, Water User Associations, Catchment Management Agencies, Farmers Associations, extension officers, and other germane stakeholders. The primary technical partners (EWT, CSIR, and Rhodes University) will lead strategy development at each demonstration site. However, the process will be integrated with the three strategies being collated into a single project program.

237. The strategy will help to integrate funding to achieve and monitor SLM benefits that are more holistic, addressing issues related to soil, water, biodiversity, climate and socio-economic concerns. It should serve as a model that can be up-scaled and replicated by government and other stakeholders. The strategy will be designed to support income-generating SLM practices that: i) rehabilitate degraded lands; ii) increase green jobs; iii) increase food security; iv) advance mitigation and adaptation; and v) demonstrate ways of increasing productivity without causing land degradation. The ultimate objective is to mainstream the strategy within government agencies at the national, provincial and municipal level.

238. The ultimate goal will be to have SLM mainstreamed within government agencies at the national, provincial and local level. The strategies will assist these agencies to approach SLM funding more strategically. For instance, the strategy will be integrated within land use planning. It will inform municipal integrated development planning and provincial government's growth and development strategies.

239. The strategy will be reviewed and updated twice during project implementation. Once before the project mid-term evaluation and again, prior to project closure. The process will be closely linked with the activities under Output 4.3, ensuring incorporation of SLM into the policy recommendations for financial incentives and relevant government agency's decision-making frameworks.

240. The project will generate a tool kit for municipalities to more fully integrate SLM principles and practices within their IDPs. This will build upon current programs, such as "Lets Respond", which is a newly developed DEA/NRM programme for climate change adaptation.

241. The project will develop a set of guidelines for how to improve the integration of SLM into key land conservation and management programmes such as LandCare's Areawide Planning and DEA's Biodiversity Conservation Stewardship Programme.

242. Activities under this output will include:

- Review national, provincial and municipal development/land use planning to identify opportunities for strengthening support for SLM utilising information from the analytical studies undertaken under Outcome 2.
- Develop policy briefs for the integration of SLM into development/land use plans. The briefs are to address the implications of land degradation.
- Develop a strategy for integrating SLM into land-use planning and development policies using models and maps generated under Outcome 2. The strategy will include aspects such as: i) sustainable financing; ii) institutional and implementation modalities; iii) functional and technical capacities; iv) assessment methods; and v) M&E systems for SLM.

*Output 4.3: Policy recommendations to mainstream SLM objectives into public expenditure, agricultural subsidies and land reform incentives.*

243. Based on the comprehensive review of public expenditure on SLM (Output 4.1) and in conjunction with the development of strategies for integration of SLM into land-use planning (Output 4.2), the project will support the development of recommendations for mainstreaming of SLM objectives into policies. This will be based on a comprehensive assessment of existing legislation and policies relating to SLM, including aspects such as: i) agriculture; ii) environmental management; iii) biodiversity; iv) soil and water conservation; v) rangeland management; vi) carbon finance; vii) climate change; and viii) land reform. The results of this assessment will inform a set of recommendations related to policy-making on

SLM to better analyse the costs and benefits (for the ecosystems and user-groups) of certain land-use decisions over others and to better manage these trade-offs. This will strengthen institutional capacities for informed decision-making and strengthen the knowledge base on SLM across of levels of resource governance.

244. Activities under this output will include:

- Review existing policies regarding public expenditure, agricultural subsidies and land reform incentives and identify opportunities for strengthening policy support.
- Develop recommendations for the integration of SLM objectives into the appropriate policies and national budgeting processes.

*Output 4.4: A national platform on SLM, finance and land/ecosystem rehabilitation in place for national dialogue on the role of SLM in the green economy to support the National Coordinating Body for UNCCD to engage more strategically in SLM, finance and land, ecosystem rehabilitation debate.*

245. The project will facilitate the generation of a national policy platform for SLM. The national platform will facilitate the mainstreaming of best practices. In addition, it will be used as a mechanism for the generation and adoption of a national SLM policy paper prior to project close. The national platform will also assist certain on-going and future SLM investments, and ensure that they are strategically aligned to generate landscape level SLM impact.

246. A critical part of the national platform effort will be the establishment of a national framework for SLM financing. This framework will facilitate the generation of integrated and aligned approaches to SLM financing between government department and private stakeholders. In addition, the framework will help these stakeholders individually and collectively harness the capacity required to more effectively finance, implement and monitor SLM activity. This framework will build upon the strategies generated under Output 4.3 and will incorporate and reflect the best practices, as well as lessons learned. The potential for leveraged national funding is estimated to be ~US\$250,000.

247. The framework will generate a more aligned and integrated approach to future SLM financing within and between these key agencies. Moreover, it will assist in aligning funding from a variety of sources – both public and private sector – to improve the efficiency and effectiveness of resource allocations.

248. Activities under this output will include:

- Identify key stakeholders from *inter alia* national and sub-national government institutions, private sector, academia, civil society and local communities.
- Establish a national platform on SLM finance and land/ecosystem rehabilitation.
- Conduct capacity assessment of the UNCCD Focal Point/National Coordinating Body to facilitate strategic investment in SLM at the national level.

## **2.4. Key indicators, risks and assumptions**

249. The project indicators contained in the Strategic Results Framework include impact (objective) indicators and outcome (performance) indicators. Each indicator is 'SMART': Specific, Measurable, Achievable, Relevant and Time-bound. During project inception and as part of the 5-year implementation work plan, the project will develop process-oriented indicators to augment the 'M&E framework' at the site level. This 'site-level M&E framework' will help guide and monitor project implementation. The project's overall M&E framework will build upon UNDP's existing M&E Framework.

250. The logframe presumes that the cumulative impact of achieving the project's outcomes will ultimately result in achievement of the project's objective. This well-reasoned logic is based upon the

analysis of barriers and root-causes completed during the PPG phase and elaborated in this project document. The logframe indicators are premised upon two key criteria: (i) pertinence to the above presumption; and (ii) feasibility of obtaining, producing and updating the data necessary to monitor and evaluate the project through those indicators.

**Table 1: Risks and Assumptions**

Risk/Assumptions	Impact High: 5 Low: 1	Likelihood High: 5 Low: 1	Risk Assessment	Mitigation Measure
<p>INSTITUTIONAL The project requires support from provincial and municipal level government agencies that often struggle with instability and absorptive capacity constraints</p>	3	2	Medium	<p>The project is designed to: i) incrementally build necessary capacity; ii) be compatible with the absorptive capacity of local government; and iii) generate national support that will result in necessary funding allocations. Project interventions are designed to proceed in spite of political and/or management changes. This will include expanding partnerships with non-government agencies, private enterprises and local government. Local government agencies' capacity will be enhanced by creating a broader consortium of support.</p>
<p>INSTITUTIONAL The Government of South Africa may fail to provide financing and human resource capacity support for the continuation of successful project interventions.</p>	4	2	Medium	<p>The Government of South Africa experiences budget reductions on all levels. This may impact the long-term sustainability of the project. However, the cumulative annual investment by government to agencies responsible for water, environment and agriculture is estimated at ~US\$ 3 billion. Although the amount invested in addressing land degradation is relatively low, the government recognises the importance of SLM to achieving green economy objectives. The probability that investment will drop below the level required to carry-forward and expand successful project interventions is minimal. The project is designed specifically to increase the cost-effectiveness, efficiency, and strategic alignment of government investments. The annual total costs represented by project interventions will be relatively low and within the government's absorptive capacity. In addition, the project has integrated strategies – into all outputs – to facilitate the hand-over of project results to the Government, including capacity building. The project may also face challenges with aligning disparate government programmes under a more coherent SLM approach. However, during project design all main government agencies expressed an interest and urgency to</p>

Risk/Assumptions	Impact High: 5 Low: 1	Likelihood High: 5 Low: 1	Risk Assessment	Mitigation Measure
				address these challenges so that their spending and support for SLM is strengthened.
<b>INSTITUTIONAL</b> There is a slight risk of conflicts between different stakeholder groups.	3	2	Medium	Regulatory authorities and user groups may have conflicting expectations. However, the project is designed to strengthen coordinated approaches across landscapes based upon inclusive capacity building approaches. Coordinated mechanisms will resolve potential conflicts and enable integrated and cooperative planning and governance. Furthermore, the project will minimise conflicts by creating forums and platforms for discussion and conflict resolution.
<b>INSTITUTIONAL</b> Many CBNRM type initiatives have failed to deliver expected economic benefits to participating communities.	3	2	Medium	The PIF noted the high level of scepticism regarding the returns on investing in improved practices. This may be of relevance where CBNRM is used as a tool to solve all problems. Where CBNRM is applied – on communal lands – the principle will be used to shift current open access grazing regimes to more community-based management that will improve the overall rangeland conditions over time. It may be challenging to work with local stakeholders to convince them of the efficacy of arranging management under a community-based regime. However, rangeland management is arguably one scenario in which CBNRM will have the most positive effect both internationally and across southern Africa. The potential benefits to be brought about by better alignment of agricultural subsidies and land reform incentives will be promoted as an incentive for participating in SLM. In the long term, rehabilitated and restored ecosystems provide more sustainable, long-term benefits to land users.
<b>INSTITUTIONAL</b> Large-scale development (e.g., fracking, hydro, etc.) and major land tenure changes could destabilise project impact.	3	2	Medium	There are factions within South Africa that are insistent upon the development of the energy sector and other land uses that may be incompatible with SLM. However, these challenges will likely not impact the ability of the project to be fully implemented. The project is designed to create a much stronger platform of best SLM practices, improved financing, and improved governance that will enable stakeholders to better

Risk/Assumptions	Impact High: 5 Low: 1	Likelihood High: 5 Low: 1	Risk Assessment	Mitigation Measure
				address emerging challenges. The project will help the government of South Africa, land users, and other decision-makers have access to improved tools, practices, and knowledge so that they are better equipped to make informed decisions regarding the potential impacts to long-term SLM objectives.
ENVIRONMENTAL Climate change will increase the probability of failure of project activities.	2	2	Low	Unpredictable weather patterns could influence long-term effectiveness of the project initiatives. However, this impact is gauged to be marginal during the project implementation period. The project is designed specifically to implement SLM across three different landscapes. A substantial part of this effort will be to build climate change resilience, enhance capacity to monitor for climate change trends/impacts, and establish mechanisms so that farmers, government agencies and other stakeholders are better equipped to address climate change in the future.

## 2.5. Cost-effectiveness

251. During project design, several potential suites of intervention options were considered for inclusion in the project design and assessed to determine their cost-effectiveness. For example, some stakeholders suggested that physical interventions such as large dams may be included in the project design. However, building these structures is costly and their effectiveness at enhancing ecosystem integrity is doubtful. In spite of efforts conducted during the project design phase, there is still no firm knowledge platform upon which to base decision-making. Rigorous data does not exist showing the full status of land degradation and the precise causes of potential degradation. Without this information, there is no way of accurately predicting whether these investments would generate positive impacts. In addition, rigorous SLM monitoring tools are not in place to determine the positive and negative effects of infrastructure investments once they are made.

252. These issues were deliberated extensively during the project design process. After carefully considering conservation priorities, stakeholders abandoned these costly options and decided on an approach that is designed to incrementally build the capacity required to make more informed decisions. This includes providing a small amount of capital – at the outset – to upscale and improve concepts that will most likely meet with success. A comprehensive capacity building and monitoring programme will support the investments into on-the-ground interventions by ensuring that there is sufficient technical skills and expertise in government institutions and amongst land users to sustain the implementation and monitoring of SLM practices. The initial project investments will also build the framework necessary to make informed decisions. Furthermore, the project will support the generation of information that stakeholders require to understand resource trends and prioritise interventions. The project will simultaneously enhance the capacity of extension officers and other stakeholders to effectively support implementation of improved monitoring and oversight functions, as well as the demonstration of best practices related to ecosystem integrity and land degradation.

253. The project will build an enabling framework, starting with a sustainable SLM financing strategy. Larger scale investments in the demonstration of improved management approaches will occur only after the awareness, monitoring and decision-making frameworks are in place. Therefore demonstrations will be informed by and targeted to address the challenges identified. In this way, demonstrations will respond more accurately to the needs of stakeholders with improved knowledge regarding best international practices. Demonstration investments nested within an improved enabling environment will be better poised to be ecologically, socially, and financially sustainable.

254. On a broader level, project investments at all three pilot areas will be collated to create capacity and decision-making pathways that enable government and stakeholders to make conservation oriented investments rather than unsustainable short-term investments. This framework for informed decision-making will deliver returns well beyond the initial investment period.

255. By implementing similar programmes with nuanced differences at three unique locations, the project will achieve a higher economy of scale. In addition, the project will be relying upon the implementation support of key organisations – including EWT, Rhodes University and CSIR – each with a proven track record of professional SLM knowledge. These organisations will backstop government agencies by bringing different skill sets and tools. For example, EWT specialises in biodiversity conservation and ecosystem restoration based upon inclusive community participation. Moreover, Rhodes University has extensive experience with climate change and rural community mobilisation, whilst CSIR is a leader in integrated water resources management. This approach is therefore very cost-effective.

256. The project is designed to demonstrate improved understanding, decision-making and results-oriented management practices at distinct locations. At the outset, the project will set in place the institutional and policy enabling environment required to capture best practices and replicate these practices nationally. Furthermore, the project's pilot sites will be centres of excellence, offering models for other parts of South Africa to follow. The monitoring, planning, regulatory and demonstration activities at each pilot site will be designed so that they can be easily uplifted, transferred, and replicated. National institutions, including those responsible for agriculture and environment, will have extension programmes in place to facilitate this transfer of success at a reduced cost. Therefore, the heavy investment costs of supplying technical expertise and capacity building will be carried upfront. Investments made over the project's lifespan will not only catalyse a substantial change at the pilot site level, but those improvements will also be amplified post-project to cover a larger geographic area. Ultimately, the same best practices will be modified, adopted and mainstreamed nationally. This will support national level ecosystem integrity and SLM.

## **2.6. Sustainability**

257. The focus of this project is to secure multiple ecosystem benefits through SLM. The project is designed specifically to improve the long-term health and sustainability of South Africa's most at risk landscapes. Sustainability will be monitored, promoted, and achieved at all levels.

### *Institutional sustainability*

258. Building the ability of institutions to sustainably support the long-term health of South Africa's unique ecosystems is paramount. The project will positively affect institutions on the national, provincial and local levels. Institutions will be provided assistance to build their capacities regarding policy, planning, and financial approaches towards SLM. This is one of the fundamental aspects of the project's design. By project close, best practices will be fully mainstreamed within relevant agencies. Furthermore, capacity building efforts will strengthen national, provincial and municipal policy frameworks to alleviate current institutional inconsistencies and gaps. Consequently, expenditures of capital and human resources will be more cost-effective. Direct capacity building will take place through training programmes during project implementation and carried forward post-project by strengthened institutions. Indirect capacity building

will result from the implementation of various project activities. Much of the project's efforts will be focused upon providing institutions with the tools required for long-term institutional integrity and coordinated efforts. Institutional sustainability is important to all project functions – including enhancing the knowledge base, demonstrations, and monitoring.

### *Financial sustainability*

As noted in the risks analysis, financial sustainability is a concern. However, the project has addressed this by making certain that project activities are appropriately scaled up. The project is designed to respond to the needs/desires of government agencies. Moreover, it is designed to address needs as voiced by stakeholders in an attempt to enhance long-term ownership. The Government of South Africa wants this project do the heavy lifting required to design and implement a more efficient and effective SLM program. Once this is in place, the Government will support further implementation. The inclusion in the project of Outcome 4 that includes strengthening financial frameworks will also contribute to sustainability – through both financial modelling of SLM options, investigation of market opportunities, cost-benefits analyses and a public expenditure review; as well as the development of policy recommendations to mainstream SLM objectives into public expenditure, agricultural subsidies and land reform incentives. Furthermore, this project has learned from past experiences and set in place mechanisms such as hand-over strategies designed specifically to address and alleviate past challenges. The project is designed to incorporate a thoughtful and deliberate plan to engage and hand-over the project to the government prior to close. These transition plans will detail the costs required for continued operation. The combination of safeguards will promote project sustainability.

### *Environmental sustainability*

259. This project's intent is to improve environmental sustainability and focuses upon conservation. In particular, the project will address key barriers to land degradation vulnerabilities. Where rehabilitation is to occur, this will be based upon conserving biodiversity and natural ecological functionality.

### *Environmental and Social Impacts*

260. The Social and Environmental Screening Procedure (SESP) was completed during the PPG, as required by the UNDP SESP Guidelines. The results of the SESP are included in Annex 8.2.

## **2.7. Replicability**

261. The premise for this project is the need to build replicable models for ecosystem-based SLM management. Component One will set in place capacities to demonstrate, monitor and build stakeholder capacity/understanding of SLM. These activities will be captured for wide scale replication. Component Two will set in place replicable models for financing and governance to support SLM. The project design has incorporated a number of tools to ensure replication, including mainstreaming lessons learned in national, provincial, and municipal level decision-making.

## **2.7. Gender considerations**

262. South Africa does not have an approved gender policy. However, the Constitution of the Republic of South Africa includes an obligation to ensure that “everyone is equal before the law and has the right to equal protection and benefit of the law”. In addition, South Africa is a signatory to various international and regional instruments that seek to achieve gender equality with special emphasis on women empowerment<sup>72</sup>.

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<sup>72</sup> These include the SADC Protocol on Gender and Development, SADC's Gender Plan of Action, the African Gender Policy and the Beijing Platform of Action, amongst others.

263. More than 60% of women in rural areas are unemployed. Those with work generally have a low level of income. In some project areas, women lead a majority of households. The project will make certain that SLM promotes gender equity, including women in the safeguarding of resources into the future. Labour will consistently be sourced locally and in-service training to develop the relevant skills provided. Employment opportunities and skills development will therefore take place in poor rural communities, where there are few other socio-economic up-liftment opportunities.

264. The project's activities will contribute to women's financial independence. For instance, many of the restoration activities are well suited to employing women. Therefore, women in the local communities are empowered through training and skills development, which in turn results in improved social capital.

265. The project will pursue a gender-sensitive approach whereby women's participation in training workshops, on-the-ground interventions, multi-stakeholder forums and land user groups will be strongly promoted. The extension programmes implemented through the project will have components designed especially for women. The project's monitoring activities will be disaggregated by gender. This will result in benefits accruing to women-headed households. In addition, women-led economic and subsistence issues will form part of the project's overall monitoring framework. During project inception, the management and decision-making frameworks will make certain that gender issues are incorporated.

## **2.8. Stakeholder Analysis**

266. The project will rely upon various tools to make certain stakeholders are properly engaged. The Project Board (PB) will be responsible for ensuring that a broad range of national stakeholders are aware of and actively involved in project interventions. This includes regular reporting by project management and technical staff regarding the status of project implementation activities and updates regarding challenges, opportunities, and lessons learned. National engagement will be further facilitated through project activities such as training programmes and other capacity-building efforts designed to incorporate representation from a variety of stakeholders and stakeholder organisations.

267. Work conducted during project preparation is illustrative of the types of stakeholder engagement that will be continued during implementation. For instance, the Karoo project team undertook extensive communications with stakeholders including farmers, NGOs<sup>73</sup>, and government departments<sup>74</sup> about the structure, activities and roles within the project. Furthermore, EWT held two workshops in 2012 and 2013 with 33 farmers representing four Conservancies – in the core project area in the Northern and Western Cape measuring 350 000 hectares – with DENC, CapeNature and LandCare representatives in attendance. The purpose of these workshops was to assess priorities and plan the way forward in terms of sustainable land management within the conservancies. In addition, a strategic research planning workshop was held in 2013 by the EWT-Drylands Conservation Programme – that is spearheading the Karoo work. The two leading experts on Karoo ecology and botany collaborated with three staff members from the EWT programme to discuss the research goals, aims and targets required for the development of the project. DAFF's Research Scientist and LandCare's Chief Technician also visited the core areas of the project in 2013 and advised on a research strategy and technical aspects of the project. And will continue to do so. In October 2014, a consultative workshop was held – which was attended by ~30 farmers within the conservancies and representatives from DAFF and LandCare – to further elucidate the roles and objectives of the project.

268. There are several development and conservation investments that share objectives with the proposed project. A number of approaches will be utilised to make certain that the project is identifying opportunities and fully engaging with related investments from inception to completion. As part of the stakeholder engagement plan, it will be incumbent upon the PB and Project Management Unit (PMU) to make certain these opportunities are maximised. As noted in the Monitoring and Evaluation Framework,

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<sup>73</sup> Conservation South Africa, CapeNature, Greater Cederberg Biodiversity Corridor and Environmental Monitoring Group.

<sup>74</sup> Department of Environment and Nature Conservation, Northern Cape and Western Cape Departments of Agriculture, as well as Landcare, Western Cape.

government and donor partner stakeholders will be invited to participate in a round-table discussion at the start of the project. Furthermore, participants will be invited to work cooperatively to seek out ways to make certain that implementation is mutually beneficial and synergistic with the existing and emerging investment environment. This will include identifying points of common interest and pathways for implemented activities to obtain maximum leverage thereby amplifying their impacts.

269. As noted in Outcome 2, government and stakeholder partners will be convened annually during project implementation and invited to share updates regarding progress and lessons learned. These stakeholders will also be provided with regular electronic updates, including progress reports and results from on-going and completed activities. This will be achieved through the enhanced knowledge base. During project implementation, the project implementation team will be mandated to constantly seek out ways to improve and augment engagement with relevant conservation investments. The DEA, DAFF, and UNDP/South Africa offices will support this effort.

### Stakeholder Analysis Plan

Outcome	Output	Key stakeholders	Key responsibilities
<b>Outcome 1:</b> Economically viable, climate-smart land/ecosystem rehabilitation and management practices operationalised across 117,300 ha of the Karoo, Eastern Cape and Olifants landscapes (with potential for upscaling to cover 417,132 ha).	<b>Output 1.1:</b> Improved land-use and livestock/range management practices implemented in two critical riverine systems in the Karoo.	DEA, DAFF, EWT, Renu-Karoo, agricultural organisations, academia, local municipalities	<ul style="list-style-type: none"> <li>• Implement interventions developed under Output 2.5 in selected pilot areas.</li> <li>• Develop and disseminate information on SLM and climate-smart ecosystem rehabilitation and management interventions.</li> </ul>
	<b>Output 1.2:</b> Ecologically-viable livestock farming, vegetative cover and range resources management practices adopted in the Eastern Cape.	DEA, DAFF, Rhodes University	<ul style="list-style-type: none"> <li>• Implement interventions developed under Output 2.5 in selected pilot areas.</li> <li>• Develop and disseminate information on SLM and climate-smart ecosystem rehabilitation and management interventions.</li> </ul>
	<b>Output 1.3:</b> Watershed management and SLM practices adopted by farmers in the Olifants River catchment.	DEA, DAFF, CSIR, ARC, USAID, Olifants River Forum	<ul style="list-style-type: none"> <li>• Implement interventions developed under Output 2.5 in selected pilot areas.</li> <li>• Develop and disseminate information on SLM and climate-smart ecosystem rehabilitation and management interventions.</li> </ul>
	<b>Output 1.4:</b> A strategy for upscaling SLM practices within the Karoo, Eastern Cape and Olifants landscapes.	DEA, DAFF, EWT, Rhodes University, CSIR	<ul style="list-style-type: none"> <li>• Develop and implement strategies for community ownership of interventions beyond project termination to relevant stakeholders.</li> </ul>
	<b>Output 1.5:</b> A long-term strategy for participatory monitoring and evaluation by stakeholders (including land users) of the effectiveness of SLM approaches in the Karoo, Eastern Cape and	DEA, DAFF, EWT, Rhodes University, CSIR, SANBI	<ul style="list-style-type: none"> <li>• Undertake comprehensive baseline assessments of soil erosion, vegetation cover and existing interventions to control soil erosion and land degradation.</li> <li>• Establish monitoring points at intervention sites.</li> </ul>

	Olifants landscapes.		<ul style="list-style-type: none"> <li>• Establish systems to collect data on the long-term impacts of SLM and climate-smart ecosystem rehabilitation and management interventions.</li> <li>• Collect long-term data on the impacts of SLM and climate-smart ecosystem rehabilitation and management interventions.</li> <li>• Analyse data from pilot interventions, collate the results and disseminate to media, public institutions and relevant stakeholders.</li> </ul>
<p><b>Outcome 2:</b> Increased knowledge and institutional capacity of DEA, DAFF, DWS, relevant departments and local communities to reduce degradation from livestock and crop production and to restore currently degraded lands through the application of knowledge-based land management practices.</p>	<p><b>Output 2.1:</b> Capacity-building and -development programme for improving SLM knowledge and awareness at local, provincial and national level, including the establishment of multi-stakeholder forums for facilitating a dialogue on SLM and mainstreaming SLM into municipal, provincial and national policy programmes and processes.</p>	<p>DEA, DAFF, provincial departments<sup>75</sup> and local government<sup>76</sup>, EWT, Rhodes University, CSIR, NGOs, CSOs/CBOs, agricultural organisations, farmers associations<sup>77</sup> and community organisations.</p>	<ul style="list-style-type: none"> <li>• Assess current awareness on SLM in government departments and update training manuals accordingly.</li> <li>• Participate in training sessions on integrating SLM into their policies, programmes and activities.</li> <li>• Establish a multi-stakeholder forum to facilitate dialogue on SLM between stakeholders.</li> <li>• Participate in multi-stakeholder forums on SLM.</li> </ul>
	<p><b>Output 2.2:</b> Core staff of technical ministries, regional and local extension support departments and land users in the Nama Karoo, Thicket and Savanna biomes trained on the use of improved data, tools and methods of ecosystem livelihood and vulnerability assessments as the basis of decision-making on land use within the context of a green economy.</p>	<p>DEA, DAFF, provincial departments and local government, EWT, Rhodes University, CSIR, NGOs, CSOs/CBOs and local community.</p>	<ul style="list-style-type: none"> <li>• Conduct a comprehensive needs assessment for SLM training.</li> <li>• Update and extend portfolio of training modules based on needs assessment.</li> <li>• Develop and disseminate user-friendly training materials on SLM and monitoring to relevant stakeholders.</li> <li>• Participate in training sessions on SLM, including restoring and managing ecosystems and agro-ecological landscapes.</li> </ul>

<sup>75</sup> Northern Cape Department of Environment and Nature Conservation, CapeNature

<sup>76</sup> The Karoo pilot site will cover the District Municipality of Pixley, which includes the Emthnjeni, Kareeberg, Renosterberg and Siyancuma local municipalities, as well as the following local municipalities: Siyathemba, Thembelihle, Ubuntu and Umsobomvu. The site will also cover the Central Karoo District Municipality, which includes the Beaufort West, Laingsburg and Prince Albert local municipalities. The Olifants site will cover the Greater Sekhukhune District Municipality, which includes the Elias Motsoaledi, Fetakgomo, Makhuduthamaga, Tubatse and Marble Hall local municipalities.

<sup>77</sup> Agri-South Africa, Loxton Farmers Association, Wagenaarskraal Farmers Association, Nuvelde Farmers Association and Victoria West Farmers Association amongst others.

	<u>Output 2.3:</u> Structures for coordinated land-use planning and land/ecosystem rehabilitation practices between municipal, provincial and national institutions in the Karoo, Eastern Cape and Olifants landscapes established.	DEA, DAFF, provincial departments and local government, EWT, Rhodes University, CSIR, Reni-Karoo, Olifants River Forum, Living Lands, ARC	<ul style="list-style-type: none"> <li>• Establish and/or support existing Soil Conservation Committees, Conservation Committees, Water User Associations, Catchment Management Agencies and Farmer Associations.</li> <li>• Co-ordinate exchange visits to project sites.</li> </ul>
	<u>Output 2.4:</u> Best practices and lessons learned on SLM in the Karoo, Eastern Cape and Olifants landscapes captured and disseminated nationwide	DEA, DAFF, EWT, Rhodes University, CSIR, Reni-Karoo, Olifants River Forum, Living Lands, ARC	<ul style="list-style-type: none"> <li>• Develop and implement technical guidelines for SLM practices.</li> <li>• Disseminate technical guidelines to relevant stakeholders.</li> <li>• Best practices and lessons learned disseminated nationally through the SLM platform (and website).</li> </ul>
	<u>Output 2.5:</u> A comprehensive GIS-based assessment of socio-ecological resilience to inform ecosystem restoration and SLM in the Karoo, Eastern Cape and Olifants landscapes.	DEA, DAFF, EWT, Rhodes University, CSIR, SANBI	<ul style="list-style-type: none"> <li>• Participate in training sessions on GIS and climate change.</li> <li>• Collect and analyse data.</li> <li>• Host and coordinate national geo-based climatic, agro-ecological and hydrological database.</li> <li>• Undertake comprehensive socio-ecological assessments using data generated.</li> <li>• Undertake integrated map-based assessments of climate-related hazards, vulnerabilities and climate sensitive natural resources.</li> <li>• Propose context-appropriate ecosystem rehabilitation and management interventions.</li> </ul>
<u>Outcome 3:</u> Enabling environment for promoting rehabilitation of degraded land through carbon sequestration (including accessing and capitalising on carbon markets and the	<u>Output 3.1:</u> Government approved methodology developed for the generation of carbon credits through restoration of spekboomveld.	DEA, Rhodes University, Living Lands, WWF-SA	<ul style="list-style-type: none"> <li>• Undertake a review of methodologies for calculating carbon credits.</li> <li>• Develop a methodology.</li> <li>• Develop and implement protocols for utilising the methodology.</li> </ul>
	<u>Output 3.2:</u> Carbon baseline sampling and assessments undertaken for 3,500 hectares in the Baviaanskloof.	DEA, Rhodes University, Living Lands, WWF-SA	<ul style="list-style-type: none"> <li>• Undertake comprehensive carbon sampling.</li> <li>• Undertake assessments based on data generated.</li> </ul>
	<u>Output 3.3:</u> Project	Rhodes University,	<ul style="list-style-type: none"> <li>• Undertake consultations with</li> </ul>

preparation of MRV documentation) in the Eastern Cape strengthened.	Design Documents for a Baviaanskloof Programme of Activities/Grouped Project prepared and verified.	Living Lands, WWF-SA	<p>farmers and land users and enter into formal agreements/MOUs.</p> <ul style="list-style-type: none"> <li>• Develop and disseminate guidelines for the commission and completion of Project Preparation Documents for carbon sequestration projects in the AFOLU sector.</li> <li>• Register projects.</li> <li>• Develop and disseminate user-friendly training material on voluntary carbon markets.</li> </ul>
	<u>Output 3.4:</u> 1,000 hectares of degraded spekboomveld restored in the Baviaanskloof to deliver multiple ecosystem benefits, including reducing soil erosion, enhanced water infiltration and increased vegetation cover.	DEA, Rhodes University, Living Lands, WWF-SA	<ul style="list-style-type: none"> <li>• Implement interventions in selected pilot areas.</li> <li>• Develop and disseminate information on spekboom restoration.</li> <li>• Undertake consultations with farmers, land users and engineers regarding the design and manufacture of equipment required for planting of spekboom cuttings.</li> <li>• Develop and disseminate planting protocols for spekboom restoration.</li> </ul>
<u>Outcome 4:</u> Financing and governance frameworks strengthened to support the adoption of SLM approaches.	<u>Output 4.1:</u> Comprehensive analysis of SLM options, including financial modelling, investigation of market opportunities, cost-benefit analyses and a public expenditure review undertaken.	DEA, DAFF, EWT, Rhodes University, CSIR	<ul style="list-style-type: none"> <li>• Undertake a review of successful SLM practices from the Karoo, Eastern Cape and Olifants landscapes.</li> <li>• Undertake a Targeted Scenario Analysis (TSA) for each of the case studies.</li> <li>• Undertake a public expenditure review of national and sub-national government initiatives on SLM.</li> <li>• Undertake a comprehensive assessment of market opportunities and value chains for agricultural and other products from sustainable landscapes.</li> <li>• Develop recommendations for SLM options based on the results of the assessments.</li> </ul>
	<u>Output 4.2:</u> National and sub-national strategies for mainstreaming of SLM into provincial development and municipal land-use planning policies developed.	DEA, DAFF, provincial departments and local government, SANBI, EWT, Rhodes University, CSIR, Reni-Karoo, Olifants River	<ul style="list-style-type: none"> <li>• Undertake a review of national and sub-national development/land-use planning.</li> <li>• Identify opportunities for strengthening SLM support utilising information generated.</li> <li>• Develop policy briefs for integration of SLM into</li> </ul>

		Forum, Living Lands, ARC	<p>development and land-use plans.</p> <ul style="list-style-type: none"> <li>• Develop a strategy for integrating SLM into land-use planning and development policies.</li> </ul>
	<u>Output 4.3:</u> Policy recommendations to mainstream SLM objectives into public expenditure, agricultural subsidies and land reform incentives.	DEA, DAFF, provincial departments and local government, EWT, Rhodes University, CSIR, Reni-Karoo, Olifants River Forum, Living Lands, ARC	<ul style="list-style-type: none"> <li>• Undertake a review of existing policies, regarding public expenditure, agricultural subsidies and land reform incentives and identify opportunities for strengthening policy support for SLM.</li> <li>• Develop and disseminate policy briefs and recommendations for the integration of SLM objectives into the appropriate policies and national budgeting processes.</li> <li>• Integrate SLM into the ongoing revision of appropriate policies.</li> <li>• Conduct capacity assessments of DEA and DAFF as well as other relevant stakeholders to identify capacity gaps for the implementation of policies.</li> </ul>
	<u>Output 4.4:</u> A national platform on SLM finance and land/ecosystem rehabilitation in place for national dialogue on the role of SLM in the green economy to support the National Coordinating Body for UNCCD to engage more strategically in SLM finance and land/ecosystem rehabilitation.	DEA, DAFF, provincial departments, local government, EWT, Rhodes University, CSIR, NGOs, CSO/CBOs	<ul style="list-style-type: none"> <li>• Identify key stakeholders from <i>inter alia</i> national and sub-national government institutions, private sector, academia and local communities.</li> <li>• Establish a national platform on SLM finance and land/ecosystem rehabilitation.</li> <li>• Undertake a capacity assessment of the UNCCD Focal Point/National Coordinating Body.</li> </ul>

### 3. PROJECT RESULTS FRAMEWORK

<b>This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD:</b> Increase in the number of sustainable 'green jobs' created in the economy					
<b>Country Programme Outcome Indicators:</b> Number of green jobs created in all sectors of the economy					
<b>UNDP Strategic Plan</b> Outcome: Integrated Results and Resources Framework: Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded.					
<b>UNDP Strategic Plan: Integrated Results and Resources Framework:</b> Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste					
<b>GEF Strategic Objective and Program:</b> Land Degradation Objective 3: Reduce pressures on natural resources by managing competing land uses in broader landscapes; Program 4: Scaling-up sustainable land management through the Landscape Approach					
<b>GEF Expected Outcome 3.1:</b> Enhanced cross-sector enabling environment for integrated landscape management					
<b>GEF Outcome Indicator 3.1:</b> Policies support integration of agriculture, rangeland, forest, and other land uses					
	<b>Indicator</b>	<b>Baseline</b>	<b>Targets End of Project</b>	<b>Source of verification</b>	<b>Risks/Assumptions</b>
<b>Project Objective</b> To strengthen the enabling environment for the adoption of knowledge-based SLM models for land management and land/ecosystem rehabilitation in support of the green economy and resilient livelihoods through capacity building, improved governance and financial incentives demonstrated in the Karoo, Eastern Cape and Olifants	Capacity strengthening to enhance cross-sector enabling environment ( <i>As per the UNDP Capacity Scorecard</i> )	Score: 2 (some initial awareness has been raised on SLM models for land management and land/ecosystem rehabilitation)	Score: 4 (knowledge has been effectively transferred through workshops, multi-stakeholder dialogue, a national platform on SLM, a capacity-building and development programme and practical implementation of SLM practices across three landscapes)	Regular assessments of project participants, including land users, project partners, government officials and ecosystem restoration practitioners.	The project requires support from provincial and municipal level government agencies that often struggle with instability and absorptive capacity constraints.
<b>Outcome 1</b> Economically viable, climate-smart land/ecosystem rehabilitation and	Area of degraded land under improved SLM practices in three landscapes of the	- Karoo: 500,000 hectares of degraded land  - Olifants: 41,300	- Karoo: At least 100,000 hectares under SLM practices  - Olifants: 16,000 hectares under	Regular reports from project proponents, periodic site visits, interviews with land	The Government of South Africa may fail to provide financing and human resource capacity support for the continuation of successful project interventions.

management practices operationalised across 117,300 hectares of the Karoo, Eastern Cape and Olifants landscapes (with potential for upscaling to cover 417,132 hectares)	Karoo, Olifants and the Eastern Cape	hectares of degraded land - Eastern Cape: 11,733 hectares of degraded land	SLM practices - Eastern Cape: 1,300 ha under SLM practices	users	<p>Many CBNRM type initiatives have failed to deliver expected economic benefits to participating communities.</p> <p>Large-scale development (e.g., fracking, hydro, etc.) and major land tenure changes could destabilise project impact.</p> <p>Climate change will increase the probability of failure of project activities.</p>
<b>Outcome 2</b> Increased knowledge and institutional capacity of DEA, DAFF, DWA, relevant departments and local communities to reduce degradation from livestock and crop production and to restore currently degraded lands through the application of knowledge-based land management practices	Increased capacity of government officials, restoration practitioners and other stakeholders related to SLM practices ( <i>As measured by the UNDP Capacity assessment scorecard</i> )	Score: 2 (there is some capacity for design and implementation of SLM practices, but this is nascent)	Score: at least 4 (there is widespread but not comprehensive capacity for design and implementation of SLM practices)	Capacity assessments conducted before, during and after training	The project requires support from provincial and municipal level government agencies that often struggle with instability and absorptive capacity constraints.
<b>Outcome 3</b> Enabling environment for promoting rehabilitation of degraded land through carbon sequestration (including accessing and capitalising on carbon markets and	Number of hectares of restored spekboomveld in the Baviaanskloof and prepared for access to carbon for finance as evidenced by the number of MoUs signed to form a Baviaanskloof	9,081 hectares of degraded spekboomveld	At least 1,000 hectares of degraded spekboomveld is restored	Regular reports from project proponents, periodic site visits, interviews with land users	Adverse climatic conditions hamper success of restoration activities.
		There is currently no simplified methodology for calculation of certified emissions	Government endorses a simplified methodology for calculation of certified emissions reductions/carbon credits from spekboomveld restoration	Review of the methodology developed	Strong political will is required to ensure that the simplified methodology is officially recognised and endorsed by the government.

the preparation of MRV documentation) in the Eastern Cape strengthened	Programme of Activities/Grouped Project and the official endorsement of a simplified methodology for calculation of certified emissions reductions/carbon credits	reductions/carbon credits from spekboomveld restoration			An offset mechanism needs to be put into place for this simplified methodology to be implemented.
		No land users in the Baviaanskloof are currently part of a Programme of Activities/Grouped Project	At least 15 land users in the Baviaanskloof sign an MoU to participate as proponents in a Programme of Activities/Grouped Project	Existence of an MoU to form a Baviaanskloof Programme of Activities/Grouped Project	Many CBNRM type initiatives have failed to deliver expected economic benefits to participating communities.  Limited opportunities in national and international carbon markets deters land users from participating.
<b>Outcome 4</b> Financing and governance frameworks strengthened to support the adoption of SLM approaches	SLM mainstreamed into national and sub-national strategies for development and land-use planning and integrated into public expenditure, agricultural subsidies and land reform incentives	There is currently little integration of SLM practices into national and sub-national strategies for development and land-use planning. Where these do exist, they are seldom based on up-to-date scientific knowledge on SLM best practices and do not always incorporate a diverse range of stakeholder priorities.	A strategy for integrating SLM into development and land-use planning has been developed and implemented at the national and sub-national levels.	Review of the strategy for integration of SLM into development and land-use planning, interviews with national and sub-national land-use planners, Project Implementation Reports	The project requires support from provincial and municipal level government agencies that often struggle with instability and absorptive capacity constraints.  The Government of South Africa may fail to provide financing and human resource capacity support for the continuation of successful project interventions.
		Current agricultural and related policies do not incentivise the implementation of SLM practices. Consequently, land users are unable to take advantage of opportunities for implementation of SLM practices in currently degraded	A comprehensive set of policy recommendations that mainstream long-term SLM objectives into policies related to <i>inter alia</i> agriculture, rangeland management, biodiversity, soil and water conservation and land reform.	Review of the policy recommendations for mainstreaming SLM objectives, interviews with policy-makers, Project Implementation Reports	The Government of South Africa may fail to provide financing and human resource capacity support for the continuation of successful project interventions.

		landscapes.			
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#### 4. TOTAL BUDGET AND WORKPLAN

<b>Award ID:</b>	<i>must be created before submission for SOF approval and entered in the submission documents</i>	<b>Project ID(s):</b>	<i>must be created before submission for SOF approval and entered in the submission documents.</i>
<b>Award Title:</b>	South Africa: Securing multiple ecosystems benefit through SLM in the productive but degraded landscapes of South Africa		
<b>Business Unit:</b>	ZAS10		
<b>Project Title:</b>	Securing multiple ecosystems benefit through SLM in the productive but degraded landscapes of South Africa		
<b>PIMS no.</b>	5054		
<b>Implementing Partner (Executing Agency)</b>	Department of Environmental Affairs and Tourism		

GEF Outcome/Atlas Activity	Responsible Party/Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	See Budget Note:	
<b>OUTCOME 1:</b> (as per the results framework)	DEA	62000	GEF-10003	71200	International Consultants	\$75,000		\$15,000		\$15,000	\$105,000	1	
				71400	Contractual services – Individuals	\$14,000	\$14,000	\$14,000	\$14,000	\$14,000	\$70,000	2	
				71600	Travel	\$8,180	\$8,180	\$8,180	\$8,180	\$8,180	\$40,900	3	
				72100	Contractual services – Companies	\$120,000	\$300,000	\$300,000	\$300,000	\$195,000	\$1,215,000	4	
				72600	Grants		\$255,000	\$255,000	\$255,000		\$765,000	5	
					<b>Sub-total GEF (Outcome 1)</b>	<b>\$217,180</b>	<b>\$577,180</b>	<b>\$592,180</b>	<b>\$577,180</b>	<b>\$232,180</b>	<b>\$2,195,900</b>		
	DEA	4000	UNDP-00012	71200	International Consultants	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$150,000		6
				71600	Travel	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$75,000		7
				71400	Contractual services – Individuals	10,000	10,000	10,000	10,000	10,000	50,000		8
					<b>Sub-total UNDP (Outcome 1)</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$275,000</b>	
				<b>Total Outcome 1</b>	<b>\$272,000</b>	<b>632,000</b>	<b>647,000</b>	<b>632,000</b>	<b>287,000</b>	<b>2,470,000</b>			
<b>OUTCOME 2:</b> (as per the results framework)	DEA	62000	GEF-10003	71200	International Consultants			\$15,000		\$15,000	\$30,000	9	
				71300	Local Consultants	\$41,400	\$10,000	\$10,000	\$26,000	\$10,000	\$97,400	10	

				71400	Contractual services – Individuals	\$14,000	\$14,000	\$14,000	\$14,000	\$14,000	\$70,000	11
				71600	Travel	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$35,000	12
				72100	Contractual services – Companies	\$50,000	\$59,000	\$15,000	\$15,000	\$15,000	\$154,000	13
				75700	Training, Workshops and Conferences	\$55,000	\$85,000	\$85,000	\$85,000	\$85,000	\$395,000	14
					<b>Sub-total GEF (Outcome 2)</b>	<b>\$167,400</b>	<b>\$175,000</b>	<b>\$146,000</b>	<b>\$147,000</b>	<b>\$146,000</b>	<b>\$781,400</b>	
	DEA	4000	UNDP-00012	71200	International Consultants	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$150,000	15
71600				Travel	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$75,000	16
71400				Contractual services – Individuals	10,000	10,000	10,000	10,000	10,000	50,000	17	
				<b>Sub-total UNDP (Outcome 2)</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$275,000</b>		
					<b>Total Outcome 2</b>	<b>222,400</b>	<b>230,000</b>	<b>201,000</b>	<b>202,000</b>	<b>201,000</b>	<b>1,056,400</b>	
<b>OUTCOME 3:</b> (as per the results framework)	DEA	62000	GEF-10003	71300	Local Consultants		\$40,000	\$40,000			\$80,000	18
				72100	Contractual services – Companies	\$111,800	\$208,300	\$208,300	\$112,050	\$87,050	\$727,500	19
					<b>Total Outcome 3</b>	<b>\$111,800</b>	<b>\$248,300</b>	<b>\$248,300</b>	<b>\$112,050</b>	<b>\$87,050</b>	<b>\$807,500</b>	
<b>OUTCOME 4: MONITORING, LEARNING, ADAPTIVE FEEDBACK &amp; EVALUATION</b> (as per the results framework and M&E Plan and Budget)	DEA	62000	GEF-10003	71200	International Consultants			\$50,000		\$10,000	\$60,000	20
				71300	Local Consultants			\$15,000	\$44,000	\$10,000	\$69,000	21
				71400	Contractual services – Individuals	\$14,000	\$14,000	\$14,000	\$14,000	\$14,000	\$70,000	22
				75700	Training, Workshops and Conferences		5,640	\$12,820	\$12,820	\$12,820	\$44,100	23
					<b>Sub-total GEF (Outcome 4)</b>	<b>\$14,000</b>	<b>\$19,640</b>	<b>\$91,820</b>	<b>\$70,820</b>	<b>\$46,820</b>	<b>\$243,100</b>	
		4000	UNDP - 00012	71200	International Consultants	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$150,000	24
		71600		Travel	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$75,000	25	

				71400	Contractual services – Individuals	10,000	10,000	10,000	10,000	10,000	50,000	26	
					<b>Sub-total UNDP (Outcome 4)</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$275,000</b>		
					<b>Total Outcome 4</b>	<b>69,000</b>	<b>74,640</b>	<b>146,820</b>	<b>125,820</b>	<b>101,820</b>	<b>518,100</b>		
<b>PROJECT MANAGEMENT UNIT</b>	<b>DEA</b>	<b>62000</b>	<b>GEF-10003</b>	71400	Contractual services – Individuals	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000	\$120,000	27	
				72200	Equipment and Furniture	\$13,000		\$2,000			\$15,000	28	
				72500	Office Supplies	\$3,000	\$2,500	\$2,500	\$2,500	\$2,500	\$13,000	29	
				74100	Professional Services		\$3,000		\$3,000	\$3,000	\$9,000	30	
				74599	UNDP Cost Recovery Charges - DPC	\$9,000	\$8,000	\$7,000	\$7,000	\$7,000	\$38,000	31	
				75700	Training, Workshops and Conferences	\$10,000				\$5,000	\$15,000	32	
						<b>Sub-total Project Management (GEF)</b>	<b>\$59,000</b>	<b>\$37,500</b>	<b>\$35,500</b>	<b>\$36,500</b>	<b>\$41,500</b>	<b>\$210,000</b>	
		<b>04000</b>	<b>UNDP-10012</b>	75700	Training, Workshops and Conferences	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$175,000	33	
						<b>Sub-total Project Management (UNDP)</b>	<b>35,000</b>	<b>35,000</b>	<b>35,000</b>	<b>35,000</b>	<b>35,000</b>	<b>175,000</b>	
						<b>Total Project Management</b>	<b>94,000</b>	<b>72,500</b>	<b>70,500</b>	<b>71,500</b>	<b>76,500</b>	<b>385,000</b>	
				<b>Total GEF</b>	<b>569,500</b>	<b>1,057,440</b>	<b>1,113,620</b>	<b>943,370</b>	<b>553,370</b>	<b>4,237,900</b>			
				<b>Total UNDP</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>1,000,000</b>			
<b>PROJECT TOTAL</b>						<b>769,200</b>	<b>1,251,800</b>	<b>1,315,800</b>	<b>1,145,550</b>	<b>755,550</b>	<b>5,237,900</b>		

Summary of Funds:

	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	Amount Year 5	Total
<b>GEF</b>	569,500	1,057,440	1,113,620	943,370	553,370	<b>\$4,237,900</b>
<b>UNDP</b>	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	<b>\$1,000,000</b>
<b>TOTAL</b>	<b>\$769,500</b>	<b>\$1,257,440</b>	<b>\$1,313,620</b>	<b>\$1,143,370</b>	<b>\$753,370</b>	<b>\$5,237,900</b>

Budget Note	Description of cost item
1.	<ul style="list-style-type: none"> <li>International M&amp;E Specialist to conduct Mid-Term Review @ \$600 per day x 25 days (inclusive of travel costs and DSA; prorated across outcomes)</li> <li>International M&amp;E Specialist to conduct Terminal Evaluation @ \$600 per day x 25 days (inclusive of travel costs and DSA; prorated across outcomes)</li> <li>International SLM Financing/Upscaling Specialist @ \$600 per day x 50 days (inclusive of travel costs and DSA). This specialist will be responsible for designing a small grants facility/innovation fund for upscaling SLM practices across the Karoo, Eastern Cape and Olifants landscapes. This work will include developing a business plan, templates for proposals and a sustainability strategy for innovative grant funding (see Output 1.4).</li> <li>International SLM/Ecosystem Monitoring Specialist @ \$750 per day x 60 days (inclusive of travel costs and DSA). This specialist will be responsible for designing a participatory SLM monitoring tool. This work will include reviewing current monitoring programs to inform the development and implementation of an ecosystem-based M&amp;E tool for monitoring the socio-economic and environmental benefits of SLM practices across the three project sites (see Output 1.5).</li> </ul>
2.	<ul style="list-style-type: none"> <li>Project Manager @ \$14,000 p.a. x 5 years (prorated across outcomes)</li> </ul>
3.	<ul style="list-style-type: none"> <li>Travel to project sites for project staff, M&amp;E activities, etc.</li> </ul>
4.	<ul style="list-style-type: none"> <li>Contractual services – EWT. This work will comprise: Identification of demonstration sites and measures for rehabilitation of degraded landscapes in the Karoo, implementation of SLM practices, engagement with land users, establishment of farmer study groups and support for implementation of Farm Management Plans @ \$325,000 spread over 5 years. Implementation of the participatory SLM monitoring tool – as developed under Output 1.4 – in the Karoo @ \$80,000 spread over 5 years.</li> <li>Contractual services – Rhodes University. This work will comprise: Identification of demonstration sites and measures for rehabilitation of degraded landscapes in the Eastern Cape, implementation of ecosystem rehabilitation and SLM practices such as a pastoral system and conservation agriculture @ \$325,000 spread over 5 years. Implementation of the participatory SLM monitoring tool – as developed under Output 1.4 – in the Eastern Cape @ \$80,000 spread over 5 years.</li> <li>Contractual services – CSIR. This work will comprise: Identification of demonstration sites and measures for rehabilitation of degraded landscapes in the Olifants, implementation of SLM practices such as soil and water conservation and range resource management, rehabilitation of rangelands @ \$325,000 spread over</li> </ul>

	<p>5 years. Implementation of the participatory SLM monitoring tool – as developed under Output 1.4 – in the Olifants @ \$80,000 spread over 5 years.</p>
<u>5.</u>	<ul style="list-style-type: none"> <li>• Small grants facility/innovation fund – as developed under Output 1.5 – provided to approved applicants in the Karoo, Eastern Cape and Olifants landscapes (to be administered by EWT, Rhodes University and CSIR respectively) @ \$255,000 per landscape spread over 3 years.</li> </ul>
<u>6.</u>	<ul style="list-style-type: none"> <li>• Contribution to the costs of recruiting a 2 Technical Advisors (one to provide technical guidance on rangeland and ecosystem rehabilitation and another to provide technical advice on SLM financing and investment) for at \$600 per day for 75 days a year each.</li> </ul>
<u>7.</u>	<ul style="list-style-type: none"> <li>• Contribution to the costs of travel to project sites for project staff, M&amp;E activities.</li> </ul>
<u>8.</u>	<ul style="list-style-type: none"> <li>• Contribution towards the costs of an full-time local M&amp;E Officer who will deliver on all of the M&amp;E-related aspects under all Outcomes and will assist the PCU with project reporting, preparation for the terminal evaluation of the project and the compilation of a lessons learnt document based on the experiences of the project.</li> </ul>
<u>9.</u>	<ul style="list-style-type: none"> <li>• International M&amp;E Specialist to conduct mid-term review @ \$600 per day x 25 days (inclusive of travel costs and DSA; prorated across outcomes)</li> <li>• International M&amp;E Specialist to conduct terminal evaluation @ \$600 per day x 25 days (inclusive of travel costs and DSA; prorated across outcomes)</li> </ul>
<u>10.</u>	<ul style="list-style-type: none"> <li>• Local SLM Capacity Development Specialist @ \$500 per day for 50 days for Year 1 and 20 days p.a. for Years 2–5 (inclusive of travel costs and DSA). This specialist will be responsible for conducting a gap analysis of technical and institutional capacities for implementing and upscaling SLM practices within government, private sector and other stakeholders. Based on this gap analysis, the specialist will develop organisational strategies for establishment of multi-stakeholder forums and advisory groups. In addition, the specialist will develop a capacity-building and development programme for the training of relevant stakeholders on design and implementation of SLM practices. In Years 2–5, the specialist will be responsible for rolling out the training programme.</li> <li>• Local SLM Good Practices/Technical Specialist @ \$400 per day x 41 days (inclusive of travel costs and DSA). This specialist will be responsible for the design of SLM good practice guidelines for the three pilot sites. This will include a review of past activities in the sites as well as collation of international best practices.</li> <li>• Local SLM Training/Technical Specialist @ \$400 per day for 40 days (inclusive of travel costs and DSA). This specialist will be responsible for reviewing the success of project interventions at demonstration sites as well as in other degraded landscapes in South Africa. Based on this review, the specialist will develop a comprehensive handbook/manual on design and implementation of SLM practices for all biomes in South Africa.</li> </ul>
<u>11.</u>	<ul style="list-style-type: none"> <li>• Project Manager @ \$14,000 p.a. x 5 years (prorated across outcomes)</li> </ul>
<u>12.</u>	<ul style="list-style-type: none"> <li>• Travel to project sites for project staff, M&amp;E activities, etc.</li> </ul>
<u>13.</u>	<ul style="list-style-type: none"> <li>• Contractual services – GIS/socio-ecological resilience consortium. These contractual services will be responsible for: Collation of existing GIS and remote sensing data on bio-physical characteristics and socio-ecological resilience within the project landscapes. Development of fine-scale maps that include current and future vulnerabilities to <i>inter alia</i> land degradation, desertification, climate change and unsustainable resource use within the project landscapes. Develop a strategy for technical capacity-building of relevant stakeholders to interpret and apply map-based assessments of socio-</li> </ul>

	<p>ecological resilience. Develop a web-based knowledge hub for the collation and dissemination of up-to-date scientific knowledge and best practices related to SLM.</p>
<u>14.</u>	<ul style="list-style-type: none"> <li>Capacity-building and development programme. The local SLM Capacity Development Specialist will be responsible for supervising the roll-out of a series of training modules on SLM practices for government institutions, NGOs and other relevant stakeholders. This will occur through workshops, short-courses, online modules and other media as encapsulated in the capacity-building and development programme (see Output 1.1).</li> <li>Structures for coordinated land-use planning and land/ecosystem rehabilitation. EWT, Rhodes University and CSIR will facilitate the establishment and strengthening of structures for coordinated land-use planning and land/ecosystem rehabilitation in the Karoo, Eastern Cape and Olifants landscapes respectively. These will take the form of <i>inter alia</i> workshops, discussion forums and platforms for multi-stakeholder dialogue @ \$10,000 p.a. for each landscape for 4 years.</li> </ul>
<u>15.</u>	<ul style="list-style-type: none"> <li>Contribution to the costs of recruiting a 2 Technical Advisors (one to provide technical guidance on rangeland and ecosystem rehabilitation and another to provide technical advice on SLM financing and investment) for at \$600 per day for 75 days a year each.</li> </ul>
<u>16.</u>	<ul style="list-style-type: none"> <li>Contribution to the costs of travel to project sites for project staff, M&amp;E activities.</li> </ul>
<u>17.</u>	<ul style="list-style-type: none"> <li>Contribution towards the costs of an full-time local M&amp;E Officer who will deliver on all of the M&amp;E-related aspects under all Outcomes and will assist the PCU with project reporting, preparation for the terminal evaluation of the project and the compilation of a lessons learnt document based on the experiences of the project.</li> </ul>
<u>18.</u>	<ul style="list-style-type: none"> <li>Local Carbon Credit Methodology and Spekboomveld Ecology Specialist @ \$800 per day for 50 days (inclusive of DSA, travel costs and other expenses). This specialist will provide a detailed review of current and past methodologies for AFOLU projects, including those approved by VCS, CDM and other accreditation bodies. Based on this review, the specialist will provide a rigorous but simplified methodology that is tailored to spekboomveld for the calculation of baseline, <i>ex ante</i> and <i>ex post</i> sequestration of carbon in above- and below-ground carbon pools as well as soil organic carbon. Furthermore, the specialist will provide support in obtaining GoSA endorsement of the simplified methodology for application under the national carbon tax and associated carbon offset mechanisms.</li> <li>Local Project Design Document Specialist @ \$800 per day for 50 days (inclusive of DSA, travel costs and other expenses). This specialist will develop the Project Design Document(s) for the Baviaanskloof Programme of Activities/Grouped Project. This will include calculating baseline, <i>ex ante</i> and <i>ex post</i> carbon sequestration for restoration of spekboomveld in the Baviaanskloof. The specialist will also support validation of the Project Design Document(s) under the relevant methodology (VCS, CDM and/or GoSA-approved) for generation of certified emissions reductions.</li> </ul>
<u>19.</u>	<ul style="list-style-type: none"> <li>Contractual services – Rhodes University (in collaboration with WWF-SA and Living Lands). This includes the following activities: Restoration of 1,000 ha of spekboomveld @ \$274 per ha = \$274,000 Follow-up and supplemental planting of 1,000 ha of spekboomveld @ \$91.50 per ha = \$91,500 Baseline assessments of carbon stocks across 3,500 ha of spekboomveld @ \$415 per plot x 100 plots = \$41,480 Development and approval of simplified carbon methodology, development and validation of Project Design Documents @ \$102,000 Scientific coordination of restoration activities @ \$892 per month x 60 months = \$53,520 Engagement with land users, development of diversified livelihoods opportunities, establishment of special purpose vehicle, identification of potential purchasers of certified emissions reductions @ \$2,750 per month x 60 months = \$165,000</li> </ul>
<u>20</u>	<ul style="list-style-type: none"> <li>International SLM Financing Specialist @ \$800 per day x 50 days (inclusive of travel costs and DSA). This specialist will be responsible for the review of the cost-effectiveness of private and public expenditure on SLM practices through <i>inter alia</i> Targeted Scenario Analysis of case studies. In addition, the specialist will undertake a comprehensive study of market opportunities and value chains to identify alternative livelihood opportunities that are associated with SLM practices. Based on these studies, the specialist will</li> </ul>

	<p>develop recommendations for financing opportunities to support: i) mainstreaming of SLM into public expenditure; and ii) upscaling of SLM practices in the private sector.</p> <ul style="list-style-type: none"> <li>• International M&amp;E Specialist to conduct Mid-Term Review @ \$600 per day x 16.7 days (inclusive of travel costs and DSA; prorated across outcomes)</li> <li>• International M&amp;E Specialist to conduct Terminal Evaluation @ \$600 per day x 16.7 days (inclusive of travel costs and DSA; prorated across outcomes)</li> </ul>
<u>21.</u>	<ul style="list-style-type: none"> <li>• Local SLM/Institutional Capacity specialist @ \$500 per day x 30 days for Year 3 and 20 days for Years 4–5 (inclusive of travel costs and DSA). This specialist will be responsible for assessing the capacity of the UNCCD Focal Point/National Coordinating Body to facilitate strategic investment in SLM at the national level. In addition, the specialist will be responsible for establishing a national platform on SLM that will incorporate stakeholders from <i>inter alia</i> national and sub-national government institutions, private sector, academia, civil society and local communities. This specialist will coordinate engagements through the platform to ensure a coordinated approach to SLM planning and decision-making.</li> <li>• Local SLM Policy Specialist @ \$500 per day x 68 days (inclusive of travel costs and DSA). This specialist will be responsible for a comprehensive review of national and sub-national legislation, policies, strategies and plans related to SLM. This will include aspects such as environmental management, agriculture, biodiversity, soil and water conservation, climate change, land reform, carbon finance and other relevant topics. Based on this review, the specialist will be responsible for generating policy recommendations and information briefs to support the mainstreaming of SLM practices across all relevant legislation, policies, strategies and plans.</li> </ul>
<u>22.</u>	<ul style="list-style-type: none"> <li>• Project Manager @ \$14,000 p.a. x 5 years (prorated across outcomes)</li> </ul>
<u>23.</u>	<ul style="list-style-type: none"> <li>• National platform for dialogue on SLM finance and land/ecosystem rehabilitation. This will include workshops, discussion forums and other relevant means of strengthening the national dialogue on SLM practices.</li> </ul>
<u>24.</u>	<ul style="list-style-type: none"> <li>• Contribution to the costs of recruiting a 2 Technical Advisors (one to provide technical guidance on rangeland and ecosystem rehabilitation and another to provide technical advice on SLM financing and investment) for at \$600 per day for 75 days a year each.</li> </ul>
<u>25.</u>	<ul style="list-style-type: none"> <li>• Contribution to the costs of travel to project sites for project staff, M&amp;E activities.</li> </ul>
<u>26.</u>	<ul style="list-style-type: none"> <li>• Contribution towards the costs of an full-time local M&amp;E Officer who will deliver on all of the M&amp;E-related aspects under all Outcomes and will assist the PCU with project reporting, preparation for the terminal evaluation of the project and the compilation of a lessons learnt document based on the experiences of the project.</li> </ul>
<u>27.</u>	<ul style="list-style-type: none"> <li>• Finance / Administrative Officer @ \$24,000 p.a.</li> </ul>
<u>28.</u>	<ul style="list-style-type: none"> <li>• Office equipment and furniture including computers, printers, desks, chairs, telecommunications equipment, etc.</li> </ul>
<u>29.</u>	<ul style="list-style-type: none"> <li>• Phone line, stationery, internet service provider, etc.</li> </ul>
<u>30.</u>	<ul style="list-style-type: none"> <li>• Annual audit @ \$3,000 p.a.</li> </ul>
<u>31.</u>	<ul style="list-style-type: none"> <li>• DPCs</li> </ul>
<u>32.</u>	<ul style="list-style-type: none"> <li>• Inception workshop @ \$10,000</li> <li>• Lessons learned/Terminal evaluation workshop @ \$5,000</li> </ul>
<u>33.</u>	<ul style="list-style-type: none"> <li>• UNDP contribution towards PMC (Workshops and Training related to M&amp;E)</li> </ul>

## 5. MANAGEMENT ARRANGEMENTS

### 5.1 Institutional Arrangements

270. DEA is the Implementing Party for this project on behalf of the Government of South Africa, and DEA will work closely with the DAFF. The project will be implemented under the UNDP National Implementation (NIM) Modality following NIM guidelines and requirements. During the project formulation exercise, DEA identified a number of national entities as Responsible Parties<sup>78</sup>. These Responsible Parties include Rhodes University, the Council for Scientific Research and Industrial Research (CSIR)<sup>79</sup>, and the Endangered Wildlife Trust (EWT). Each of these entities will be responsible for delivering specific outputs at specific sites where the project will be operational. Draft ToRs for the Responsible Parties are attached in Annex 8.1; these ToRs will be finalised during the project inception phase. The roles of the Responsible Parties are briefly described below:

- i. *The Endangered Wildlife Trust (EWT)* is a South African environmental organisation for the conservation of threatened species and ecosystems in southern Africa. Founded in 1973, the EWT implements conservation research and action programmes, supports biodiversity and ecosystem functioning and advocates the sustainable use of natural resources. EWT establishes dedicated working groups through which the objectives of the Trust can be achieved. EWT is the only organisation that has both proven capacity to support community-based natural resource management work and a significant presence on the ground in the Karoo project site. EWT's role in the project will be to:
  - a. design and implement ecosystem rehabilitation activities in the Karoo landscape (Output 1.1);
  - b. administer the small grants facility/innovation fund in the Karoo landscape (Output 1.4);
  - c. implement the participatory SLM monitoring in the Karoo landscape (Output 1.5);
  - d. provide input into the design and implementation of the capacity-building and development programme on SLM (Outputs 2.1 and 2.2);
  - e. support the establishment and strengthening of structures for improved coordination of land-use planning and land/ecosystem rehabilitation in the Karoo landscape (Output 2.3);
  - f. provide input into the best practices guidelines for SLM practices (Output 2.4);
  - g. provide input into the GIS-based assessment of socio-ecological resilience (Output 2.5); and
  - h. support the strengthening of financing and governance frameworks relating to SLM practices (Outcome 4).
- ii. *Rhodes University* is a public research university located in Grahamstown in the Eastern Cape Province of South Africa. It is one of four universities in the province. Rhodes University's role in the project will be to:
  - a. design and implement ecosystem rehabilitation activities in the Eastern Cape landscape (Output 1.3);
  - b. administer the small grants facility/innovation fund in the Eastern Cape landscape (Output 1.4);
  - c. implement the participatory SLM monitoring in the Eastern Cape landscape (Output 1.5);
  - d. provide input into the design and implementation of the capacity-building and development programme on SLM (Outputs 2.1 and 2.2);

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<sup>78</sup> A Responsible Party is defined as an entity that has been selected to act on behalf of the Implementing Partner on the basis of a written agreement or contract to purchase goods or provide services using the project budget. In addition, the Responsible Party may manage the use of these goods and services to carry out project activities and produce outputs. All Responsible Parties are directly accountable to the Implementing Partner in accordance with the terms of their agreement or contract with the Implementing Partner. Implementing Partners use Responsible Parties in order to take advantage of their specialized skills, to mitigate risk and to relieve administrative burdens.

<sup>79</sup> Which will subcontract the Agricultural Research Council – Institute for Soil, Climate and Water – to assist with the implementation of on-the-ground-interventions.

- e. support the establishment and strengthening of structures for improved coordination of land-use planning and land/ecosystem rehabilitation in the Eastern Cape landscape (Output 2.3);
  - f. provide input into the best practices guidelines for SLM practices (Output 2.4);
  - g. provide input into the GIS-based assessment of socio-ecological resilience (Output 2.5);
  - h. oversee the development of a government-approved methodology for the generation of carbon credits through spekboomveld restoration – in collaboration with WWF-SA and Living Lands (Output 3.1);
  - i. supervise the collection of baseline carbon data for 3,500 hectares in the Baviaanskloof (Output 3.2);
  - j. oversee the development and verification of Project Design Documents for a Baviaanskloof Programme of Activities/Grouped Project – in collaboration with WWF-SA and Living Lands (Output 3.3);
  - k. facilitate the restoration of 1,000 hectares of spekboomveld in the Baviaanskloof – in collaboration with WWF-SA and Living Lands (Output 3.4); and
  - l. support the strengthening of financing and governance frameworks relating to SLM practices (Outcome 4).
- iii. *Council for Scientific Research and Industrial Research (CSIR)* – is one of the leading scientific and technology research, development and implementation organisations in Africa. It undertakes directed research and development for socio-economic growth. Constituted by an Act of Parliament in 1945 as a science council, the CSIR undertakes directed and multidisciplinary research, technological innovation as well as industrial and scientific development to improve the quality of life of the country's people. The CSIR's shareholder is the South African Parliament, held in proxy by the Minister of Science and Technology. CSIR's role in the project will be to:
- a. design and implement ecosystem rehabilitation activities in the Karoo landscape (Output 1.3);
  - b. administer the small grants facility/innovation fund in the Olifants landscape (Output 1.4);
  - c. implement the participatory SLM monitoring in the Olifants landscape (Output 1.5);
  - d. provide input into the design and implementation of the capacity-building and development programme on SLM (Outputs 2.1 and 2.2);
  - e. support the establishment and strengthening of structures for improved coordination of land-use planning and land/ecosystem rehabilitation in the Olifants landscape (Output 2.3);
  - f. provide input into the best practices guidelines for SLM practices (Output 2.4);
  - g. provide input into the GIS-based assessment of socio-ecological resilience (Output 2.5); and
  - h. support the strengthening of financing and governance frameworks relating to SLM practices (Outcome 4).

271. The project will be implemented by the Department of Environmental Affairs (DEA) following a combination of United Nations Development Group's HACT modalities. DEA will sign the Project Document with UNDP and be responsible for the efficient and effective use of project resources and the achievement of project goals, objectives, and outcomes according to the approved work plan and budget. Specific technical outputs and activities in the three pilot sites will be delivered by the three Responsible Parties as described above. DEA will therefore enter into agreement for the delivery of specific project outputs and activities with each of the Responsible Parties as appropriate.

272. Day-to-day operational oversight will be ensured by DEA. The UNDP Country Office will support the project's implementation by maintaining the project budget and project expenditures, contracting project personnel, experts and subcontractors, carrying out procurement, and providing other assistance to the Implementing Agency (DEA), as required and in so doing, applying the cost recovery principle (through the DPC – Direct Project Costs). Full UNDP cost-recovery policy will be applied to those recruitments, procurement processes and services requested by DEA to UNDP<sup>80</sup>. The UNDP Country

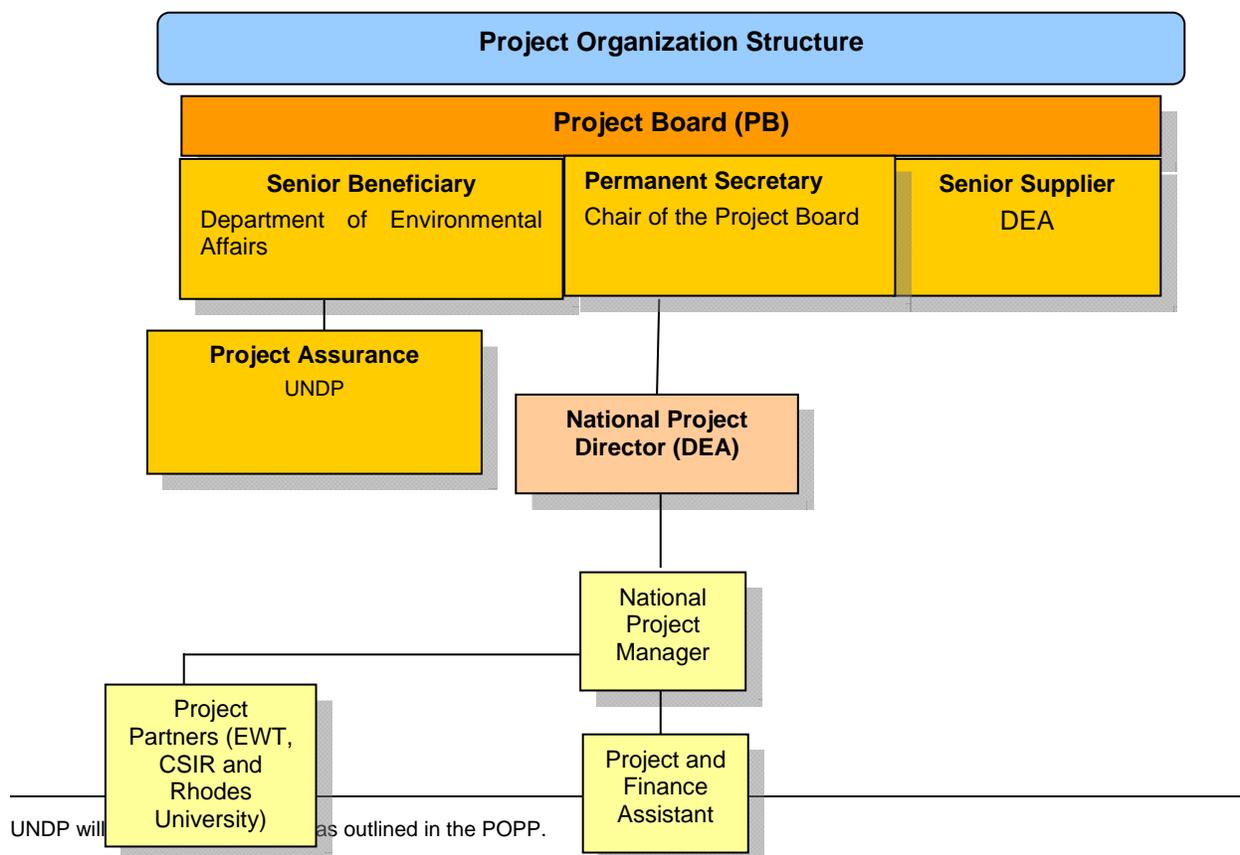
<sup>80</sup> A Letter of Agreement (LoA) between the Government of South Africa and UNDP would specify the nature of project services that

Office will also monitor project outputs and ensure the proper use of UNDP/GEF funds. Financial transactions, reporting and auditing will be carried out in compliance with the national regulations and UNDP rules and procedures.

273. Project activities will be undertaken by the Responsible Parties in collaboration with the relevant governmental, non-governmental, parastatal, private sector and community-based entities. The Implementing Partner will remain accountable to UNDP for the delivery of agreed outputs, and for financial management, including the cost-effectiveness of project activities. Since the project is fairly large and will involve substantial coordination of different stakeholders from a variety of land-use sectors in the project sites, a small Project Management Unit (PMU) will be set up to coordinate the implementation of the project on a day-to-day basis. The PMU will be composed of a Project Manager who will also be responsible for coordinating the delivery of technical project outputs, supported by a Finance and Administration Assistant.

## 5.2 Project Implementation Arrangements

274. The duration of the project will be five (5) years. The Project will comprise the following management, oversight and coordination structures: (i) A Project Board with strategic decision-making, non-executive powers, which will tentatively be composed of representatives of the key project partners and key relevant stakeholders as appropriate. The Directorate of the Department of Environmental Affairs will be responsible for formerly coordinating the appointment of Project Board members, and ensure equitable representation of relevant institutions in the project decision-making structures. Other members may be co-opted at the discretion of the permanent membership. The project coordinators from other partner projects, including GEF-funded projects, will be invited to participate in sessions as observers to ensure proper project coordination and cross-fertilization if necessary. (ii) The Project Management Unit (PMU) will be responsible for directing, supervising and coordinating project implementation on a day-to-day basis. The PMU will be located within the DEA offices.



275. Administrative and professional personnel collaborating as advisors will interact on an on-going basis with the PM and the PMU technical and professional teams, according to needs arising during project implementation. An important and common part of the staff TORs will be to identify measures on how to sustain the capacity development activities and results beyond the project duration. The initial part of these measures will be integrated into the project work plans.

276. The Endangered Wildlife Trust, Rhodes University, and CSIR will serve as key technical and responsible parties. Each organisation will be responsible for implementing project activities as described in the project document and budget in different sites and as agreed with DEA (see ToRs in Annex 8.1). Services, payments and other details will be described through a comprehensive Project Cooperation Agreement/Contract between DEA and each of the Responsible Parties to be initiated and finalized during the project's inception phase.

#### *Financial and other procedures*

277. The Responsible Parties will report to the Implementing Partner on a quarterly basis, utilising the FACE and HACT mechanisms providing both a financial report and a narrative report. The Implementing Partner (DEA), through the PMU, will compile the inputs and report to UNDP along with the request for cash advances. Direct Payments will be made, where applicable, by UNDP to the Responsible Parties, on behalf of, and as requested by DEA. In the case of Government procurement, Government procurement rules apply as long as they do not contravene UNDP's, while UNDP rules will apply in the case of Country Office support to NIM.

278. Based on the services offered by the Responsible Parties on behalf of the Implementing Partner (DEA), UNDP will make Direct Payments to vendors for obligations and expenditures incurred by the IP to support activities agreed in the work plan.

#### *Audit Clause*

279. Audit will be conducted according to UNDP Financial Regulations and Rules and applicable Audit policies (only).

280. A 3-month Inception Phase will be used to carefully plan the whole project implementation process, culminating in the Inception Workshop. In addition, the necessary communication structures will be established between the main project components and partners to ensure optimal coordination and that key stakeholders are in full agreement with project objectives and hence committed towards the outcomes to be achieved.

281. UNDP will provide technical support to the PMU

282. At the end of each three-month period, the PMU will submit a report on activities and a financial report for expenses incurred along with a request for funds for the next period. UNDP will also facilitate communication between the PMU, the Implementing Partner, Responsible Parties and the GEF as and if required.

## **6. MONITORING FRAMEWORK AND EVALUATION**

283. The project will be monitored through the following M&E activities. The M& E budget is provided in the table below.

284. *Project start:* A Project Inception Workshop will be held within the first 3 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and program advisors as well as other relevant stakeholders. The participation of technical experts responsible for supporting project design will be critical to inception workshop success. These experts will help make certain that bridging between project design and implementation is seamless. The Inception Workshop is crucial to building ownership for the project results and to plan the first year Annual Work Plan (AWP).

285. *The Inception Workshop will address a number of key issues including:* (a) Assist all partners to fully understand and take ownership of the project; (b) Detail the roles, support services and complementary responsibilities of staff vis à vis the project team; (c) Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms; (d) Discuss the Terms of Reference for project staff as needed; (e) Finalise the first AWP based on the project results framework and the relevant GEF Tracking Tool if appropriate; (f) Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks; (g) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements and agree on schedule the M&E work plan and budget; (h) Discuss financial reporting procedures and obligations, and arrangements for annual audit; and (i) Plan and schedule Project Board meetings And clarify roles and responsibilities of all project organization structures. The first Project Board meeting should be held within the first 2 months following the inception workshop.

286. An Inception Workshop Report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

287. *Project Implementation Work Plan:* Immediately following the inception workshop, the project will be tasked with generating a strategic work plan. The work plan will outline the general timeframe for completion of key project outputs and achievement of outcomes. The work plan will map and help guide project activity from inception to completion. To ensure smooth transition between project design and inception, the inception workshop and work planning process will benefit from the input of parties responsible for the design of the original project, including, as appropriate, relevant technical advisors.

288. *Quarterly:* Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform. Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical). Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot. Other ATLAS logs can be used to monitor issues, lessons learned etc. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

289. *Annually (Annual Project Review/Project Implementation Reports (APR/PIR)):* This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

290. The APR/PIR includes, but is not limited to, reporting on the following: (a) Progress made toward project objective and project outcomes – each with indicators, baseline data and end-of-project targets (cumulative); (b) Project outputs delivered per project outcome (annual); (c) Lesson learned/good practice; (d) AwP and other expenditure reports; (e) Risk and adaptive management; (f) ATLAS QPR; (g) Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

291. *Periodic Monitoring through site visits:* UNDP CO and the UNDP RCU will conduct visits to project sites based on the agreed schedule in the project's Inception Report/AWP to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit

Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no more than one month after the visit to the project team and Project Board members.

292. *Mid-term of project cycle:* The project will undergo an independent Mid-Term Evaluation during mid-point of project implementation (project months 34 - 36). The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization and terms of reference of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. This independent expert will be recruited at least six months prior to the planned commencement of the mid-term evaluation. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the [UNDP Evaluation Office Evaluation Resource Center \(ERC\)](#). The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

293. *End of Project:* An independent Final Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

294. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the [UNDP Evaluation Office Evaluation Resource Center \(ERC\)](#). The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation.

295. During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

296. *Learning and knowledge sharing:* Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyse, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

### M& E workplan and budget

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project team staff time</i>	Time frame
Inception Workshop and Report	<ul style="list-style-type: none"> <li>▪ Project Manager</li> <li>▪ UNDP CO, UNDP CCA</li> </ul>	Indicative cost: 10,000	Within first two months of project start up
Measurement of	<ul style="list-style-type: none"> <li>▪ UNDP CCA RTA/Project</li> </ul>	To be finalized in	Start, mid and end

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project team staff time</i>	Time frame
Means of Verification of project results.	Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members.	Inception Phase and Workshop.	of project (during evaluation cycle) and annually when required.
Measurement of Means of Verification for Project Progress on <i>output and implementation</i>	<ul style="list-style-type: none"> <li>▪ Oversight by Project Manager</li> <li>▪ Project team</li> </ul>	To be determined as part of the AWP's preparation.	Annually prior to ARR/PIR and to the definition of AWPs
ARR/PIR	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> <li>▪ UNDP CO</li> <li>▪ UNDP RTA</li> <li>▪ UNDP EEG</li> </ul>	None	Annually
Periodic status/ progress reports	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> </ul>	None	Quarterly
Mid-term Evaluation	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> <li>▪ UNDP CO</li> <li>▪ UNDP RCU</li> <li>▪ External Consultants (i.e. evaluation team)</li> </ul>	Indicative cost: 40,000	At the mid-point of project implementation.
Final Evaluation	<ul style="list-style-type: none"> <li>▪ Project manager and team,</li> <li>▪ UNDP CO</li> <li>▪ UNDP RCU</li> <li>▪ External Consultants (i.e. evaluation team)</li> </ul>	Indicative cost : 40,000	At least three months before the end of project implementation
Project Terminal Report	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> <li>▪ UNDP CO</li> <li>▪ local consultant</li> </ul>	5,000	At least three months before the end of the project
Audit	<ul style="list-style-type: none"> <li>▪ UNDP CO</li> <li>▪ Project manager and team</li> </ul>	Indicative cost: 9,000	Yearly
Visits to field sites	<ul style="list-style-type: none"> <li>▪ UNDP CO</li> <li>▪ UNDP RCU (as appropriate)</li> <li>▪ Government representatives</li> </ul>	For GEF supported projects, paid from IA fees and operational budget	Yearly
<b>TOTAL indicative COST</b> Excluding project team staff time and UNDP staff and travel expenses		US\$ 104,000 (+/- 2.5% of total budget)	

#### *Communications and visibility requirements*

297. Full compliance is required with UNDP's Branding Guidelines. These can be accessed at <http://intra.undp.org/coa/branding.shtml>, and specific guidelines on UNDP logo use can be accessed at: <http://intra.undp.org/branding/useOfLogo.html>. Amongst other things, these guidelines describe when and how the UNDP logo needs to be used, as well as how the logos of donors to UNDP projects needs to be used. For the avoidance of any doubt, when logo use is required, the UNDP logo needs to be used alongside the GEF logo. The GEF logo can be accessed at: [http://www.thegef.org/gef/GEF\\_logo](http://www.thegef.org/gef/GEF_logo). The UNDP logo can be accessed at <http://intra.undp.org/coa/branding.shtml>.

298. Full compliance is also required with the GEF's Communication and Visibility Guidelines (the "GEF Guidelines"). The GEF Guidelines can be accessed at: [http://www.thegef.org/gef/sites/thegef.org/files/documents/C.40.08 Branding the GEF%20final\\_0.pdf](http://www.thegef.org/gef/sites/thegef.org/files/documents/C.40.08_Branding_the_GEF%20final_0.pdf). Amongst other things, the GEF Guidelines describe when and how the GEF logo needs to be used in project publications, vehicles, supplies and other project equipment. The GEF Guidelines also describe other GEF promotional requirements regarding press releases, press conferences, press visits, visits by Government officials, productions and other promotional items.

299. Where other agencies and project partners have provided support through co-financing, their branding policies and requirements should be similarly applied.

## **7. LEGAL CONTEXT**

300. This document together with the CPAP signed by the Government and UNDP which is incorporated by reference constitute together the instrument envisaged in the [Supplemental Provisions](#) to the Project Document, attached hereto.

301. Consistent with the above Supplemental Provisions, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

302. The implementing partner shall:

- a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- b) assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

303. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

304. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via <http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

## **8. ANNEXES**

Please see separate document containing annexes.