

Country

Lesotho

Section I. Information on the targets being pursued at the national level

- My country has adopted national biodiversity targets or equivalent commitments in line with the Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets
- My country has not adopted national biodiversity targets and is reporting progress using the Aichi Biodiversity Targets for reference. (Move to section II. In section III, the Aichi Biodiversity Targets should be used for the purpose of this report as the national targets and progress should be assessed towards their achievement in the national context.)
- My country has adopted national biodiversity targets but chooses to report progress using the Aichi Biodiversity Targets for reference.

Section II. Implementation measures, their effectiveness, and associated obstacles and scientific and technical needs to achieve national targets

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Implementation of Integrated Catchment Management in Lesotho

NBSAP Objective: Design measures that will protect threatened habitats and ecosystems such as the alpine bogs and mires and the afro-alpine ecosystems of the highest mountains of the sub-region.

Key concerns for catchment management in Lesotho include addressing the causes of, and preventing, land degradation and soil erosion, and the lack of water management (including water conservation and storage) With this initiative Lesotho is planning to contribute towards effective implementation of Integrated Catchment Management (ICM) through improved coordination among stakeholders involved in natural resources management for their sustainable use by:

- Putting in place institutional and legal reforms;
- Development of baseline assessment (by Department of Water Affairs (DWA) and other relevant stakeholders such as Ministry of Agriculture and Food Security (MAFS) , Ministry of Forestry Range and Soil Conservation (MFRSC) for the 6 selected pilot catchments;
- Development of Catchment management plans (developed by communities within particular catchment on the basis of their priorities, needs and resources) for each area for future development;
- Implementation of catchment management plans;
- Consolidation and dissemination of lessons learnt from pilot catchments; and
- Development of guidelines for up scaling ICM from pilot catchments.
- Design measures that will protect threatened habitats and ecosystems such as alpine bogs, mires and afro-alpine ecosystems of the highest mountains of the sub-region.

The plan was to delineate 6 hydrological boundaries into manageable catchments, operationalize ICM in 6 pilot-catchments, and put in place legal and institutional frameworks.

Aichi Biodiversity target(s)

- 5. Loss of habitats
- 9. Invasive Alien Species
- 10. Vulnerable ecosystems
- 14. Essential ecosystem services

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- - Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The effectiveness above is based on partial indicators following evaluation of the progress made to date against what was planned. Inputs from stakeholders and reports indicate that the country has been delineated into 74 sub-catchments; the ICM framework has been developed and partially operationalized and tested through operationalization of the proposed institutions in Likhetlane and Makhalaneng sub-catchments. The readiness agenda has been developed, and the ICM organisational structure has been approved by Cabinet with subsequent formalization of ICM Coordination Unit.

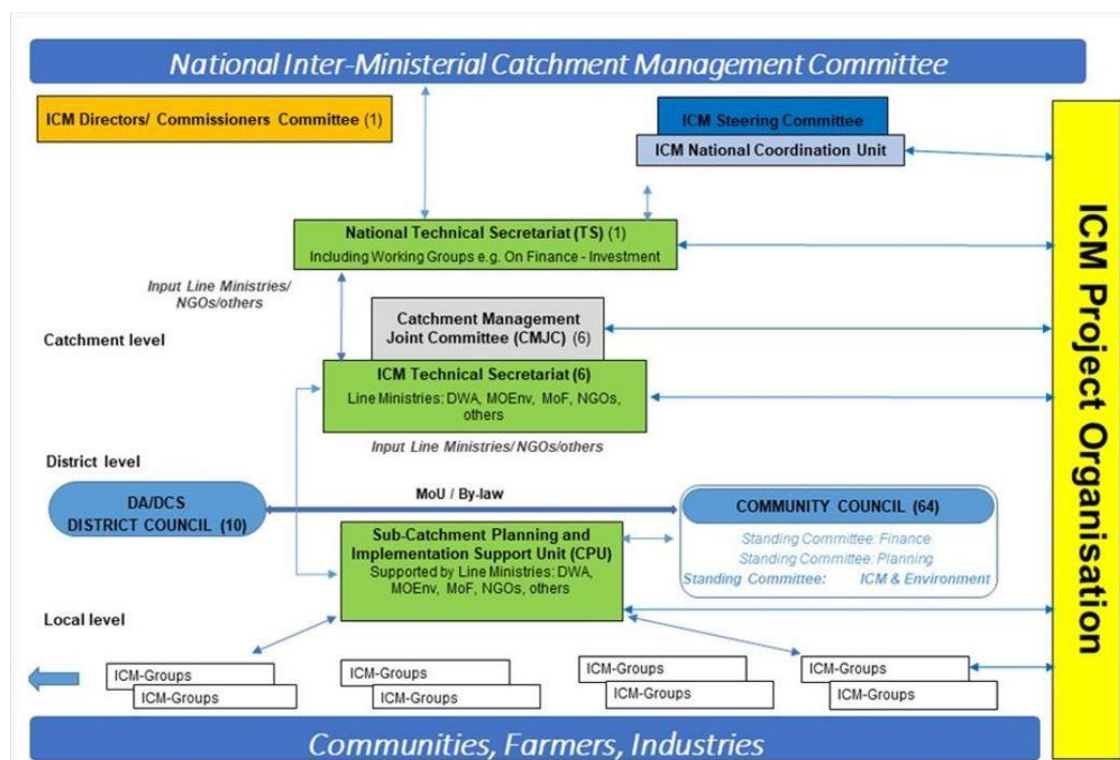


Figure 1: Structure for implementing Integrated Catchment Management in Lesotho

There is still work in progress towards approval of ICM guidelines by directors from relevant line ministries. The financing agreement was only signed on 29th March 2019, and there must be countrywide sensitization, publicising and full scale implementation of the ICM programme. Following a thorough study of the conditions and problems in the Makhaleng pilot catchment, an

option assessment was carried out in close coordination with ICM stakeholders. The objective was to understand what adjustments and/or mitigation measures/activities can be implemented to reduce, prevent and restore catchment degradation, and how these can be implemented in a sustainable manner.

A list of measures/activities was prepared, with a strong focus on sustainable land management and soil conservation that can be deployed to mitigate and restore river basin degradation. This list has been discussed with the local stakeholders during the ICM workshop in Maseru (February 1, 2018). The suggestions for applicability for specific land use / slope combinations have been checked and amended, and the applicability of the options for Lesotho discussed. The result is a list of activities as depicted in **Table 1**.

Based on the recommendations, specific measures can be selected and assigned to identify land use / slope combinations within selected sub-catchments in Lesotho. As an example, the method has been applied to the Makhalaneng PSC (Annex 11 in Final Report ICM Lesotho Vol. II). The table below shows measures undertaken for watershed improvement in Makhalaneng PSC.

Table: 1. Watershed Improvement for Makhalaneng PSC (ha)

| <i>activity / measure</i> | <i>Conditions</i> | <i>area</i> | <i>implementation area</i> ^[1] |
|---|------------------------|--------------|---|
| Terracing / contouring | | | |
| Contouring / Strip Cropping | slope < 3% | 36 | 36 |
| Benches (grassed) [Level terraces] | slope 3- 8% | 294 | 294 |
| Fanya Juu [Graded terraces] | slope 3 to 15% | 4,674 | 4,674 |
| Bench terraces | slope 15 to 50% | 646 | 646 |
| Contour drains | slope > 8% | 2,706 | 2,706 |
| Stone lines | slope > 15% | 308 | 308 |
| Cut off drains / diversions | slope > 3%** | 470 | 470 |
| Cross weirs / donga measures | | total | implementation |
| Reshaping and sowing/sodding Dongas | all slopes, LULC donga | 75 | 75 |
| Brushwood check dam / Arc weir check dam | all slopes, LULC donga | 75 | 75 |
| Gabion check dam construction and maintenance | all slopes, LULC donga | 75 | 75 |
| Wetlands / area closure / water Quality | | total | implementation |
| Wetlands: protection and Restoration | all slope classes | 22 | 22 |
| Wetlands: create safe livestock drinking places | all slope classes | 22 | 22 |
| Wetlands: area closure | all slope classes | 22 | 22 |
| Area closure - pegging of riparian Zones | riparian zones*** | - | - |
| Gully/donga area closure – fencing | all slope classes | 75 | 75 |
| Livestock / range management | | total | implementation |
| Establish grazing associations | all slope classes | 12,745 | 12,745 |
| High density grazing/rotation | all slope classes | 12,745 | 12,745 |
| Removal of invasive species, Sowing | all slope classes | 12,745 | 12,745 |
| Livestock improvement schemes | all slope classes | 14,120 | 14,120 |
| Fodder production | all slope classes | 1,375 | 1,375 |
| Value chain for livestock | all slope classes | 1,375 | 1,375 |

| <i>activity / measure</i> | <i>Conditions</i> | <i>area</i> | <i>implementation area</i> ^[1] |
|-------------------------------|-------------------|--------------|---|
| Terracing / contouring | | | |
| Agricultural extension | | total | |
| Acidic soil treatment | from zones table | 6,769 | For activities under Agricultural |
| Agro-forestry promotion | from zones table | 6,769 | |

| | | | |
|--|------------------|--------|--|
| Nurseries: like biodiversity nursery, bamboo nursery | from zones table | 18,716 | Extension the Calculation of areas is not really relevant. Agricultural extension should be strengthened and training on the relevant subjects given; resources allocated for Agric Extension in general allocated |
| Moringa tree or other useful indigenous trees | from zones table | 19,100 | |
| Improved ploughing, contour ploughing | from zones table | 6,769 | |
| Business planning & management Advice | from zones table | 6,769 | |
| Compost preparation (EM application) | from zones table | 6,769 | |
| Crop residue management (on-farm use) | from zones table | 6,769 | |
| Green Manuring (vetch application etc.) | from zones table | 6,769 | |

The column 'implementation area' indicates where the measures are (still) to be implemented. The concept is that this is calculated from the column 'area' which indicates the area where the measures are recommended by subtracting the area where the measures or similar measures are already in place. In this case the latter information was missing, so both columns show the same values for now.

Relevant websites, links, and files:

English | Final report ICM Lesotho vol. I and vol. II

Obstacles and scientific and technical needs related to the measure taken:

Lack of sector coordination, lack of understanding of respective roles and responsibilities, and lack of data. There is also lack of land-use policies and enforcement of regulations.

Relevant websites, links, and files:

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Reducing vulnerability from Climate Change in the Foothills, Lowlands and Lower Senqu River Valley

NBSAP Objective: Eliminate unsustainable land husbandry practices in rangelands, fisheries, forestry and agriculture to minimize adverse impacts.

With this initiative the country seeks to mainstream climate risk considerations into the land rehabilitation programme for improved ecosystem resilience and vulnerability of climate shocks; to support integration of climate change adaptation into national and subnational land use planning and decision making. The plan was to increase technical capacity of the MFRSC & relevant departments to apply up-to-date climate science for the management of evolving risks and uncertainty linked to climate change.

The outcomes of the project are as follows:

- Increased technical capacity of the Ministry of Forestry Range and Soil Conservation (MFRSC) relevant departments to apply up-to-date climate science for the management of evolving risks and uncertainty linked to climate change.

- Community empowerment with skills knowledge, partnerships and institutions for managing natural resources to reduce vulnerability to climate change and increase resilience of natural and social capital (over 7000 households with potential for upscaling to cover over 20 000 households).
- Over 50 000 hectares of land across the foothills, lowlands and the lower Senqu River Basin rehabilitate through operationalization of the climate smart land rehabilitation programme.
- National strategies for rangelands and wetlands management strengthened by the integration of climate change | variability and ecosystem management.
- NSDP mainstreamed into local development strategies to support the constituency wide adaptation of climate smart land rehabilitation programme.

Aichi Biodiversity target(s)

10. Vulnerable ecosystems

14. Essential ecosystem services

15. Ecosystem resilience

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- - Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The level of effectiveness has been based on indicators as show in the **Table 2** below
Shows effectiveness

| Outcome | Planned Target | Achievement | Percentage Achievement |
|--|--|---|---|
| | | Two baseline assessment were completed (land degradation (GIS) baseline assessment, Climate change scenario modelling and risk assessment). | |
| Increased technical capacity of the Ministry of Forestry Range and Soil Conservation (MFRSC) relevant departments to apply up-to-date climate science for the management of evolving risks and uncertainty | Undertake technical capacity assessment. Engagement of socio-economic consultant. Reviewing and mainstreaming of ten technical guidelines by | Various trainings were facilitated by experts for technical staff on climate change and land degradation data collection and monitoring processes. In total 80 technical officers of the MFRSC staff and stakeholder departments were trained as follows: 35 in climate change scenario modelling and risk assessment, 19 in land degradation assessment by GIS and 26 in land degradation monitoring courses. Baseline reports have been disseminated to stakeholders in soft, copies, hard copies, printed books and CD's. | The activity has achieved 100% of the planned target. |

| | | | |
|---|--|---|---|
| linked to climate change. | climate change risk considerations. | | |
| | | Maps that inform planning of catchment rehabilitation have been produced | |
| Community empowerment with skills knowledge, partnerships and institutions for managing natural resources to reduce vulnerability to climate change and increase resilience of natural and social capital | The overall baseline and target for the three Community Councils; Khoelenya, Lithipeng and Thaba-Mokhele was 41.9% to 71.67 Capacitation of at least 10 technical staff on Climate Change adaptation, Ecosystems restoration and management | The achievement was 60.8 % Seven (2 males and 5 females) technical staff attended an international no-till conference in Kwazulu Natal to learn latest approaches and researches on conservation agriculture and land management strategies that can be replicated in the project site. Following the training, a District agricultural officer and the lead farmers that attend training pledged to provide demonstration plots | There was an overall achievement of 18.9% which falls below the target by 11.07% . It has achieved 88.93 % of the set target. |
| | | used for conducting farm trials and demonstration. | |
| Over 50 000 hectares of land across the foothills, lowlands and the lower Senqu River Basin rehabilitate through operationalization of the climate smart land rehabilitation Programme | 50 000 of land under climate smart LRP By 2020. | Total of 14,323 ha (29%) of land under rehabilitation/ protection or better management on rangelands and crop lands. | Based on planned quarterly targets of 5247 ha the activity is on target. |
| National strategies for rangelands and wetlands management strengthened by the integration of climate change/variability and ecosystem management. | National strategies for rangelands, croplands, and wetland management revised to include climate risk consideration. | Consultancy support to Development Planning for development of guidelines for mainstreaming climate change into sectoral and local policies, strategies were developed and completed. Consultancy for mainstreaming Climate change risk considerations in the NSDP II was completed. | The activity is 100% achieved according to plan. |
| NSDP mainstreamed into local development strategies to support the constituency wide adaptation of climate smart land rehabilitation programme. | To develop at least two policy guidelines for incorporating climate science in the review/ formulation processes on national sectoral strategies by 2019 | Consultancy for mainstreaming Climate change risk considerations in the NSDP II was completed. | NSDP II has been completed with full climate change mainstreaming. The NSDP to be incorporated to local policies and local strategies |

In total, the measure has achieved 87.79 % effectiveness as per the above Table. Due to the fact that targets for outcome 1, 3 and 4 were fully attained in planned time. On the other hand targets for outcomes 2 and 5 were partially met as they only reached 88.93% and 50% respectively.

Assessment on gender integration

Figure 2:

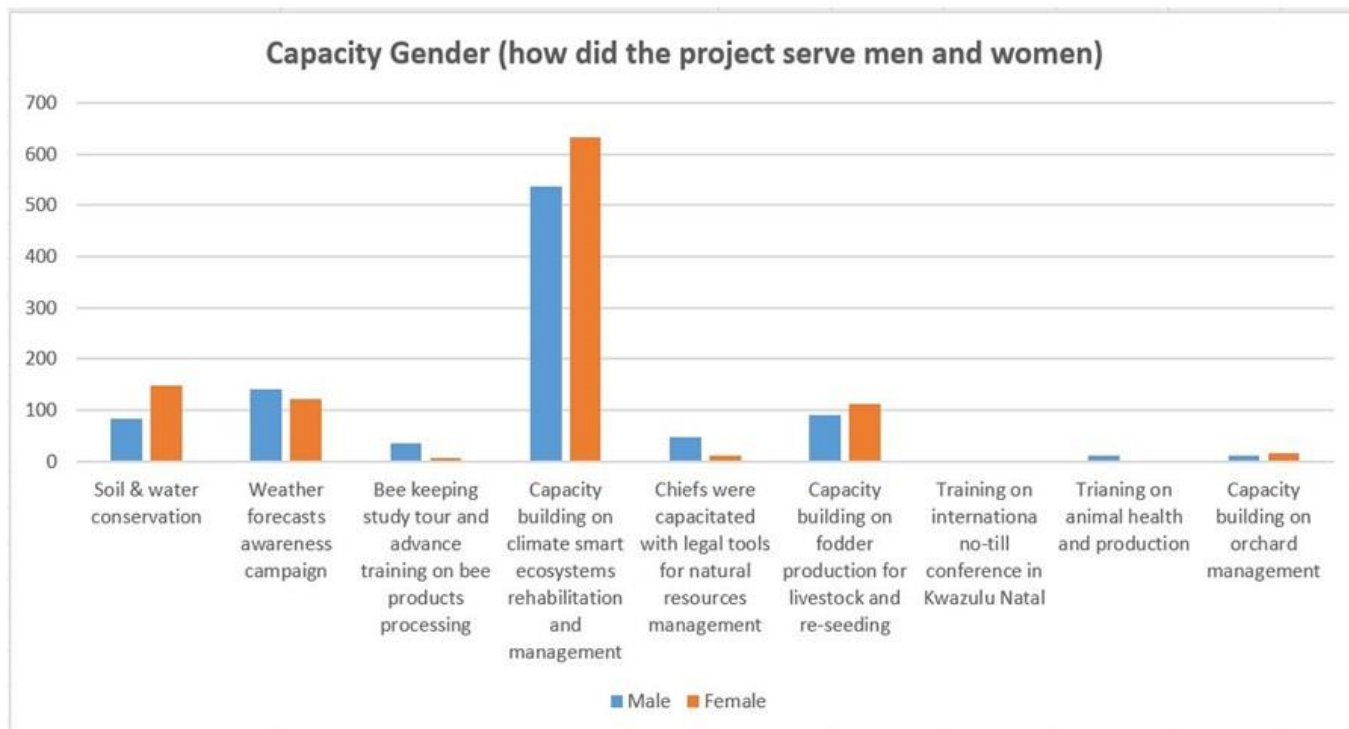


Table 3: Showing Assessment of Gender integration

| Gender Mainstreaming | | |
|---|------|--------|
| Trainings | Male | Female |
| Soil & water conservation | 82 | 147 |
| Weather forecasts awareness campaign | 140 | 121 |
| Bee keeping study tour and advance training on bee products processing | 35 | 5 |
| Capacity building on climate smart ecosystems rehabilitation and management | 538 | 632 |
| Chiefs were capacitated with legal tools for natural resources management | 47 | 11 |
| Capacity building on fodder production for livestock and re-seeding | 91 | 112 |
| Training on international no-till conference in Kwazulu Natal | 1 | 1 |
| Training on animal health and production | 10 | 0 |
| Capacity building on orchard management | 12 | 15 |

Relevant websites, links, and files:

English | RVCC 2018 ANNUAL REPORT.doc

Obstacles and scientific and technical needs related to the measure taken:

There are no technical, scientific and financial obstacles identified.

Relevant websites, links, and files:

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| <p>Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.</p> |
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Title of Measure: Strengthening Capacity for Climate Change Adaptation through Support to Integrated Watershed Management.

NBSAP Objective: Eliminate unsustainable land husbandry practices in rangelands, fisheries, forestry and agriculture to minimize adverse impacts.

The specific objectives of the project are: to implement sustainable land and water management practices (SLM/W) and resource conservation measures in selected watersheds to reduce vulnerability and enhance adaptive capacity at community level; and to strengthen diversified livelihood strategies focusing on crop, livestock and agro-forestry systems at community level in selected watersheds in three most vulnerable livelihood zones. The main outcomes of the project are:

- Strengthened technical capacity in the Ministry of Forestry Range and Soil Conservation (MFRSC), Ministry of Agriculture and Food Security (MAFS), Ministry of Energy and Meteorology (MEM), Ministry of Local Government and Chieftainship (MLGC), Disaster Management Authority (DMA) and the National University of Lesotho (NUL) at national and district levels and community representatives on climate change adaptation and integrated watershed management.
- Improved data, tools and methods for assessment of impact of climate change on land suitability and land use, vulnerability and risk at the national/district level implemented focusing on most vulnerable watersheds.
- Sustainable land and water management practices (soil erosion control, soil and water conservation, water harvesting, run-off reduction, vegetative cover, range resource management) successfully adopted in selected watershed and catchments. (Total beneficiaries – 1200 households and 4800 individuals and total area covered will be 2400 hectares).
- Diversified livelihood strategies and small scale and household level income generating activities successfully demonstrated and adopted by 24 target communities. Benefiting 750 and households (3000 individuals). Area covered under this investment 375 hectares).
- Stakeholders and communities aware of improved SLM/W practices, livelihood diversification and household level income generating practices through wide dissemination.

Aichi Biodiversity target(s)

7. Areas under sustainable management

10. Vulnerable ecosystems

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- - Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The assessment of the effectiveness is based on expert opinion and indicators with regard to information from officials and project implementation report as follows:

Table 4:

| Outcome | Planned Target | Achievement | Level of Implementation |
|--|---|---|-------------------------|
| Strengthened technical capacity in MFRSC, MAFS, MEM, MLGC, DMA and NUL at national and district levels and community representatives on climate change adaptation and watershed management | The national and district level staff are capable of implementing the adaptation projects and programmes. | Curriculum and training manual were developed and mainstreamed in Government's regular capacity development plans. Using the manuals 60 district technical staff was trained on climate change adaptation in the agriculture sector; watershed integrated management; vulnerability and risk assessment; alternative livelihoods and use of spatial information products for watershed management. Capacity needs assessment for implementation of Farmer Field Schools (FFS) extension approach was conducted. 82 technical staff and 106 communities were trained on FFS methodology in three districts. To mainstream gender into the project operations and empower vulnerable segments of the project beneficiaries, Training of | Satisfactory |
| | | Trainers (ToT) on Prevention of Sexual Exploitation and Abuse was provided to 29 participants. | |
| Improved data, and tools methods for assessment of impact of climate change on | Government agencies share the data to users and data sets are effectively used for | Land suitability assessment was completed. A readily | |

| | | | |
|---|---|---|----------------------|
| <p>land suitability and land use, vulnerability and risk at the national/district level implemented focusing on most vulnerable watersheds</p> | <p>decision making. Comprehensive database available for use At least 30 national level staff trained.</p> | <p>accessible database to facilitate appropriate use of this knowledge resource is in place.</p> | <p>Satisfactory</p> |
| <p>Sustainable land and water management practices (soil erosion control, soil and water conservation, water harvesting run-off reduction, vegetative cover, range resource management) successfully adopted in selected watershed and catchments. (Total beneficiaries – 1200 households and 4800 individuals and total area covered will be 2400 hectares).</p> | <p>The SLM/W practices are successfully demonstrated in all selected 24 communities (at least 75% have adopted SLM/W practices)</p> | <p>SLM/W practices were implemented in three districts on sites jointly selected by Communities in 3 districts and service providers. Range Resources Management Techniques: 6 x workshops were conducted for community members on improved range resources management. 8 grazing associations have been formed and legally registered (1, 3 and 4 for Thaba-Tseka, Quthing and Mafeteng respectively). Participatory range inventory was undertaken and a grazing plan was developed with Moqalo Grazing Association in Quthing. Rangeland rehabilitation comprised: brush control in 23.53 Ha (5.63Ha in Thaba-Tseka and 17.9Ha in Quthing) and Reseeding Eragrostis curvula in 2.5 Ha at Ha Robi, Quthing. Conservation Agriculture (CA)</p> | <p>Satisfactory.</p> |
| | | <p>a) Planting in basins (potholes) 305 CA farmers (85 Thaba-Tseka, 86 Quthing and 134 Mafeteng) engaged in non-mechanized CA (potholing) for production of open pollinated maize and planters distributed in the three project districts accompanied by training and demonstrations on their use. Interested farmers access these implements through the Agricultural Resource Centres. Other soil and water conservation practices introduced and demonstrated in the project area include construction of infiltration furrows and swales.</p> | |

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| | | <p>Fire management: 240 metres fire belt was demonstrated and constructed at Ha Patsa, Mafeteng.</p> <p>Wetland Protection: Ha Joele and Ha Patsa communities benefited from ecosystems services of a protected wetland through harvesting grass by herders and stall feeding their animals. Wild life, reeds (thatch) and medicinal plants were reported to have re-appeared.</p> <p>Water harvesting: 17 roof water tanks were built (15 in Mafeteng and 2 in Quthing).</p> <p>One (1) standalone community tank was constructed in Quthing.</p> <p>Fodder Crops:</p> | |
| | | 0.76Ha of barley was planted in Quthing | |
| <p>Diversified livelihood strategies at household level income generally successfully demonstrated at communities. Benefiting 750 and households covered under this investment (375 hectares).</p> | <p>At least 60% of the selected communities household income by 40% (3 – 4) moderate to secure access to livelihood assets</p> <p>Adaptation Monitoring Assessment (AMA)</p> | <p>Vegetable Production: 253 Keyhole Gardens (KHG) were constructed and seeded with Swiss chard, carrots, onion.</p> <p>Protection shade net production: 30 farmers produce vegetables under 1 in their backyard gardens. They have observed protection from the weather frost, excessive heat, as well as from b</p> <p>Fruit Production. 11 000 fruit tree seedlings were distributed and planted in three districts. The trees are planted in individual households, communal orchards and sc</p> <p>Poultry and Piggery: Interested and identified trained on poultry and piggery.</p> <p>Post-harvest management and small scale food</p> | <p>Satisfactory.</p> |

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|---|--|---|--------------------------|
| | | Communities in 3 areas were trained to offset postharvest wastage; prolong and nutritious food during the offseason. | |
| | | <p>Income Generating Activities (IGAs) Savings and Internal Lending Communities (SILC):</p> <p>a letter of agreement has been signed between FAO and Catholic Relief Services (CRS) to train communities in the 3 districts on community based, voluntary savings and loan scheme. CRS is engaged for 1 year from March 2018 to February 2019. It is expected facilitate formation and establishment of 36 SILC groups in 3 districts. Currently there 17 groups formed (3, Mafeteng, 4 Quthing and 10 Thaba-Tseka).</p> <p>Beekeeping:</p> <p>Beekeeping has been introduced in Quthing and Mafeteng.</p> <p>Identified farmers have been supported with beehives and protection equipment to pursue honey production.</p> | |
| Stakeholders and communities aware of improved SLM/W practices. livelihood diversification and household level income generating practices through wide dissemination | <p>Communication materials relevant to all successful SLM/WM practices and case studies documented and widely communicated</p> <p>The implementing partners are capable of transferring the technology to the beneficiaries.</p> <p>A systematic tracking of</p> | <p>The final draft of the communication strategy has been reviewed and adopted.</p> | Moderately satisfactory. |
| | indicators. | | |

Relevant websites, links, and files:

English | RVCC 2018 ANNUAL REPORT.doc

English | a - PIR_June 2016_July 2017.PDF

English | b - PIR_June 2017_July 2018.PDF

Obstacles and scientific and technical needs related to the measure taken:

Absence of good staff retention policy resulting in high staff turnover, political instability leads to frequent changes of senior officials. This results in loss of institutional memory and consistent oversight for project operations. In addition, delays in procurement of Goods and services/works. The project initially experienced major delays on procurement due to capacity limitations within the office admin and operations unit and limited competences of project personnel on procurement matters.

Demands for cash payments present a major challenge. Communities that have been engaged in cash based public works programmes are often reluctant to work on land rehabilitation works without pay. This results in never ending demands and expectations for the project to offer cash incentives, something at odds with the design and spirit of the project. Finally, there are weak monitoring and evaluation (M&E) frameworks. Institutions responsible for the implementation of the project are generally weak on M&E functions thus making it difficult for mainstreaming project generated lessons and good practices in their regular programming.

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| Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan. |
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Title of Measure: National Plant Genetic Resources Conservation: Support for the development of national strategies for plant genetic resources for food and agriculture.

NBSAP Objective: Control access to Lesotho's genetic resources through establishment of appropriate legislation and institutional structure

The objective of the National Plant Genetic Resources Center (NPGRC) is to acquire, conserve, evaluate, characterize, document and distribute plant genetic resource (PGR) collections and associated information to support sustainable agricultural productivity. Activities of the NPGRC include countrywide germplasm exploration and collection and germplasm conservation.

In 2014 the NPGRC undertook an assessment of plant genetic resources and on-farm conservation in five districts. The overall objective of the study was two-fold: to generate information on the status of plant genetic resources for food and agriculture in the country and to assess the status of on-farm conservation of plant genetic resources. To achieve this, a socioeconomic survey was conducted with the following specific objectives:

- Assessment of the status of plant genetic resources in the country at inter and intra-specific levels and their associated traits;
- Determination of in situ/on-farm conservation hotspots;
- Determination of the extent and underlying causes of genetic erosion;
- Determination of practices used for maintenance of plant genetic resources; and
- Practices used for conservation of plant genetic resources by farmers and traditional knowledge that guides these practices.

Aichi Biodiversity target(s)

13. Agricultural biodiversity

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- - Measure taken has been effective

Tools or methodology used for the assessment of effectiveness above

The assessment of the effectiveness above is based on indicators from project implementation. Most or all of the planned activities, were successfully implemented. There is also a detailed study which was undertaken by the Department of Agricultural Research in 2014 in which the details of participation on plant genetic resources conservation are contained.

The following outputs were expected:

- Status of plant genetic resources assessed.
- Status of on-farm conservation of plant genetic resources assessed. EN
- The extent and underlying causes of genetic erosion determined.
- Practices used for maintenance of plant genetic resources determined.
- Conservation practices and associated traditional knowledge determined

The results of the study indicate that all the expected outputs have been achieved.

Relevant websites, links, and files:

English | Lesotho pgr FA0 status report 2014 ver. 2 Final.doc

English | NPGRC GERMPLASM CATALOGUE - final.docx

Obstacles and scientific and technical needs related to the measure taken:

Due to insufficient extension assistance in remote areas, there is limited awareness raising and apparent lack of recognition of current or future value of genetic resources. Unreliable weather conditions exacerbated by climate change pose eminent threat to genetic resources. The current famine presents a major threat and the main reason for loss of genetic material since communities choose consumption over conservation under the state of compulsion presented by food scarcity. Traditional varieties are naturally disadvantaged as they tend to be underprivileged whereas improved varieties are supported due to their association with wealth status. There is also lack of detailed studies on the status of plant genetic resources in the country regarding what is lost, what exists and threatened.

Traditional Knowledge (TK) in view of traditional agricultural practices and farming systems is fading and it needs to be documented and conserved. Seed selection and storage is done traditionally, and the methods of seed storage and storage devices used may determine the vulnerability of seed to pests, diseases and physiological deterioration, thereby affecting seed potency for the next planting season. Lack of resources including technical expertise, technological inputs hinder the implementation of certain activities.

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| Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan. |
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Title of Measure: Development and Implementation of Environmental Education Strategy 2014

NBSAP Objective: Manage biodiversity through the human environment

The Strategy is intended to provide a framework for enabling a comprehensive and inclusive education tool for sustainable living and solutions for environmental issues and challenges. The main objectives of the strategy are as follows:

- To strengthen coordination and networks.
- To promote sustainability of environmental education programmes.
- To engage innovative and participatory educational processes and methods.
- To improve learning support materials.
- To mainstream indigenous knowledge and practices in environmental management.
- To promote political will and government support.

Aichi Biodiversity target(s)

1. Awareness of biodiversity values

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The measure is considered to be partially effective based on expert opinion. Although a lot of effort has been made in biodiversity awareness creation, there has not been monitoring and evaluation to assess how aware the different groups of society are of biodiversity issues. However, there are community and individual conservation efforts that have arisen, such as the snake park initiative in Qacha’s Nek, and a number of community conservation nurseries in some districts.

Table 5:

| Objective | Activity | Implementation | Assessment | Remarks |
|--|---|---|--|--|
| To strengthen coordination and networks. | Undertaking of study visits to various environmental education centres in the region. | | Comprehensive assessment of the effectiveness of the initiative is not possible due to lack of quantitative and qualitative information. | There are no reports on implementation of the planned activity |
| | | Conducted training for herders, students, traditional healers, government ministries and Community Based Organizations for ten districts. | | |

| | | | | |
|---|---|--|---|--|
| <p>To promote sustainability of environmental education programmes.</p> | <p>Implementation of the capacity building programmes.</p> <p>Undertaking of participatory monitoring and evaluation of programmes.</p> | <p>Three radio programmes on environmental education were undertaken and school environmental clubs projects.</p> <p>Three radio programmes on impacts of electronic waste on human life and the environment.</p> <p>One Radio programme on the</p> | <p>Comprehensive assessment of the effectiveness of the initiative is not possible due to lack of quantitative and qualitative information.</p> | <p>Though not well documented, a lot of awareness initiatives were undertaken.</p> |
| | | <p>impacts of hazardous waste on human health and the environment.</p> <p>Five radio programmes on biosafety and biotechnology.</p> <p>Three radio programmes on nature conservation.</p> <p>Three radio programmes on access and benefit sharing.</p> <p>Two radio programmes on Environmental Outlook Report.</p> <p>One television programme on the impacts of hazardous waste on human health and environment.</p> <p>Three TV</p> | | |

| | | | | |
|--|--|---|--|--|
| | | <p>programmes on biosafety and biotechnology.</p> <p>One TV programme on access and benefit sharing.</p> <p>Distribution of Environmental Outlook reports,</p> <p>posters on</p> | | |
| | | <p>Minamata Convention, solid waste management pamphlets, Legal notice No 93 on protected species fauna and flora, relics</p> <p>and</p> <p>monuments, environment newsletters, National Biosafety Framework brochures, environmental learning boxes to government ministries, private sectors, academia, civil society, development partner organizations.</p> <p>School environmental clubs established in 33 secondary schools in six districts.</p> | | |

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|---|--|---|--|--|
| | | District Disaster Management Teams trained on unintentional movement of organisms (Ten workshops per district). | | |
| To engage innovative and participatory educational processes and methods. | Compilation and dissemination of research reports to key stakeholders. Undertaking of | | | |
| | research on various environmental issues. | | | |
| | | Mercury Release Inventory project was undertaken. | | |
| | Undertaking of research to establish and promote indigenous knowledge systems. | | | |
| | Development and dissemination of environmental education packages. | Publication on traditional healing in Lesotho. | | |
| | Adaptation of appropriate foreign environmental education materials to local conditions. | | | |
| To improve learning support materials. | Identification of different environmental education issues to be addressed in educational materials. | | | |
| | Establishment of a data base for indigenous knowledge centre in Lesotho. | | | |

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|---|--|--|--|--|
| To mainstream indigenous knowledge and practices in environmental management. | Development of appropriate action guidelines to synchronize modern scientific knowledge with indigenous knowledge systems. | | | |
| | Undertake research to establish and promote indigenous knowledge systems. | | | |
| To promote political will and government support. | Sensitization of local government authorities including chiefs at all levels in environmental legal framework. Alignment of existing environmental education policies with the national goals and strategies. | One workshop was conducted to mainstream environmental issues into National Strategic Development Plan I and II. One presentation on the State of Environment to the Natural Resources Portfolio Committee. | | |

Relevant websites, links, and files:

English | [ESD_STRATEGY_FOR_LESOTHO.pdf](#) (Awareness)

English | [VULTURE EDUCATION AND AWARENESS 2016 REPORT.pdf](#) (Awareness)

English | [Final Minamata Initial Assessment Report for Lesotho_JR_Review_20012019 \(3\).docx](#)

Obstacles and scientific and technical needs related to the measure taken:

The technical language in Environmental thematic areas creates a communication barriers since some of the terms are not possible to translate to the local language. The strategy is implemented by the Department of Environment with other stakeholders.

The capacity to transfer environmental and biodiversity conservation message is however limited in Lesotho as there are not EN enough trained personnel (taxonomists, ecologists, biologists, and environmentally trained schoolteachers) to present biodiversity issues on a large scale. There is also inadequate research and training capacity to handle biodiversity issues. These deficiencies result from chronic past underinvestment in human capacity-building, when Government failed to appreciate biodiversity’s potential contribution to national human development.

Describe a measure taken to contribute to the implementation of your country’s national biodiversity strategy and action plan.

Title of Measure: Development and implementation of regulatory frameworks

NBSAP Objective: Evolve and review appropriate legislative tools to support biodiversity conservation and sustainable use

With this measure Lesotho intends to minimize damage to the environment and to enhance positive environmental initiatives through:

- Reviewing and strengthening of existing environmental legislation.
- Translation of laws into Sesotho to ensure community cooperation and engagement in their implementation.
- Strengthening law enforcement agencies by direct involvement of communities through their local institutions.

Lesotho's Biodiversity legislation that provides for biodiversity conservation, protected areas and for the establishment of institutional structures and mechanisms for the management of biodiversity and to provide for related matters is still in draft form as a Bill (Biodiversity Bill 2018). There is also a draft CITES law for regulation of international trade in endangered species of fauna and flora. Furthermore the Traditional Medical Practitioners Bill 2000 has been developed and awaiting enactment by Lesotho Parliament.

Lesotho has undertaken an initiative to protect unsustainably utilised fauna and flora by developing and regularly updating species list. The plants and animals are protected under the Proclamation of Monuments, Relics, Fauna and Flora Act 41 of 1967, as amended in 2004 and 2006.

The Environmental Act 2008 is being enforced. Environmental impact assessments are undertaken and evaluated as provided for in the law. From 2014 to 2018, 45 EIAs were reviewed and Records of Decisions (RoD) given, and for projects that have been allowed to go ahead, environmental management plans have been successfully implemented.

The Land Act 2010 and its regulations are being enforced. Land allocations and processing of leases are done according to the law, and the encroachment of settlements on sensitive land is controlled. The MEAs are being implemented, and the biodiversity and CITES legislation are being drafted and the Bills have been developed. Various environment and biodiversity safeguarding policies, including the Range Resources Policy of 2014 are being implemented.

The list of plants and animals under threat is periodically reviewed and updated as need arises, depending on the rate of harvest. Botanical gardens and community nurseries have also been established in Qacha's Nek, Mokhotlong and Butha-Buthe.

A Memorandum of Understanding (MOU) has been developed between MTEC and Lesotho Defence Force for collaboration on the following areas:

- Monitoring and inventory of biodiversity in army bases;
- Fire management in protected areas and escarpment along the Lesotho SA boundary;
- Aerial surveys of vulture nests and egg collection from high nests in cliffs;
- Use of drones for vulture nest monitoring;
- Snake capturing in human inhabited areas;
- Training of protected areas staff on snake catching; and
- Law enforcement on biodiversity protection along the Lesotho SA border.

An MOU between the MTEC and the Sehlabathebe National Park Community Conservation Forum (CCF) has been developed. The objective the MOU is to:

1. Legalize, maintain, and strengthen the existing framework for cooperation between the Parties for the purpose of:-
 - a) maintaining the outstanding universal value (OUV) of Sehlabathebe National Park by conserving the globally significant natural and cultural heritage of the Area; and
 - b) Contributing to economic development of the Area through sustainable use of the natural and cultural resources.

2. To attain the objective set forth in sub-Article 1, the Parties undertake to:-
 - (a) Identify those portions of the Area containing important elements of biological diversity and cultural resources and to secure their long-term conservation status by implementing and continuously updating the conservation and development plans associated with key components of the natural and cultural heritage while countering critical threats;
 - (b) Retain the area as far as may be possible in its natural state as an undivided ecosystem for the benefit of local communities, research and tourism development;
 - (c) Institute the integrated land-use planning and management programs for the area;
 - (d) Develop and expand an integrated community-based conservation and development program; and
 - (e) Jointly facilitate sustainable nature conservation, development and ecotourism investment programmes based on the natural, social and cultural resources of the Area.

Aichi Biodiversity target(s)

1. Awareness of biodiversity values
2. Integration of biodiversity values
3. Incentives
4. Use of natural resources
5. Loss of habitats
6. Sustainable fisheries
7. Areas under sustainable management
8. Pollution
9. Invasive Alien Species
10. Vulnerable ecosystems
11. Protected areas
12. Preventing extinctions

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The effectiveness is based on expert opinion and partial indicators. Some regulatory instruments are still under development, while enforcement for those that are in place is weak. There are also no legal statistics to track implementation effectiveness of the legal instruments.

Relevant websites, links, and files:

English EIA PROJECTS- 2014.docx (EIA)

English EIA PROJECTS JANUARY- MARCH 2019.docx (EIA)

English EIA PROJECTS JULY 2016.docx (EIA)

English Lesotho-Environment-Act-10-of-2008.pdf (Environment)

Obstacles and scientific and technical needs related to the measure taken:

Absence of independent environmental watchdog institutions to enforce implementation of legislation poses a major challenge. Lack of multi – sectoral integrated planning as well as political interference further deters enforcement of environmental regulatory instruments. There is also a challenge of fragmented legislation.

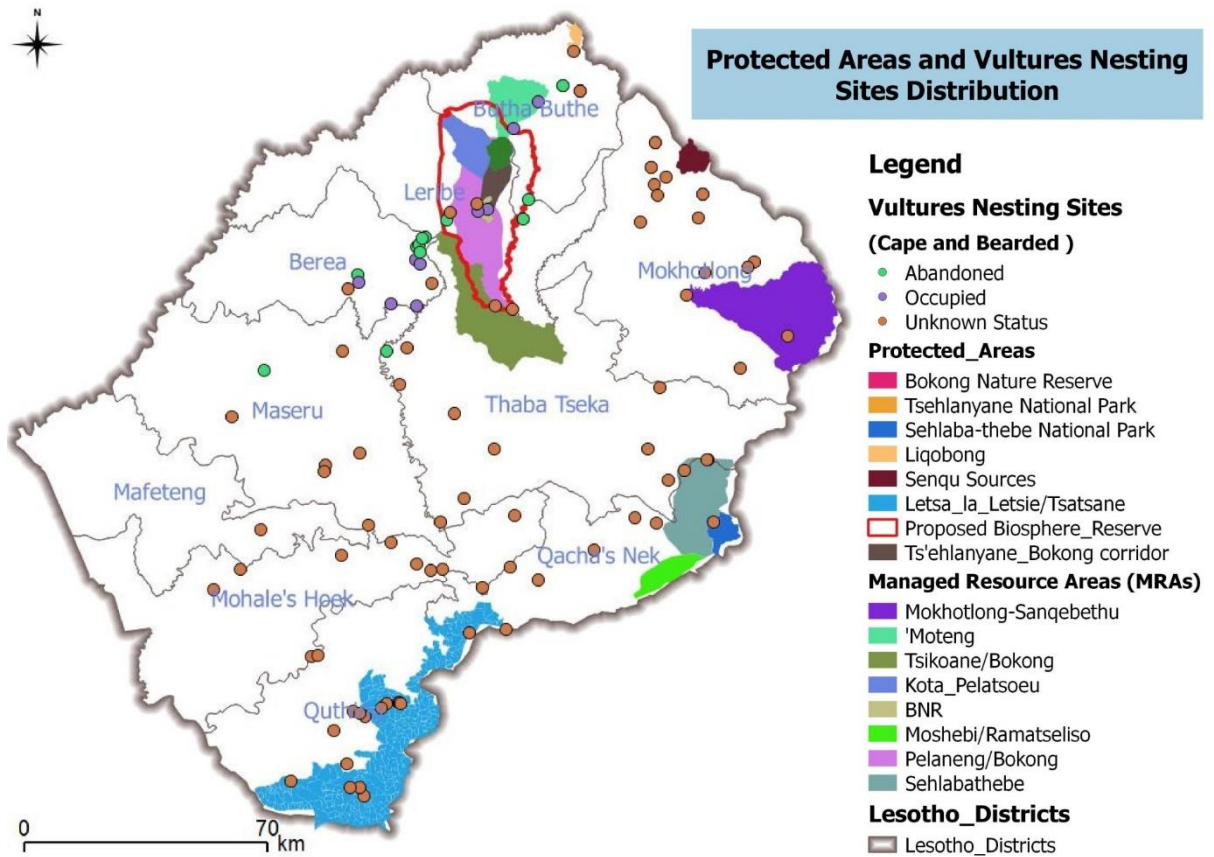
Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.**Title of Measure: The Bearded Vulture (*Gypaetus barbatus*) Conservation Program**

NBSAP Objective: Improve protection and management of threatened and endangered species

The bearded vulture (*Gypaetus barbatus*) is critically endangered in Southern Africa. Their range currently falls within the Maloti Drakensberg Mountains between Lesotho and South Africa. Their population is estimated at 368 - 408 individual birds and 109 breeding pairs as per 2018 statistics. The population has a negative growth rate, signalling a high probability of extinction within the next 50 years.

Lesotho and South Africa have jointly embarked on a Bearded Vulture Breeding Programme. The aim of the programme is to: 1) Establish and maintain a permanent, genetically diverse captive population of founder birds. 2) Produce chicks that are able to reproduce when they reach sexual maturity. 3) Produce appropriate chicks that can be reintroduced into the wild. 4) Identify a strategy for release which is the ultimate goal of the programme.

Given the population trend of the Bearded Vulture and the multiple threats to the species, a decision was taken by the Bearded Vulture Task Force (BVTF) in 2015 to start captive breeding by establishing a captive flock and to release juveniles into the wild. Eggs were harvested for the 2017 breeding season. A Biodiversity Management Plan (BMP) for the species has been produced. Lesotho has adopted the Bearded Vulture BMP under her Biodiversity Legislation and incorporates its principles as management tools. The BMP recognizes the need to implement a species recovery programme to arrest population decline and increase the number of breeding pairs. The Bearded Vulture Breeding Programme management structures have been formalised between Lesotho and SA by forming a Steering Committee to provide overall coordination and strategic direction and works seamlessly with the BVTF. The Lesotho Ministry of Tourism, Environment and Culture (MTEC) is fully represented and active in the Steering Committee and BVTF.



MAP 1: Shows the distribution of the Vulture nesting sites across the country

Aichi Biodiversity target(s)

12. Preventing extinctions

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

○ - Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The measure is considered to be partially effective based on expert opinion. Some work has started towards conservation of the species, but it has not fully achieved its intended purpose as it has just begun.

Relevant websites, links, and files:

- English Final_BV BMP_Sep2013.pdf (Endangered Species)
- English Krüger et al BCI 2014_Bearded Vulture status.pdf (Endangered Species)
- English VULTURE EDUCATION AND AWARENESS 2016 REPORT.pdf (Endangered Species)
- English Major concern about large-scale losses of vulture in Africa due to poisoning.pdf (Endangered Species)

Obstacles and scientific and technical needs related to the measure taken:

The vulture breeding programme facilities are currently situated in South Africa only, while most of the bearded vulture nests are in Lesotho. There is a need for CITES permit for cross-border transportation of eggs and birds. This requirement poses a challenge as trans-border transportation of eggs can only be done through Maseru Border Post. The process is cumbersome. There is need for harmonisation of laws between Lesotho and SA in this regard. Additionally, vulture nests are not easily accessible. At times helicopters are required for the collection of eggs and nest monitoring. This is challenged by a lengthy procedure required to acquire air/flying permits. Furthermore, there is lack of capacity for Lesotho to establish and run a vulture breeding programme.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: The Maloti Minnow (*Pseudobarbus quathlambae*) Conservation Program

NBSAP Objective: Improve protection and management of threatened and endangered species

The Maloti minnow *Pseudobarbus quathlambae* is a small cyprinid endemic to the highlands of Lesotho. Adult fish measure less than 130mm in length. According to International Union for Nature Conservation (IUCN) Red Data List, the minnow is considered endangered.

The Maloti minnow conservation project is aimed at developing a specific management plan in order to enhance recovery of the species by taking the following into consideration:

1. Construction of artificial barriers;
2. Design and construction of holding and breeding facilities;
3. Translocation of *P. quathlambae*;
4. Design and implementation of a monitoring network;
5. Proclamation of reserves;
6. Review of the legal and institutional frameworks and guardian institutions; and
7. Public participation, training and education.

The Lesotho Highlands Development Authority's (LHDA) Biodiversity Management Unit (BMU) conducted a survey of the Senqunyane River in May 2017 (McCafferty et al., 2017). The aim of the study was to assess the status of *P. quathlambae* and non-native *L. aeneus* and *L. capensis* populations with a view to re-evaluating the relevance of constructing a physical barrier on the Senqunyane River. No *P. quathlambae* were recorded at eleven sites while *L. aeneus* was recorded at seven of the 11 sites. It was concluded that there is no longer a viable population of *P. quathlambae* in the Senqunyane River and that the construction of a barrier would not serve any purpose. It was emphasised that there was a need to re-assess the status of native *P. quathlambae* populations in the Bokong- and Jorodane River (below the Pampiri Falls) and the status of translocated populations in the Jorodane- (above the Pampiri Falls), in the Makhalleng-, Maletsunyane- and Quthing River and Tsoelikana River (above and below the Tsoelikana Water Falls) in SNP. The findings of this survey would provide the decision support to decide finally on whether to build a barrier or not (McCafferty et al., 2017)

A Maloti minnow survey was undertaken in 2017 in Mohale and Eastern Evolutionary Significant Unit (ESU) with the aim of re-assessing the status of native and translocated populations of *P. quathlambae* Mohale ESU; re-assessing the status of *P. quathlambae* Eastern ESU populations; re-evaluating the relevance of constructing a physical barrier across the Senqunyane-, Bokong-

and Jorodane River; and making recommendations for the conservation of both the Mohale ESU and the Eastern ESU. After the survey, the next step is to develop a Biodiversity Management Plan for Maloti Minnow. This survey will also serve as the baseline to list Maloti Minnow under Convention on International Trade of Endemic Species (CITES) Appendix 1 during the next CITES Conference of Parties (COP).

Aichi Biodiversity target(s)

12. Preventing extinctions

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The effectiveness is based on expert opinion. Some efforts have started towards the conservation of the species, but they have not fully accomplished the intended target.

Relevant websites, links, and files:

English | Maloti Minnow Report for DOE.pdf (Endangered Species)

English | <http://www.lhda.org.ls/lhdaweb> (LHDA Website)

Obstacles and scientific and technical needs related to the measure taken:

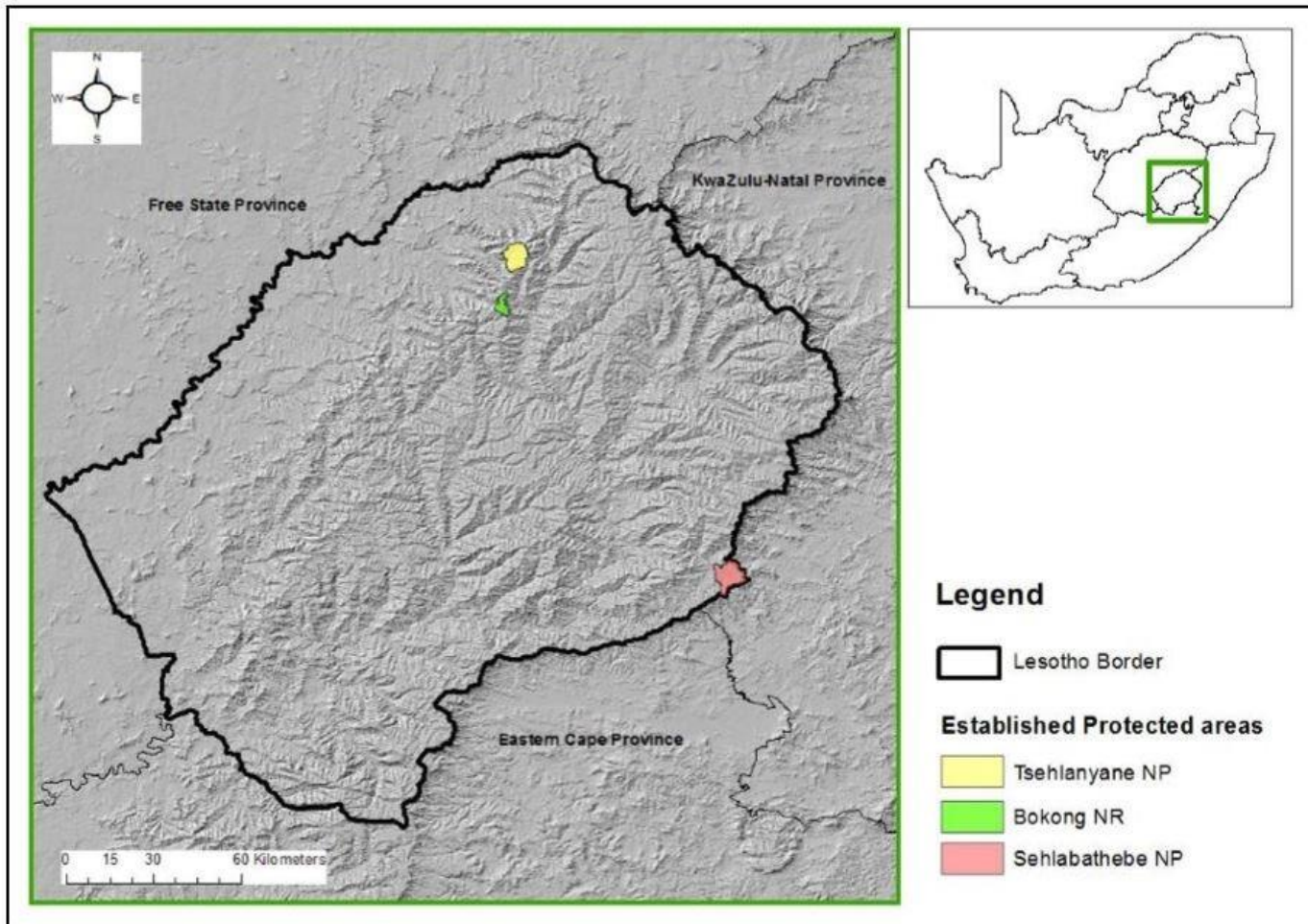
Lesotho is yet to enact the legislation dealing specifically with biodiversity. Trout was introduced for leisure fishing in the river systems; it was before studies revealed that trout feeds on minnow and poses a threat to minnow populations. The challenge is to eradicate trout from the rivers as there is also commercial farming for trout in the LHDA Dams, which might have negative effects on minnow if it can be established that trout eggs may spread through birds preying in the dams; a management plan specific for conservation of maloti minnow needs to be urgently developed.

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| Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan. |
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Title of Measure: Wild Life Re-Introduction Program

NBSAP Objective: Improve protection and management of threatened and endangered species

In an attempt to address the loss of species that occurred in the past, Lesotho has begun a wildlife reintroduction programme. The programme is achieved through translocation of wildlife and free movement of wildlife through the establishment of Transfrontier Protected Areas (TFPAs). The country re-introduced eland into Ts'ehlanyane National Park (TNP) in 2008 and 2013. Plans to re-introduce other species (grazers and browsers) are underway.



MAP 2: Location of Ts'ehlanyane National Park, Bokong and SNP and Neighbouring Provinces in South Africa

Lesotho has established a Trans-Frontier Conservation Area (TFCA) between Sehlabathebe National Park and uKhahlamba Drakensberg Park in South Africa. The TFCA has resulted in return of some species.

Aichi Biodiversity Target(s)

12. Preventing extinctions

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- - Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The assessment of the effectiveness is based on expert opinion and partial indicators relying on the following facts:

- A habitat suitability study aimed at assessing the feasibility for new game introductions by verifying the landscape features such as vegetation type, associated biomass and forage

availability; size of the park; water availability; staff capacity and general challenges associated with biodiversity management was undertaken. There are recommendations that need to be addressed prior to re-introduction such as development of TNP Fire Management Plan which is already in place, Game Management Plan and expansion of the fenced wild life area.

- Periodic ecological assessments in SNP and its buffer zone indicate the return of Eland and other wildlife species across the international border.

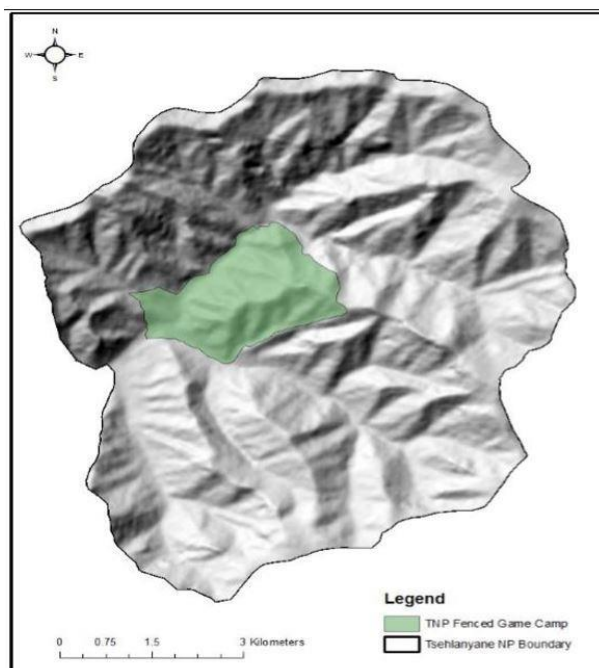
Relevant websites, links, and files:

English | Habitat Suitability Assessment of TNP, Lesotho_Feb2017-Copy.pdf (Reintroduction)

English | Lesotho Reintroduction Policy-1.pdf (Reintroduction)

Obstacles and scientific and technical needs related to the measure taken:

The park has no Game Management Plan, and re-introduction cannot be done immediately. Lack of resources for expansion and fencing of the wild life area, and terrain imposes difficulties in fencing. It would be ideal to fence the whole park, but there are no resources.



Park size and available habitat

Ts'ehlanyane NP is 5392ha in total with an area of approximately 426ha fenced with standard 1.4m game fencing. The current herd of eland are therefore found within the 426ha game camp. This 10km perimeter fence enclosing the current herd of eland. The challenge is that the area is not large enough to allow genetic diversification and this may result in inbreeding between individuals. Due to the small area of foraging habitat within the perimeter fence, fighting between territorial bulls will be common as the population grows. Displaced bulls may break out of the perimeter fence and become a threat to both human life and farming communities surrounding TNP.

(Habitat Suitability Assessment of TNP, Lesotho_Feb2017)

MAP 3: *Ts'ehlanyane National Park, highlighting the game camp found within the North-Western section of the park.*

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

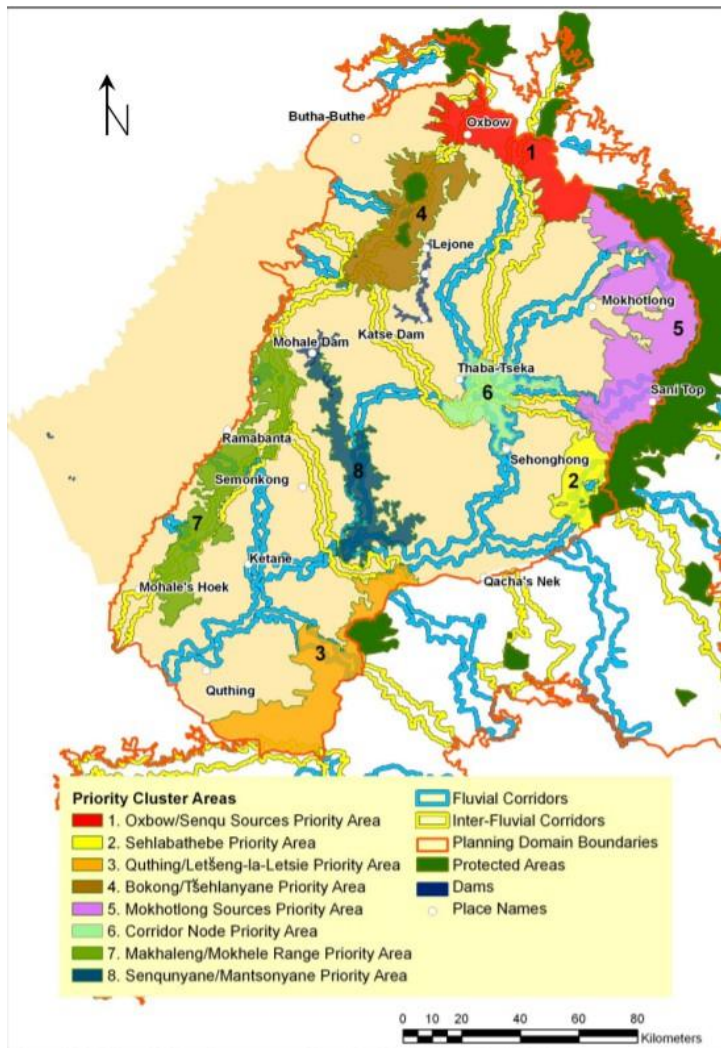
Title of Measure: Protected Areas Expansion Strategy

NBSAP Objective: Minimise Species Loss through Proper Land Use Planning and Implementation

There are plans to proclaim Letsa-La-Letsie Nature Reserve (LLLNR) and Tsatsane as Protected Areas (PAs) and the processes are at very advanced stages. There are a number of Cultural Heritage Sites which also serve as the PAs conserving biodiversity even though they were meant for Cultural Heritage Sites; biodiversity has significantly increased in these areas. These include Thaba-Bosiu, Masitise, Ha Baroana, Menkhoaneng and Butha-Buthe Plateau. The LHDA dams (Katse, Mohale, Muela, and the upcoming Polihali) also serve as PAs conserving the countries aquatic and terrestrial biodiversity. Department of Environment is in the process of acquiring the private Snake Park and proclaim it as the only country's Snake Park. Plans are also underway for the establishment of a Biosphere Reserve between TNP and BNR as core areas. A very significant area is used as Army Bases and they have served as PAs with biodiversity. A large area of the country is formally managed by communities as Managed Resource Areas for controlled communal grazing.

Biodiversity has improved significantly in the MRAs. There is also a gazetted community area at Sani Top used as a Special Development Area (SDA). LHDA has plans for proclaiming the head waters of the rivers feeding into the LHDA project sites. These include Senqu Sources, Khubelu, Sanqebethu and Senqunyane/Mantsonyane. LHDA has also started a programme of implementing biodiversity priority areas as identified under the Maloti Drakensburg Transfrontier Programme (MDTP).

Spatial Assessment of Biodiversity Priority areas in the Lesotho Highlands



MAP 4: Eight Priority Cluster Areas identified under MDTP (2007)

There are also Important Bird Areas which contribute significantly for conservation of biodiversity; these include Mokema Wetland, NUL Botanical Garden, LHDA Dams and the recently rehabilitated Ha Edward wetland in Sehlabathebe Area.

SNP inscribed as World Heritage Site (WHS); MAB - feasibility study completed for establishing the MAB, stakeholder consultations completed, biodiversity survey report completed, MAB communication strategy completed and nomination dossier being prepared; Snake Park - feasibility study completed and the process under way for absorption of Snake Park and its staff; Thaba-Bosiu CHS in the tentative list for WHS inscription; LLLNR - feasibility study completed for declaring the Letsa-La-Letsie as Nature Reserve (NR) and ecotourism destination, consultations about to be finalised, agreement reached with Millennium Challenge Account (MCA) for development of the site.

Aichi Biodiversity Target(s)

- 5. Loss of habitats
- 6. Sustainable fisheries
- 10. Vulnerable ecosystems
- 11. Protected areas
- 12. Preventing extinctions

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The effectiveness is based on reports and communication with relevant officials and partial indicators.

Relevant websites, links, and files:

English | <http://www.whc.unesco.org/en/statesparties/ls/documents> UNESCO World Heritage

English | Final SCP Technical report pdf.

Obstacles and scientific and technical needs related to the measure taken:

Most of the land in Lesotho is already occupied by settlements that fragment important habitats. For the areas that may still be conserved to meet conservation targets, robust awareness and community buying in should be sought. Community involvement has its challenges and it needs patience as it takes long. A concept that would help Lesotho to expand its network of protected areas and safeguard biodiversity would be to adopt and implement the biosphere reserve principle throughout the country. The whole country should be zoned into core biodiversity areas, buffer zones, and transition zones for development. For this to happen, the biodiversity of the country should be fully documented. The Department of Environment should look into developing projects and soliciting funding for this purpose.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Protected Areas Management

NBSAP Objective: Minimise Species Loss through Proper Land Use Planning and Implementation

All the formally protected areas are managed through adherence to a management plan. The local communities are involved, and they participate in co-management through Community Conservation Forums (CCFs). The MTEC has developed and signed memorandums of understanding with TNP, BNR, and Liphofung CCFs where 15% of the total money collected by the protected areas is given to the CCFs under MTEC guidance for implementation of evaluated community priority projects. In Sehlabathebe, a Buffer Zone Management Plan, CCF Bylaws, CCF Constitution, and a memorandum of understanding have just been developed through financial assistance from the UNESCO World Heritage Fund. In 2017, a COMPACT Site Strategy was developed through the GEF SGP, and a call for proposals for small community livelihood initiatives was done in February 2019. A process of preparing a nomination dossier to create Lesotho's first biosphere reserve at BNR and TNP is near completion.

Aichi Biodiversity Target(s)

- 5. Loss of habitats
- 6. Sustainable fisheries
- 10. Vulnerable ecosystems
- 11. Protected areas
- 12. Preventing extinctions

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The measure is partially effective based on the world protected areas management effectiveness tool. Fire management in protected areas is undertaken annually to secure and maintain habitat conditions necessary for species conservation and physical features of the parks. An example is that of a total of 240km combined tracer belts and fire breaks constructed annually. However, for some protected areas there is no fire management plan even though they still undertake fire management activities.

Relevant websites, links, and files:

- English | [COMPACT SITE STRATEGY - Lesotho Final Edit 8 Oct 17.docx](#) (PA Management)
- English | [GEF SGP Lesotho](#)
- English | [Buffer Zone Management Plan Action Plan.xlsx](#) (PA Management)
- English | [SNP Buffer Zone Management Plan Final.docx](#) (PA Management)
- English | [MoU SNP Management & CCF 2018\[964\].doc](#) (PA Management)
- English | [SEHLABATHEBE CCF BY-LAWS REVIEWED 2018.doc](#) (PA Management)

Obstacles and scientific and technical needs related to the measure taken:

Protected areas management requires resources, and it may sometimes prove to be expensive - especially when the areas under protection do not generate enough revenue to sustain their annual management budgets. Hence, scientific and economic studies should be undertaken in order to value the protected areas and the ecosystems they protect, where a model of payment for ecosystems services may be generated and applied to raise funds for PA management needs.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Invasive Alien Species Management

NBSAP Objective: Control the introduction and spread of harmful alien species and regulate the risks associated with their presence

The Department of Environment and the Department of Range Resources Management take a leading role of controlling the invasive alien species in the country. Protected Areas have the Invasive Alien Species (IAS) management plans which they use to control IAS in and around PAs every year. IAS were cleared over a 15km road in SNP all the way to the village of Sehlabathebe. A 9ha area was cleared of IAS in SNP (around the built infrastructure) and 3ha in the Sehlabathebe Lebenkeleng village. A number of rangeland hectares invaded with IAS have been cleared by the Department of Range Management. High density Grazing has also been used to clear hectares of AIS and it is envisaged that the technique will be applied as a range management tool in Lesotho to clear rangelands of IAS.

Aichi Biodiversity Target(s)

9. Invasive Alien Species

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- - Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

Effectiveness is based on expert opinion considering the fact that the whole country is still not free of IAS. Protected areas annually undertake IAS management activities within their boundaries and buffer zones although not all PAs have IAS management plans. For example, IAS were cleared over a 15km road in SNP area, and a 9ha area was cleared of IAS within SNP around the built infrastructure, and 3ha in the Sehlabathebe Lebenkeleng village. In Northern Parks, IAS were cleared along a 6km road in Tsehlanyane National Park-TNP, 8km road in Bokong Nature Reserve-BNR and over the total area of 150 square meters in Liphofung Cave and Cultural Heritage Site (LCCH).



Pic. 1: *Clearing Invasive Alien Species in Sehlabathebe National Park (SNP)*

Relevant websites, links, and files:

English |MDTP Alien Plant Strategy DRAFT6 Updated with IAP map 26 Jan 2014.pdf (AIS)

English |Fitchett et al., 2017 Biological Invasions.pdf (AIS)

English |Alien and Invasive Species Management Plan for the Maloti-Drakensberg Park World Heritage Site_Version1.0.pdf (AIS)

Obstacles and scientific and technical needs related to the measure taken:

The mode and pathways of introduction and spread of AIS should be identified and controlled. It becomes a challenge when biological agents such as birds are involved as a mode of distribution, because they are able to transcend barriers and introduce AIS in distant ecosystems.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Rehabilitation of Degraded Ecosystems

NBSAP Objective: Attain a Conservative Natural Resource Use

The Ministry of Water planned rehabilitation of some wetlands and the Department of Soil Conservation planned rehabilitation of some hectares of degraded land, while the Department of Range Management planned rehabilitation and reseeded of some hectares of degraded rangeland.



Fig. 2: *Galley rehabilitation in SNP*

Aichi Biodiversity Target(s)

5. Loss of habitats

- 14. Essential ecosystem services
- 15. Ecosystem resilience

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- - Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The effectiveness of the measure is based on expert opinion and partial indicators. Although there are efforts to curb land degradation, enough is not done to eradicate the problem any time soon. However, rehabilitation efforts are evident on the ground such as rehabilitation of a 6ha wetland area at Ha Edward in Sehlabathebe. The wetland was drained through a furrow dug by livestock owners due to lack of understanding on wetland function. It was also affected by overgrazing and livestock trampling.



Pic. 4 and 5: Shows backfilling and stamping during wetland rehabilitation

Pic. 4



Pic. 5



Pic. 6: Completed ditch plug with grass planted

Pic. 6

An area of approximately 450 square meters was also rehabilitated through construction of retaining walls using gabion structures near the built infrastructure in SNP and replanted with local grass through grass sorting. A 2ha wetland area was rehabilitated from 2014 to 2015 at BNR at the headwaters of Bokong River which is a tributary to Katse Dam.

Relevant websites, links, and files:

English | GEF SGP Lesotho

English | LDN COUNTRY PROFILE.pdf (Land)

English | Lesotho LDN Country Commitments 2017.pdf (Land)

English | GIZ wetland rehabilitation project report 09-04-2018.pdf

English | Khubelu Sponge Project_Range condition monitoring report.pdf

Obstacles and scientific and technical needs related to the measure taken:

Rehabilitation works are expensive and there is always not enough budget to undertake all the required activities that would warrant resilience of the ecosystems.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Conservation of A Spiral Aloe Colony at Ha Nk'hunyane

NBSAP Objective: Improve protection and management of threatened and endangered species

The survival of spiral aloe in the natural habitat is at stake from indiscriminate harvesting by local people, who sell it to tourists, due to poor law enforcement in the protection of Lesotho's natural heritage. The spiral aloe is endemic to Lesotho and it is endangered. In order to regenerate the spiral aloe population, the LHDA is implementing a programme on the conservation of an ex-situ spiral aloe colony at Ha Nk'hunyane. The programme entails collection of spiral aloe seeds from Ha Nk'hunyane and propagation at the Katse Botanical Garden (KBG) nursery.



Pic. 7



Pic. 8

Pic. 7 and 8 Show Ha Nk'hunyane community members participating in spiral aloe conservation.

The programme is implemented in close collaboration with the Ha Nk'hunyane Area Chief and community members in the 4 villages that fall under his jurisdiction. Local communities fully participate in the programme. For example, during field trips, they provide donkeys to transport buckets of seedlings and tools to the project area. Herders participate in replanting which takes every year. Before planting, awareness is created on the purpose, importance of the exercise, as well as the herders' role in protection of the species.

Aichi Biodiversity Target(s)

12. Preventing extinctions

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- - Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The measure is rated partially effective on the basis of monitoring reports on the spiral aloe propagation programme and indicators as depicted in the evidence below. Thirty individuals of the propagated seedlings are re-introduced back into the colony every year to supplement natural seedlings recruitment. The excess seedlings are sold to KBG visitors at M50.00 per seedling. Approximately 522 seedlings were sold in 2015/2016. This constitutes close to 50% of the total seedlings sales, and close to 70% of the total revenue generated from the sales. The colony is annually monitored by KBG which count of the mature individuals and the new seedlings in order to detect externalities to the long term survival of the colony. Over the past there has been a downward trend in the wild population. This necessitates continuous annual re-introducing of the seedlings in the natural habitat. There is also the need to increase the number of individuals seedlings introduced. Colony monitoring in 2016 indicated a decline in number of mature individual plants with a total of 138 plants as compared with 2015 monitoring where 173 individual plants were recorded. However, in 2017, 172 individual plants were counted, which a figure very close to the 2015 count is. There were also 874 juvenile plants counted in 2017 compared to 161 counted in 2016.

Relevant websites, links, and files:

English | [20170320 Nkhunyane reintroduction.docx](#) (Spiral Aloe Conservation)

Obstacles and scientific and technical needs related to the measure taken:

Lack of continuous awareness, capacity, resources and law enforcement are the main obstacles encountered.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: National Biosafety Framework

NBSAP Objective: Manage Biotechnology on an Environmentally Sound Basis

The programme is aimed at assisting Lesotho on pre-approval and post-monitoring of living modified organisms that may have adverse effects on the conservation and sustainable use of

biological diversity, in general surveillance and in trans-boundary movements of living modified organisms as part of the risk assessment processes under Articles 16 and 17 of the Cartagena Protocol on Biosafety.

The programme, through GEF-UNEP support for the implementation of national biosafety framework for Lesotho, has drafted Biosafety Bill 2018, developed Risk Assessment and Risk Management guidelines, developed monitoring and enforcement guidelines as well as manual for handling requests, procured laboratory equipment for Living Modified Organisms (LMOs) testing. Additionally, the programme developed National Biotechnology and Biosafety Awareness Strategy 2012 – 2017 and carried out outreach programmes in the form of workshops, awareness materials, newspaper, radio and TV programmes and mainstreaming into national curriculum.

The programme through GEF-UNEP Multi-Country Project title to Strengthen Institutional Capacities on LMO Testing in Support of National Decision-Making has capacitated NUL and Department of Agricultural Research (DAR) laboratories in terms of spatial orientation required for LMO testing and the required equipment for LMO testing to support national decision making.

Aichi Biodiversity Target(s)

13. Agricultural biodiversity

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The partial effectiveness is based on partial indicators and expert opinion. Efforts are on track but the measure has not fully attained its target.

Relevant websites, links, and files:

English | Terminal Report_Lesotho.pdf

English | Final Project Output summary(1).docx

Obstacles and scientific and technical needs related to the measure taken:

The enactment of the Biosafety legislation to enforce and sustain the biosafety programme is not yet complete. Integration/ mainstreaming of biosafety into national development plans as well as sectoral policies is slow.

| |
|---|
| Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan. |
|---|

Title of Measure: Conservation and Sustainable Use of Fish Stocks in LHDA DAMS

NBSAP Objective: Eliminate unsustainable land husbandry practices in rangelands, fisheries, forestry and agriculture to minimise adverse impacts.

In the period between 2014 and 2018, studies were undertaken at Katse and Mohale Dams to monitor the fish species that occur in the two dams. The general objective of the survey was to monitor fish abundance, size and species composition of the fish populations inhabiting Katse and Mohale Dams. This was achieved through collection of data on number, weight and length of fish.

The collected data was used as part of a long term monitoring programme aimed at determining fisheries potential of the dams. The specific objectives were to determine the following:

- Catch Per Unit Effort (CPUE)
- Index of Relative Importance (IRI)
- Length frequency
- Gear Selectivity
- Undertake a comparative analysis with previous data to determine improvement/degradation
- Build a data set for future reference

Aichi Biodiversity Target(s)

6. Sustainable fisheries

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- - Measure taken has been effective

Tools or methodology used for the assessment of effectiveness above

The effectiveness is based on expert opinion and partial indicators, regarding the fact that it achieved what was planned as per the following evidence. The results of the monitoring exercise confirm those of previously conducted surveys that the fish community of Mohale dam is made of two alien cyprinids (*L. aeneus* and *L. capensis*) from Katse Dam; and that *L. aeneus* is well established and forms the most important species of Mohale dam. In order to prevent further invasion of Mohale catchment by alien fish species (*O. mykiss* and *S. trutta*) from Katse dam, it is recommended that fish migration barriers (screens) be installed in Mohale-Katse inter-basin transfer tunnel. Moreover, Mesh sizes below 57mm are recommended for banning in Mohale dam as they encourage exploitation of immature fish and pose a sustainability threat to the resource. Further monitoring is required to gather more information on Mohale dam fishery resources.

The results of the survey in Katse Dam (5kg/set) indicate very low winter catches and mark stock degradation when compared to July (2000) (11kg/set) survey. The fish community of Katse reservoir consists of six species, two introduced and four native. Two EN native cyprinids (*L. Capensis* and *L. aeneus*) represent the most important components of Katse reservoir fisheries resources upon which future developments and management decisions may be based. More data is still required to establish seasonal patterns in abundance of Katse reservoir fishery resources. Furthermore, extrapolation of available time series data in determination of Katse reservoir fisheries potential may provide important information.

Based on the results of the surveys and previous studies, the LHDA has developed regulations and established a regulator on fisheries. This is aimed at sustainable utilization of the fish stocks while improving community livelihoods. The choice of fishing gear is probably influenced by the national legislation, Freshwater Fish Protection Proclamation 45 of 1951 and LHWP fishing regulations of 1999, both of which encourage use of hand lines over gillnets for resource conservation purposes (Government of Lesotho, 1951 and 1999). *L. aeneus* and *L. capensis* are among species identified to have potential for capture fisheries development in Lesotho (FAO, 2008).

Relevant websites, links, and files:

Obstacles and scientific and technical needs related to the measure taken:

There is illegal netting that has been going on in the dams. Law enforcement should be strengthened, and it will call for capacity building in financial and other necessary resources. Lack of adequate fisheries research in Lesotho has led to fisheries authorities resorting to a precautionary approach to fisheries management, with prescription of highly conservative harvest methods that limit catch. Katse dam, the largest impoundment in Lesotho, is largely used by fishers mostly for subsistence purposes (Nthimo, 2000; LHDA, 2016). Observations made during a subsistence fishery survey of October 2016 showed that the most used gear in this fishery is hook and line, even though a progressive encroachment by illegal gillnetters was observed by LHDA (2017).

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Indigenous Knowledge Systems (IKS) situational analysis (2014)

NBSAP Objective: Recognize and protect the value of indigenous knowledge of flora and fauna and its patterns of use for sustainable development, facilitating participation of all relevant parties

The Department of Science and Technology conducted an Indigenous Knowledge Systems (IKS) situational analysis in 2014 to prepare and enable the institutionalization, policy formulation and identify the market linkages value addition to facilitate the industrialization of Indigenous Knowledge. Negotiations are underway with South Africa under Joint Bilateral Commission of Cooperation (JBCC) for funding and development of IKS Policy by March 2019. A Lesotho Traditional Medical Practitioners Bill 2000 was developed and is awaiting enactment. The Bill provides for the establishment of Traditional Medical Practitioners Council. The main role of the council is to regulate the activities of traditional medical practitioners, herbalists and Traditional initiation institutions. There is also a Traditional Initiation Bill under development. The Bill introduces institutional structures which will provide guidance on initiation activities in the country.

Aichi Biodiversity Target(s)

19. Biodiversity knowledge

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

Effectiveness is based on expert opinion. The measure is still at its beginning and not much strides have been taken.

Relevant websites, links, and files:

Obstacles and scientific and technical needs related to the measure taken:

Funding was a challenge but negotiations are at an advance state with South Africa to develop the IKS Policy. The challenge may also be that what the local communities believe in as their part of their long practiced culture may sometimes not necessarily be good for biodiversity conservation and sustainable use. Funding was a challenge but negotiations are at an advance state with South Africa to develop the IKS Policy. The challenge may also be that what the local communities believe in as their part of their long practiced culture may sometimes not necessarily be good for biodiversity conservation and sustainable use.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Development of Cornerstone Public Policies and Institutional Capacities to Accelerate Sustainable Energy For All (SE4ALL) Progress

NBSAP Objective: Strengthen and introduce new policies, legislation, incentives and disincentives to minimize adverse impacts of human activity of forest resources.

The Government of Lesotho is implementing the project “Development of Cornerstone Public Policies and Institutional Capacities to accelerate Sustainable Energy for All (SE4All) Progress” financed by GEF and UNDP. The project is implemented from 2016 till 2021. The objective of the project is to catalyse investments in renewable energy-based mini-grids (MG) and Energy Centres (EC) to reduce greenhouse gas (GHG) emissions and contribute to the achievement of Lesotho’s Vision 2020 and SE4All goals. The project is expected to implement ten mini-grids and ten Energy Centres providing modern energy services to 1,000 rural households in twenty villages in the five districts: Mohale’s Hoek, Mokhotlong, Thaba-Tseka, Qacha’s Nek and Quthing. The goal is to attract private parties to invest into mini-grids / energy centres and operate them. In an ideal case, the private parties would closely work together with village community organisations.

The project focuses on renewable energy technologies (PV and/or biomass, hydro and wind, where available) for electricity generation. Fossil based power generation is not covered to allow for a maximum greenhouse gas mitigation effect. Power shall be supplied to households and small and medium sized enterprises with income-generating activities.

Aichi Biodiversity Target(s)

- 4. Use of natural resources
- 8. Pollution

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The measure is partially effective based on indicators as per the monitoring framework below.

Table 6:

| Outcome | Output | Level of |
|---|---|--|
| | | Implementation |
| SE4All cornerstone policies and strategies facilitating (increased) investment in RET deployment, particularly in isolated mini-grids | Developed and approved SE4All Country Action Agenda (CAA), following extensive stakeholder consultations. | The country action agenda is in place. |
| | Approved/adopted SE4All Investment Prospectus (IP), following extensive stakeholder consultations. | SE4All Investment Prospectus (IP) is in place. |
| | Strategies and investment plans related to mini-grid applications and village energization schemes. | A consultant was engaged to develop regulatory framework for mini grids application. An inception report has been submitted. |
| Improved capacity of energy stakeholders and government officials for decentralized clean energy planning and decision- making on | National survey conducted on energy supply, consumption and demand, disaggregated by sector, district and application | Households Energy survey was completed in December 2017. Sectors Energy Consumption Survey (SECS) is on-going. Data collection was completed in early December 2018. Data processing and report writing in January to March 2019. |

| | | |
|---|--|---|
| <p>the basis of quality energy data</p> | | |
| | <p>Energy database and information system established for data collected under Output</p> <p>2.1 above, with clear responsibilities agreed to as regards regular monitoring and annual publication of indicators</p> <p>(between DoE and BoS).</p> | <p>The households' energy database and information system was established in early 2018. Migration of data to BOS portal is on- going.</p> |
| | <p>Energy modelling software in place to analyse the data, model scenarios and produce information that will promote RE policies.</p> | <p>IAEA is capacitating the DOE and BOS staff with other modelling softwares including Mead, Message.</p> |
| | <p>Completed pre-feasibility studies for mini-grids in 20 village communities spanning 5 of Lesotho's 10 districts.</p> | <p>Final pre-feasibility studies reports for the 5 districts were submitted and validated by stakeholders.</p> |
| <p>Successful establishment of a village-based energy</p> | <p>FinancialSupport</p> | <p>A meeting between UNDP and the Minister of Energy and Meteorology on the FSS host is pending. If this meeting occurs and the outcome is positive, then UNDP will sign agreement straight away with the UNCDF (FSS host). This meeting is anticipated before end of year, 2018.</p> |

| | | |
|--|--|--|
| <p>service delivery model for replication nationally.</p> | <p>Scheme established to Support private sector Investment in village-based energisation through mini-grids/ Energy Centres.</p> | <p>Outreach Programme – Information and Demonstration Event</p> <p>– Multiple stakeholders event</p> |
| <p>Outreach programme and dissemination of project experience/best practices/lessons learned for replication nationally and throughout the region.</p> | <p>Draft Outreach Strategy.</p> | <p>Showcasing off-grid technologies to everyone</p> <p>– Bringing Senior Gov. Officials, project developers and financiers together, as well as interacting with the general public.</p> <p>Raise awareness to the public on modern clean energy technologies available in the market</p> <p>Create a platform for networking, learning and sharing experiences among the stakeholders and the general public.</p> <p>Platform to showcase available credit products from local banks for the RE investors and technology distributors</p> |

Relevant websites, links, and files:

English | Lesotho Review Lesotho Review

English | Prefeasibility studies_General Part_v2.docx

English | SE4All Project Updates.pdf

Obstacles and scientific and technical needs related to the measure taken:

The following obstacles were identified:

- Delay in the approval by the relevant authorities;
- High turnover of Ministers due to political instability;
- Energy access but economic power of communities low; and
- Need of incentives to encourage community members to use modern forms of energy such provision of devices such as electric irons and kettles.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Range Management Initiatives

NBSAP Objective: Eliminate unsustainable land husbandry practices in rangelands, fisheries, forestry and agriculture to minimise adverse impacts.

Under the Sustainable Land Management (SLM) project, a toolkit for SLM has been developed. The toolkit includes range resources management techniques. These techniques address the main constraints in the management of range resources for livestock production and to maintain and enhance the biodiversity of the rangelands of the country. This also includes the importance of vegetation in climate change adaptation, improvement of the water resources base and protection of the soil in the rugged terrain of the highlands of Lesotho.

Aichi Biodiversity Target(s)

- 4. Use of natural resources
- 5. Loss of habitats
- 7. Areas under sustainable management
- 9. Invasive Alien Species
- 10. Vulnerable ecosystems
- 11. Protected areas
- 15. Ecosystem resilience
- 16. Nagoya Protocol on ABS

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

Effectiveness based on expert opinion as per the reports of stakeholder ministries.

Relevant websites, links, and files:

English |a - PIR_June 2016_July 2017.PDF

English |b - PIR_June 2017_July 2018.PDF

Obstacles and scientific and technical needs related to the measure taken:

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Global Environment Facility Small Grants Programme

NBSAP Objective: Attain a conservative natural resource use

The aim of the Global Environment Facility Small Grants Programme (GEF – SGP) is to provide grants of up to \$50000.00 to local communities, Community Based Organizations (CBOs) and other Non-Governmental Organizations (NGOs) for projects in biodiversity, climate change

mitigation and adaptation, land degradation and sustainable forest management, as well as international waters and chemicals. Spanning the reporting period, the GEF - SGP has implemented projects in various environmental disciplines in the country with local communities. The following projects have been undertaken.

1. **Application of biological and physical rehabilitation of the range land resources of Mofolaneng.**

Project is a pilot to implement biological and physical rehabilitation of the range-lands of Motseremeli and Ramosetsana Grazing areas, allocated for utilization and management to the Mofolaneng Grazing Association through delegation from the Principal Chief of Tlokoeng. Both grazing areas are utilized by livestock farmers for grazing during the winter season and as a strategy to rest the summer grazing for recovery. Over time and through repeated sessions of grazing livestock randomly, both grazing areas have been selectively overgrazed, to the extent that they have been seriously degraded. There are varying degrees of invasion of Chrysocomma shrub and erosion has cut large galleys along the streams. The main road from Butha-Buthe to Mokhotlong has been constructed and cuts through the two grazing areas, thus disturbing the natural water flow channels, by diverting them through culverts. This has exacerbated the level of erosion along the channels, which invariably cut-through and drained the wetlands below. The community has been engaged in the uprooting of shrubs to try and restore grazing capacity; as well as lining up the slopes with stone to slow down the surface flow which in places has washed off the soil to bare rock.

2. **Application of high-density grazing approach for improved rangeland condition and restoration of wetlands for improved water supply.**

Project addresses application of high-density grazing approach at the watershed, downstream of which are patches of wetlands whose water is demanded for irrigation on horticultural initiatives, consisting of a botanical garden, nursery, green-houses, an orchard and a vegetable garden, by the Bolokanang Liphamola Support Group, which is an association with the objective of addressing vulnerability of livelihoods in the village and its environs.

3. **Blackberry cultivation for landscape conservation and climate smart agro technologies in Senqu River Basin.**

The project started in April 2017 and its aim is to address the issues of biodiversity, land degradation and climate change in the Senqu River Valley area. Establishment of blackberry as a crop in this project area is not only relevant in research but also addresses the pertinent issues of poverty and job creations. Thus the investigative approach followed by the pilot phase of the developed technologies is a general approach to this project.

4. **Capacity Development for Improved Honey Production.**

The project was implemented over a period of two years by Maseepho Beekeeping Corporative Society starting in December 2017, in the Qacha's Nek district. The project brings together beekeeping communities from around 10 villages within the three constituencies of Tsoelike, Lebakeng and Qacha's Nek and other districts. These communities have limited income streams due to the high unemployment rate in Lesotho and reside where agriculture is highly unpredictable in the face of climate change, although it is their main livelihood source. Project targeted the youth, women, men and people with disability in the areas. The project raises awareness about the dangers of burning of range-lands as veld fires are a major environmental hazard on the range-lands of Lesotho.

5. Ecological Recovery of Mateanong Rangeland wetlands in the upper Orange-Senqu Catchment.

The was a pilot to instigate ecological recovery of the Rapeising and Moiteling rangelands and wetlands supporting the Mateanong Wool and Mohair Association farmers and community under the Principal Chief of Khalahali. It constituted the following components: Brush control by the community at Rapeising Grazing area; Practicing of Rotational High-Density Grazing of livestock by livestock owners (Farmers) during the summer months in the Upper Moiteling and Rapeising Grazing areas; undertaking ultra-high treatment with mobile-kraaling of livestock in the lower Moiteling; and treatment of brush and valley-head cuts with placement of salt-licks at strategic points to encourage high livestock activity. Monitoring of the interventions over the pilot duration was undertaken. The experiences, challenges, resolutions and lessons learned will be replicated to other areas.

6. Promoting sustainable rangeland resources management practices and strengthening institutional capacity for fire management to enhance resilience of livelihoods.

The project is implemented over a period of two years by Ramatseliso Grazing Association starting in December 2017. The Association identifies veld fires as a key environmental threat to the range-land resources within the project area. Frequent wild fires on the range-lands, together with unsustainable grazing management practices, cause severe degradation of the range-lands ecosystems. These factors, coupled with the impacts of climate change, exacerbate the already dire situation of range-lands degradation in Lesotho. Therefore the project supports more than four hundred households from Ha Ramatseliso area, whose livelihoods depend on the range-lands ecosystem to provide livestock grazing and a variety of other critical ecosystem services that sustain life. These households have limited income streams due to the high unemployment rate in the country and reside in the area where crop production is highly unpredictable and likely to be risky in the face of climate change. The project prioritizes implementing actions that promote sustainable range-land resources management practices with a strong focus on combating veld fires. Target beneficiaries include the farming community (women, men, youth, and people with disability), who reside within the Ramatseliso area and participation in project activities is not only limited to livestock owners.

The project beneficiaries are supported to promote adoption of sustainable range-land resources management practices. Additional support is also availed to beneficiaries to support alternative income generating activities through identified strategies that allow for diversified income sources. Project beneficiaries engage in intensive community consultation processes during implementation, to solicit broad participation.

7. Range Conservation, Land Reclamation and Rehabilitation for Fodder Production in Mokhotlong.

The project sites are located in the highlands of Lesotho within the catchment of the proposed Polihali Dam under Phase II of the Lesotho Highlands Development Project. The area is characterized by badly degraded range-lands, excessive runoff and high rates of soil erosion, brought about by inappropriate livestock and land husbandry practices exacerbated by climate change. With the proposed dam construction, vast areas of land mostly range-lands will be inundated by water further reducing range resources and even more pressure on the resources. It is on this background that two communities faced with resettlement have been mobilized to engage in sustainable land management practices: land reclamation, rehabilitation and protection; and fodder production for stall-feeding to safeguard the life of the proposed dam, support livelihoods.

8. Rehabilitation and Sustainable Management of the range land and wetland resources of the upper Khubelu River Catchment.

The project was started in December 2017 and will be completed in January 2020. It promotes public awareness of global environment, significant participation of local communities, emphasis on sustainable livelihoods, capacity building gender focus and policy impact.

9. Rehabilitation and Sustainable Management of the range land and wetland resources of the upper Senqu River Catchment.

This project is piloted from December 2017 ending in January 2020 to implement biological rehabilitation of the range- lands allocated for utilization and management by the TLHANYAKU-SENQU Grazing Association through delegation from the Principal Chief of Khalahali.

The grazing area has degraded over the years and has reached a stage where the grazing potential is seriously threatened by rapidly expanding invasion of Chrysocomma shrub that out-competes palatable grasses and has as such seriously reduced grazing capacity. The impact of this invasion is community livelihoods reductions, as their lives are supported by subsistence agriculture, the core of which is livestock rearing. Community has learned about manual uprooting of the shrub to recover the grazing potential, which is supported by government, through provision of food hand-outs. This however proves unsustainable, as government resources for doing these depend on foreign aid. It is also ineffective as such a response does not address the cause of the bush invasion. The community is addressing the source of degradation. They have learnt of high-density grazing and mobile kraaling that will reduce the shrub using their own animals and this does not perpetuates dependency, and will bring lasting solution, which also have a potential to reverse land degradation. The objective of the pilot, is to enhance the potential of grazing through reduction of invasive bush and physical rehabilitation of some areas that have developed dongers. The timing is proposed to target two seasons that encourage grass growth starting in mid-August up to late April of the following year of 2018 and 2019 respectively.

10. Rehabilitation and sustainable management of the range land resources in Sehlabathebe

Implemented from December 2017 to January 2020 by Sehlabathebe Grazing Association, the project brings together over a thousand households from within the Sehlabathebe area, whose main livelihoods depend on range-land ecosystems. These ecosystems provide a range of services such as grazing, water supply, nutrients cycling, flood attenuation etc. to sustain life. Communities within the project area have limited income streams due to the high unemployment rate. The project target beneficiaries include the farming community (women, men, youth, and people with disability), who reside within the Sehlabathebe. The project concept is anchored on sustainable land management with focus on the range-land ecosystems and building resilience of livelihoods of communities. It acknowledges that range-land degradation in Lesotho is a major concern and that it is driven by poor grazing management control, with one of the biggest issues being continuous grazing and the lack of resting of grazed areas to allow for recovery particularly of palatable grass species. To address the widespread challenge of range-lands degradation in Lesotho, Sehlabathebe Grazing Association is implementing high- density grazing system. This system is a recommended management tool that has been tested in Lesotho and proven to halt the deterioration of range-land resources and enhance environmental benefits of a well-managed landscape. The land use system in Lesotho dictates that range-lands are communal resources. Therefore, the project implementation strategy seeks to engage in extensive community participation processes to ensure rehabilitation and sustainable management of the range-lands. Gaining community support from project planning, design phase, implementation and during monitoring and evaluation is critical. The strategy leverages on strategic networks and linkages that will be maintained between the project beneficiaries and key stakeholders from various sectors

(both public and private) in terms of capacity development, skills transfer and knowledge management. The project is empowering communities to take charge of and drive their own development agenda, through implementing appropriate interventions to combat range- lands degradation challenges and build resilience of livelihoods through diversifying income sources at household level. Targeted training and capacity development measures, together with implementation of rang-lands rehabilitation actions is led by the project beneficiaries, with technical support from relevant line ministries.

11. Wetland Restoration and Conservation Project – 2

The project started in May 2015 and ended in December 2015. The objective was to restore the hydrology of the critical wetlands in order to improve the quantity and quality of water and to establish healthy wetland plant community through sustainable rehabilitation and management approaches in Semonkong.

12. Protection and sustainable use of soil and water resources in Likhetlane

Likhetlane is endowed with perennial springs that support communities from villages that fall within the area. Harnessing of the water was done in the 70s and 80s through construction of dams/ponds and used for watering livestock and some fish farming. With recurring drought spells, poor management of the rang-eland and cropland surrounding these resources, and the terrain which makes the area prone to excessive runoff and soil erosion, the crop land is becoming more and more unproductive and ponds/dams have and or are silting up. To address these challenges and hopefully to reverse the degradation trend, TASESEQE has undertaken to rehabilitate the degraded land through adoption of sustainable range management, construction of soil and water conservation structures for cropland protection, introduction of agro-forestry, promotion of fish farming and initiation of ecotourism activities within the project area.

Aichi Biodiversity Target(s)

1. Awareness of biodiversity values
2. Integration of biodiversity values
3. Incentives
4. Use of natural resources
5. Loss of habitats
7. Areas under sustainable management
8. Pollution
9. Invasive Alien Species
10. Vulnerable ecosystems
12. Preventing extinctions
13. Agricultural biodiversity
14. Essential ecosystem services
15. Ecosystem resilience
16. Nagoya Protocol on ABS
18. Traditional knowledge
19. Biodiversity knowledge
20. Resource mobilization

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- - Measure taken has been effective

Tools or methodology used for the assessment of effectiveness above

The effectiveness of the measure is based on the fact that all projects were completed on record time having attained outputs.

Relevant websites, links, and files:

English | <http://sgp.undp.org/special-itemid-projects> The GEF Small Grants Programme Lesotho

Obstacles and scientific and technical needs related to the measure taken:

The main challenge is mobilization of financial resources in time to implement planned community projects. The challenge is compounded by the high turnover in government administration that has been experienced over the reporting period.

Relevant websites, links, and files:

English | <http://sgp.undp.org/special-itemid-projects> The GEF Small Grants Programme Lesotho

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Climate Change adaptation and resilience initiatives

NBSAP Objective: Review existing and develop additional policies to achieve compatibility between biodiversity conservation resource use and national development.

Climate change is identified as one of the major threats undermining the resilience and sustainability of the ecosystems and biodiversity resources with the likelihood of driving them to extinction, and loss of goods and services they yield. Lesotho developed her national Climate Change Policy (2017 - 2027) and strategy in 2017. The policy outlines 22 policy statements, the ninth of which addresses increase in environmental resilience with reference to ecosystems and biodiversity. Emphasis is put on biodiversity with three main objectives:

- Increase biodiversity resilience against impacts of climate change;
- Mainstream biodiversity sustainable use and conservation with climate change mitigation, adaptation and sustainable development; and
- Enhance public participation and ownership in environment and climate change programmes.

Aichi Biodiversity Target(s)

- 5. Loss of habitats
- 10. Vulnerable ecosystems
- 12. Preventing extinctions
- 14. Essential ecosystem services
- 15. Ecosystem resilience

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- - Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

Lesotho has developed a national Climate Change Policy and Strategy. The strategy is a five year document effecting implementation of the policy and is addressing regulatory protection for species potentially at risk due to climate change; mainstreaming climate change into national environmental management systems, tools and practices; updating of the national biodiversity report; promoting conservation and regeneration of biodiversity with focus on indigenous species; and management and reclamation of degraded and eroded land.

Lesotho periodically assesses the status of implementation of climate change initiatives. Key socio-economic sectors are assessed on their vulnerability and impacts to climate change and adaptation options identified, Key components of national communications are:

- Public awareness campaigns on climate change;
- Compilation of inventory of green house gases emissions; and
- Assessment of vulnerability and adaptation to climate change.

The development of the Third National Communication is currently ongoing and scheduled for completion in 2019. The development of the Communication Strategy 2019 is also currently ongoing building on the Climate Change Communication Strategy developed in 2012.

Relevant websites, links, and files:

English |CLIMATE CHANGE STRATEGY - CCPIS -2017_6th-November-2018 (2).docx (Climate)

English |National Climate Change Policy 2017- 2027.pdf (Climate Change)

English |SECOND NATIONAL COMMUNICATION.pdf (Climate Change)

Obstacles and scientific and technical needs related to the measure taken:

There are limited financial resources to undertake periodic assessments.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Pollution control

NBSAP Objective: Minimize environmental degradation and loss of biodiversity caused by developmental activities.

More waste is generated in middle or high income settlements. For instance, solid waste collection in Maseru Central Business District along Kingsway Road is done daily, whilst in the middle to high income areas is offered once a week and low income settlements receives once a week or erratic service and under extreme cases none at all except when cleaning campaigns are conducted.

Due to urbanization which is more in Maseru and Leribe, some people who were initially job-seekers, have settled in Maseru and Leribe. Therefore the population concentration in Maseru and Leribe aggravated by proportionate anthropogenic activities contribute to them being the highest domestic waste generating districts.

As a result of mismanagement of domestic waste, communities experience some challenges. For instance, domestic animals are at risk of ingesting plastic, rodents' manifestations emerge and aesthetic sceneries are impaired. The Government through local councils introduced some initiatives which while addressing the problem, also tackled prevailing unemployment, e.g. mobilizing communities to implementing the "3R Principle" (Reduce, Re-use, Recycle). In this manner, communities benefit significantly from their solid waste. This initiative is more common in the capital city, Maseru.

Relevant authorities have applied some interventions to contain waste water effluent through the construction and operation of on-site wastewater treatment plants in wet industries at Thetsane Industrial Area. Periodic water tests are performed following effluent treatment based on national standards. The values are within the limits of the standards with a few exceptions.

In recent years however, considerable efforts have been made to address some of the negative issues associated with healthcare waste under the Millennium Challenge Corporation. HCWM policy, strategy and regulations were developed. Throughout the process, the Ministry of Health and other stakeholders were capacitated through on-the-job coaching and active involvement, so that they are able to sustain a proper management of health care waste in Lesotho in future. The government also embarked on a long-term reform process to improve the efficiency of the sector. As part of this effort, it turned to the private sector to create a sustainable healthcare waste management system that protects public health and the environment. A pilot system to collect, treat and incinerate hazardous medical waste in an area serving 300,000 people was undertaken successfully.

Lesotho has specified minimum requirements for the management of HCRW starting from the generation point to the final disposal. The regulations are applied throughout the country, with variations allowed for facilities that are classified as rural, inaccessible.

Construction waste generally consists of rubble and bulky construction debris. If mixed with household waste it becomes attractive to pests (vector and rodents), which can constitute a health risk, but it is generally considered more of an aesthetic problem. Removal of this material can in some instances require specialised equipment as is the case with asbestos containing construction waste in order to reduce the risks involved. Construction waste is largely disposed at dumpsites while a noticeable amount in dongas or household yards as a form of land reclamation (MTEC 2006b). In some instances rubble is illegally dumped in vacant plots. Local Authorities have attempted to control this situation by issuing building permits and environmental clearances even though compliance rate is low.

At the department level, the following activities were planned and implemented from 2016 to 2018:

- Processed applications for exporting various hazardous waste (used oil, e-waste, asbestos, expired chemicals) for recycling, treatment or disposal in the Republic of South Africa;
- Coordinated series of cleaning campaigns as contribution towards the 50th Independence Anniversary celebrations;
- Implementation of the "Ratification and Early Implementation of the Minamata Convention on Mercury Project";

- Review of Toxic and Hazardous Chemicals Bill, for drafting further instructions to Legal for onward submission to Law Office for due processes;
- Carrying out of the Polychlorinated Biphenyls (PCBs) Phase-Out project;
- Undertaking of activities in preparation of implementing plastic levy; and
- Drafting of Toxic and Hazardous Chemicals Management Regulations.

Implementation of Minamata Convention on Mercury by:

- Identification & quantification of stock piles and streams;
- Legal instruments gap analysis completed;
- Identification of vulnerable groups to mercury;
- Development of Guidance document on contaminated sites identification;
- Capacity building of District Environment Officers on identifying mercury; contaminated sites;
- Mapping hot spots;
- Lesotho Mercury Situation Analysis Report compiled; and
- Sensitization of society on dangers of mercury.

Enabling Activities to facilitate early action on the Implementation of the Stockholm Convention on Persistent Organic Pollutants (POPs) National Implementation Plan updated through:

- Training on how to conduct POPs inventories;
- Data capturing on POPs related information and contaminated sites, assessing institutional and policy framework, current national; level public awareness on old and new POPs, socio-economic implications of new POPs usage, elimination and reduction as well as gender analysis; and
- Development of criteria for prioritising based on inventory data, assessment reports and recommendations made by working groups taking into consideration socio-economic impacts and the availability of alternative solutions to new POPs. Based on these criteria, priority issues to address the management of new POPs and a set of objectives to guide preliminary country-specific activities relevant to new POPs yet to be developed.

Aichi Biodiversity Target(s)

8. Pollution

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- - Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

Assessment based on expert opinion and partial indicators.

Relevant websites, links, and files:

English |Final Minamata Initial Assessment Report for Lesotho_JR_Review_20012019 (3).docx
 English |Lesotho Environmental Outlook Report 2014

Obstacles and scientific and technical needs related to the measure taken:

Negligence, shortage of funds and the absence of legislation pertaining to waste management has imposed a serious problem as roles and responsibilities are not clearly defined. For instance, the Department of Environment (DoE) is legally mandated to coordinate all environment

management issues including waste management. Whereas other institutions like the Water and Sewage Company (WASCO), Maseru City Council (MCC), Department of Water Affairs (DWA), and Department of Environmental Health (DoEH) exercise their specific mandates in relation to waste management. The current set-up where DoE is not an independent authority makes the very same mandated role of DoE difficult to ensure compliance by the above-mentioned institutions.

Data on the waste generation continues to be scarce due to capacity. The government should improve waste management information systems in order to inform waste management processes.

The state of HCF and their equipment is generally poor as a result of poor maintenance, limited management capacity, and possible lack of skills and over utilization of scarce equipment. Working conditions for health care staff are difficult as well. It is not surprising therefore that Health Care Waste (HCW) management does not enjoy high priority and that the status accorded to waste management activities and issues is low, for which reason HCW management has become a major risk to human health and the environment.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: International Atomic Energy Agency Country Programme Framework

NBSAP Objective: Manage Biotechnology on an environmentally sound basis.

As a new member state of the International Atomic Energy Agency (IAEA), Lesotho is implementing several projects under the Technical Cooperation of the IAEA. The projects are in the fields of Health-Cancer treatment, Agriculture-crops and animal health, Water, Energy and Environment for setting up of a regulatory framework for control of radiation sources. The use of nuclear technologies requires legislation and a complete regulatory infrastructure in order to provide for the adequate protection of individuals, society and the environment against the harmful effects of ionizing radiation.

Lesotho has developed a comprehensive legislation regulating radiation facilities and activities named Radiation Protection Agency Act 2018. The Act is administered by the Department of Environment in the absence of an independent regulatory agency as provided for in the Act (Radiation Protection Agency-RPA) for regulation of nuclear activities and radiation safety.

Aichi Biodiversity Target(s)

8. Pollution

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

Effectiveness based on expert opinion and partial indicators

Relevant websites, links, and files:

Obstacles and scientific and technical needs related to the measure taken:

In order for the RPA to be fully effective it has to have an adequate number of trained personnel with the required tools for monitoring and inspection; it has to offer the following technical services: Authorisation for use of sources, Inspection of facilities, personal dosimetry and monitoring of doses, environmental monitoring, radioactive waste storage and disposal facility, and metrology and calibration services. It is therefore expensive to provide such technical services and have all skilled personal to run the facilities.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Wool and Mohair Promotion Project (WAMPP)

NBSAP Objective: Develop a material incentive programme to ascertain the value of biodiversity components and to change people's behaviour at the local and national levels.

The goal of WAMPP is to boost the economic and climate resilience of poor, smallholder wool and mohair producers to adverse effects of climate change in the Mountain and Foothill Regions of Lesotho. The development objective is (i) to enable smallholder livestock producers to generate higher incomes and more sustainable livelihoods, (ii) to increase their ability to cope with and recover from natural shocks, and (iii) marketing and climate smart agriculture. According to the project plan, 10 sentinel sites using Land Degradation Surveillance Framework (LDSF), and 45 Rangeland assessment and monitoring points were to be established

Aichi Biodiversity Target(s)

- 3. Incentives
- 7. Areas under sustainable management

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The effectiveness above is based on expert opinion and project implementation monitoring and evaluation reports. According to implementation reports, 10 Sentinel sites were established and assessed, LDSF data stored in a server with restricted access. 45 points have been established and only 20 points have been assessed.

Relevant websites, links, and files:

English |WAMPP_Final.pdf

Obstacles and scientific and technical needs related to the measure taken:

The project implementation is on-going and no major obstacles have been identified, however the high staff turnover and loss of institutional capacity hinders effective implementation of the project.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Support to Climate Change Response Strategy to the Kingdom of Lesotho

NBSAP Objective: Review existing and develop additional policies to achieve compatibility between biodiversity conservation resource use and national development.

The aim of the initiative was to set up the required policy and institutional framework to reverse the environmental degradation and adapt to climate change [NSDP 2012/13 - 2016/17, Strategic Goal (V)] through finalisation of: - A national Climate Change Policy and Strategy; - A National Sustainable Energy Strategy; Required policy and institutional frameworks to support implementation of policies and strategies in order to increase the resilience of the environment, ecosystems and biodiversity.

Aichi Biodiversity Target(s)

- 5. Loss of habitats
- 10. Vulnerable ecosystems
- 12. Preventing extinctions
- 14. Essential ecosystem services
- 15. Ecosystem resilience

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

Based on expert opinion and indicators, the measure has been partially effective as evidence shows that the national Climate Change Policy has been developed and was approved by Cabinet in 2017.

Relevant websites, links, and files:

English | CLIMATE CHANGE STRATEGY - CCPIS -2017_6th-November-2018 (2).docx
English | National Climate Change Policy 2017- 2027.pdf
English | Second National Communication

Obstacles and scientific and technical needs related to the measure taken:

No obstacles were identified for this measure.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Development of Cornerstone Public Policies and Institutional Capacities to accelerate Sustainable Energy for All (SE4All) Programme.

NBSAP Objective: Review existing and develop additional policies to achieve compatibility between biodiversity conservation, resource use and national development.

The initiative seeks to increase energy access, encourage penetration of modern/renewable energy technologies and promote energy efficiency and reduce total dependence on traditional biomass especially for rural communities.

Specifically the project focuses on:

- SE4All cornerstone policies and strategies facilitating (increased) investment in Renewable Energy Technology (RET) deployment, particularly isolated mini-grids; and
- Successful establishment of a village-based energy service delivery model to be replicated nationally in order to relieve pressure on biomass and biodiversity resources extraction for energy purposes.

Aichi Biodiversity Target(s)

5. Loss of habitats

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The measure has been judged partially effective based on the following indicators:

- A draft Action Agenda and Investment prospectus are in place;
- A draft Regulatory Framework is in place;
- A Household Consumption Survey was undertaken;
- Sectors household consumption survey is being conducted;
- Prefeasibility studies in 5 Districts for mini-grids and energy centres have been undertaken; and
- Sales and distribution of energy efficient technologies is underway.

Relevant websites, links, and files:

English | Lesotho SES V3.docx

English | SE4All Project Updates.pptx

Obstacles and scientific and technical needs related to the measure taken:

The following obstacles were identified:

- Delay in the approval by the relevant authorities;
- High turnover of Ministers due to political instability;
- Energy access but economic power of communities low; and
- Need of incentives to encourage community members to use modern forms of energy such provision of devices such as electric irons and kettles.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Domestication of the International Treaty (International Treaty for Plant Genetic Resources for Food and Agriculture-ITPGRFA)

NBSAP Objective: Control access to Lesotho's genetic resources through establishment of appropriate legislation and institutional structures

The Treaty established a multilateral system, both to facilitate access to plant genetic resources for food and agriculture, and to share, in a fair and equitable way, the benefits arising from their use. The objectives of the Treaty are:

- The conservation and sustainable use of plant genetic resources for food and Agriculture; and
- The fair and equitable sharing of benefits derived from their use, in harmony with the Convention on Biological Diversity, for sustainable Agriculture and food security.

Measures have been taken to facilitate access to Annex I PGRFA, even though the Standard Material Transfer Agreements- SMTAs have not yet been signed.

32 accessions of different crop species (wheat, sorghum, peas, cowpeas, beans and maize) were distributed to the National University of Lesotho, UFS and Department of Agricultural Research (DAR)-Agronomy Section. However, germplasm distribution to interested and potential users has so far been insufficient.

Aichi Biodiversity Target(s)

13. Agricultural biodiversity

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The effectiveness above has been based on indicators and evidence on what has been implemented as per the assessment done by officials from the Ministry of Agriculture and Food Security.

Relevant websites, links, and files:

English |TCP-SFS-3402 - Project Document.pdf

Obstacles and scientific and technical needs related to the measure taken:

Lack of crop improvement companies is the main cause of very limited use of PGRFA.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Promotion of on-farm conservation of local crop diversity.

NBSAP Objective: Control access to Lesotho's genetic resources through establishment of appropriate legislation and institutional structures

The objective of an on-farm conservation activity is to strengthen community based conservation of agro-biodiversity and associated traditional knowledge and practices. The target was to conserve 15 accessions on-farm annually, to increase level of awareness from 36% to 65% at Khoelenya; 39.8% to 70% at Lithipeng; and 50% to 80% at Thaba-Mokhele, and to develop teachers training manuals.

Aichi Biodiversity Target(s)

13. Agricultural biodiversity

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

The effectiveness of the measure is based on indicators and the evidence that:

- 21 accessions of beans and peas were distributed to one NGO and one Farmers' organization (over a period of 5 years - 2014 - 2019);
- As per results of a socio-economic baseline study, 41.9% (average) of the target population is aware of climate change impacts and adaptation, 36% at Khoelenya; 39.8% at Lithipeng; and 50% at Thaba-Mokhele;
- A Teachers Training Manual was developed in 2018.

However, on-farm conservation needs to be strengthened.

Relevant websites, links, and files:

English | Lesotho pgr FA0 status report 2014 ver. 2 Final.doc

Obstacles and scientific and technical needs related to the measure taken:

Unfavourable weather conditions, very little quantities distributed which need further multiplication.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Development of the National Seed Legislation

NBSAP Objective: Control access to Lesotho's genetic resources through establishment of appropriate legislation and institutional structures

The proposed national seed legislation is to include Farmers' rights: Recognition of the enormous contribution that local and indigenous communities and farmers have made and will continue to make for the conservation and development of plant genetic resources; The protection of traditional knowledge relevant to Plant Genetic Resources for Food and Agriculture (PGRFA); The right to equitably participate in sharing benefits arising from the utilisation of PGRFA; The right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of PGRFA; the right to save, use, exchange, and sell farm-saved seed / propagating material.

Aichi Biodiversity Target(s)

13. Agricultural biodiversity

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been partially effective

Tools or methodology used for the assessment of effectiveness above

Based on expert opinion and communication with officials from the Ministry of Agriculture and Food Security, the measure has been partially effective.

Relevant websites, links, and files:

English |Lesotho pgr FA0 status report 2014 ver. 2 Final

Obstacles and scientific and technical needs related to the measure taken:

No obstacles were identified for this measure.

| |
|---|
| Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan. |
|---|

Title of Measure: Preparation of Nationally Determined Contribution (NDC) to the 2015 Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC)

NBSAP Objective: Review existing and develop additional policies to achieve compatibility between biodiversity conservation, resource use and national development.

To increase the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production. Lesotho undertook action to develop Nationally Determined Contributions (NDC).

Aichi Biodiversity Target(s)

15. Ecosystem resilience

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been effective

Tools or methodology used for the assessment of effectiveness above

The measure has been judged effective based on the fact that all that was planned was achieved as evident from the NDC 2017.

Relevant websites, links, and files:

English | NDC - Lesotho Nationally Determined Contribution.pdf

Obstacles and scientific and technical needs related to the measure taken:

No obstacles were identified for this measure.

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan.

Title of Measure: Protection of the Orange River-Senqu Water Sources-Sponge-Project

NBSAP Objective:

The project supported the Orange-Senqu River Commission (ORASECOM) in the implementation of a pilot intervention for the protection of the Orange-Senqu source in Lesotho. Khubelu catchment in Mokhotlong district had been identified as pilot area. Khubelu is representative of the land use problems of the Lesotho Highlands and it is immediately upstream of a proposed new dam.

The project mainly worked with two Community Councils (CCs) and two Grazing Associations (GAs); it was embedded into the local governmental structures and directly cooperated with/works through the Department of Water Affairs, the Range Department and the Soil Conservation Department. Funds were also available to undertake biological and physical rehabilitation measures of wetlands and to purchase and install a meteorological station.

The overall objective of the project was to apply a holistic approach towards protection and conservation of the sponges in the Khubelu Catchment while demonstrating a methodological approach for sustainable wetland management.

The specific objectives were:

- Improvement of range management in the Khubelu Catchment;
- Rehabilitation of degraded wetlands; and
- Research and compilation of lessons learned for replication in other catchments.

Aichi Biodiversity Target(s)

15. Ecosystem resilience

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

- Measure taken has been effective

Tools or methodology used for the assessment of effectiveness above

The effectiveness is based on monitoring reports as follows:



Fig. 9: Shows retrieving data logger from the piezometer (a) and data downloading (b)

Water levels were taken from installed piezometers by use of a Solinst 102 instrument and the results were as in the table below. The levels were high as compared to May'16. This might be attributed to the fact that it had rained and snowed prior to the site.

Table 7: Shows Ground water level measurements

| Piezometer | Southing | Easting | Borehole depth(m) | July' 16 | Remarks |
|------------|---------------------------|----------------------------|-------------------|----------|-------------------|
| GW1 | 29.02329° | 28.87124° | 0.98 | N/A | Re-located to GW5 |
| GW2 | 29.02319° | 28.87113° | 1.70 | 0.63 | Still intact |
| GW3 | 29.02305° | 28.87117° | 1.64 | 0.47 | Still intact |
| GW4 | 29.02305° | 28.87095° | 1.60 | 0.53 | Still intact |
| GW5 | 29 ⁰ 01'19.0'' | 028 ⁰ 52'22.0'' | 0.98 | 0.57 | Still intact |

Data Analysis

Data was analyzed using excel spreadsheets which have been set up for the purpose. These spreadsheets are used to store continuous data record. They are also used to convert the river level data to flows using the cross sectional profile, channel slope and Manning equation. The rainfall and piezometers data is used to verify rehabilitation structures.

Following the last field visit in 2016 it was concluded that the recording period following construction of the structures was relatively short and that summer rainfall in this period was relatively low. These factors make the comparison between baseline data from before the construction of the structures and data from the period after, difficult.

The time series of various piezometers and rainfall are shown in the figures below. These graphs show the water level responses after rainfall events (spike) as well as the decrease of water levels due to gravitational drainage (when there is insufficient water inflow to maintain the ground water levels).

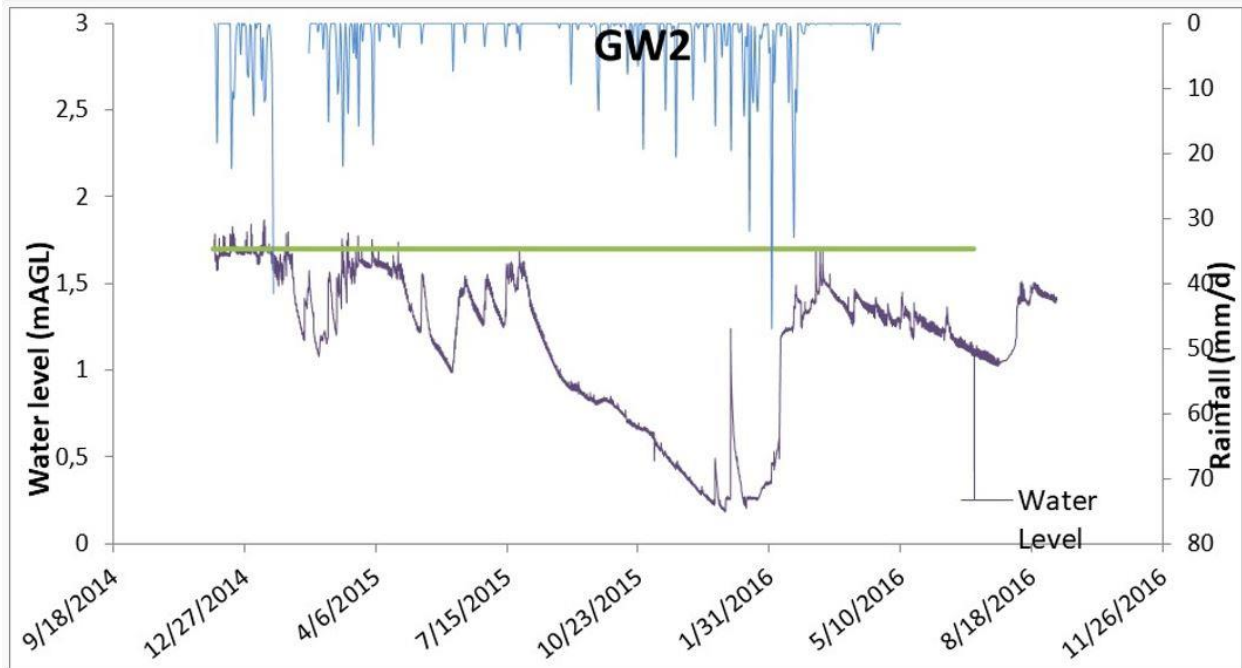


Figure 3: Shows the graph showing the rainfall and water level time series of the piezometers at location GW2. The Full Supply Level (FSL) equals the total depth.

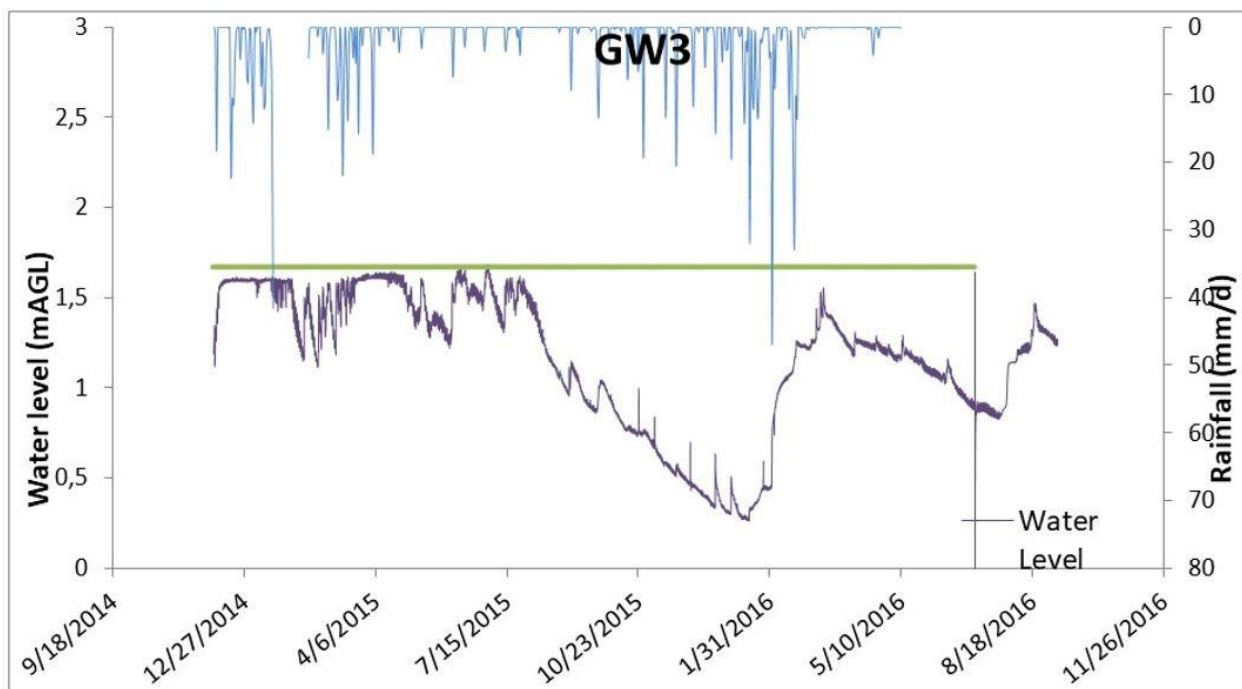


Figure 4: Shows the graph showing the rainfall and water level time series of the piezometers at location GW3. The Full Supply Level (FSL) equals the total depth.

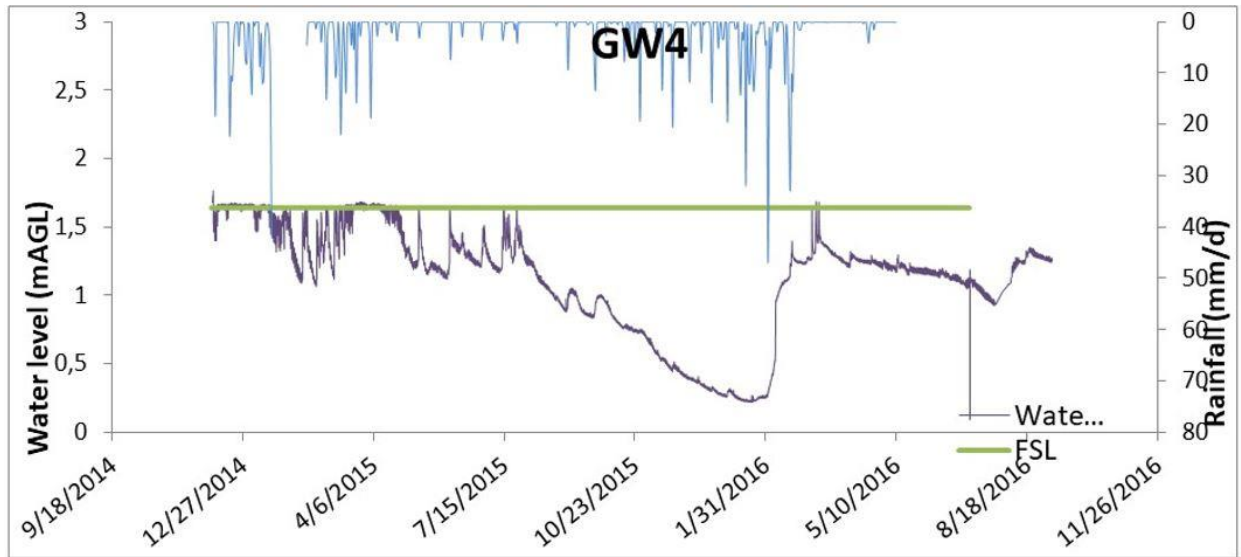


Figure 5: Shows the graph showing the rainfall and water level time series of the piezometers at location GW4. The Full Supply Level (FSL) equals the total depth.

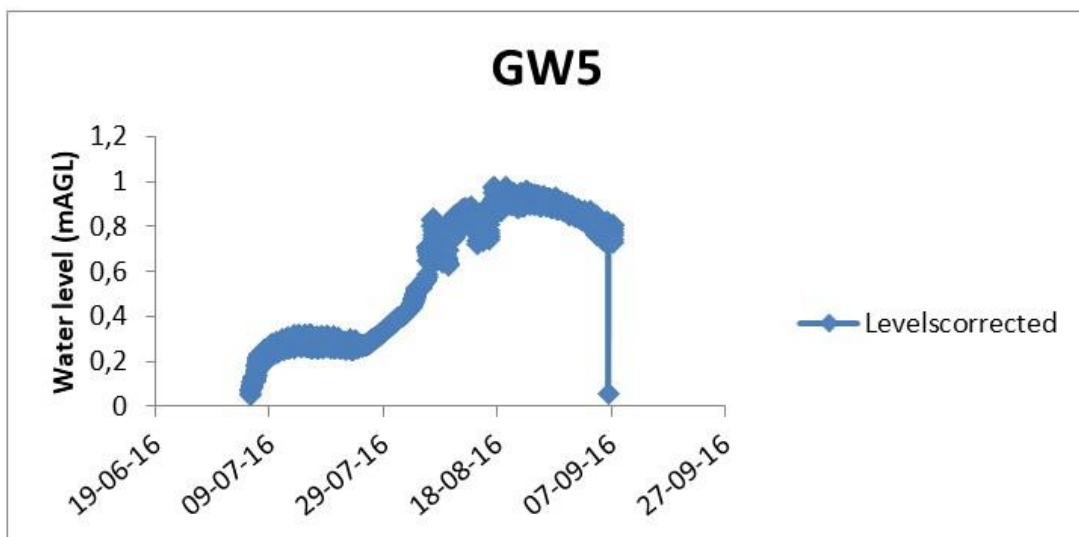


Figure 6: Shows the graph showing the water level time series of the piezometers at location GW5. The Full Supply Level (FSL) equals the total depth.

The following observations were made from the fluctuations on the graphs.

There was a slower decrease of water level in July 2016 but the levels began to rise rapidly due to snow fall which was experienced in August 2016. From previous observations, the rate of water level drop is dependent on the season. In summer there is rapid decline in water level (high transpiration) while in winter there is a slower decrease of water level.

Stream discharge monitoring

All data was successfully retrieved from the loggers at the Monitoring station (**SG36 P1**), with similar process as in downloading the data from piezometers. In order to convert the water level data into a flow (volume/time), an accurate cross sectional area as well as channel slope for the channel section at the logger is needed as the profile of the channel changes naturally over time with rainfall events which result in scour, erosion and/or sedimentation. Cross sectional surveys of the channel were taken as indicated in the figure below.



Pic. 10: *showing cross-sectional surveys*

It is a challenge to take out SG36P1 data logger from a sort of a draw box structure situated within the stream as shown in **Pic. 11.** below:

Pic. 11: *Retrieving data logger from the draw box*



In-situ water quality

The in-situ water quality is periodically monitored at the point where the station has been erected as well as just above the downstream weirs where rewetting is expected. The parameters monitored are pH, Total Dissolved Solids (TDS) and Electrical Conductivity (EC). In May the parameters did not exceed the stipulated guidelines, hence quality of the water is taken to be good. In September, this activity was not done due to the absence of the instrument.

Table 8: *In-situ Water Quality results @ Phapong in May 2016*

| Parameter | Guidelines | | | Above weir | SG36 P1 | September' 16 | |
|-------------|------------|-----|-------|------------|---------|---------------|---------|
| | National | WHO | SA | | | Above Weir | SG36 P1 |
| Time | | | | | | | |
| Temperature | | | 25 | 9.2 | 5.6 | | |
| pH | 6 - 8 | 6.5 | 6 - 9 | 7.4 | 7.77 | | |

| | | | | | | | |
|---|-----|-----|-----|------|------|--|--|
| Electrical Conductivity (μS) | 700 | 250 | 700 | 0.12 | 0.18 | | |
| Total Dissolved Solids(mg/l) | | | 300 | 0.06 | 0.11 | | |

Re-wetting by the concrete weirs

It is evident that the concrete weirs do appear to store water during the rainy season, which would serve to raise the water-table in the fen upslope as expected and this can be seen on the figures below.



(c)

(d)

Pic. 12 (c) and (d): Water collected in Phap E14 (c) (April '17) during rains and Phap E 14(d) (July '17) not much of the water has been collected since there were no rains.

Re- Seeding and Re-vegetation

Unless re-vegetation and/or re-seeding is repeated around the structures and on the exposed areas since construction of the interventions, high risk of erosion at and around the structures is foreseen. Even the limited re-vegetation that was done by the contractor was exposed to grazing and trampling by animals hence were easily uprooted. Bare-patched areas which were re- vegetated as part of rehabilitation can be seen on the figure below. This may be attributed to the dry spell that was experienced throughout the country during the growing season.



Pic. 13: Shows limited signs of growth on the bare patches

Relevant websites, links, and files:

Obstacles and scientific and technical needs related to the measure taken:

The main challenges are associated with acquisition of the proper and accurate equipment for monitoring seasonal water quality and quantity that is suitable for the terrain. There is also need for national water quality labs and development of water quality standards.

Section III. Assessment of progress towards each national target

1. Awareness of biodiversity values

Rate of progresses toward the implementation of the selected target

- On track to achieve target

Date the assessment was done

09 April 2019

Evidence used in the assessment of target:

Although a lot of awareness on biodiversity conservation and sustainable use is carried out by all line ministries and non- governmental organisations and CBOs dealing with land issues and natural resource management, there is still loss of biodiversity due to habitat loss and extractive use. The cause for this is not that people are not aware of the values of biodiversity, but the lack of alternatives in a poverty stricken situation presents people with no choice – especially the poor and vulnerable including local communities who their livelihood solely rely on natural resource use.

A national multi stakeholder network has been established for Environmental Education, and teachers were capacitated to mainstream the issues of sustainability in their teaching strategies. The Department of Environment developed Information and Communication Materials (IEC) which were shared with the line Ministries and the stakeholders. The Department of Environment Newsletter "Our Environment" brochure featured biodiversity management which flagged the concept of Access and Benefit Sharing (ABS), and sustainable utilization was distributed nationwide from 2014 to 2018. The formally protected areas have Environmental Education and Awareness plans which they follow in conducting biodiversity conservation and sustainable use awareness in communities around protected areas.

Indicators and other tools used in this assessment:

1. Biodiversity awareness strategy in place
2. Number of awareness programs undertaken including gender and social groups
3. Number and trends of community driven conservation initiatives including gender and social groups

4. Reduction in poaching
5. Biodiversity conservation mainstreamed in formal and informal learning institutions

Any other tools or means used for assessing progress.

Assessment has been done based on reports from the officials in the Department of Environment and from various stakeholder ministries and UN agencies.

Relevant websites, web links and files:

English | <https://sgp.undp.org/web/projects> GEF SGP Lesotho

English | GEF SGP Lesotho

Level of confidence

- Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated

The level of confidence is based on existing reports.

Adequacy of monitoring information to support assessment:

- Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Please describe how the target is monitored and indicate whether there is a monitoring system in place.

Although there is no monitoring and evaluation system in place, the target is monitored through types and number of awareness campaigns carried out, and the categories of audiences covered. The associated responses to track the success and effectiveness of the campaigns have not been evaluated. Lesotho is doing a lot of awareness campaigns on biodiversity and almost every project implemented in the country has an awareness creation and capacity building on biodiversity issues. The country also observes annual international environment days and national tree planting day where awareness talks are often delivered on biodiversity and environmental issues. The participation of prominent national persons in these celebrations, such as the participation of the King and Queen, help create awareness and elevate the significance of biodiversity and environmental issues.

Relevant websites, web links and files

English | <http://www.gov.ls/documents> Lesotho Government

English | <http://www.lena.org.ls/> Lesotho News Agency

2. Integration of biodiversity values

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target

- - On track to achieve target

Date the assessment was done

09 April 2019

Evidence used in the assessment of this target:

In the development of the NSDP I, it was recognised that there was compelling evidence that the measures that were being taken, (including tree planting, donga reclamation, protection of wetlands and other biodiversity conservation programmes) were not adequate to reverse environmental degradation and restore the fragile mountain ecosystems. The damage and loss of critical habitats, such as wetlands, and degradation of forest and vegetation cover significantly reduce the capacity of catchments to capture and store water and, paradoxically, this contributes to both floods and water shortage. The main causes of environmental degradation were identified to include ploughing on steep slopes and/or marginal lands by crop farmers (54% of croplands are exposed to sheet erosion), over-grazing of rangelands (an estimated 50% over-stocking of livestock) and unregulated encroachment of human settlements onto prime agricultural lands.

The NSDP I pursued the following strategic objectives in order to reverse environmental degradation and biodiversity loss:

- Reduce land degradation and protect water sources;
- Increase biodiversity conservation and promote sustainable use;
- Strengthen range management institutions and range carrying capacity;
- Improve national resilience to climate change;
- Promote and increase the greening of the economy; and
- Improve environment and climate change governance.

Although NSDP II has not yet been implemented, it mainstreams issues of biodiversity conservation and environmental management, gender, climate change adaptation and resilience. In terms of planning, Lesotho is doing very well in mainstreaming biodiversity in major national policies and strategies. However, the reporting and accounting mechanisms including monitoring and evaluation are still poor, and it is difficult to track progress that is being made. This may be attributed to both lack of capacity and negligence.

There are laws and policies mainstreaming biodiversity conservation and its sustainable use. The Department of Environment and partners review EIA documents and undertake monitoring and environmental auditing on projects that have been given clearance certificates. The 2015 Lesotho Baseline and Trend Analysis Report "Towards a Resilient Future" outlines in detail how sustainability and biodiversity are mainstreamed into national policies as follows:

- Energy Policy 2015 - 2025
- National Range Resources Management Policy 2014 Gender and Development Policy 2014
- The Mineral and Mining Policy 2015

Indicators and other tools used in this assessment:

1. Number of policies, strategies and plans mainstreaming biodiversity.
2. Trends in policies considering biodiversity and ecosystem services in environmental impact assessment

Level of confidence

Level of confidence of the above assessment _

- Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

Information is available from the country's main policy documents and strategies including reports from the Department of Environment.

Adequacy of monitoring information to support assessment

- Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Please describe how the target is monitored and indicate whether there is a monitoring system in place.

Although there is no comprehensive monitoring in place, the target is monitored using indicators such as the number of national policy documents mainstreaming biodiversity issues, and the number of environmental audits undertaken. The majority of national policies and strategic documents mainstream biodiversity.

Relevant websites, web links and files:

English | [Lesotho_NSDP review_Final report_v3.docx](#) (Biodiversity Mainstreaming)

3. Incentives

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

- Progress towards target but at an insufficient rate

Date the assessment was done

09 April 2019

Evidence used in the assessment of this target:

The government of Lesotho does not offer much in terms of incentives good or bad for biodiversity conservation. However, a number of government policies aimed at development may yield negative impacts towards the environment and biodiversity. In order to create employment, Lesotho increases a number of its factory shells and as one of its investment incentives through the Lesotho National Development Corporation (LNDC) promises cheap labour and infrastructure costs to investors. This may cause problems should many investors decide to take their business in Lesotho, since the load of pollution from solid and liquid effluent would proportionally increase leading to environmental nuisance since the environmental laws are not robustly enforced due to government negligence and lack of resources.

The government through the Ministry of Agriculture is subsidising fertilizer and genetically modified organisms (GMO) seeds for farmers in order to attain food security. From 2014 to 2018, tones of fertilizer and GMO seed have been subsidised. Pollution from fertilizer runoff into the

river systems is harmful to the environment and biodiversity. Cross pollination from GMO seed can also possibly affect indigenous genetic pool.

Ministry of Tourism Environment and Culture (MTEC) through the Department of Tourism in collaboration with Maloti Drakensberg Transfrontier Project (MDTP) Lesotho and South Africa, have developed and initiated implementation of the MDP WS Tourism Strategy. The MDP WHS Sustainable Tourism Strategy identifies the strategic priorities needed to catalyse the unlocking of the economic potential of the MDP WHS through sustainable tourism development over 10 years commencing in 2016. The MDP WHS Sustainable Tourism Strategy seeks to secure a meaningful stake in the economic benefits associated with the MDP WHS for the local communities living around the Park. It also seeks to ensure that the indigenous and local communities will be treated as respected stakeholders and beneficiaries who are integral to the destination and its economy, and as a result, will contribute towards the protection of the Park, its OUV and its visitors.

Indicators and other tools used in this assessment:

1. Legislation regulating incentives and subsidies affecting biodiversity enacted and enforced
2. Trends in identification, assessment, establishment and strengthening of incentives that reward positive contribution to biodiversity and ecosystem services
3. Trends in identification, establishment and strengthening of incentives that penalize negative contribution to biodiversity and ecosystem services

Other tools or means used for assessing progress:

Expert opinion based on estimates depending on the activities and initiatives undertaken and how they may either negatively or positively affect biodiversity and the environment.

Level of confidence:

- Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

The conclusions are drawn based on information from government officials and reports.

Adequacy of monitoring information to support assessment

- No monitoring system in place

Relevant websites, web links and files:

4. Use of natural resources

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target

- On track to achieve target

Date the assessment was done

09 April 2019

Evidence used in the assessment of this target:

The Environment Act 2008 is in place and in force to regulate development and sustainable production through subjecting production sectors to EIA process, while the Biodiversity Bill to regulate extractive biodiversity resources use is in a process to be enacted. Development and implementation of management plans for protected areas regulates the type of developments allowed in and around PAs. Also in accordance with their management plans, different PAs regulate extractive use of certain species by using an application and permit system. Mines have environmental units to address their harmful impacts on biodiversity through implementation of environmental management plans.

The Ministry of Agriculture has introduced conservation agriculture which is aimed at zero tillage. Some hectares of agricultural land have been put under conservation agriculture from 2014 to 2018. The small businesses sector through cooperatives has provided training on sustainable harvesting and production of aloe, prickly pear and rose-hip products. The mining sector is rehabilitating degraded wetlands in a way to offset their negative impacts on wetlands (How many wetlands rehabilitated?). The LHDA is establishing mini botanical gardens in villages within the Polihali catchment area in order to compensate loss of some species that will occur due to dam construction and cover.

The Department of Energy is developing and implementing energy efficient technologies (Stoves cookers and lights). The aim is to reduce extractive use of environmental resources. The Department of Range Management is creating awareness and guiding implementation of range management plans including rotational grazing in order to enforce sustainable use of rangelands. The traditional practice of initiation by local communities results in protection of biodiversity in the catchments where such sites are located since no grazing or extractive use takes place during the initiation period. Further, through the National Council of Traditional Healers, medicinal plants are protected as only what is needed for healing purposes is extracted, and the mode of extraction is controlled. In their areas, these traditional healers safeguard biodiversity as they consider themselves to be custodians of the medicinal flora and fauna.

Lesotho's laws and policies promote sustainable production and consumption. The country has also ratified CITES and has made efforts to enact the CITES law which is now a Bill. However, law enforcement is weak.

There is sustainable energy strategy meant for development and implementation of alternative technologies to promote efficient use of energy resources (efficient use of biomass).

Indicators and other tools used in this assessment:

List of indicators used for the assessment of this target:

1. Policies regulating sustainable production and consumption in place.
2. Trends on impacts of production and consumption on ecosystems.
3. Trends in extent to which biodiversity and ecosystem service values are incorporated into organisational accounting and reporting.
4. Trends in biodiversity of cities.
5. Ecological limits assessed in terms of sustainable production and consumption.
6. Trends in population and extinction risk of utilized species including species in trade.

Level of confidence:

- - Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

Adequacy of monitoring information to support assessment

- - No monitoring system in place

Relevant websites, web links and files:

5. Loss of habitats

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target:

- - Progress towards target but at an insufficient rate

Date the assessment was done

09 April 2019

Evidence used in the assessment of this target:

In the development of the National Strategic Development Plan (NSDP I), it was recognised that there was compelling evidence that the measures that were being taken, (including tree planting, donga reclamation, protection of wetlands and other biodiversity conservation programmes) were not adequate to reverse environmental degradation and restore the fragile mountain ecosystems. The damage and loss of critical habitats, such as wetlands, and degradation of forest and vegetation cover significantly reduce the capacity of catchments to capture and store water and, paradoxically, this contributes to both floods and water shortage. The main causes of environmental degradation were identified to include ploughing on steep slopes and/or marginal lands by crop farmers (54% of croplands are exposed to sheet erosion), over-grazing of rangelands (an estimated 50% over-stocking of livestock) and unregulated encroachment of human settlements onto prime agricultural lands.

Through awareness raising, Protected Areas expansion and management effectiveness of protected areas, establishment of the Transfrontier Conservation Area (TFCA), and MRAs (Managed resources areas); some wetlands, rangelands and forests were successfully secured and rehabilitated, while others have degraded further (number and hectares of areas secured and rehabilitated). The GEF SGP has also implemented various projects to address land degradation, wetland conservation and rehabilitation, and sustainable range-land management enforcing participation of local communities.

Indicators and other tools used in this assessment:

List of indicators used for the assessment of this target:

1. Legislation and policies addressing land degradation and habitat loss in place.
2. Number of projects and programs addressing land degradation and habitat loss.
3. Trends in extent of selected biomass, ecosystems and habitats.
4. Population trends of habitat dependent species in each major habitat type.

Other tools or means used for assessing progress:

The Land cover Atlas of Lesotho provides information on the land cover distribution by administrative boundaries and river catchments. The land cover database provides accurate information on both physical and socioeconomic resources. For physical resources it provides timely and precise information on the actual state of the Agricultural, forestry/rangelands, natural vegetation cover, the level of degradation useful for the evaluation of the impact on rural development and Agricultural productions. For socioeconomic resources, the land cover database and statistics indicates the populations pressure on the land and inform on main agro-information systems and on infrastructure and habitat development.

Relevant websites, web links and files:

English | <http://www.fao.org/geospatial/resources/detail/en/c/1024551/> FAO website

Level of confidence:

- Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

There are reports from government ministries although they have not been compiled based on comprehensive monitoring and evaluation. Other reports are available from the GEF SGP website. Good progress is being made, but given the magnitude of the problem and requirement for resources, the effort is not enough to be on target in 2020.

Adequacy of monitoring information to support assessment:

- No monitoring system in place

Relevant websites, web links and files:

English | RANGE ASSESSMENT REPORT_Quthing sheepstud report.pdf (Range Management)

English | Piloting Holistic Land Management approach through_High density grazing system_KSP project.pdf (Range Management)

English | RANGE CONDITION ASSESSMENT, PLANINING AND CAPACITY BUILDING.pdf (Range Management)

6. Sustainable fisheries

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target:

- On track to achieve target

Date the assessment was done

09 April 2019

Evidence used in the assessment of this target:

The Lesotho Highlands Water Project (LHWP) has developed and is implementing regulations on fisheries. The regulations have provided for and established a committee of the Regulator

comprised of the Director of Industry, the Director of Livestock Services, the Water Commissioner, and the Director of the Department of Environment and a representative of the Lesotho Highlands Water Authority (LHWA). The objectives of the regulations are to:

1. Support the growth of an economically, socially and ecologically responsible aquaculture industry that contributes to local and national economic development;
2. Create a single regulatory authority for the management, licensing and administration of the aquaculture industry in LHWP area;
3. Support the research into and the technological development of responsible aquaculture technologies and practices;
4. Regulate the use and introduction of exotic (with an exception of Rainbow and Brown trout) and genetically modified species into any Authority waters;
5. Maintain the genetic biodiversity of present fish and other aquatic species;
6. Monitor and regulate all aquaculture operations authorised to carry on operations in terms of these regulations;
7. Establish norms and standards to guide the evaluation of environmental impact assessments in terms of the Environment Act, 2008;
8. Require that members of local communities surrounding and adjacent to aquaculture operations benefit as far as is reasonably practicable and in terms of the National Empowerment Policy of Lesotho; and
9. As far as is reasonably practicable, recover the costs of administration, management and licensing in terms of these regulations from the licence holders.

A fish distribution survey was undertaken in the Lesotho Highlands from 31 July – 16 August 2017 to re-assess the status of both evolutionary significant units of the Maloti minnow *Pseudobarbus quathlambae*. A total of 13 rivers and 42 sites were surveyed. *P. quathlambae* (Mohale ESU) is no longer present in the Senqunyane, Bokong and the Jorodane River (below Pampiri Falls) upstream of Mohale Dam. The disappearance of *P. quathlambae* from these primary habitat rivers is most likely a result of predation by and competition for habitat and food from smallmouth yellowfish *Labeobarbus aeneus*. The construction of a barrier in the Senqunyane to protect *P. quathlambae* is a nullity as it would be fruitless unless a programme focussing on the eradication of *L. aeneus* and restocking of *P. quathlambae* is initiated.

Populations of translocated *P. quathlambae* (Mohale ESU) were recorded in the Jorodane- (above Pampiri Falls) (n = 38), Makhaleng- (n = 11), and Maletsunyane River (n = 41). No fish were recorded in the Quthing River. *P. quathlambae* (Eastern ESU) was recorded in the Tsoelikane- (n = 15), Sani- (n=2), Mothae- (n = 7), upper Matsoku- (n = 33), Senqu- (n = 15) and Moremoholo River (n = 33). The Maloti minnow is not extinct below the Tsoelikane Falls as previously thought. Very few *P. quathlambae* were recorded in the Sani- and Mothae River and none were present in the lower Matsoku River. No rainbow trout (*O. mykiss*) were recorded in any of the rivers surveyed.

The health and size of various minnow populations cannot be accurately determined at this stage. This would require that a follow-up survey be conducted in early summer to better understand the

population dynamics of the trans-located populations and the Eastern ESU populations. These surveys should incorporate river health and rangeland assessments to provide baseline data for future monitoring of the populations. Once the status of the populations has been established then a new management plan and conservation actions must be prepared and implemented. This should include a monitoring programme which incorporates aquatic and terrestrial components.

Based on the results of the surveys and previous studies, the LHDA has developed regulations and established a regulator on fisheries. This is aimed at sustainable utilization of the fish stocks while improving community livelihoods. The choice of fishing gear is probably influenced by the national legislation, Freshwater Fish Protection Proclamation 45 of 1951 and LHWP fishing regulations of 1999, both of which encourage use of hand lines over gillnets for resource conservation purposes (Government of Lesotho, 1951 and 1999). *L. aeneus* and *L. capensis* are among species identified to have potential for capture fisheries development in Lesotho (FAO, 2008).

Indicators and other tools used in this assessment:

List of indicators used for the assessment of this target:

1. Management plans for aquatic ecosystems developed and implemented.
2. Trends in populations of aquatic species

Other tools or means used for assessing progress:

The assessment is based on policies and national efforts taken to manage fisheries in order to maintain populations of indigenous fish. There are periodic studies that are undertaken to monitor the population of fish, and there are regulations in place for management of fisheries.

Level of confidence:

- Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

The level of confidence is derived from support from national reports and studies

Adequacy of monitoring information to support assessment:

- Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Please describe how the target is monitored and indicate whether there is a monitoring system in place:

The LHDA periodically monitors fish stocks in LHDA dams and tributaries.

Relevant websites, web links and files:

English | LHDA

English | LHDA 1273 Katse Vol III Rivers and fish.pdf (Rivers & Fish)

English | LHDA 1273 Mohale Vol III Rivers and fish.pdf (Rivers & Fish)

7. Areas under sustainable management:

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target:

- - Progress towards target but at an insufficient rate

Date the assessment was done:

09 April 2019

Evidence used in the assessment of this target:

According to FAO, 1.4% or about 44,000 ha of Lesotho is forested, this means that of Lesotho's total land area, less than 1% is under forest cover. Lesotho has about 10,000 ha of planted forest. About 80% of Lesotho's population resides in the rural areas. The majority of households in the rural areas depend heavily on traditional fuel sources such as trees, shrubs, and animal dung and crop residues. The overall success record of forestry initiatives in Lesotho has been poor.

The LHDA has developed and put into operation the Aquaculture Regulatory Framework (ARF) to provide guidance on best management of aquaculture operations in the project reservoirs. This was put into effect in April 2013 and has since been used to inform the performance assessment audits conducted at each of the two existing aquaculture farms. The combined total production from the two operations as of end March 2014 was 720 tons against the target of 900 tons.

Based on the results of the surveys and previous studies, the LHDA has developed regulations and established a regulator on fisheries. This is aimed at sustainable utilization of the fish stocks while improving community livelihoods. The choice of fishing gear is probably influenced by the national legislation, Freshwater Fish Protection Proclamation 45 of 1951 and LHWP fishing regulations of 1999, both of which encourage use of hand lines over gillnets for resource conservation purposes (Government of Lesotho, 1951 and 1999). *L. aeneus* and *L. capensis* are among species identified to have potential for capture fisheries development in Lesotho (FAO, 2008).

Indicators and other tools used in this assessment:

List of indicators used for the assessment of this target:

1. Strategies for sustainable agriculture, aquaculture and forestry developed and implemented.
2. Trends in area of forest, agriculture and aquaculture ecosystems under sustainable management.
3. Trends in population of forest and agriculture dependent species in production systems.
4. Trends in production per unit.
5. Trends in proportion of products derived from sustainable sources.

Other tools or means used for assessing progress:

Level of confidence:

Level of confidence of the above assessment

- - Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

There are periodic reports and studies from relevant stakeholders.

Adequacy of monitoring information to support assessment:

- - Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Please describe how the target is monitored and indicate whether there is a monitoring system in place:

Although there is no comprehensive monitoring system in place, the target is monitored through reports of various stakeholders who do work on agriculture, aquaculture and forestry.

Relevant websites, web links and files:

English | <http://www.lhda.org.ls/documents/documents> LHDA

8. Pollution

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

- - Progress towards target but at an insufficient rate

Date the assessment was done

09 April 2019

Evidence used in the assessment of this target:

Solid waste collection in Maseru Central Business District along Kingsway Road is done daily, whilst in the middle to high income areas is offered once a week and low income settlements receives once a week or erratic service and under extreme cases none at all except when cleaning campaigns are conducted. Many immigrants from rural Lesotho seem to settle in Maseru and Leribe resulting in population increase which results in increments in waste volumes.

As a result of mismanagement of domestic waste, communities experience some challenges. For instance, domestic animals are at risk of ingesting plastic, rodents' manifestations emerge and aesthetic sceneries are impacted. The Government through local councils introduced some initiatives which while addressing the problem, contributed towards reduction in prevailing unemployment, e.g. mobilizing communities to implementing the "3R Principle" (Reduce, Re-use, Recycle). In this manner, communities benefit significantly from their solid waste. This initiative is more common in the capital city, Maseru.

Relevant authorities have applied some interventions to contain waste water effluent through the construction and operation of on-site wastewater treatment plants in wet industries at Thetsane Industrial Area. Periodic water tests are performed following effluent treatment based on national standards. The values are within the limits of the standards with a few exceptions.

Considerable efforts have been made to address some of the negative issues associated with healthcare waste under the Millennium Challenge Corporation.

HCWM policy, strategy and regulations were developed. Throughout the process, the Ministry of Health and other stakeholders were capacitated through on-the-job coaching and active involvement, so that they are able to sustain a proper management of health care waste in Lesotho in future. The government also embarked on a long-term reform process to improve the efficiency of the sector. As part of this effort, it turned to the private sector to create a sustainable healthcare waste management system that protects public health and the environment. A pilot system to collect, treat and incinerate hazardous medical waste in an area serving 300,000 people was undertaken successfully.

Lesotho has specified minimum requirements for the management of HCRW starting from the generation point to the final disposal. The regulations are applied throughout the country, with variations allowed for facilities that are classified as rural, inaccessible.

Construction waste generally consists of rubble and bulky construction debris. If mixed with household waste it becomes attractive to pests (vector and rodents), which can constitute a health risk, but it is generally considered more of an aesthetic problem. Removal of this material can in some instances require specialized equipment as is the case with asbestos containing construction waste in order to reduce the risks involved. Construction waste is largely disposed at dumpsites while a noticeable amount in dongas or household yards as a form of land reclamation (MTEC 2006b). In some instances rubble is illegally dumped in vacant plots. Local Authorities have attempted to control this situation by issuing building permits and environmental clearances even though compliance rate is low.

Indicators and other tools used in this assessment:

List of indicators used for the assessment of this target:

1. Pollution control legislation and strategy developed.
2. Impact of pollution on extinction risk trends.
3. Trends in emission to the environment of pollutants affecting biodiversity.
4. Trends in incidents of hypoxic zones and algal blooms.
5. Trends in pollution deposition rate.
6. Trends in proportion of waste water discharged after treatment.
7. Trends in sediment transfer rates.
8. Trends in water quality in aquatic ecosystems.

Other tools or means used for assessing progress:

Level of confidence:

Level of confidence of the above assessment:

- Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

The level of confidence is based on information from officials and reports.

Adequacy of monitoring information to support assessment

- Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Relevant websites, web links and files:

English |Lesotho Environmental Outlook Report 2014

9. Invasive Alien Species:

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target:

- Progress towards target but at an insufficient rate

Date the assessment was done

09 April 2019

Evidence used in the assessment of this target:

Lesotho is still not completely free of alien invasive species. Alien species spread steadily every year and need to be controlled or eradicated where possible. The Department of Environment (DOE) and the Department of Range Resources Management (DRRM) take a leading role of controlling the invasive alien species in the country. Protected Areas have the AIS management plans which they use to control AIS in and around PAs every year. AIS were cleared over a 15km road in SNP all the way to the village of Sehlabathebe. A 9ha area was cleared of AIS in SNP (around the built infrastructure) and 3ha in the Sehlabathebe Lebenkeleng village.

A number of rangeland hectares invaded with AIS have been cleared by the Department of Range Management. High density Grazing has also been used to clear hectares of AIS and it is envisaged that the technique will be applied as a range management tool in Lesotho to clear rangelands of AIS.

Indicators and other tools used in this assessment:

List of indicators used for the assessment of this target:

1. Legislation and strategies for control and eradication of invasive alien species in place.
2. Trends in number of invasive alien species.
3. Trends in invasive alien species pathways.
4. Trends in the impact of invasive alien species on extinction risk trends.
5. Trends in the economic impacts of selected invasive alien species.
6. Trends in number of local species affected.

Other tools or means used for assessing progress:

Level of confidence:

Level of confidence of the above assessment:

- Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

The level of confidence is based on reports from the DoE and DRRM.

Adequacy of monitoring information to support assessment:

- - Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Relevant websites, web links and files:

English | MDTP Alien Plant Strategy DRAFT6 Updated with IAP map 26 Jan 2014.pdf

10. Vulnerable ecosystems

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target:

- - Progress towards target but at an insufficient rate

Date the assessment was done:

09 April 2019

Evidence used in the assessment of this target:

Lesotho has developed a national Climate Change Policy and Strategy. The strategy is a five year document effecting implementation of the policy and is addressing regulatory protection for species potentially at risk due to climate change; mainstreaming climate change into national environmental management systems, tools and practices; updating of the national biodiversity report; promoting conservation and regeneration of biodiversity with focus on indigenous species; and management and reclamation of degraded and eroded land.

Lesotho periodically assesses the status of implementation of climate change initiatives. Key socio-economic sectors are assessed on their vulnerability and impacts to climate change and adaptation options identified. Key components of national communications are:

- Public awareness campaigns on climate change;
- Compilation of inventory of greenhouse gases emissions; and
- Assessment of vulnerability and adaptation to climate change.

The development of the Third National Communication is currently on-going and scheduled for completion in 2019. The development of the Communication Strategy 2019 is also currently on-going building on the Climate Change Communication Strategy developed in 2012.

Indicators and other tools used in this assessment:

List of indicators used for the assessment of this target:

1. Climate adapted policies and strategies for vulnerable ecosystems in place
2. Trends in extent and rates of shifts of boundaries of vulnerable ecosystems
3. Trends in climatic impacts on species population trends
4. Trends in climatic impacts on species community composition
5. Reduction in anthropogenic pressures on sensitive ecosystems

Other tools or means used for assessing progress:

Level of confidence:

Level of confidence of the above assessment

- Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

Climate change policy and strategy are in place and the third national communication is being developed. However, ecosystem monitoring and evaluation studies have not been undertaken to determine change in extent and species compositions.

Adequacy of monitoring information to support assessment:

- Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Please describe how the target is monitored and indicate whether there is a monitoring system in place:

Although there is no monitoring system in place, the target is monitored through climate change vulnerability assessments.

Relevant websites, web links and files:

11. Protected areas

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

- Progress towards target but at an insufficient rate

Date the assessment was done

09 April 2019

Evidence used in the assessment of this target:

Sehlabathebe National Park (SNP) inscribed as World Heritage Site (WHS); Man and a Biosphere (MAB) - feasibility study completed for establishing the MAB, stakeholder consultations completed, biodiversity survey report completed, MAB communication strategy completed and

nomination dossier being prepared; Snake Park - feasibility study completed and the process under way for absorption of Snake Park and its staff; Thaba-Bosiu Cultural Heritage Site in the tentative list for WHS inscription; Liphofung Nature Reserve - feasibility study completed for declaring the Liphofung as NR and ecotourism destination, consultations about to be finalised, agreement reached with Millennium Challenge Account for development of the site.

All the formally protected areas are managed through adherence to a management plan. The local communities are involved, and they participate in co-management through Community Conservation Forums (CCFs). The MTEC has developed and signed memorandums of understanding with TNP, BNR, and Liphofung CCFs where 15% of the total money collected by the protected areas is given to the CCFs under MTEC guidance for implementation of evaluated community priority projects.

In Sehlabathebe, a Buffer Zone Management Plan, CCF Bylaws, CCF Constitution, and a memorandum of understanding have just been developed through financial assistance from the UNESCO World Heritage Fund. In 2017, a COMPACT Site Strategy was developed through the GEF SGP, and a call for proposals for small community livelihood initiatives was done in February 2019. A process of preparing a nomination dossier to create Lesotho's first biosphere reserve at BNR and TNP is near completion.

Indicators and other tools used in this assessment:

List of indicators used for the assessment of this target:

1. Protected area strategies and management plans in place
2. Trends in extent of protected areas, coverage of key biodiversity areas and management effectiveness
3. Trends in protected area condition and/or management effectiveness including more equitable management
4. Trends in representative coverage of protected areas and other area based approaches including sites of particular importance for biodiversity, and of terrestrial and inland water systems
5. Trends in the delivery of ecosystem services and equitable benefits from protected areas

Other tools or means used for assessing progress:

Level of confidence:

Level of confidence of the above assessment

- Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

The level of confidence is based on protected areas Management Authority reports and management plans. All the formal protected areas have management plans and local communities are involved in their management. For areas under sustainable use such as RMAs, they are fully managed by communities with back-stopping from relevant line ministries.

Adequacy of monitoring information to support assessment:

- Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Please describe how the target is monitored and indicate whether there is a monitoring system in place

The target is monitored based on reports and management plans. Management effectiveness is monitored based on IUCN and World Protected Areas monitoring systems.

Relevant websites, web links and files:

English | SNP Buffer Zone Management Plan Final.docx (PA Management)

English | Buffer Zone Management Plan Action Plan.xlsx (PA Management)

English | Buffer Zone Management Plan Action Plan.xlsx (PA Management)

English | COMPACT SITE STRATEGY - Lesotho Final Edit 8 Oct 17.docx (PA Management)

English | GEF SGP Lesotho

12. Preventing extinctions

Category of progress towards the implementation of the selected target:

Rate of progress toward the implementation of the selected target:

- - Progress towards target but at an insufficient rate

Date the assessment was done:

09 April 2019

Evidence used in the assessment of this target:

Lesotho has made efforts to protect threatened species. A few species specific protection measures have been undertaken such as development in implementation of the bearded vulture (*Gypaetus barbatus*), maloti minnow (*Pseudobarbus quathlambae*), and the spiral aloe (*Aloe poliphyla*). Lesotho has also undertaken an initiative to protect unsustainably utilised flora and fauna by developing and regularly updating their list. They are protected under the Proclamation of Monuments, Relics, Fauna and Flora Act 41 of 1967 as amended in 2004 and 2006.

Given the population trend of the Bearded Vulture and the multiple threats to the species, a decision was taken by the Bearded Vulture Task Force (BVTF) in 2015 to start captive breeding by establishing a captive flock and to release juveniles into the wild. Eggs were harvested for the 2017 breeding season. A Biodiversity Management Plan (BMP) for the species has been produced. Lesotho has adopted the Bearded Vulture BMP under her Biodiversity Legislation and incorporates its principles as management tools. The BMP recognizes the need to implement a species recovery programme to arrest population decline and increase the number of breeding pairs. The Bearded Vulture Breeding Programme management structures have been formalised between Lesotho and SA by forming a Steering Committee to provide overall coordination and strategic direction and works seamlessly with the BVTF. The Lesotho Ministry of Tourism, Environment and Culture (MTEC) is fully represented and active in the Steering Committee and BVTF. As the program is still at infancy stage, no tangible result has been realised.

A Maloti minnow survey was undertaken in 2017 in Mohale and Eastern Evolutionary Significant Unit (ESU) with the aim of re-assessing the status of native and translocated populations of *P. quathlambae* Mohale ESU; re-assessing the status of *P. quathlambae* Eastern ESU populations;

re-evaluating the relevance of constructing a physical barrier across the Senqunyane-, Bokong- and Jorodane River; and making recommendations for the conservation of both the Mohale ESU and the Eastern ESU. After the survey, the next step is to develop a Biodiversity Management Plan for Maloti Minnow. This survey will also serve as the baseline to list Maloti Minnow under CITES Appendix 1 during the next CITES COP.

The environmental Act 2008 is the principal law for environmental management addressing environmental impact assessment, biodiversity conservation and pollution control. Lesotho's Biodiversity legislation that provides for biodiversity conservation, protected areas and for the establishment of institutional structures and mechanisms for the management of biodiversity and to provide for related matters is still in draft form as a Bill. There is also a draft CITES law for regulation of international trade in endangered species of fauna and flora.

Indicators and other tools used in this assessment:

List of indicators used for the assessment of this target:

1. Trends in number and population of threatened and endangered species
2. Trends in conservation initiatives aimed at threatened and endangered species

Other tools or means used for assessing progress:

Level of confidence:

Level of confidence of the above assessment

- - Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

The information used comes from reports and studies undertaken.

Adequacy of monitoring information to support assessment:

No monitoring system in place

Relevant websites, web links and files:

English |Krüger et al BCI 2014_Bearded Vulture status.pdf

English |Major concern about large-scale losses of vulture in Africa due to poisoning.pdf
VULTURE EDUCATION AND AWARENESS 2016 REPORT.pdf

English |Gazetted Bearded Vulture BMP (public participation).pdf Maloti Minnow Report for DOE.pdf

English |20160729 Conservation of Spiral Aloe Colony at Nc'unyane. Docx

13. Agricultural biodiversity

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target

- - Progress towards target but at an insufficient rate

Date the assessment was done

04 July 2019

Evidence used in the assessment of this target:

Lesotho is running a programme aimed at assisting the country on pre-approval and post-monitoring of living modified organisms that may have adverse effects on the conservation and sustainable use of biological diversity, in general surveillance and in trans-boundary movements of living modified organisms as part of the risk assessment processes under Articles 16 and 17 of the Cartagena Protocol on Biosafety.

Through GEF-UNEP support for the implementation of National Biosafety Framework, Lesotho has drafted Biosafety Bill 2018, developed Risk Assessment and Risk Management guidelines, developed monitoring and enforcement guidelines, developed manual for handling requests, procured laboratory equipment for LMO testing and developed national biotechnology and biosafety awareness strategy 2012 – 2017 and carried out outreach programmes in the form of workshops, awareness materials, newspaper, radio and TV programmes and mainstreaming into national curriculum.

The programme through GEF-UNEP Multi-Country Project to Strengthen Institutional Capacities on LMO Testing in Support of National Decision-Making has capacitated NUL and DAR laboratories in terms of spatial orientation required for LMO testing and the required equipment for LMO testing to support national decision making.

A study on Assessment of the Status of Plant Genetic Resources and On-Farm Conservation in five districts of Lesotho (Leribe, Botha-Bothe, Quthing, Mohale's Hoek and Thaba-Tseka) was carried out in which it was discovered that 14 different crops comprising farmers' varieties and improved varieties are cultivated in the five targeted districts that largely represent the highlands and foothills. Nevertheless, this status quo in principle resembles crops that are adapted to the local conditions country-wide irrespective of the agro ecological zone. These include cereals, legumes, fodder, and vegetables. The following six crops namely Maize (*Zea mays*), Beans (*Phaseolus vulgaris*), Wheat (*Triticum aestivum*), Sorghum (*Sorghum bicolor*), Peas (*Pisum sativum*) and Pumpkins (*Curcubita species*), are popular across the five districts due to the important role that they play in dietary requirements including maize as a staple food, wheat for making bread, sorghum for porridge and home brew as well as beans and peas as sources of protein.

The Department of Agricultural Research is running a seed bank facility to conserve indigenous varieties of crops and their wild relatives. The preparations are underway to establish a similar programme for indigenous animal varieties and their relatives.

Other tools or means used for assessing progress:**Level of confidence:**

Level of confidence of the above assessment

- Based on partial indicator information and expert opinion

Level of confidence is based on reports and stakeholder consultations

Explanation for the level of confidence indicated:

Adequacy of monitoring information to support assessment

- Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

There is no formal monitoring system in place. The target is monitored through assessment of indicators on work done to date as depicted from progress reports.

Relevant websites, web links and files:

English |Lesotho pgr FA0 status report 2014 ver. 2 Final.doc

English |Terminal Report_Lesotho.pdf

14. Essential ecosystem services

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target

- Progress towards target but at an insufficient rate

Date the assessment was done:

29 April 2019

Evidence used in the assessment of this target:

Under the Sustainable Land Management (SLM) project, a toolkit for SLM has been developed. The toolkit includes range resources management techniques. These techniques address the main constraints in the management of range resources for livestock production and to maintain and enhance the biodiversity of the rangelands of the country. This also includes the importance of vegetation in climate change adaptation, improvement of the water resources base and protection of the soil in the rugged terrain of the highlands of Lesotho.

The GEF SGP has undertaken the following projects in collaboration with relevant line ministries and local communities:

1. Application of biological and physical rehabilitation of the range land resources of Mofolaneng

Project is a pilot to implement biological and physical rehabilitation of the range-lands of Motseremeli and Ramosetsana Grazing areas, allocated for utilization and management to the Mofolaneng Grazing Association through delegation from the Principal Chief of Tlokoeng. Both grazing areas are utilized by livestock farmers for grazing during the winter season and as a strategy to rest the summer grazing for recovery. Over time and through repeated sessions of grazing livestock randomly, both grazing areas have been selectively overgrazed, to the extent that they have been seriously degraded. There are varying degrees of invasion of alien *Chrysocomma* shrub and erosion has cut large galleys along the streams. The main road from Butha-Buthe to Mokhotlong has been constructed and cuts through the two grazing areas, thus disturbing the natural water flow channels, by diverting them through culverts. This has exacerbated the level of erosion along the channels, which invariably cut-through and drained the wetlands below. The community has been engaged in the uprooting of shrubs to try and restore grazing capacity; as well as lining up the slopes with stone to slow down the surface flow which in places has washed off the soil to bare rock.

2. Application of high-density grazing approach for improved rangeland condition and restoration of wetlands for improved water supply

Project addresses application of high-density grazing approach at the watershed, downstream of which are patches of wetlands whose water is demanded for irrigation on horticultural initiatives, consisting of a botanical garden, nursery, green-houses, an orchard and a vegetable garden, by the Bolokanang Liphamola Support Group, which is an association with the objective of addressing vulnerability of livelihoods in the village and its environs.

The community sought support and means to try and address the health requirements through provision of fresh fruits, vegetables and medicinal products in order to address the needs of vulnerable groups, incorporating the old and infirm, orphans and the HIV scourge in the sub-region. They proceed with access to grazing land on which high-density grazing is practiced, at the bottom of which about 8 wetlands already exist, that are maintained, below which a botanical garden, nursery, green-house, a vegetable garden and an orchard are supplied with a constant source of water for irrigation.

3. Blackberry cultivation for landscape conservation and climate smart agro technologies in Senqu River Basin

The project started in April 2017 and its aim is to address the issues of biodiversity, land degradation and climate change in the Senqu River Valley area. Establishment of blackberry as a crop in this project area is not only relevant in research but also addresses the pertinent issues of poverty and job creations. Thus the investigative approach followed by the pilot phase of the developed technologies is a general approach to this project.

4. Capacity Development for Improved Honey Production

The project was implemented over a period of two years by Maseepho Beekeeping Corporative Society starting in December 2017, in the Qacha's Nek district. The project brings together beekeeping communities from around 10 villages within the three constituencies of Tsoelike, Lebakeng and Qacha's Nek. These communities have limited income streams due to the high unemployment rate in Lesotho and reside in the

highlands areas (lower Senqu catchment area), where agriculture is highly unpredictable in the face of climate change, although it is their main livelihood source. Project targeted the youth, women, men and people with disability in the areas. The project raises awareness about the dangers of burning of range-lands as veld fires are a major environmental hazard on the range-lands of Lesotho.

5. Ecological Recovery of Mateanong Rangeland wetlands in the upper Orange-Senqu Catchment

The was a pilot to instigate ecological recovery of the Rapeising and Moiteling rangelands and wetlands supporting the Mateanong Wool and Mohair Association farmers and community under the Principal Chief of Khalahali. It constituted the following components: Brush control by the community at Rapeising Grazing area; Practicing of Rotational High-Density Grazing of livestock by livestock owners (Farmers) during the summer months in the Upper Moiteling and Rapeising Grazing areas; undertaking ultra-high treatment with mobile-kraaling of livestock in the lower Moiteling; and treatment of brush and valley-head cuts with placement of salt-licks at strategic points to encourage high livestock activity. Monitoring of the interventions over the pilot duration was undertaken. The experiences, challenges, resolutions and lessons learned will be replicated to other areas.

6. Promoting sustainable rangeland resources management practices and strengthening institutional capacity for fire management to enhance resilience of livelihoods

The project is implemented over a period of two years by Ramatseliso Grazing Association starting in December 2017. The Association identifies veld fires as a key environmental threat to the range-land resources within the project area. Frequent wild fires on the range-lands, together with unsustainable grazing management practices, cause severe degradation of the range-lands ecosystems. These factors, coupled with the impacts of climate change, exacerbate the already dire situation of range-lands degradation in Lesotho. Therefore the project supports more than four hundred households from Ha Ramatseliso area, whose livelihoods depend on the range- lands ecosystem to provide livestock grazing and a variety of other critical ecosystem services that sustain life. These households have limited income streams due to the high unemployment rate in the country and reside in the area where crop production is highly unpredictable and likely to be risky in the face of climate change. The project prioritizes implementing actions that promote sustainable range-land resources management practices with a strong focus on combating veld fires. Target beneficiaries include the farming community (women, men, youth, and people with disability), who reside within the Ramatseliso area and participation in project activities is not only limited to livestock owners.

The project beneficiaries are supported to promote adoption of sustainable range-land resources management practices. Additional support is also availed to beneficiaries to support alternative income generating activities through identified strategies that allow for diversified income sources. Project beneficiaries engage in intensive community consultation processes during implementation, to solicit broad participation.

7. Range Conservation, Land Reclamation and Rehabilitation for Fodder Production in Mokhotlong

The project sites are located in the highlands of Lesotho within the catchment of the proposed Polihali Dam under Phase II of the Lesotho Highlands Development Project. The area is characterized by badly degraded range-lands, excessive runoff and high rates of soil erosion, brought about by inappropriate livestock and land husbandry practices exacerbated by climate change. With the proposed dam construction, vast areas of land mostly range-lands will be inundated by water further reducing range resources and even more pressure on the resources. It is on this background that two communities faced with resettlement have been mobilized to engage in sustainable land management practices: land reclamation, rehabilitation and protection; and fodder production for stall-feeding to safeguard the life of the proposed dam, support livelihoods.

8. Rehabilitation and Sustainable Management of the range land and wetland resources of the upper Khubelu River Catchment

The project was started in December 2017 and will be completed in January 2020. It promotes public awareness of global environment, significant participation of local communities, emphasis on sustainable livelihoods, capacity building gender focus and policy impact.

Other important ecosystems that provide essential services are protected within the boundaries of protected areas as explained under relevant ABTs.

Indicators and other tools used in this assessment:

List of indicators used for the assessment of this target:

Other tools or means used for assessing progress:

Level of confidence:

Level of confidence of the above assessment

- Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

The level of confidence is based on information on various stakeholder reports.

Adequacy of monitoring information to support assessment:

- Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Monitoring has been done based on the project log frames and implementation progress reports.

Relevant websites, web links and files:

15. Ecosystem resilience

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target

- - Progress towards target but at an insufficient rate

Date the assessment was done:

09 April 2019

Evidence used in the assessment of this target:

Lesotho has developed a national Climate Change Policy and Strategy. The strategy is a five year document effecting implementation of the policy and is addressing regulatory protection for species potentially at risk due to climate change; mainstreaming climate change into national environmental management systems, tools and practices; updating of the national biodiversity report; promoting conservation and regeneration of biodiversity with focus on indigenous species; and management and reclamation of degraded and eroded land.

Lesotho periodically assesses the status of implementation of climate change initiatives. Key socio-economic sectors are assessed on their vulnerability and impacts to climate change and adaptation options identified. Key components of national communications are:

- Public awareness campaigns on climate change;
- Compilation of inventory of greenhouse gases emissions; and
- Assessment of vulnerability and adaptation to climate change.

The development of the Third National Communication is currently on-going and scheduled for completion in 2019. The development of the Communication Strategy 2019 is also currently on-going building on the Climate Change Communication Strategy developed in 2012.

The following projects undertaken by the GEF SGP in Lesotho contribute towards building ecosystem resilience:

1. Application of biological and physical rehabilitation of the range land resources of Mofolaneng

Project is a pilot to implement biological and physical rehabilitation of the range-lands of Motseremeli and Ramosetsana Grazing areas, allocated for utilization and management to the Mofolaneng Grazing Association through delegation from the Principal Chief of Tlokoeng. Both grazing areas are utilized by livestock farmers for grazing during the winter season and as a strategy to rest the summer grazing for recovery. Over time and through repeated sessions of grazing livestock randomly, both grazing areas have been selectively overgrazed, to the extent that they have been

seriously degraded. There are varying degrees of invasion of alien *Chrysocomma* shrub and erosion has cut large galleys along the streams. The main road from Butha-Buthe to Mokhotlong has been constructed and cuts through the two grazing areas, thus disturbing the natural water flow channels, by diverting them through culverts. This has exacerbated the level of erosion along the channels, which invariably cut-through and drained the wetlands below. The community has been engaged in the uprooting of shrubs to try and restore grazing capacity; as well as lining up the slopes with stone to slow down the surface flow which in places has washed off the soil to bare rock.

2. Application of high-density grazing approach for improved rangeland condition and restoration of wetlands for improved water supply

Project addresses application of high-density grazing approach at the watershed, downstream of which are patches of wetlands whose water is demanded for irrigation on horticultural initiatives, consisting of a botanical garden, nursery, green-houses, an orchard and a vegetable garden, by the Bolokanang Liphamola Support Group, which is an association with the objective of addressing vulnerability of livelihoods in the village and its environs. The community sought support and means to try and address the health requirements through provision of fresh fruits, vegetables and medicinal products in order to address the needs of vulnerable groups, incorporating the old and infirm, orphans and the HIV scourge in the sub-region. They proceed with access to grazing land on which high-density grazing is practiced, at the bottom of which about 8 wetlands already exist, that are maintained, below which a botanical garden, nursery, green-house, a vegetable garden and an orchard are supplied with a constant source of water for irrigation.

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The project was implemented over a period of two years by Maseepho Beekeeping Corporative Society starting in December 2017, a in the Qacha's Nek district. The project brings together beekeeping communities from around 10 villages within the three constituencies of Tsoelike, Lebakeng and Qacha's Nek. These communities have limited income streams due to the high unemployment rate in Lesotho and reside in the highlands areas (lower Senqu catchment area), where agriculture is highly unpredictable in the face of climate change, although it is their main livelihood source. Project targeted the youth, women, men and people with disability in the areas. The project raises awareness about the dangers of burning of range-lands as veld fires are a major environmental hazard on the range-lands of Lesotho.

5. Ecological Recovery of Mateanong Rangeland wetlands in the upper Orange-Senqu Catchment

The was a pilot to instigate ecological recovery of the Rapeising and Moiteling rangelands and wetlands supporting the Mateanong Wool and Mohair Association farmers and community under the Principal Chief of Khalahali. It constituted the following components: Brush control by the community at Rapeising Grazing area; Practicing of Rotational High-Density Grazing of livestock by livestock owners (Farmers) during the summer months in the Upper Moiteling and Rapeising Grazing areas; undertaking ultra-high treatment with mobile-kraaling of livestock in the lower Moiteling; and treatment of brush and valley-head cuts with placement of salt-licks at strategic points to encourage high livestock activity. Monitoring of the interventions over the pilot duration was undertaken. The experiences, challenges, resolutions and lessons learned will be replicated to other areas.

6. Promoting sustainable rangeland resources management practices and strengthening institutional capacity for fire management to enhance resilience of livelihoods

The project is implemented over a period of two years by Ramatseliso Grazing Association starting in December 2017. The Association identifies veld fires as a key environmental threat to the range-land resources within the project area. Frequent wild fires on the range- lands, together with unsustainable grazing management practices, cause severe degradation of the range-lands ecosystems. These factors, coupled with the impacts of climate change, exacerbate the already dire situation of range-lands degradation in Lesotho. Therefore the project supports more than four hundred households from Ha Ramatseliso area, whose livelihoods depend on the range- lands ecosystem to provide livestock grazing and a variety of other critical ecosystem services that sustain life. These households have limited income streams due to the high unemployment rate in the country and reside in the area where crop production is highly unpredictable and likely to be risky in the face of climate change. The project prioritizes implementing actions that promote sustainable range-land resources management practices with a strong focus on combating veld fires. Target beneficiaries include the farming community (women, men, youth, and people with disability), who reside within the Ramatseliso area and participation in project activities is not only limited to livestock owners.

The project beneficiaries are supported to promote adoption of sustainable range-land resources management practices. Additional support is also availed to beneficiaries to support alternative income generating activities through identified strategies that allow for diversified income sources. Project beneficiaries engage in intensive community consultation processes during implementation, to solicit broad participation.

7. Range Conservation, Land Reclamation and Rehabilitation for Fodder Production in Mokhotlong

The project sites are located in the highlands of Lesotho within the catchment of the proposed Polihali Dam under Phase II of the Lesotho Highlands Development Project. The area is characterized by badly degraded range-lands, excessive runoff and high rates of soil erosion, brought about by inappropriate livestock and land husbandry

practices exacerbated by climate change. With the proposed dam construction, vast areas of land mostly range-lands will be inundated by water further reducing range resources and even more pressure on the resources. It is on this background that two communities faced with resettlement have been mobilized to engage in sustainable land management practices: land reclamation, rehabilitation and protection; and fodder production for stall-feeding to safeguard the life of the proposed dam, support livelihoods.

8. Rehabilitation and Sustainable Management of the range land and wetland resources of the upper Khubelu River Catchment

The project was started in December 2017 and will be completed in January 2020. It promotes public awareness of global environment, significant participation of local communities, emphasis on sustainable livelihoods, capacity building gender focus and policy impact.

9. Rehabilitation and Sustainable Management of the range land and wetland resources of the upper Senqu River Catchment

This project is piloted from December 2017 ending in January 2020 to implement biological rehabilitation of the range-lands allocated for utilization and management by the TLHANYAKU-SENQU Grazing Association through delegation from the Principal Chief of Khalahali.

The grazing area has degraded over the years and has reached a stage where the grazing potential is seriously threatened by rapidly expanding invasion of *Chrysocomma* shrub that out-competes palatable grasses and has as such seriously reduced grazing capacity. The impact of this invasion is community livelihoods reductions, as their lives are supported by subsistence agriculture, the core of which is livestock rearing. Community has learned about manual uprooting of the shrub to recover the grazing potential, which is supported by government, through provision of food handouts. This however proves unsustainable, as government resources for doing these depend on foreign aid. It is also ineffective as such a response does not address the cause of the bush invasion.

The community is addressing the source of degradation. They have learnt of high-density grazing and mobile kraaling that will reduce the shrub using their own animals and this does not perpetuate dependency, and will bring lasting solution, which also have a potential to reverse land degradation. The objective of the pilot, is to enhance the potential of grazing through reduction of invasive bush and physical rehabilitation of some areas that have developed dongers. The timing is proposed to target two seasons that encourage grass growth starting in mid-August up to late April of the following year of 2018 and 2019 respectively.

10. Rehabilitation and sustainable management of the range land resources in Sehlabathebe

Implemented from December 2017 to January 2020 by Sehlaba-Thebe Grazing Association, the project brings together over a thousand households from within the Sehlaba-Thebe area, whose main livelihoods depend on range-land ecosystems. These ecosystems provide a range of services such as grazing, water supply, nutrients cycling, flood attenuation etc. to sustain life. Communities within the project area have limited income streams due to the high unemployment rate. The project target beneficiaries include the farming community (women, men, youth, and people with disability), who reside within the Sehlaba-Thebe.

The project concept is anchored on sustainable land management with focus on the range-land ecosystems and building resilience of livelihoods of communities. It acknowledges that range-land degradation in Lesotho is a major concern and that it is driven by poor grazing management control, with one of the biggest issues being continuous grazing and the lack of resting of grazed areas to allow for recovery particularly of palatable grass species. To address the widespread challenge of range-lands degradation in Lesotho, Sehlabathebe Grazing Association is implementing high-density grazing system. This system is a recommended management tool that has been tested in Lesotho and proven to halt the deterioration of range-land resources and enhance environmental benefits of a well-managed landscape.

The landuse system in Lesotho dictates that range-lands are communal resources. Therefore, the project implementation strategy seeks to engage in extensive community participation processes to ensure rehabilitation and sustainable management of the range-lands.

Gaining community support from project planning, design phase, implementation and during monitoring and evaluation is critical. The strategy leverages on strategic networks and linkages that will be maintained between the project beneficiaries and key stakeholders from various sectors (both public and private) in terms of capacity development, skills transfer and knowledge management. The project is empowering communities to take charge of and drive their own development agenda, through implementing appropriate interventions to combat range-lands degradation challenges and build resilience of livelihoods through diversifying income sources at household level. Targeted training and capacity development measures, together with implementation of range-lands rehabilitation actions is led by the project beneficiaries, with technical support from relevant line ministries.

11. Wetland Restoration and Conservation Project – 2

The project started in May 2015 and ended in December 2015. The objective was to restore the hydrology of the critical wetlands in order to improve the quantity and quality of water and to establish healthy wetland plant community through sustainable rehabilitation and management approaches in Semonkong.

12. Protection and sustainable use of soil and water resources in Likhetlane

Likhetlane is endowed with perennial springs that support communities from villages that fall within the area. Harnessing of the water was done in the 70s and 80s through construction of dams/ponds and used for watering livestock and some fish farming. With recurring drought spells, poor management of the range-land and cropland surrounding these resources, and the terrain which makes the area prone to excessive runoff and soil erosion, the crop land is becoming more and more unproductive and ponds/dams have and or are silting up. To address these challenges and hopefully to reverse the degradation trend, TASESEQE has undertaken to rehabilitate the degraded land through adoption of sustainable range management, construction of soil and water conservation structures for cropland protection, introduction of agro-forestry, promotion of fish farming and initiation of ecotourism activities within the project area.

Level of confidence:

Level of confidence of the above assessment

- - Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

Policy and strategy addressing resilience to climate change has been developed and implementation is underway. There is a lot of work done on range- lands to reverse land degradation and built resilience. The network of protected areas is increasing even though it is at a slow pace. The management effectiveness of protected areas is also improving with elevation of some protected areas to world heritage and biosphere reserve status and application of international best practice including involvement of the local communities.

Adequacy of monitoring information to support assessment:

- No monitoring system in place

Relevant websites, web links and files:

English | <https://sgp.undp.org/web/projects> GEF SGP Lesotho

16. Nagoya Protocol on ABS

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target

- - Progress towards target but at an insufficient rate

Date the assessment was done

11 April 2019

Evidence used in the assessment of this target:

Since acceding to the Nagoya Protocol in 2015, Lesotho through the Department of Environment has struggled with financial and technical capacities including staff shortages and effective institutionalization of the Protocol. In addition, Lesotho has not yet developed any ABS legislation, procedures and/or guidelines, as a result, issues related to ABS are currently being undertaken in an uncoordinated, fragmented and haphazard manner. It becomes difficult therefore to coordinate ABS issues, institutionalize it and obtain requisite information.

However, there are two situation analysis exercises that the country undertook since becoming a party to the Protocol and this analysis have provided requisite information and guidance on moving forward to implement the Protocol. For example, the analysis made recommendations on institutions that could be competent national authorities and checkpoints. This guidance helped the DOE as a national focal point to designate these institutions as indicated in below:

- Ministry of Tourism, Environment and Culture-Department of Environment
- Ministry of Agriculture and Food Security-Department of Agricultural Research
- Ministry of Forestry, Range and Soil Conservation

There are two situation analysis exercises that the country undertook since becoming a party to the Protocol and this analysis have provided requisite information and guidance on moving forward to implement the Protocol. For example, the analysis made recommendations on institutions which could be competent national authorities and checkpoints. This guidance helped the DOE as a national focal point to designate these institutions as indicated in below:

- Ministry of Trade and Industry
- Ministry of Small Business Development
- Ministry of Local Government and Chieftainship
- Ministry of Health
- Ministry of Police and Public Security
- Ministry of Law and Constitutional Affairs National University of Lesotho-Faculty of Science,
- Faculty of Agriculture and Faculty of Health Sciences
- Lesotho Revenue Authority - Customs Division
- Lesotho National Development Corporation (LNDC)

Indicators and other tools used in this assessment

List of indicators used for the assessment of this target:

1. Ratification status of protocol
2. Presence of National Legislation to implement protocol
3. Trends in implementation of the protocol

Other tools or means used for assessing progress:

Relevant websites, web links and files:

English |Nagoya Protool Interim National Report -07-05-19-FINAL.docx

Level of confidence:

Level of confidence of the above assessment

- - Based on partial indicator information and expert opinion

Level of confidence of the above assessment

Reports from officials and the Nagoya Protocol Interim national Report.

Explanation for the level of confidence indicated:

Reports from officials on adoption and implementation of the protocol

Adequacy of monitoring information to support assessment

- Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Please describe how the target is monitored and indicate whether there is a monitoring system in place.

The target is monitored based on expert opinion and partial indicators.

17. NBSAPs

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target

- Progress towards target but at an insufficient rate

Date the assessment was done

29 April 2019

Evidence used in the assessment of this target:

Although the the NBSAP was not updated and adopted as a policy instrument by 2015 as per the Aichi Biodiversity Target, the following efforts are being made regarding review of the NBSAP.

Preparation for stakeholder consultations for review of the NBSAP;

Development of the NBSAP structure by agreeing on objectives, themes and principles; and Preparations for participatory development of the revised NBSAP

Indicators and other tools used in this assessment:

1. Trends in development, adoption and implementation of National Biodiversity Strategies and Action Plans as policy instruments.
2. Monitoring and evaluation reports on implementation of the NBSAP.

Level of confidence:

Level of confidence of the above assessment

- Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

The process of NBSAP review was not completed by 2015, and it is still not finalized to date.

Adequacy of monitoring information to support assessment

- Monitoring related to this target is partial (e.g. only covering part of the area or issue)

18. Traditional knowledge

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target

- Progress towards target but at an insufficient rate

Date the assessment was done:

09 April 2019

Evidence used in the assessment of this target:

Indigenous Knowledge Systems (IKS) situational analysis was conducted and will pave a way for institutionalization, policy formulation and commercialization. Negotiations are underway with SA for funding and development of IKS Policy. This is still a relatively new and under-researched field in Lesotho.

Indicators and other tools used in this assessment:

Level of confidence:

Level of confidence of the above assessment

- Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

Confidence based on reports from line ministries.

Adequacy of monitoring information to support assessment:

- Monitoring related to this target is partial (e.g. only covering part of the area or issue)

19. Biodiversity knowledge

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target

- Progress towards target but at an insufficient rate

Date the assessment was done:

09 April 2019

Evidence used in the assessment of this target:

A number of research studies have been undertaken in some of the disciplines pertinent to biodiversity conservation and its sustainable use. However, there is need to regularly disseminate this knowledge to local communities in a form that they can understand. There is also effort made in development of environmentally friendly technologies such as energy efficient cooking stoves and wonder bags. Technologies for Economic Development (TED) are involved in the development of these technologies, and they work directly with local communities in developing

the products. However, there is need to couple the development of the stoves with environmental initiatives such as afforestation and other environmental conservation and reclamation programmes.

The national Energy Policy provides for development of green technologies, and the Lesotho National Development Corporation (LNDC) also focuses on green technologies in its investment promotion and facilitation services.

Indicators and other tools used in this assessment:

List of indicators used for the assessment of this target:

1. Research and green technologies policy in place and implemented.
2. Trends in biodiversity research and knowledge dissemination.
3. Trends in development and use of green technologies.
4. Trends in communities using green technologies by gender.

Level of confidence:

Level of confidence of the above assessment

- Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

There is no monitoring framework in place. However, based on available information and reports the assessment above was made.

Adequacy of monitoring information to support assessment:

- Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Relevant websites, web links and files:

[http://www.lndc.org.ls/renewable energy](http://www.lndc.org.ls/renewable%20energy)

20. Resource mobilization

Category of progress towards the implementation of the selected target:

Rate of progresses toward the implementation of the selected target

- Progress towards target but at an insufficient rate

Date the assessment was done:

04 April 2019

Evidence used in the assessment of this target:

Mobilization of resources for Biodiversity conservation has not been integrated clearly in different sectoral plans and strategies including Government and national strategies (NSDP I 2012-2017). However the Department of Environment through its division on programmes and international liaison has a mandate to coordinate programmes under Multilateral Environmental Agreements

(MEA's) and facilitate mobilization and coordination of funds to support different environmental projects. There are also initiatives for resources mobilization from other government Ministries. Lesotho gets support to implement the environmental projects in a form of financial assistance mainly from the Global Environment Facility (GEF), International Organization e.g. United Nations Educational, Science and Cultural Organisation (UNESCO), International Atomic Energy Agency (IAEA) and also from the Government of Lesotho in a form of both financial and in kind support.

The assessment was done based on projects proposals and project identification forms (PIFs) submitted to the Department of Environment and the country programmes for projects cycles under the IAEA and also the MOUs for programmes proposals under UNESCO. There is a speculative support from other sectors like the private sector that can not be measured as it is not coordinated.

Indicators and other tools used in this assessment:

- A list of potential donors compiled
- Number of biodiversity projects funded
- NBSAP reviewed by 2016

Any other tools or means used for assessing progress.

Country Programme Framework and project Designs under IAEA; PIF for GEF funded Projects

MOUs for international Agencies programmes

Relevant websites, web links and files:

English | GEF SGP Lesotho

English | NDC - Lesotho Nationally Determined Contribution.pdf

English | UNESCO Transparency Portal

Level of confidence

Level of confidence of the above assessment

- - Based on partial indicator information and expert opinion

Explanation for the level of confidence indicated:

Adequacy of monitoring information to support assessment

- - Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

No monitoring system in place.

Section IV. Description of national contribution to the achievement of each global Aichi Biodiversity Target

1. Awareness of biodiversity values

National Contributed to the achievement of Target:

Basotho are currently aware of biodiversity issues. Biodiversity conservation is done in collaboration with stakeholder ministries, NGOs, Academia and local communities. National regulatory instruments such as the Constitution of Lesotho, Environment Act, Local Government Act, Land Act, and various ministry policies incorporate biodiversity safeguarding and sustainable use. Major national policy and programmes documents incorporate biodiversity conservation and its sustainable utilization.

Teachers and various resource user groups including local communities and herders have been made aware of biodiversity issues. Capacity building on teachers has led to creation of School Environmental Groups. Herders have been formed into associations, and resources users associated with range-lands conservation have formed Grazing Associations meant for management of range-lands for biodiversity conservation. Communities living around protected areas have become organized into Community Conservation Forums (CCFs) and they actively participate in protected areas management.

The department of Environment and stakeholder ministries have district officials who work directly with local communities to create awareness and implement biodiversity conservation programmes. Biodiversity and environmental issues have been incorporated in the national school's curriculum. Each year the country observes a national tree planting day and uses the platform to create awareness on environmental and biodiversity issues. The Department of Environment runs an Outreach Division which develops, implements and reviews an Environment Education and Awareness Strategy. The Maloti Drakensberg Trans-Frontier Programme within the Department of Environment has also develops, implements and reviews a Bilateral Biodiversity Education and Awareness Strategy with South African counterparts. Awareness on biodiversity is continuously created through publication of awareness materials in brochures and pamphlets, radio and TV programmes, community meetings and workshops, and school programmes. Unfortunately, no evaluation has been undertaken to review the effectiveness of the awareness programmes.

A strategy for Education for Sustainable Development and Environmental Education 2014 was developed and implemented.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

Lesotho also observes and celebrates international environment days, and this helps to create awareness on environment and biodiversity issues.

2. Integration of biodiversity values

National Contributed to the achievement of Target:

Lesotho is doing very well regarding incorporation of biodiversity in the planning and development of major policies as depicted in Vision 2020, NSDP I and II and various strategic documents. However, comprehensive accounting mechanisms have not been put in place and resource valuation studies have not been undertaken. The Department of Environment performs audits on projects that have been given clearance certificates following review of their EIAs.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

Lesotho plans, implements and reviews biodiversity conservation and management strategies through a bilateral agreement with South Africa. Lesotho is part of the Southern African

Development Community (SADC) which has developed, implements and reviews a regional Biodiversity Strategy and Action Plan. The country is also a signatory to various Multilateral Environmental Agreements (MEAs).

3. Incentives

National Contributed to the achievement of Target:

Government through the Ministry of Agriculture and Food Security runs a subsidy on fertilizers and genetically modified seeds (GMOs). There is a risk of pollution from fertilizers and cross pollination from the GMO seeds. However, no study has been undertaken to evaluate the impact of these subsidies on biodiversity. Lesotho National Development Corporation (LNDC) provides investment subsidies in the form of incentives towards investment in textile and other industries. The effect of the industries may increase volumes on solid, liquid and air pollution. A national direct effect of these industries on biodiversity has not been evaluated.

The government through projects such as the Wool and Mohair Production Project, provide incentives for reduction in the number of livestock through provision and ownership of improved productive breeds to livestock owners. There are various livelihood diversification initiatives including those implemented by GEF SGP, MCA and partners to help provide alternatives and reduce pressure on the environment thereby contributing towards biodiversity conservation and sustainable use. Responsible ecotourism is also used as an incentive for biodiversity conservation.

4. Use of natural resources

National Contributed to the achievement of Target:

The Environment Act through implementation of EIA and auditing of projects ensures that industrial production does not bring harmful effects on the environment and biodiversity. Biodiversity legislation is in a bill, and once enacted, it will guide biodiversity conservation and sustainable use. Protected areas through their management plans regulate the form and magnitude of development that may take place in and around protected areas.

Although no monitoring studies have been carried out, the overall demand natural/biodiversity resources has not changed due to widespread poverty and inadequacy of alternative livelihood initiatives and development and, accessibility of green technologies, especially to local communities. In order to regulate trade in endangered species, Lesotho is drafting CITES legislation which is currently in a bill form.

In order to address sustainable consumption and production, the following plans have been developed:

- Scaling up of renewable energy program;
- Development and implementation of sustainable energy strategy;
- Development and implementation of National Climate Change Policy and Strategy;
- Science and innovation bill;
- Tourism Master Plan; and
- CSA Investment Plan.

Lesotho's major policies and strategies observe the principles of sustainable consumption and production as depicted in Vision 2020, NSP|DP I and NSDP II. The other policies and strategies are subsidiary and they are meant to achieve the major national policies.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

Lesotho is party to multilateral environmental agreements (MEAs) including the United Nations Convention on Climate Change. The country is also party to the 10 Years Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP). The 10YFP is a global framework for action to enhance international cooperation and accelerate the shift towards sustainable consumption and production (SCP) patterns in both developed and developing countries.

5. Loss of habitats

National Contributed to the achievement of Target:

Apart from awareness raising, promulgation and enforcement of laws that safeguard the environment, various projects have been implemented with stakeholder ministries and local communities to address loss of major habitats mainly resulting from land degradation due to poor range management practices and unsustainable resource extraction resulting from demand for fuel, food, shelter, medicinal, and livelihood. Some important habitats including wetlands, grasslands and indigenous forests have been protected through establishment and effective management of protected areas, trans-frontier conservation initiatives, and range management areas through local community associations.

A resource inventory survey has not been undertaken in order to map exact physical changes on habitats with accompanying biodiversity profiles. There is implementation of integrated catchment management to stop and reclaim loss of habitats.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

Lesotho is party to multilateral environmental agreements (MEAs) including the United Nations Convention to Combat Desertification. The country is also party to the 10 Years Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP). The 10YFP is a global framework for action to enhance international cooperation and accelerate the shift towards sustainable consumption and production (SCP) patterns in both developed and Developing countries..

6. Sustainable fisheries

National Contributed to the achievement of Target:

In the period between 2014 and 2018, studies were undertaken at Katse and Mohale Dams to monitor the fish species that occur in the two dams. The general objective of the survey was to monitor fish abundance, size and species composition of the fish populations inhabiting Katse and Mohale Dams. This was achieved through collection of data on number, weight and length of fish. The collected data was used as part of a long term monitoring programme aimed at determining fisheries potential of the dams. The specific objectives were to determine the following:

- Catch Per Unit Effort (CPUE)
- Index of Relative Importance (IRI)
- Length frequency
- Gear Selectivity

- Undertake a comparative analysis with previous data to determine improvement/degradation
- Build a data set for future reference.

Based on the results of the surveys and previous studies, the LHDA has developed regulations and established a regulator on fisheries. This is aimed at sustainable utilization of the fish stocks while improving community livelihoods. The choice of fishing gear is probably influenced by the national legislation, Freshwater Fish Protection Proclamation 45 of 1951 and LHWP fishing regulations of 1999, both of which encourage use of hand lines over gillnets for resource conservation purposes (Government of Lesotho, 1951 and 1999). *L. aeneus* and *L. capensis* are among species identified to have potential for capture fisheries development in Lesotho (FAO, 2008).

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

7. Areas under sustainable management

National Contributed to the achievement of Target:

According to FAO, 1.4% or about 44,000 ha of Lesotho is forested, this means that of Lesotho's total land area, less than 1% is under forest cover. Lesotho has about 10,000 ha of planted forest. About 80% of Lesotho's population resides in the rural areas. The majority of households in the rural areas depend heavily on traditional fuel sources such as trees, shrubs, and animal dung and crop residues. The overall success record of forestry initiatives in Lesotho is been poor. Nonetheless, the Department of Forestry has forested 34000 hectares including plantations, riparian and indigenous.

The LHDA has developed and put into operation the Aquaculture Regulatory Framework (ARF) to provide guidance on best management of aquaculture operations in the project reservoirs. This was put into effect in April 2013 and has since been used to inform the performance assessment audits conducted at each of the two existing aquaculture farms. The combined total production from the two operations as of end March 2014 was 720 tons against the target of 900 tons.

Based on the results of the surveys and previous studies, the LHDA has developed regulations and established a regulator on fisheries. This is aimed at sustainable utilization of the fish stocks while improving community livelihoods. The choice of fishing gear is probably influenced by the national legislation, Freshwater Fish Protection Proclamation 45 of 1951 and LHWP fishing regulations of 1999, both of which encourage use of hand lines over gillnets for resource conservation purposes (Government of Lesotho, 1951 and 1999). *L. aeneus* and *L. capensis* are among species identified to have potential for capture fisheries development in Lesotho (FAO, 2008).

Sustainable land and water management practices including resource conservation measures in selected watersheds have been implemented.

8. Pollution

National Contributed to the achievement of Target:

The Government through local councils introduced some initiatives which while addressing waste management, contributed towards reduction in prevailing unemployment, e.g. mobilizing

communities to implementing the “3R Principle” (Reduce, Re-use, Recycle). In this manner, communities benefit significantly from their solid waste. Relevant authorities implement some interventions to contain waste water effluent through the construction and operation of on-site wastewater treatment plants in wet industries at Thetsane Industrial Area. Periodic water tests are performed following effluent treatment based on national standards. The values are within the limits of the standards with a few exceptions. Considerable efforts have been made to address some of the negative issues associated with healthcare waste under the Millennium Challenge Corporation. Health care waste management (HCWM) policy, strategy and regulations were developed. Throughout the process, the Ministry of Health and other stakeholders were trained through on-the-job coaching and active involvement, so that they are able to sustain a proper management of health care waste in Lesotho. The government also embarked on a long-term reform process to improve the efficiency of the sector. As part of this effort, it turned to the private sector to create a sustainable healthcare waste management system that protects public health and the environment. A pilot system to collect, treat and incinerate hazardous medical waste in an area serving 300,000 people was undertaken successfully.

Lesotho has specified minimum requirements for the management of HCRW starting from the generation point to the final disposal. The regulations are applied throughout the country, with variations allowed for facilities that are classified as rural, inaccessible. Construction waste is largely disposed at dumpsites while a noticeable amount in dongas or household yards as a form of land reclamation. In some instances rubble is illegally dumped in vacant plots. Local Authorities have attempted to control this situation by issuing building permits and environmental clearances even though compliance rate is low.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

Lesotho has ratified the Stockholm Convention on Persistent Organic Pollutants and the Minamata Convention on Mercury.

9. Invasive Alien Species

National Contributed to the achievement of Target:

Under protected areas and range management, the country implements a programme for alien invasive species eradication and prevention. The last national survey on AIS was done in 2005. Using that study as baseline, another study should be performed to determine the current level of invasion. Development of AIS management plan for MDTFCA and site specific AIS management plans for MDTP WHS and their annual implementation are major efforts taken to address AIS. To prevent introduction of new invasions, Lesotho implements phytosanitary measures which are strengthened through capacity building and border inspections. There is also implementation of integrated catchment management

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

Lesotho has ratified the CBD and she is therefore bound by the requirements thereof to comply. The country is also a signatory to the World Trade Organisation, and is implementing the agreements in international trade.

10. Vulnerable ecosystems

National Contributed to the achievement of Target:

Establishment and effective management of a protected areas network, implementation of integrated catchment management and establishment and management of range management areas are important measures taken towards protection of vulnerable ecosystems. In addition, the country has developed a Range Management Policy of 2014, National Climate Change Policy 2017 - 2027 and Implementation Strategy, Draft Biodiversity Bill and Draft CITES Bill. Further, there are guidelines to integrate climate change into various sectoral policies and plans. There is also implementation of integrated catchment management. Climate risk considerations have been mainstreamed into the land rehabilitation program, climate change and adaptation has been integrated into national and sub-national land-use planning and decision making.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

Ratification of the following MEAs: UNCCD, UNFCCC, RAMSAR, CITES and MINAMATA Convention on Mercury comprise the national contribution at international level to secure vulnerable ecosystems.

11. Protected areas

National Contributed to the achievement of Target:

About 24000 square kilometers of Lesotho is partially protected under the MDTFCA Bilateral Agreement. Within the MDTFCA SNP is part of a trans-boundary world heritage site (MDP WHS). Letsa-la-Letsie, is also within the MDTFCA and it is a RAMSAR Site. BNR and TNP are part of the MDTFCA and work is in progress to declare them as part of a Biosphere Reserve. There are various RMAs within the MDTFCA which can also be classified under partial protection. Butha-Buthe Plateau, LCCHS, Ha Baroana, Menkhoaneng and Thaba-Bosiu (which is on the tentative list for WHS) are protected for cultural heritage, but they have biodiversity elements which are automatically protected.

There are still some important areas which are not protected as indicated by the Spatial Assessment studies that were undertaken by the MDTP in 2008. However, the LHDA has intentions to develop these priority biodiversity areas into formal protected areas. Range management areas are protected by communities under sustainable use, but there also other community driven protection initiatives such as rehabilitation and protection of a wetland in Mokema, and establishment of a snake park in Qacha's Nek.

All the formal protected areas have management plans which are reviewed periodically, and the local communities are involved in their management through CCFs. The status of Sehlabathebe has changed to world heritage, and work is underway towards declaration of Bokong Nature Reserve and Tsehlanyane National Park as part of Lesotho's first biosphere reserve under the UNESCO MAB Program. A COMPACT Site Strategy for Sehlabathe National Park was prepared in 2017, and the communities are supported through the GEF SGP to prepare and implement small livelihood projects. A Buffer Zone Management Plan for Sehlabathebe was prepared under financial assistance from the UNESCO World Heritage Fund.

Plans are underway to proclaim LLLNR and Tsatsane as protected areas. The Department of Environment is about to acquire a private snake park in Qacha's Nek and proclaim it as the country's first snake park. Plans are also advanced for establishing BNR and TNP as a biosphere reserve under the UNESCO MAB program. Manged resource Areas which are controlled by local communities continue to be established and managed.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

Lesotho has ratified the World Heritage Convention and it is part of the UNESCO Man and the Biosphere Programme. Regionally, the country is part of the SADC TFCA Programme and it has signed a Bilateral Agreement with South Africa in respect of the MDTFCA.

12. Preventing extinctions

National Contributed to the achievement of Target:

Review of existing reports and stakeholder consultations reveal that the biodiversity of the Lesotho is threatened by various factors including uncontrolled fires, poaching and resource over-extraction, human/wildlife conflict, alien invasive species, land degradation and habitat fragmentation, pervasive poverty, lack of law enforcement and poor governance. Nonetheless it cannot be established whether any extinctions have occurred during the period spanning implementation of the Biodiversity Strategy 2011 - 2020, since no national species inventory has been undertaken against former baselines in order to establish current species compositions.

Species specific management plans have been prepared to prevent extinctions of species such as the bearded vulture, spiral aloe and maloti minnow. Other efforts have been made to prevent heavy use of species by protecting them under national laws.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

Internationally, Lesotho has ratified the CITES Convention and it is bound by the requirements thereof and it is in a process of domesticating the Convention by preparing a CITES law which is currently in a bill form.

Joint bearded vulture breeding programme between South Africa and Lesotho-BVTF established, and a status of *P. quathlambae* and non-native *L. aeneus* and *L. capensis* populations were surveyed in Senqunyane River. In 2017, a Maloti Minnow survey was undertaken in Mohale and eastern evolutionary significant unit (ESU)

13. Agricultural biodiversity

National Contributed to the achievement of Target:

In 2014 the National Plant Genetic Resources Centre (NPGRC) undertook an assessment of plant genetic resources and on-farm conservation in five districts. The overall objective of the study was two-fold: to generate information on the status of plant genetic resources for food and agriculture in the country and to assess the status of on-farm conservation of plant genetic resources.

To achieve this, a socioeconomic survey was conducted with the following specific objectives:

- Assessment of the status of plant genetic resources in the country at inter and intra-specific levels and their associated traits;
- Determination of in situ/on-farm conservation hotspots;
- Determination of the extent and underlying causes of genetic erosion;
- Determination of practices used for maintenance of plant genetic resources; and
- Practices used for conservation of plant genetic resources by farmers and traditional knowledge that guides these practices.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

14. Essential ecosystem services

National Contributed to the achievement of Target:

Through establishment of protected areas and range management areas, grasslands, wetlands and indigenous forests are protected preserving essential ecosystem services. Effective management of protected areas ensures preservation of ecosystem integrity and ecosystem services. Various projects and programmes to arrest land degradation are singularly and collaboratively undertaken by UN agencies, international NGOs and line ministries with involvement and participation of local communities. These initiatives do not only rehabilitate degraded land, but they significantly contribute towards preservation of essential ecosystem services.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

15. Ecosystem resilience

National Contributed to the achievement of Target:

Lesotho has developed a national Climate Change Policy and Strategy. The strategy is a five year document effecting implementation of the policy and is addressing regulatory protection for species potentially at risk due to climate change; mainstreaming climate change into national environmental management systems, tools and practices; updating of the national biodiversity report; promoting conservation and regeneration of biodiversity with focus on indigenous species; and management and reclamation of degraded and eroded land.

Lesotho periodically assesses the status of implementation of climate change initiatives. Key socio-economic sectors are assessed on their vulnerability and impacts to climate change and adaptation options identified. Key components of national communications are:

- Public awareness campaigns on climate change;
- Compilation of inventory of greenhouse gases emissions; and
- Assessment of vulnerability and adaptation to climate change.

The development of the Third National Communication is currently on-going and scheduled for completion in 2019. The development of the Communication Strategy 2019 is also currently on-going building on the Climate Change Communication Strategy developed in 2012.

The GEF SGP and UNDP in partnership with line ministries and local communities are implementing various projects to address soil erosion, range management and wetland rehabilitation in order to arrest widespread land degradation. These efforts contribute towards ecosystem resilience even though no evaluation studies have been undertaken to determine their current status.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

Lesotho has ratified the UNFCCC on climate change and prepares national communication reports periodically.

16. Nagoya Protocol on ABS

National Contributed to the achievement of Target:

Lesotho has developed a project on implementation of NP entitled 'Promoting conservation, sustainable utilization and fair and equitable benefit-sharing from Lesotho's Medicinal Plants for improved livelihoods'. This is a GEF-funded project whose Project Identification Form (PIF) was approved by GEF in November 2017. The project will be implemented by MTEC in partnership with UNDP. Project's objective is to promote conservation, sustainable use and improved access and benefit-sharing from ABS products derived from selected commercially-important Medicinal plants in selected Highlands and Foothill areas of Lesotho. Final project document will be submitted to GEF early in 2019. The project document will be included in the next GEF work program for the review of GEF council.

As a party to NFP for CBD, the DoE has assumed the role of NFP, CNA and CP since the NP was negotiated and ratified. Other relevant institutions have assumed CNAs e.g. DAR and CP e.g. LRA and LAs roles due to their mandates but have to yet to be formally appointed as such. This is being guided by recommendations of two SANAs on ABS done since Lesotho acceded to the NP IN 2015. In addition, DoE is developing a biodiversity resources management Bill which has some ABS provisions.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

17. NBSAPs

National Contributed to the achievement of Target:

Lesotho is still reviewing its NBSAP from 2014. The new NBSAP will be adopted by Parliament as a national policy document and it will be referred to in development of other policies so that biodiversity is fully mainstreamed in planning and accounting.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level (optional):

In addition to the NBSAP, Lesotho is implementing the MDTFCA 20-Year Strategy 2008 - 2028.

18. Traditional knowledge

National Contributed to the achievement of Target:

Indigenous Knowledge Systems (IKS) situational analysis was conducted and will pave a way for institutionalization, policy formulation and commercialization. Negotiations are underway with SA for funding and development of IKS Policy. This is still a relatively new and under-researched field in Lesotho.

19. Biodiversity knowledge

National Contributed to the achievement of Target:

A number of research studies have been undertaken in some of the disciplines pertinent to biodiversity conservation and its sustainable use. However, there is need to regularly disseminate this knowledge to local communities in a form that they can understand. There is also effort made in development of environmentally friendly technologies such as energy efficient cooking stoves and wonder bags. Technologies for Economic Development (TED) are involved in the development of these technologies, and they work directly with local communities in developing the products. However, there is need to couple the development of the stoves with environmental initiatives such as afforestation and other environmental conservation and reclamation programmes.

The national Energy Policy provides for development of green technologies, and the Lesotho National Development Corporation (LNDC) also focuses on green technologies in its investment promotion and facilitation services.

20. Resource mobilization

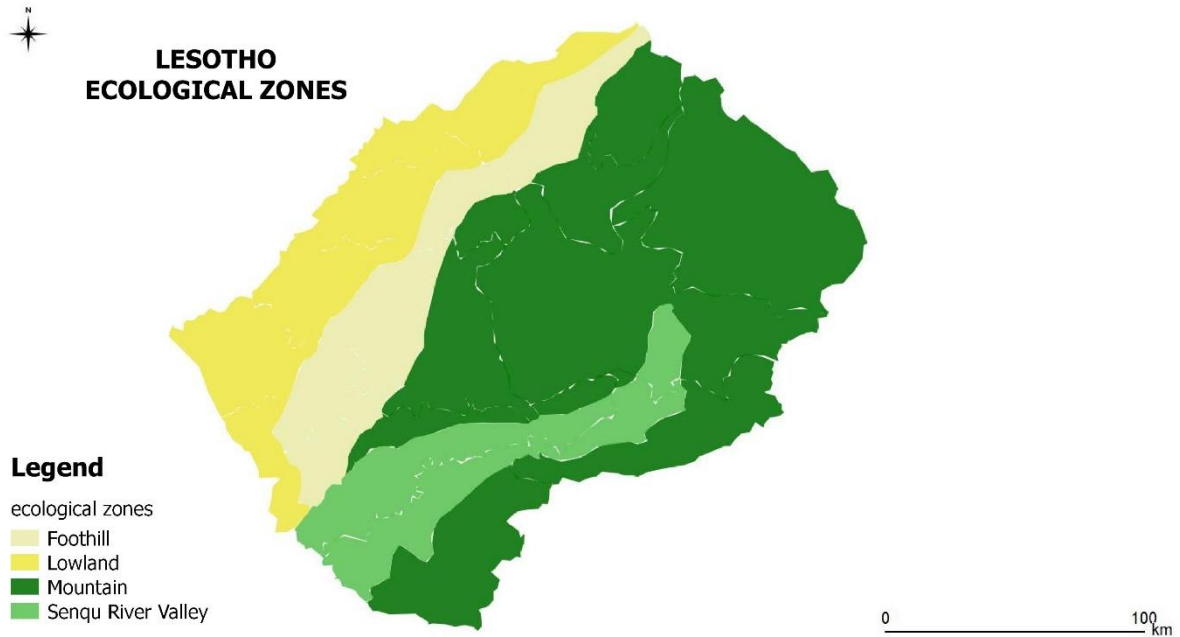
The Department of Environment through its division on programmes and international liaison coordinate programmes under Multilateral Environmental Agreements (MEA's) and facilitate mobilization and coordination of funds to support different environmental projects. There are also initiatives for resources mobilization from other government Ministries such as Ministry of Forestry Range and Soil Conservation (MFRSC).

Lesotho gets support to implement the environmental projects in a form of financial assistance mainly from the Global Environment Facility (GEF), International Organizations e.g. United Nations Educational, Science and Cultural Organisation (UNESCO), International Atomic Energy Agency (IAEA) and also from the Government of Lesotho in a form of both financial and in kind support. There are also various biodiversity conservation initiative undertaken by private sector such as those by the Catholic Relief Services (CRS).

LESOTHO BIODIVERSITY PROFILE

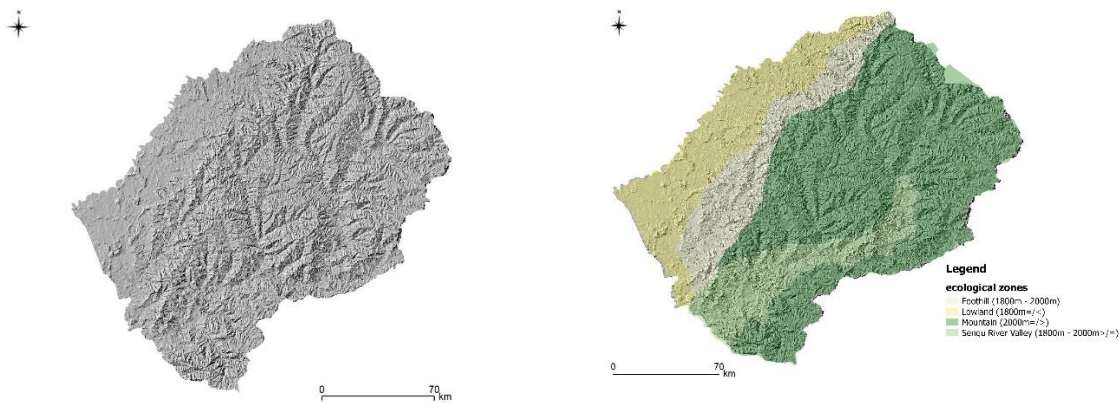
1. General Description:

The Lesotho Highlands, particularly the Maloti-Drakensberg escarpment area have been identified as a “hotspot” for biodiversity with a high degree of plant endemism (species that occur nowhere else in the world), as well as several endemic amphibians, reptiles and birds, and one critically endangered fish, the Maloti Minnow (*Pseudobarbus quathlambae*) - the only endemic vertebrate in Lesotho. Lesotho is also regionally important and renowned for its quality water, providing significant supply via the Lesotho Highlands Water Project to the industrial hub of South Africa, the Gauteng Province. With altitudes ranging from 1400m to 3482m, the country has a wide diversity of habitats and it is divided into four agro-ecological zones (lowland, foothills, Senqu River valley, and mountain).



MAP 5: Showing the four ecological zone of Lesotho namely: Foothills, Lowlands, Mountains and Senqu River Valley (Data source: Department of Environment)

The lowlands region covers 17% (5, 200km²) of the total surface, which lies 1800m absl. The foothills comprise 15% (4, 588 km²) of the land and lies between 1, 800 and 2, 000m absl. The mountains shares the largest ecological region and covers 59% (18, 047 km²) of the Drakensberg ranges, with a lot of high altitude plateaux, bare rock outcrops, and deep river valleys and wetlands. It is the source of many rivers which drain towards both the Indian and Atlantic Oceans. The fourth region, the Senqu River valley, This region covers 9% of Lesotho’s total surface area.



MAP 6: The elevation model image showing the ecological zones with elevation

Although the Highlands were only permanently settled in the last 120 years, Lesotho is experiencing rapid and widespread deterioration in the condition of its rangelands and wetlands, largely attributed to overgrazing by livestock and cultivation of steep slopes, and manifested by severe soil erosion. Lesotho has inherently fragile and thin soils over large areas, compounded by

extreme climatic conditions leading to freeze/thaw processes that loosen the soil structure leaving it vulnerable to trampling and heavy rainfall. Most of Lesotho's rivers receive significant inputs of sediment, rapidly turning brown after rainfall events, and suffocating aquatic fauna. Widespread poverty, recurrent drought and heavy reliance on natural resources for food, medicine, crafts and shelter have led to severe decimation of most animal and many plant populations across the country. Some of Lesotho's areas appear to be beyond natural repair with steep bare slopes and ever-worsening donga development. Urgent and appropriate intervention is needed to arrest this critical situation, which requires great courage by Lesotho's leaders and people to unite and take. It may require reduction in livestock numbers and restrict livestock ownership. Without this, Lesotho will continue its downward spiral into further environmental degradation and poverty, further encouraging rural residents to move into urban areas – a trend that has already begun, and which is compounded by a series of droughts, possibly linked to climate change.

Despite the positive economic performance in the past few years, over 50% of the population still lives below the poverty line. About 85% of the country's population is rural with majority of them depending on subsistence rain-fed agriculture. Agricultural production has, however, been declining over the years, due to land degradation, settlements and infrastructure developments that have reduced the size of arable land from 13% of the country's total land area to 9%. Land degradation has also reduced biological resources, including medicinal plants, palatable grasses in rangelands and indigenous trees used for energy provision. Many communities, particularly those in rural areas, have thus become vulnerable, especially to climate change. Furthermore, due to its geographical location and physical terrain, Lesotho is prone to natural disasters and has unfavourable climatic conditions and fragile ecosystems, which make it vulnerable to the impacts of climate change and susceptible to environmental degradation. Climate change has already resulted in accelerated soil erosion, poor harvests, livestock losses, destruction of infrastructure and loss of human lives.

The country has a continental temperate climate with four distinct seasons. It is characterized by extreme events, such as droughts, floods, frosts, snow, hailstorms, whirlwinds and tornadoes, which are projected to worsen with climate change. It also experiences variable temperatures, with averages of -2°C and 28°C in winter and summer respectively. Winters can be severe in the highlands with heavy snowfalls lasting for several weeks. Precipitation is also quite variable, ranging from an annual average rainfall of 500 mm in the Senqu River Valley to 1,200 mm in the Mountains and Foothills regions (LMS, 2013).

Lesotho Land Cover and status of biodiversity:

Summary of Lesotho Land Cover

Lesotho is the grassland biome with some pockets of indigenous trees and shrubs. It is renowned for its unique flora with number of endemic plants. Land Cover Atlas 2014 recorded 50% of land classed as Grassland and about 20% as shrubland, 18.9% of the country, equivalent to about 580,000 hectares, can be considered as Agricultural land. The table below gives a summary the aggregated land cover statistics related to the Main Catchment areas of Lesotho.

| Aggregated LC Classes | Code | Hectarage (ha) | % of Lesotho |
|-----------------------|------|------------------|--------------|
| Built-up | AGBU | 126,091 | 4.1 |
| Agricultural land | AGAG | 578,039 | 18.9 |
| Trees | AGTR | 38,404 | 1.3 |
| Shrubland | AGSH | 584,328 | 19.1 |
| Grassland | AGGR | 1,516,051 | 49.6 |
| Wetland | WET | 32,580 | 1.1 |
| Water Bodies & Rivers | AGWT | 28,241 | 0.9 |
| Barrenland | AGBR | 151,581 | 5.0 |
| TOTAL | | 3,055,314 | 100 |

Table 9: *Summery Land Cover Statistics of Lesotho*

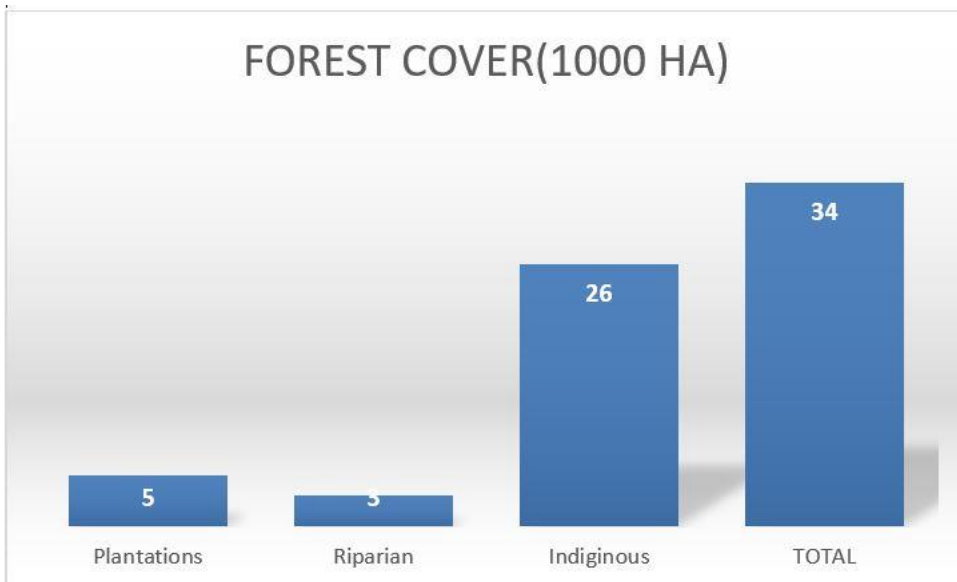


Fig. 7: The above graph shows the total Forest cover summary by type currently, 2019.

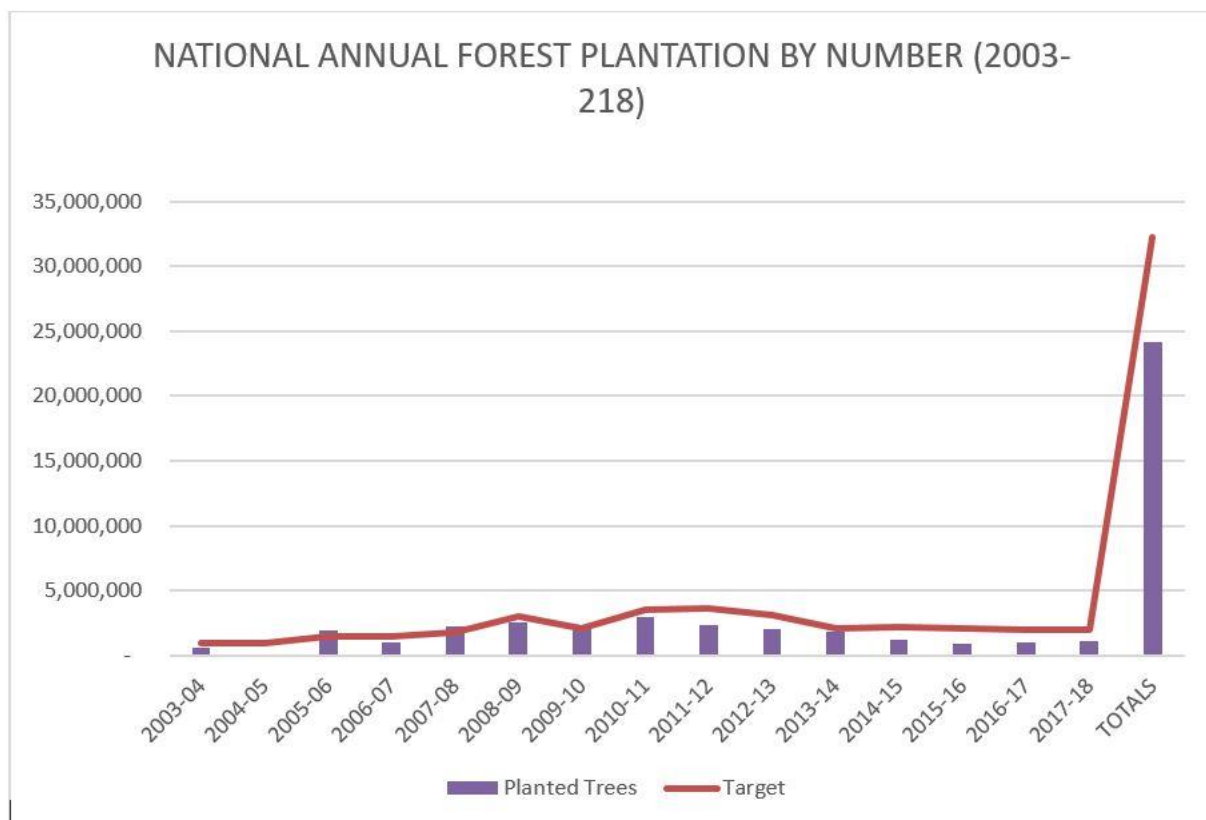
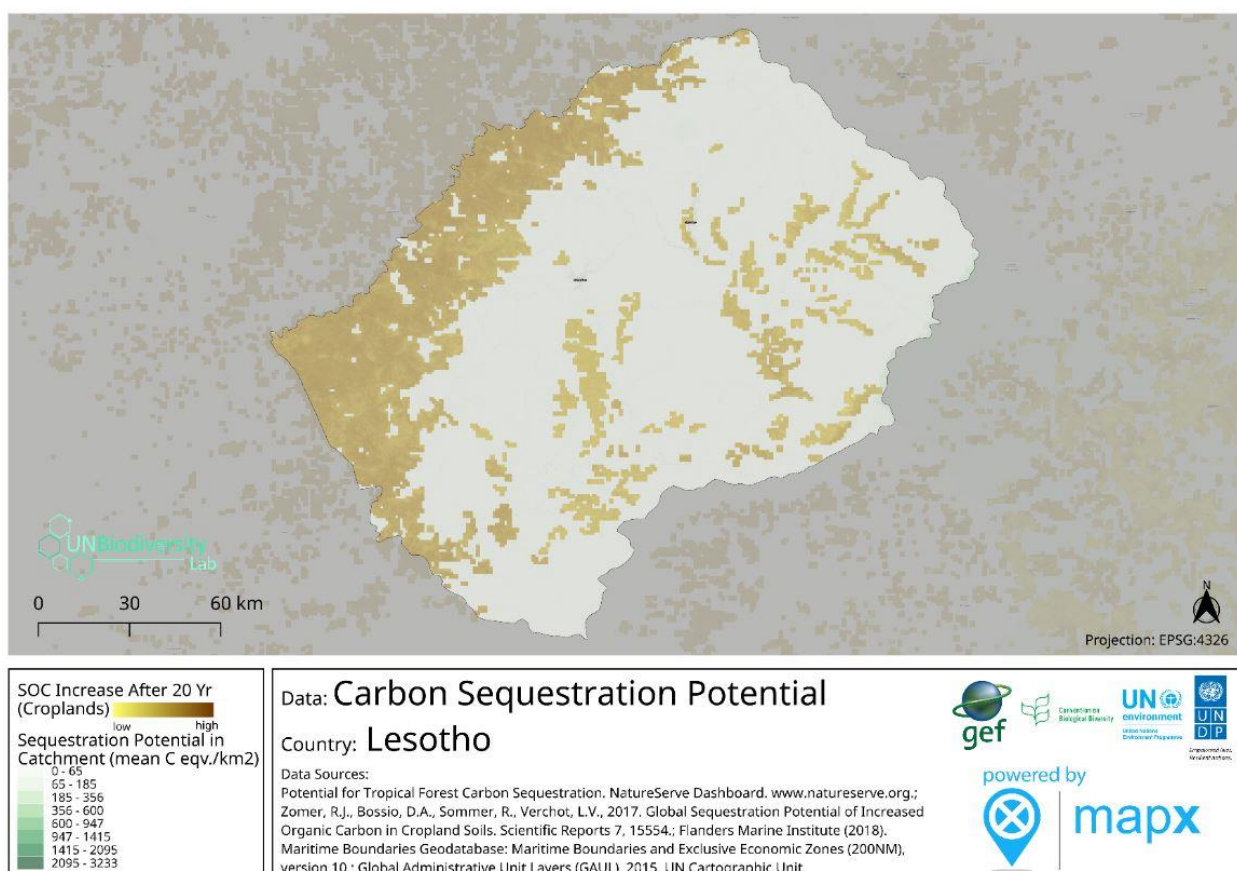


Fig 8: Shows the total annual plantation of forest trees from 2003 to 2018 against the set target per year.

| Year | Target | Planted Trees |
|---------------|-------------------|-------------------|
| 2003-04 | 1,000,000 | 632,802 |
| 2004-05 | 1,000,000 | 94,300 |
| 2005-06 | 1,500,000 | 1,951,848 |
| 2006-07 | 1,500,000 | 1,048,726 |
| 2007-08 | 1,750,000 | 2,250,318 |
| 2008-09 | 3,000,000 | 2,519,792 |
| 2009-10 | 2,050,000 | 2,309,228 |
| 2010-11 | 3,500,000 | 3,000,000 |
| 2011-12 | 3,600,000 | 2,304,803 |
| 2012-13 | 3,100,000 | 2,061,299 |
| 2013-14 | 2,050,000 | 1,836,337 |
| 2014-15 | 2,185,000 | 1,190,373 |
| 2015-16 | 2,040,000 | 941,202 |
| 2016-17 | 1,970,000 | 980,763 |
| 2017-18 | 1,980,000 | 1,079,857 |
| TOTALS | 32,225,000 | 24,201,648 |

Map 6: Shows Carbon sequestration Map from UN-Biodiversity indicating the level of Soil Organic Carbon (SOC) in Lesotho



Biodiversity Status:

Flora:

Relative to its size, Lesotho is deemed incredibly rich in natural and cultural diversity and has unique habitats and high levels of endemism, estimated at 30% (Mucina & Rutherford, 2006; Pomela et al., 2000). It is estimated that Lesotho has at least 54 endemic plant species including, *Aloe polyphylla*, *Euryops inops*, *Aponogeton ranunculiflorus* (Sehlaba-thebe water lily, lijo tsa lihohoana) and *Gnidia singularis* (Moomang) (MDTP, 2007; Pomela et al., 2000). Most of these endemic species are confined to the globally recognized biodiversity hotspot in the southern African mountains, referred to as the Drakensberg Alpine Centre (DAC). Lesotho accounts for about 70% of the DAC (Carbutt & Edwards, 2006).

The country lies entirely within the Grassland Biome, consisting of three main vegetation types, namely, the Highveld Grassland, Afromontane Grassland and the Afroalpine Grassland. The Grassland Biome of Lesotho is mainly herbaceous vegetation, which is relatively short and simple in structure. Woody vegetation is rare or absent in some habitats. Even though Lesotho's flora has been profoundly modified by human activities, it still contains a diverse range of plants, with vascular plants being the most predominant, ranging from primitive *Psilotum nudum* to a wide range of flowering plants (Pomela et al., 2000). A total of 2,961 plant species comprising angiosperms, gymnosperms, pteridophytes, thallophytes and bryophytes have been recorded (Talukdar, 2002) (Table 2.1). Some of these plants are of socio-economic value.



Map 7. Three main Lesotho vegetation types (Low and Rebelo (1996))

Table 10: Shows Number of recorded floral species in Lesotho

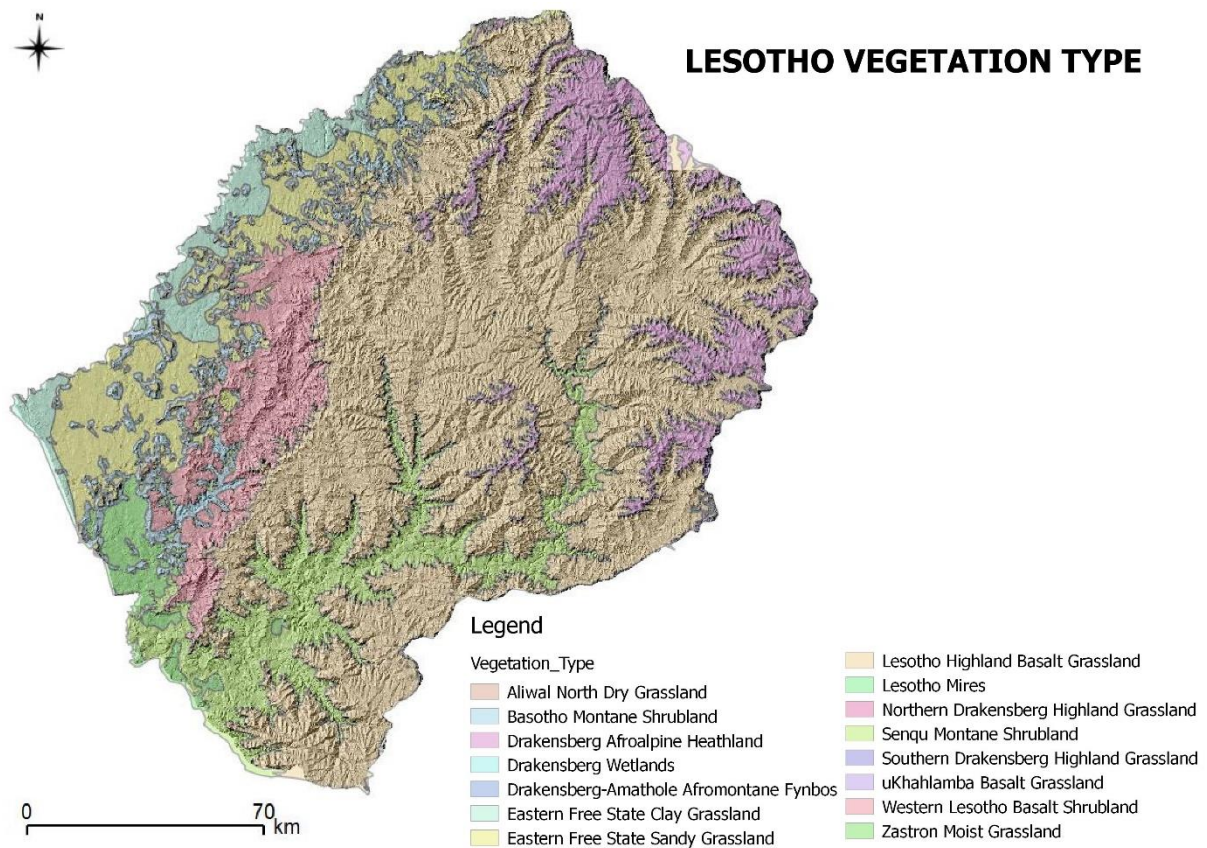
| Group | | Number of current species |
|---------------------------------------|--------------------------|---------------------------|
| Angiosperms | Dicotyledons | 1759 |
| | Monocotyledons | 776 |
| Gymnosperms | | 62 |
| Pteridophytes (Ferns and Fern allies) | | 85 |
| Bryophytes | Mosses | 219 |
| | Liverworts and Hornworts | 60 |
| Thallophytes (Algae and Fungi) | | 132 |
| Total | | 2961 |

Source: Pomela et al. (2000)

Substantial vegetation and land cover changes have occurred over the years. For example, the Mohale and Katse dam catchments in the highland areas have experienced considerable loss in vegetation and land cover between 1993 and 2013 (Turpie et al., 2014a; b). It is reported that there has been a decrease of approximately 7% in land cover and a 5% increase in area invaded by *Chrysocoma* shrubs and 5% increase in area under subsistence farming (Turpie et al., 2014a; b). These changes have mainly been attributed to anthropogenic factors, including overgrazing, cultivation and invasion by alien species, such as *Rosa rubiginosa* (wild rose) and *Salix fragilis* (crack willow).

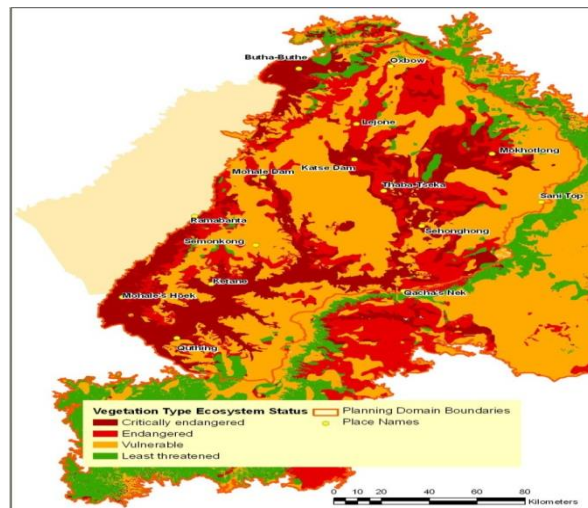
Lesotho Vegetation cover by Type:

The main habitats range from indigenous forest and shrubs, montane to subalpine grassland, alpine heathland and wetlands. The higher lying areas may prove to be critical as a refuge to accommodate shifts in biodiversity caused by climate change in the region.

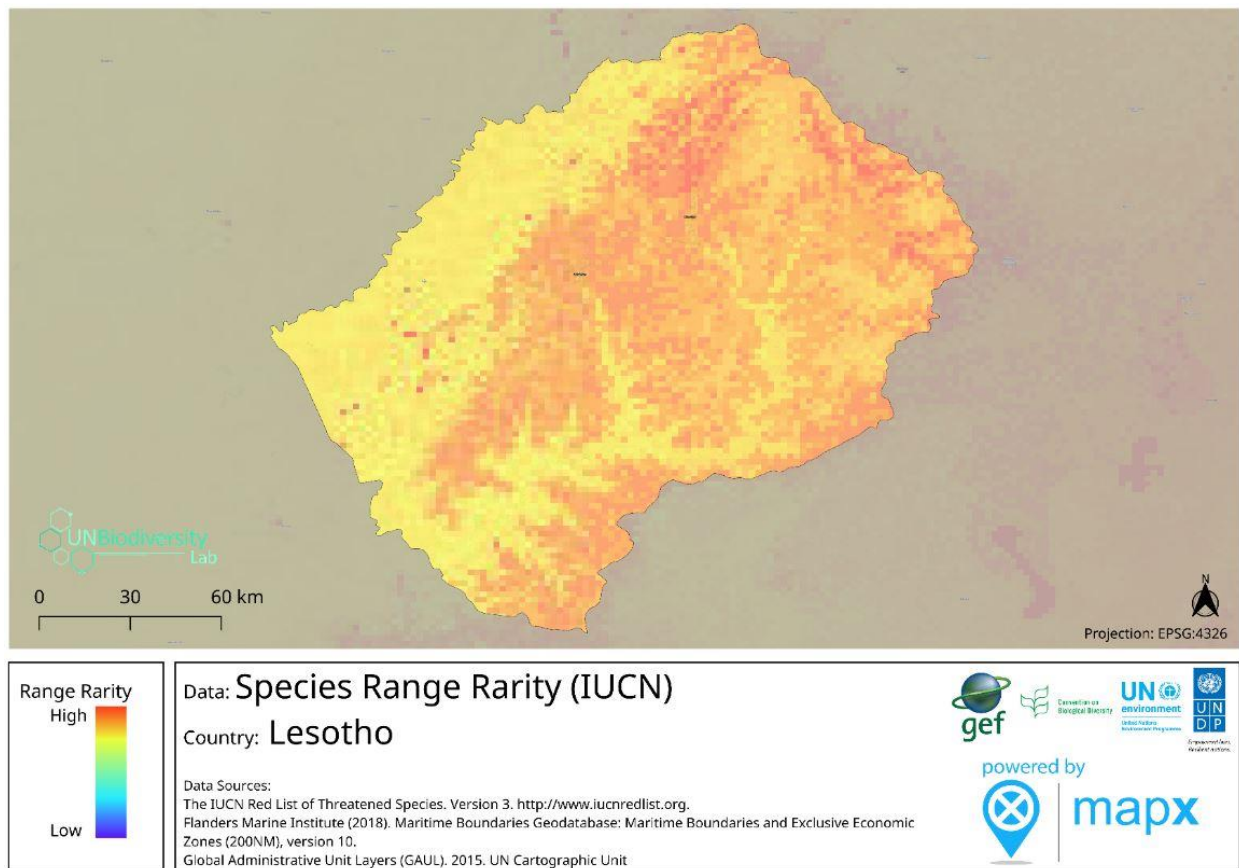


Map 8: Lesotho vegetation cover, Mucina and Rutherford (2006)

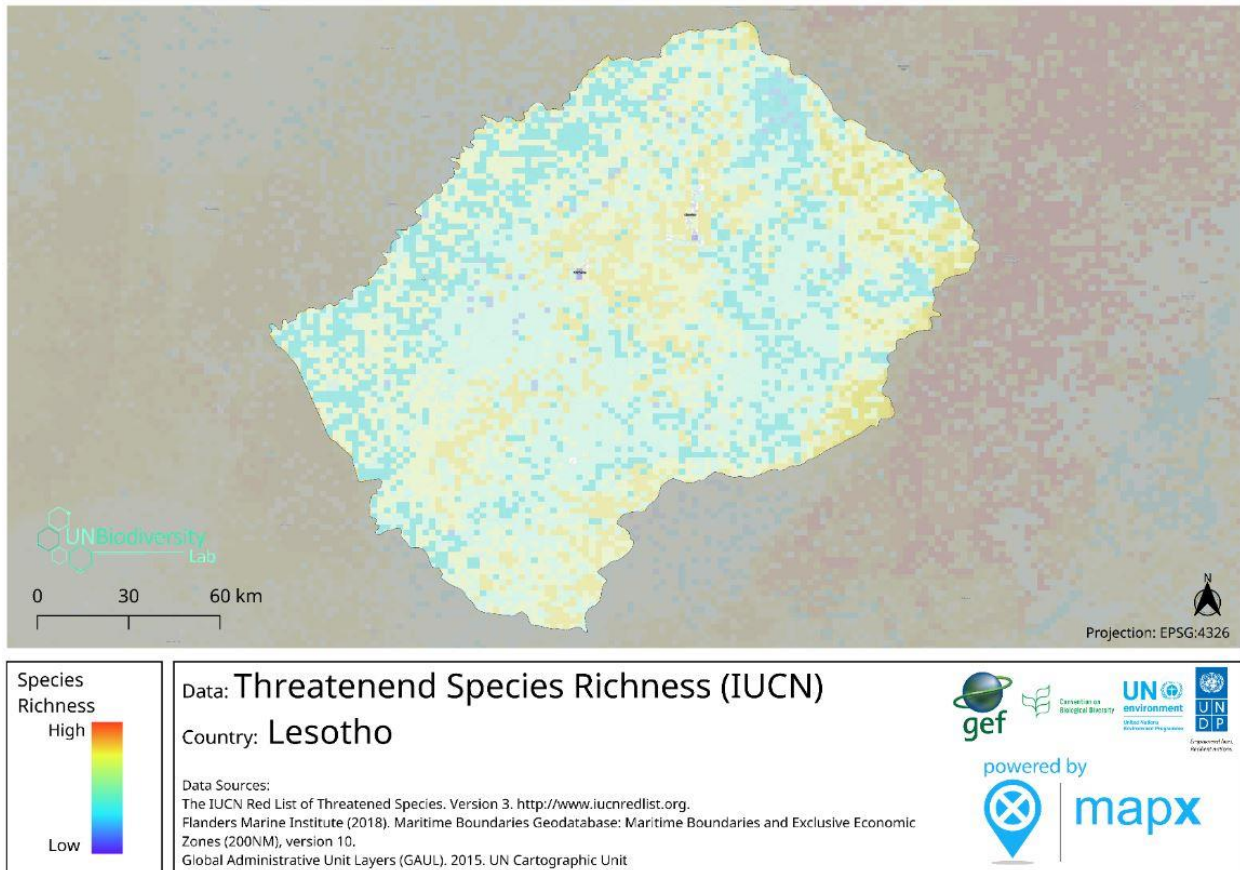
Distribution of Critically endangered, Endangered, Vulnerable and least threatened vegetation type across the Lesotho highlands



Map 9: Shows the conservation status of vegetation by type across the highland area



Map 10: Species Range Rarity from UNBiodiversity Lab, Showing vegetation across the Highlands area



Map 11: The map shows the threatened Species Richness (IUCN) from UNBiodiversity Lab

Fauna:

Lesotho’s fauna, particularly birds, has been more documented than flora. This may explain why major conservation efforts have focused specifically on birds such as *Geronticus calvus* (Southern bald Ibis, Mokhotlo) and *Gypaetus barbatus* (Bearded Vulture, Ntsu kobokobo). In addition to birds, fauna in the country consists of mammals, herpetofauna, fish and invertebrates. The limited types and number of mammals available suggest that mammals are the most threatened fauna in the country to date. *Otomys sloggetti* (Ice Rat), *Rhabdomys pumilio* (Striped Mouse) and *Eptesicus capensis* (Cape Serotine Bat) remain the only abundant species out of the 82 mammal species recorded in Lesotho (Pomela et al., 2000). The *Papio ursinus* (Chacma Baboon), once considered abundant, is now facing a dismal decline, with only small populations scattered in few areas (Department of Environment, 2014).

Table 11: Number of recorded faunal species in Lesotho

| Group | Number of current species | Number of historical species | Total |
|------------------------|---------------------------|------------------------------|-------------|
| Mammals | 63 | 19 | 82 |
| Birds | 318 | 22 | 340 |
| Reptiles | 40 | 3 | 43 |
| Amphibians | 19 | – | 19 |
| Freshwater fish | 14 | – | 14 |
| Invertebrates | 1279 | – | 1279 |
| Total | 1733 | 44 | 1777 |

Source: Pomela et al. (2000)

It is estimated that Lesotho has a number of endemic mammal species including, *Otomys sloggetti* (Ice Rat) and *Myodomys albicaudatus* (white-tailed mouse) (MDTP, 2007; Pomela et al., 2000). However, recent monitoring reports in the Mohale and Katse dam catchments document significant decline in the number of groups and group sizes of species of carnivores, antelopes, hare/rock rabbits and small mammals (Turpie et al., 2014a; b).

Thirteen of the 340 recorded bird species occurring in Lesotho are Red Data listed (Department of Environment, 2014). The mountains harbour a remarkably high proportion of endemic and near-endemic bird species (Turpie et al., 2014a; b). The Mohale Dam catchment, for instance, is reported to be particularly important for the conservation of avifauna. Examples of the endemic grassland bird species recorded include *Chaetops aurantius* (Drakensberg Rock-jumper), *Gypaetus barbartus* (Bearded vulture), *Gyps coprotheres* (Cape vulture), *Geronicus calvus* (Southern bald ibis), *Anthus chloris* (Yellow-breasted pipit) and *Anthus hoeschi* (Mountain Pipit) (Turpie et al., 2014a; b). The Bearded Vulture, whose numbers have been declining, is now only found in the Maloti Drakensberg Trans-frontier Conservation Area (MDTCA) and is highly threatened by hunting (MDTP, 2007).

Herpetofauna (reptiles and amphibians) exhibits the highest endemism of all vertebrate groups, with a total of nine species being endemic to the MDTCA (MDTP, 2007). Although not Red Data listed, *Amietia vertebralis* (the Drakensberg river frog), *Heleophryne natalensis* (the Eastern ghost frog) and *Strongylopus hymenopus* (the Drakensberg stream frog) are endemic to Lesotho (MDTP, 2007). With regard to lizards, *Afroedura nivaria* (the Drakensberg flat gecko) and *Pseudocordylus langi* (the Southern African Red Data Lang's crag lizard) are near endemic and are restricted to the summit and upper slopes of the MDTCA. The former inhabits areas that are highly inaccessible, such as cliffs outcrops and crevices and is, therefore, unlikely to be impacted by habitat loss. The *Afroedura halli* (the Hall's flat gecko) is endemic to western Lesotho, as well as to the adjacent Free State and Eastern Cape. The Red Data listed *Lamprophis fuscus* (the Yellow-bellied house snake) is rare and endemic to southern Africa (Department of Environment, 2014). Unlike other biological groups, no major changes were recorded in amphibian and reptile populations, including their habitats in the Mohale and Katse dam catchments between 1993 and 2013 (Turpie et al., 2014a; b).

There are 14 recorded fish species, with *Pseudobarbus quathlambae* (the Maloti Minnow) being the only endemic. The following five fish species occur in the Katse Dam catchment area: three indigenous species *Labeobarbus aeneus* (smallmouth yellowfish, *Labeo capensis* (the Orange River mudfish) and *Austroglanis sclateri* (the rock catfish) and two non-native species *Oncorhynchus mykiss* (Rainbow trout) and *Salmo trutta* (the brown trout) that were introduced well before the construction of the dam (Turpie et al., 2014a; b). The once widespread indigenous species, however, were reported to have declined to very low numbers due to habitat degradation and predation by trout. Historically, the Maloti Minnow was not just the only fish species in the Mohale Dam Catchment but was also widespread. Box 2.1 presents the current situation of this endemic fish.

Wetlands and Rivers:

Lesotho also supports a network of unique high altitude wetlands, found nowhere else in the world, which are habitats to a high proportion of endemic species. The wetlands are of three types, namely, marshes, tarns and mires (bogs and sponges). The wetland systems play a crucial role in the hydrological cycles. They help to supply water, stabilise the stream flow, attenuate flooding,

reduce sedimentation loads and help in the absorption of nutrients by their retention and slow release of water.

The wetland ecosystems are estimated to cover 2.72% of the country area and are concentrated in the highlands. They also offer a wide range of ecosystem goods and services. One of these wetlands, the Letseng-la-Letsie in the Quthing District, has been declared a Ramsar site and work is advanced towards declaring it as a nature reserve. The wetlands are also the headwaters of many economically important rivers, such as the Maliba-matšo and Senqu, which feed the LHWP dams. Directly and indirectly, the wetland systems contribute about 22% of the GDP and 30% of total employment in Lesotho (Department of Environment, 2014).

Lesotho's wetlands are headwaters for economically important rivers such as the Malibamatšo and Orange Senqu. Through the Lesotho Highlands Development Water Project, the Malibanats'o River was dammed in order to supply South Africa with water. In 2011 alone, these water sales provided over LSL 600 million in export revenue (LHDA 2012). The latter river is part of the Orange-Senqu Basin which covers an area of 1 000 000km². Apart from Lesotho, this Basin serves as a water source for South Africa, Botswana and Namibia and it is estimated to have a natural runoff of 11 600 million m³/a of which 4 000 m³/a originates from Lesotho (ORASECOM 2007). Wetlands are also home to grasses such as *Merxmuellera macowanii* which are used by artisans to make various artefacts such as a traditional Basotho Hat.

Despite their economic and ecological value, Lesotho's wetlands are severely degraded as evidenced by the presence of gullies and reduced discharge of water. The degradation is largely the consequence of anthropogenic factors. Furthermore, the Ice Rat (*Otomys sloggetti robertsi*) is reported to contribute to wetland degradation through burrowing holes and foraging in the Drakensberg Mountains (Mokotjomela et al., 2009; Turpie et al., 2014a; b). Turpie et al. (2014b) report that at least five wetlands were lost between 1995 and 2013 in the Mohale Dam Catchment and an unknown number in the Katse Dam Catchment between 1999 and 2013, with most of those remaining being on a negative trajectory and more likely to be lost in the near future (Turpie et al., 2014a; b).

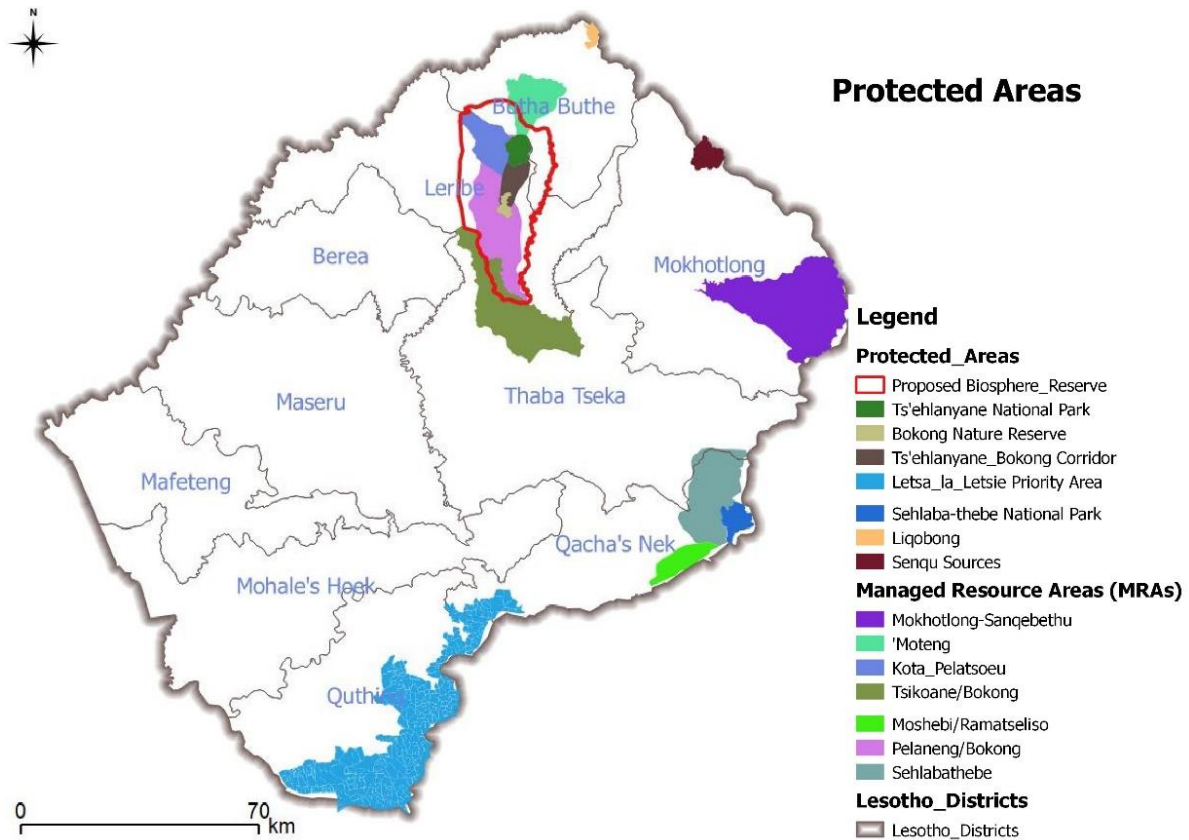
Turpie et al. (2014b) further highlight that the great concern and immediate threat to the remaining wetlands is overgrazing and trampling by livestock. Rivers and streams are also showing signs of degradation, such as increased silt loads. For instance, all the 61 river signatures occurring in the highlands are threatened (MDTP, 2007) and streams in the Katse and Mohale dam catchments have been reported to show signs of degradation (Turpie et al., 2014a; b). The possibility of reduced river flows has also been reported (Department of Environment, 2014).

Protected Areas:

Lesotho has also established a network of protected areas. However, the total area under formal protection is very small (14,299 hectares \approx 0.5% of the country area) relative to the recommended global standard. This network of protected areas includes three formally designated areas, the Sehlabathebe National Park (6,952 ha), the Tšehlanyane National Park (5,394 ha) and the Bokong Nature Reserve (1,952 ha). The Sehlabathebe National Park (SNP) is also a declared world heritage site as of 2013 by the UNESCO (UNESCO, 2013) as Africa's only mixed trans-frontier world heritage site. Furthermore, the SNP has been combined with the uKhahlamba Drakensberg National Park in South Africa to form a trans-boundary protected area, known as the Maloti-Drakensberg Park (UNESCO, 2013). This heritage site is a haven for many threatened and

endemic species. There is also a process of preparing a proposal for the designation of the Tšehlanyane National Park and the Bokong Nature Reserve as a Biosphere Reserve under the UNESCO MAB. Additionally, the Letša-la-Letsie Wetland in the Quthing District, is designated as a Ramsar site, and thus accorded protection while the Department of Environment has advanced preparations to declare it as a nature reserve. In addition to the formally designated protected areas, there are several areas that are either informally designated or proposed for protection in various parts of the country.

Map 12: Protected Areas



Map 13: Protected and Connected Index from UN Biodiversity Lab

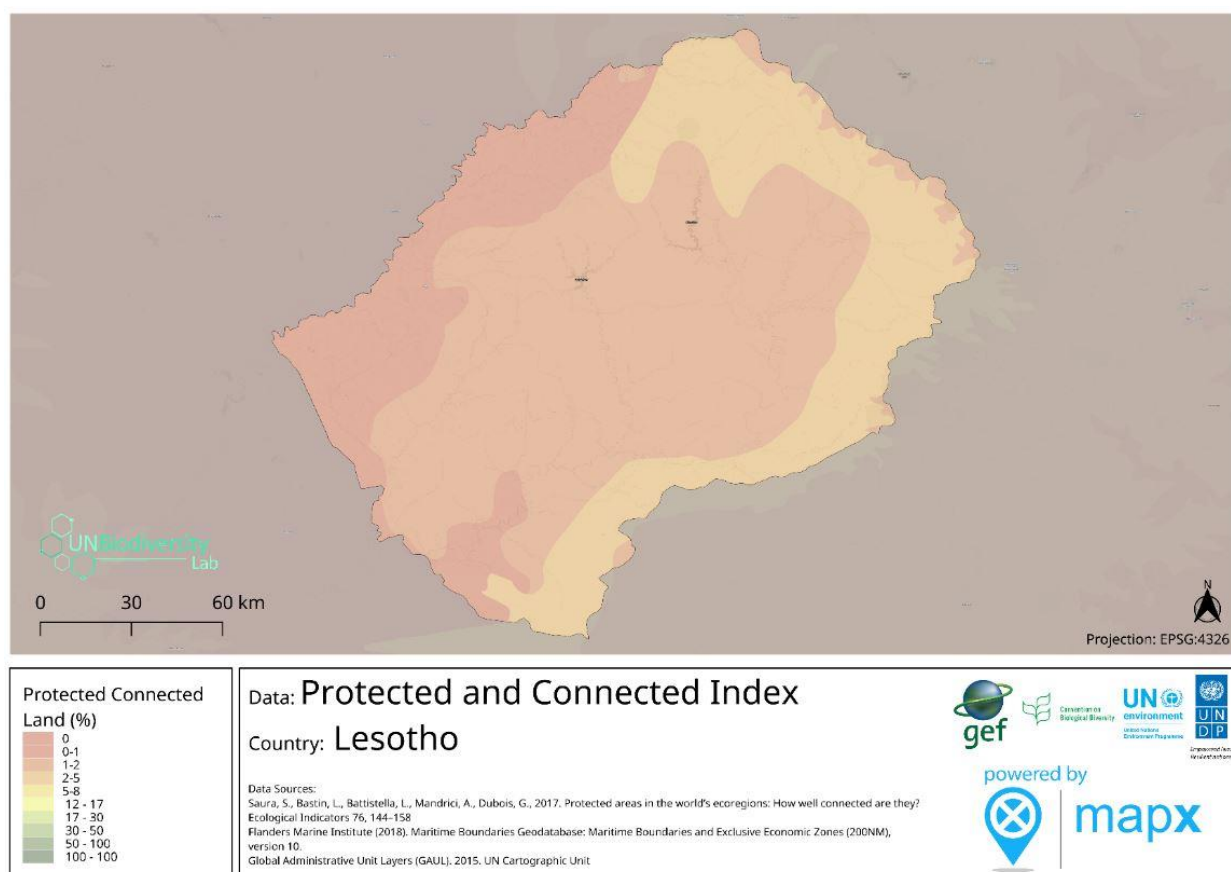
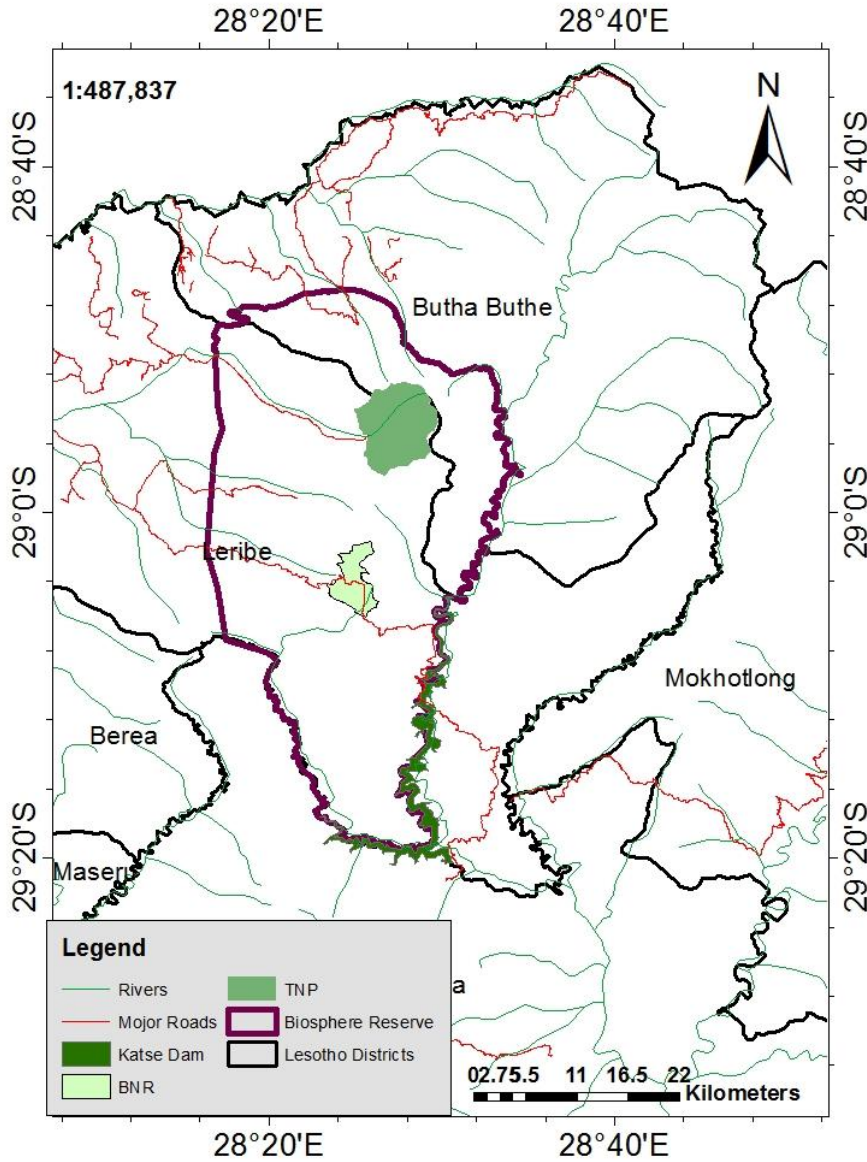


Table 11: Protected areas profile of Lesotho

| IUCN Category | Name | Area (ha) | Status | Management objectives |
|---------------|------------------------------|-----------|--------------------------------|--|
| II | Senqu sources | ~3340 | Proposed (under investigation) | Economic and biodiversity functioning of the region, ecosystem protection and recreation |
| | Liqhobong | 2200 | Proposed | |
| | Sehlabathebe National Park | 6475 | Operational | |
| | Tšehlanyane National Park | 5333 | Operational | |
| | Bokong Nature Reserve | 1972 | Operational | |
| | Letsa-la-Letsie | 434 | Operational | |
| III | Liphofung Cave Rock Art site | 4 | Operational | Managed mainly for conservation of specific natural or cultural features |
| | Thaba-ea-Botha Bothe | – | Planned | |
| | Khomophatšoa MRA | 33,000 | Operational | |
| | Mokhotlong/Sanqebethu MRA | 52,000 | Operational | |
| | Moteng MRA | Unknown | Proposed | |
| IV | Liseleng ERMA | 8385 | Dormant | Managed mainly for the sustainable |
| | Mofolaneng ERMA | 14,988 | Dormant | |
| | Khubelu ERMA | 140,488 | Planned | |

| | | | | |
|--|---------------------------------------|--------|----------|---------------------------|
| | Ramatšelisio ERMA | 10,082 | Dormant | use of natural ecosystems |
| | Corridor between Bokong & Tšehlanyane | 6836 | Proposed | |

MRA – Management Resource Area; ERMA – Environmental Resources Management Area
Source: Modified from the National Environment Secretariat (2000) and MDTP (2007).



Map 14: Proposed Biosphere Reserve, *Tšehlanyane National Park* and the *Bokong Nature Reserve* as a Biosphere Reserve Core Areas under the UNESCO MAB Programme.

Location and Size

External Limits of the BR is 29°20' to 28°45' S and 28°16' to 28°36' E, The Transition is 1290.51 Km²/130247.79ha. The Core areas (TNP and BNR) are 5600ha and 1972ha respectfully.

Rangelands:

Rangelands account for about 60% of the country area and are amongst the most notable and economically important ecosystems as they provide resources, such as grasses for livestock forage. Poor range management practices have contributed to the loss of vegetative cover, alteration of species composition, encroachment by shrubs, alien invasive species, and degradation of these ecosystems. Overstocking and continuous livestock grazing, facilitated by the communal land tenure system, culminate into overgrazing and reduced vegetative cover, thereby resulting in a decrease in palatable (decreaser) species, such as *Chrysocoma ciliata* and *Helichrysum trilineatum* shrubs and increase in unpalatable (increaser) species (Turpie et al., 2014a; b).

Biodiversity Conservation Efforts:

Lesotho recognises the importance of biodiversity for socio-economic development and it has undertaken several conservation initiatives to promote its sustainable use and reduce its loss. These initiatives include ratifying numerous bi- and multi-lateral environmental agreements, mainstreaming biodiversity in national development policies, establishing relevant institutions, developing regulatory frameworks, strategies and action plans. Furthermore, various conservation projects and programmes have been implemented, including the following.

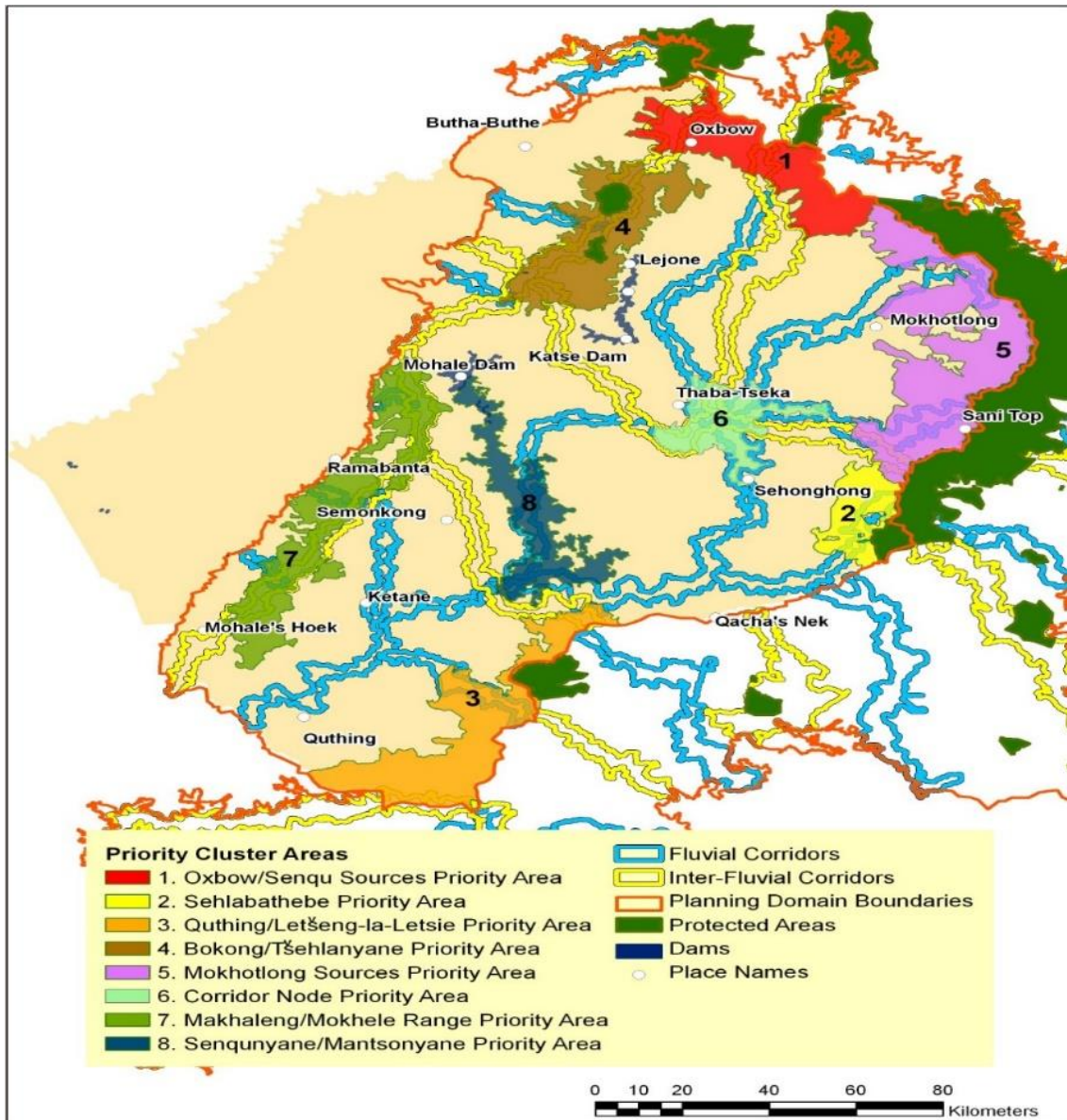
The DoE is regulating trade in biodiversity resources with the intention of reducing its loss and ensuring fair and equitable sharing of benefits arising from its use by using the Environmental Impact Assessment (EIA) process as provided for in the Environment Act 2008. Of all the industry players, at least two of them do large-scale production for international markets while the rest are only operating at a small-scale. The DoE has issued these companies with environmental clearances as a requirement under the Environment Act 2008, as well as facilitating development of tripartite ABS agreements among companies, communities and the Department. Other small companies have also been given environmental clearances, with conditions to ensure that biodiversity resources they trade in are not harvested to extinction. These companies mostly serve as middlemen for international companies and do very limited processing nationally. To improve value-addition and promote investment in the industry, the GoL has established a partnership with the National University of Lesotho (NUL) and a Japan-based company to facilitate natural product development from the country's genetic resources as well as the implementation of the ABS. The NUL is already assisting some industry role players in the screening of active compounds for drug development.

On projects and programs, the GoL in collaboration with private sector and civil society organizations has embarked on several initiatives to conserve the country's natural wealth. Most of these initiatives are donor-funded. Key amongst the donors is the GEF. The GEF Small Grants Programme has funded 55 community projects aimed at addressing global environmental problems and improving livelihoods. Some of the biodiversity conservation projects implemented in the country include the Maloti-Drakensberg Trans-frontier Project (MDTP), the Conserving Mountain Biodiversity in Southern Lesotho (CMBSL) project and the project on the removal of *Chrysocoma* shrubs from the rangelands. The MDTP was a GEF-funded joint initiative between Lesotho and South Africa aimed at biodiversity conservation in the Maloti-Drakensberg Trans-frontier Area while developing tourism as an incentive for local communities to conserve biodiversity. On its exit, the MDTP formulated a 20-Year MDTFCA Conservation and Development Strategy and Action Plan to be implemented as a programme until 2028. The MDTFCA is an area covering about 24000 square kilometres in Lesotho with seven designated biodiversity priority areas. Funded again by GEF, the CMBSL project sought to ensure the conservation and sustainable utilisation of unique montane biodiversity in southern Lesotho through the involvement of local communities as beneficiaries. The current *Chrysocoma* shrub

management project involves local communities in removing the shrub from rangeland areas where it has proliferated at the expense of important plants.

Forty-nine per cent of the Lesotho Highlands should be under some form of conservation management – possibly a mix of Managed Resource Areas and smaller Protected Areas - in order to meet all the biodiversity targets. 8 key areas for priority action have been identified by MDTP to meet this target. These, and their priority rankings, Oxbow/Senqu Sources Cluster – Rank 1, Sehlabathebe Cluster – Rank 4, Quthing/Letšeng-la-Letsie Cluster – Rank 2, Bokong/Tšehlanyane Cluster – Rank 7, Mokhotlong Sources Cluster – Rank 3, Corridor Node Cluster – Rank 5, Makhaleng/Mokhele Range Cluster – Rank 8, Senqunyane/Mantsonyane Cluster – Rank 6

Map 15: Shows key priority areas identified by MDTP



In an attempt to conserve rangelands and increase wool and mohair productivity by smallholder producers, the GoL has, in collaboration with the International Fund for Agricultural Development (IFAD), initiated the Wool and Mohair Promotion Project (WAMPP) that has a component, the Climate Smart Rangeland Management, designed to establish a sustainable system of communal grazing and rangeland management. The component focuses on building climate change resilience

of the rangeland sector using a community based approach to delineating grazing areas, establishing stocking rates and developing grazing plans.

The GoL implements the integrated catchment management activities to conserve some of the degraded catchments in the country. A variety of rehabilitation works are carried out to ensure that these areas continue to provide a range of biodiversity goods and services, which are necessary for livelihoods and socio-economic development. Moreover, some government institutions undertake resource assessments in selected areas to determine the status of rangelands so as to determine stocking rates. In addition to the DoE, these institutions also regularly undertake awareness raising campaigns on biodiversity conservation for different target groups such as traditional healers, herd boys, local authorities, schools, communities, biodiversity traders and others.

Main pressures on and drivers of change to biodiversity (direct and indirect):

Despite the positive economic performance in the past few years, over 50% of the population still lives below the poverty line. About 85% of the country's population is rural with majority of them depending on subsistence rain-fed agriculture. Agricultural production has, however, been declining over the years, due to land degradation, settlements and infrastructure developments that have reduced the size of arable land from 13% of the country's total land area to 9%. Land degradation has also reduced biological resources, including medicinal plants, palatable grasses in rangelands and indigenous trees used for energy provision. Many communities, particularly those in rural areas, have thus become vulnerable, especially to climate change. Furthermore, due to its geographical location and physical terrain, Lesotho is prone to natural disasters and has unfavourable climatic conditions and fragile ecosystems, which make it vulnerable to the impacts of climate change and susceptible to environmental degradation.

Socio-Economic Issues:

According to the Environment Outlook Report 2014, Lesotho has experienced marked demographic changes over the recent years in terms of age structure, urbanization, settlement and spatial distribution with far reaching implications on the environment and other social services. Increasing trends in urbanization are already outstretching urban water supply and influencing water quality especially in unplanned settlements and industrial regions. The government should strengthen the social protection interventions and stimulate development in rural areas by expanding and improving appropriate physical and socio-economic infrastructure as well as resuscitating agriculture related activities. There is need to strengthen the decentralization program, ensure that industrialization, adequate utility services and others are available in all the districts.

A number of socio-economic challenges are linked to demographic changes in the country. Rising unemployment, unplanned settlement, challenges with HIV and AIDS pandemic and ability to provide social services such as health, education and reduce poverty are at cross-roads due to a fast changing demographic structure. They compound the significant challenge Lesotho faces in reducing poverty and making growth more broad-based. Reducing child and maternal mortality is a crucial step for national development.

Efforts have to be stepped up to create employment opportunities especially for youth. Enhancing the private sector to venture into green economy projects such as recycling, while at the same time

creating jobs, will serve to reduce unemployment and conserve the environment. It is the urgency of these socio-economic issues that put the local communities under the state of compulsion to unsustainably use biodiversity resources to threaten tipping points despite robust awareness campaigns, the value they associate with biodiversity and their positive indigenous knowledge systems.

Poor Rangelands Management

Many Basotho depend on rangelands, making them one of the important ecosystems for sustaining livelihoods. Rangelands provide resources such as grasses which serve as forage for livestock. Other than being used for ploughing and being a source of income, owning many livestock for a Mosotho man is a measure of social status. Due to the afore-mentioned reasons which cause overstocking and coupled with the Land tenure system, many rangelands have been severely degraded. Subjecting rangelands to livestock grazing without giving them time to rest results in overgrazing and loss of vegetative cover.

Because of poor range management practices, Lesotho's rangelands have lost vegetative cover, their species composition has changed, are degraded and have also been encroached by shrubs. To remedy the situation, traditional rangeland management systems such as rotational grazing if applied properly, give vegetation sufficient time to recover during active growth. The GOL is developing grazing plans and establishing Grazing Associations (GAs) in order to conserve rangelands and increase livestock productivity. A Range Resources Management Policy is also being developed.

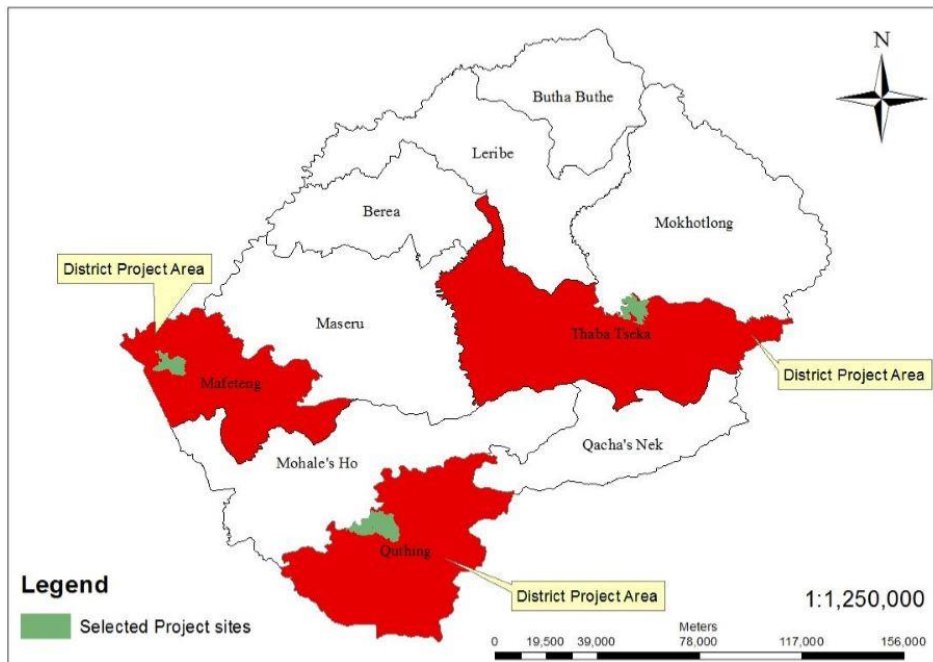


Pic. 14: Shows Proliferation of *Chrysocoma sp* (Karoo Bush) in rangelands.

Land Degradation

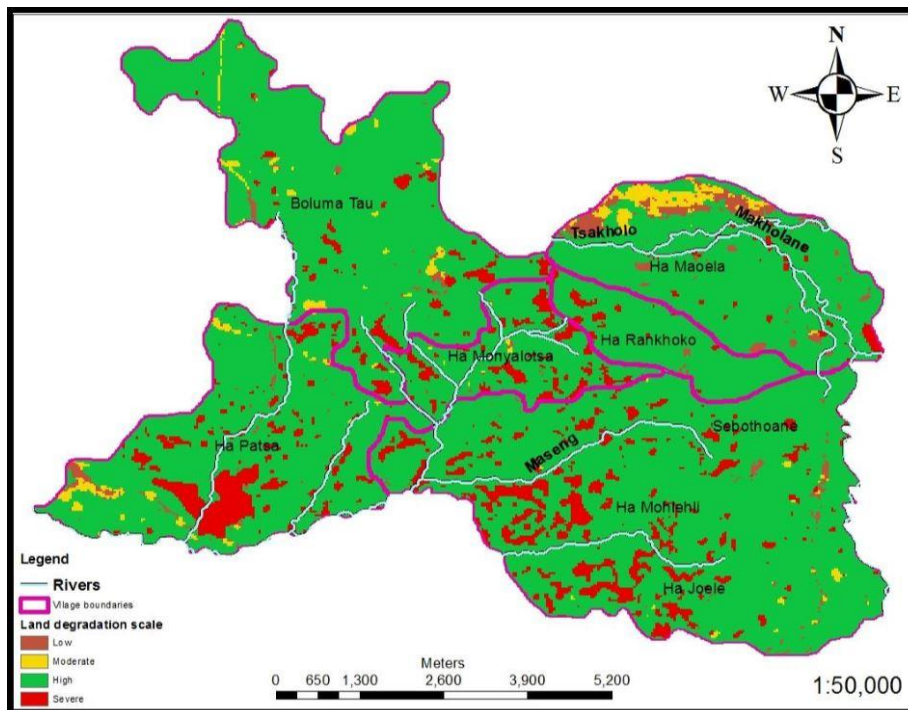
It is estimated that every hour Lesotho loses around 4,500 tonnes of top soil (or up to 300 lorry loads) through soil erosion into its river systems. As a result, gullies are continually formed and widened during each rainy season. In order to address land degradation, the Ministry of Forestry,

Range and Soil Conservation is implementing the programme of Integrated Watershed Management (IWM). The programme is piloted in Mafeteng, Quthing and Thaba-Tseka with the possibility of expansion and roll out to cover the rest of the country.

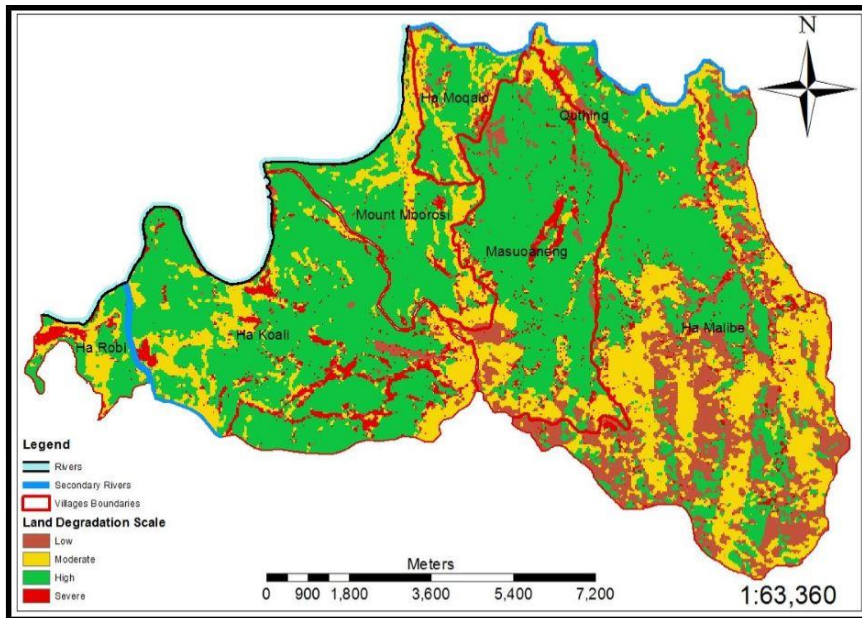


Map 15: National map showing location of selected project sites in their respective districts

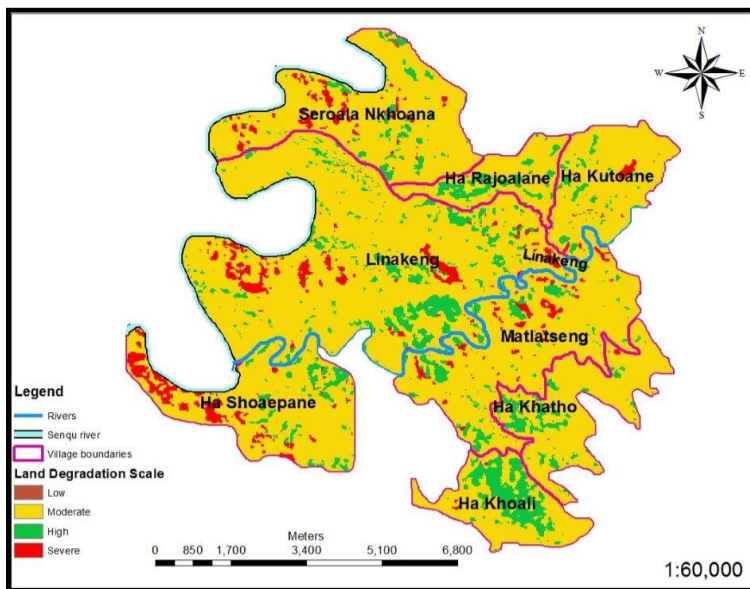
The extend of land degradation in the three (3) pilot districts is depicted in Figures 2-3



Map 16: Shows level of degradation in Mafeteng



Map 17: Shows level of degradation in Quthing



Map 18: Shows level of degradation in Thaba-Tseka

Rangeland fires

Fires in the Grassland Biome occur as a natural regime which is useful for biodiversity in this biome. Thus radical deviation in the natural fire regime such as total exclusion of fires for long periods of time, very frequent fires or a seasonal fires will have an impact on the current biodiversity. However, given status of rangelands in Lesotho, fire can no longer be used as a management practice. Despite this, fires are very frequent in rangelands, especially in the highlands

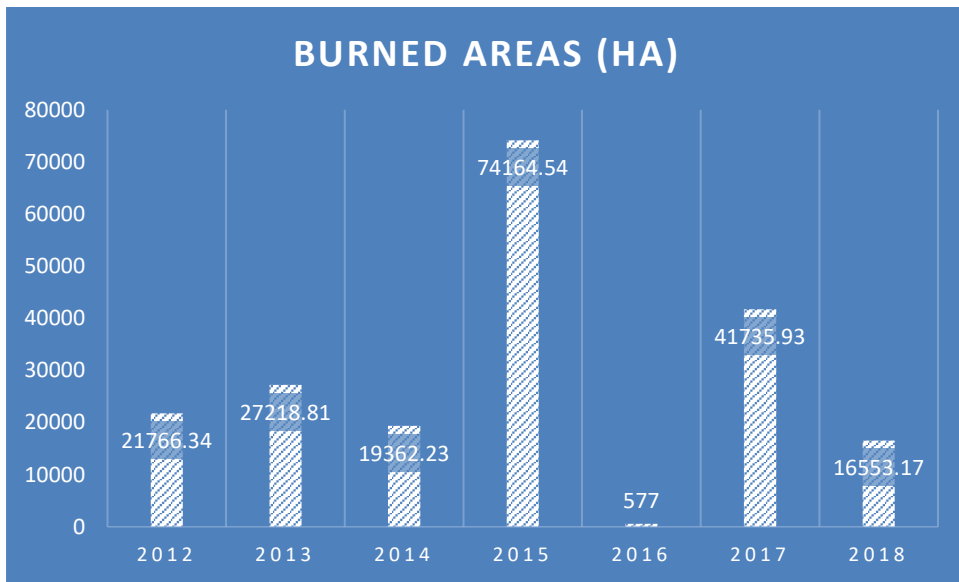
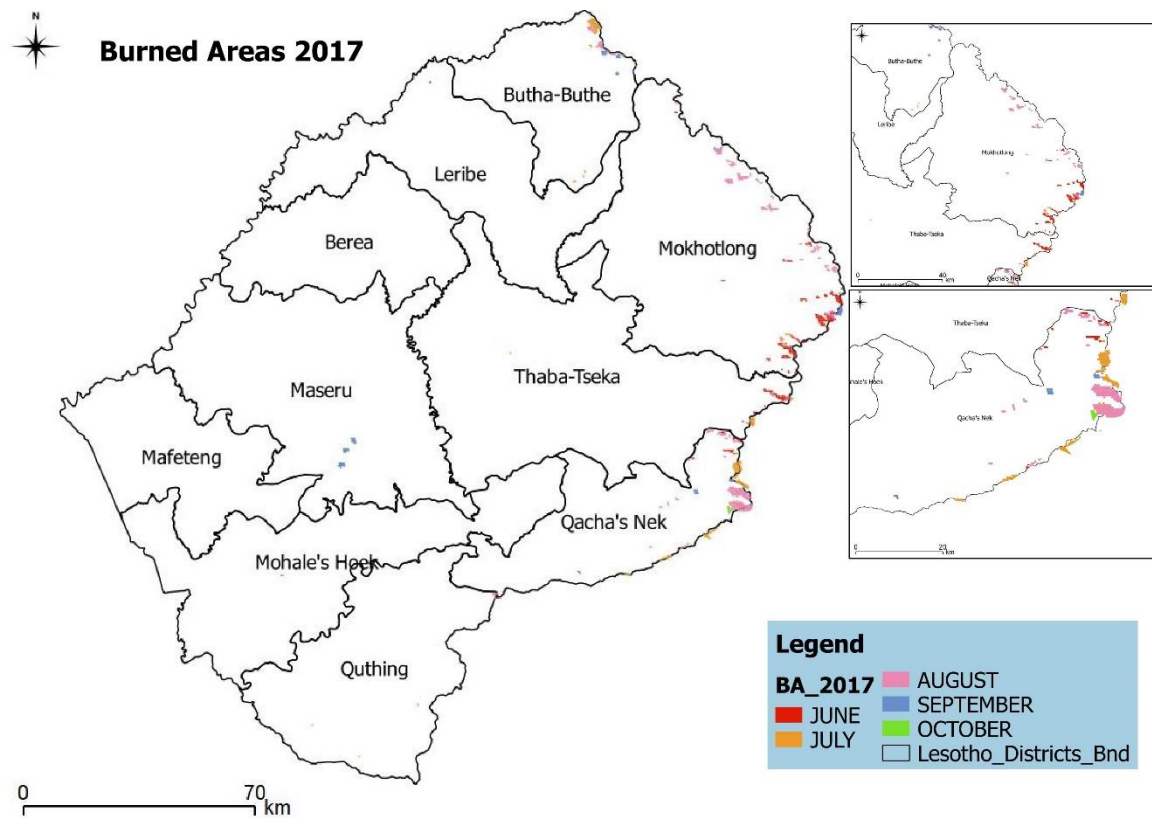
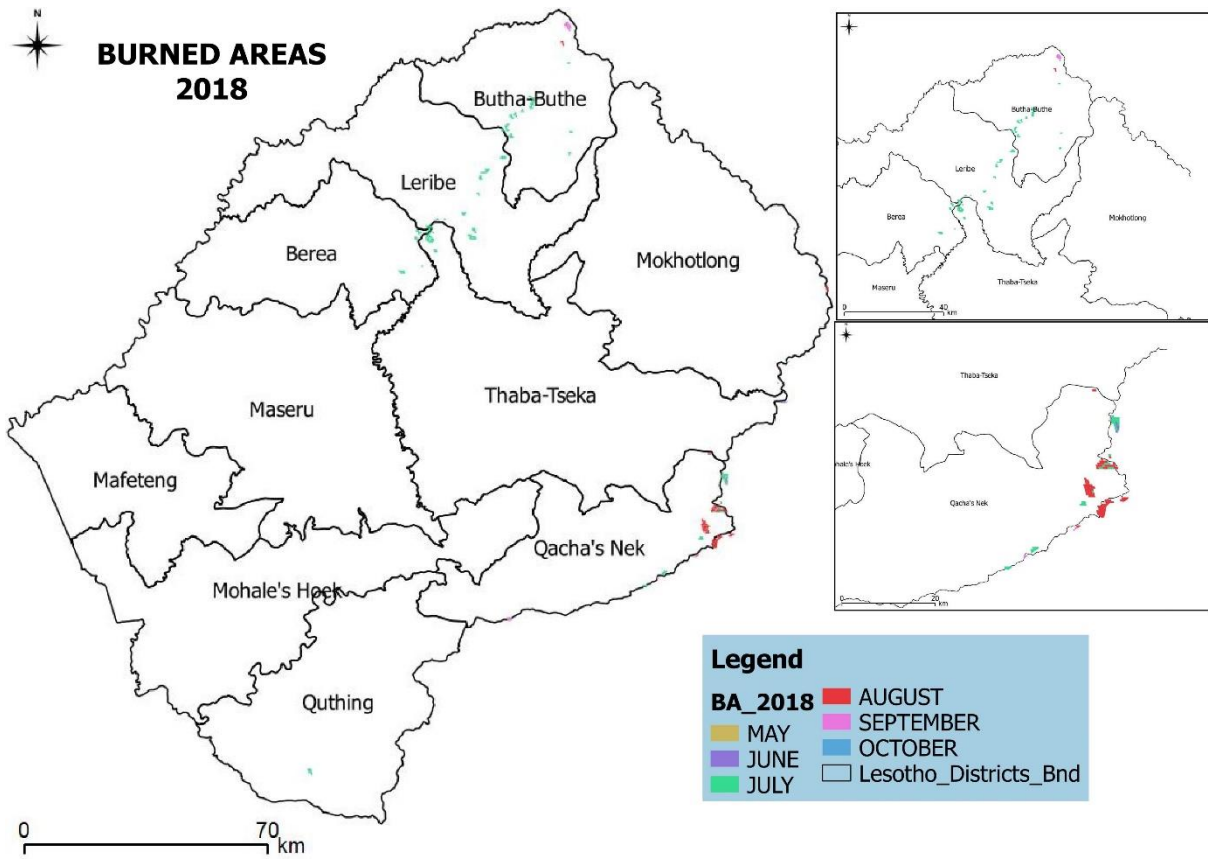


Fig. 9: The total area burned per year from 2012 to 2018



Map 19: Burned Areas Map for 2017, highlighting most affected districts (Mokhotlong, Thaba-Tseka and Qacha's Nek)



Map 20: *Burned Areas for 2018, highlighting most affected districts (Leribe, Botha-Bothe Thaba-Tseka and Qacha's Nek)*



Pic. 15:

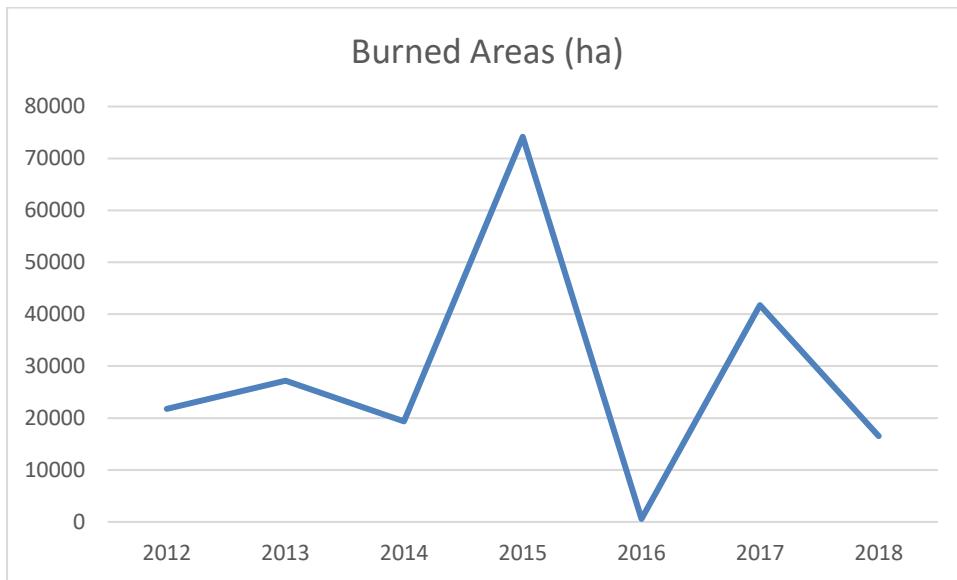


Fig. 10: *The above graph shows the trend of fires from 2012 to 2018 annual burned areas.*

It can be noticed on the graph that for 2016 it is plummeting due to insufficient data which does not cover the whole year.

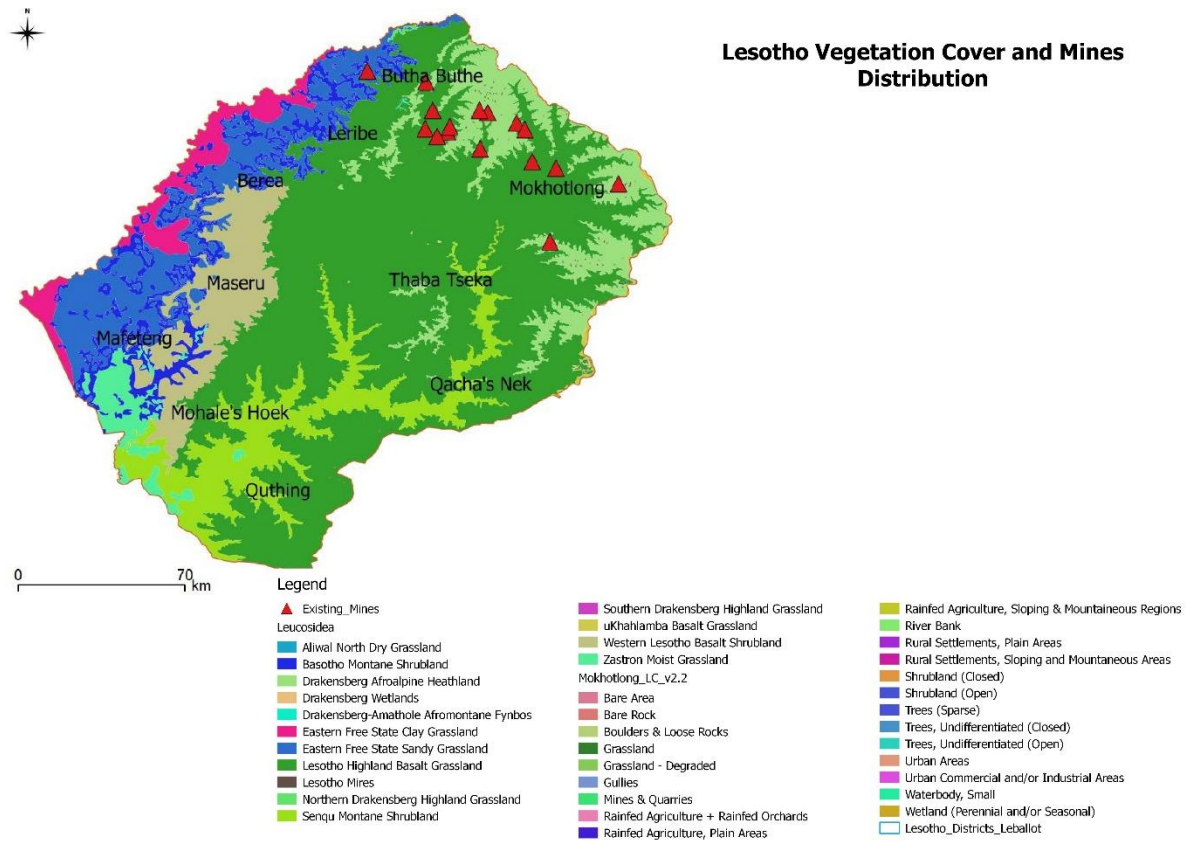
Rangeland fires are very common in Lesotho during the fire season (May – September). A major cause of these fires has been identified as intentional burning by herdboys which is done to initiate early greening as soon as first rains fall (GOL 2013). Other causes are cigarette stumps, ash disposal and camp fires.

Habitat transformation and fragmentation

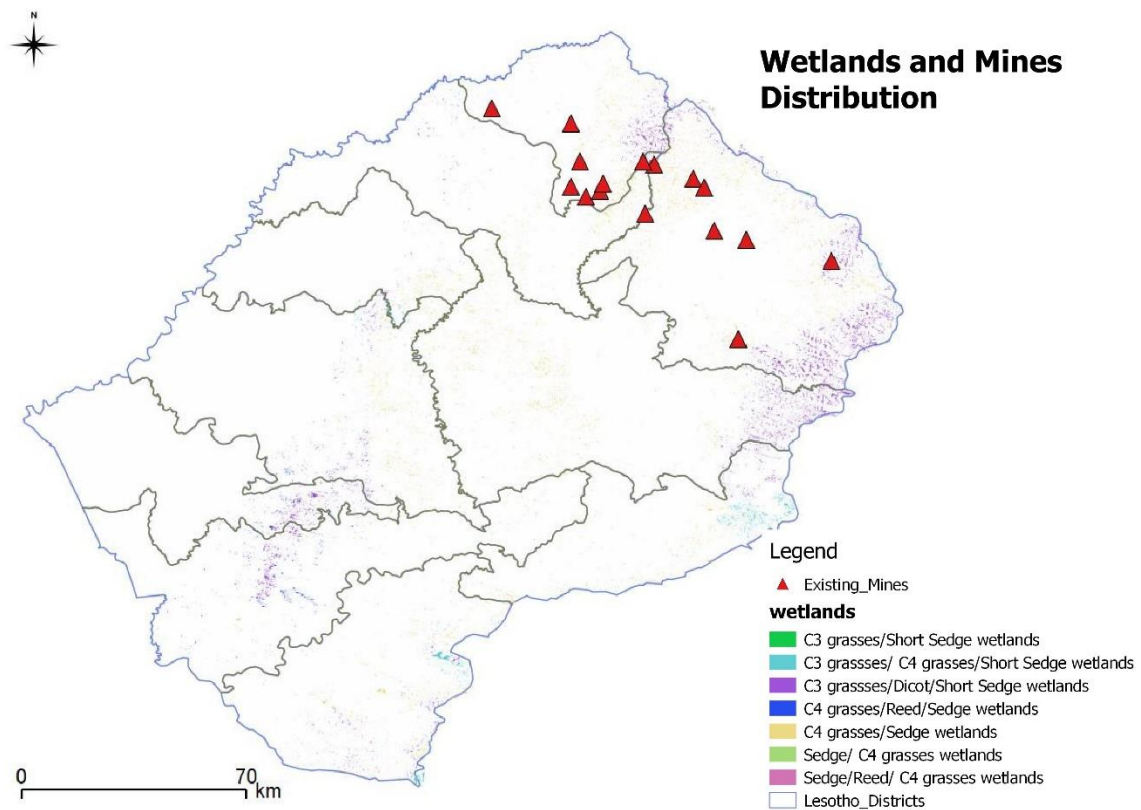
Various activities aimed at socio-economic growth such as mining and water sales projects present good prospects when sustainably undertaken. However, the county's landscape makes it susceptible to heavy runoff and erosion. Coupled with unsustainable land management practices such as poor farming, range management practices, and recently land transformation, the problem gets severe. Already, 80 per cent of the land base is mountainous, with only nine per cent being arable. The latter has been decreasing due to land degradation and encroachment (LAFSIP 2014). Most of the vegetation units have been classified as under threat.

Many Basotho are dependent on subsistence agricultural initiatives. It is not surprising therefore that with the evident land degradation, farmers are cultivating marginal lands making the land base more susceptible to further degradation. Massive land degradation threatens the majority of the population in a quest to meet demands for basic human requirements such as food. Developmental projects in the country result in increasing demand and escalating pressures on the limited land resources. In recent years, heavy encroachment on arable land by human settlements has been

noted and identified as a key threat (LAFSIP 2014). If urgent measures are not taken, the envisioned move towards accelerated economic growth may not be met.



Map 21: Distribution of Mines in the Afroalpine region in northern part of the country



Map 22: Wetlands and Mines Distribution in the Afroalpine region in northern part of the country

Alien Invasive Organisms

Alien invasive species (AIS), play a major role in compromising the goods and services provided by the ecosystem. They are introduced either intentionally or unintentionally by humans for purposes such as ornamental use and provision of fuel wood. These species can be in the form of flora and fauna. Impacts of AIS can be ecological and economical as they tend to outcompete native biodiversity for resources compromising their survival and affecting composition and distribution. Moreover, efforts to remove them are very costly putting a financial burden on GOL (GOL 2007).

AIS which have invaded Lesotho are both terrestrial and aquatic. Terrestrial AIS include trees such as Grey poplar (*Populus canescens, popoliri*), Silver wattle (*Acacia dealbata, boloukatlele*), (GoL, 2000). These species were introduced in the country intentionally but for a good course. They were intended for soil and water conservation measures and for provision of fuel wood. On the other hand, aquatic AIS include Parrot feather (*Mariophyllum aquaticum*) and Red water fern (*Azolla fillicodes*) which have invaded some of the dams (GoL, 2000). Alien fish species have a significant detrimental impact on local aquatic fauna and flora, yet can make a contribution to local economies. In Lesotho, trout have been shown to be directly responsible for the near-extinction of the locally-endemic Maloti Minnow (Rall & Skelton 2001), while trout have a significant impact on herpeto-fauna (Cunningham 2007). The presence of exotic brown (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*) in many rivers, especially in the headwaters, poses potentially the largest threat to indigenous fish species (Rall, 2007).

However, although some AIS were intended for a good course and are valuable as a form of biomass, they have been found to use a lot of water leading to depletion of the underground water. In some cases, this has affected discharge of water to springs and wells for human consumption. In addition, indigenous vegetation has been displaced in some cases.

Several initiatives have been undertaken to reduce the impact of AIS on biodiversity. These range from manual removal of AIS through the initiatives of Ministry of Forestry and Land Reclamation and Ministry of Tourism, Environment and Culture. A lot of GOL funds have been channelled to intergraded catchment management activities (*fato-fato*) carried out by MFLR. Moreover, some Community Based Organizations (CBOs) and Non-Governmental Organizations (NGOs) have been involved in manual clearing of AIS in areas such as Semonkong.

In recent years, AIS have been turned into an economic opportunity. Species such as Agave Americana (*Lekhala*) and *Rosa rubiginosa* (*Moroboi*, Sweet briar) have entered local and international biotrade industries to make useful products for the food, pharmaceutical and cosmetic industries.

Measures to enhance implementation of the Convention

Implementation of the NBSAP:

Lesotho developed its first National Biodiversity Strategy and Action Plan (NBSAP) in 2000 and is currently in the process of updating it so that it is in line with the Strategic Plan for Biodiversity

2011 - 2020 and its Aichi Biodiversity Targets. This action is off target since it was supposed to have been completed in 2015. This therefore means that the 2000 NBSAP is still operating on goals, objectives and associated actions. It is also important to note that the 2000 NBSAP was not framed in terms of measurable targets but instead has goals, objectives and actions, many of which are neither measurable nor time-bound. In development of the NBSAP, there was no monitoring and evaluation framework put in place to assist tracking of its implementation and reporting with comprehensive national indicators.

Goals of the 2000 NBSAP

Goal 1: Conserve the Diversity of Landscapes, Ecosystems, Habitats, Populations, Species and Genes in Lesotho.

Goal 2: Attain Sustainable Use of Lesotho's Biological Resources and Minimize Adverse Impacts.

Goal 3: Attain a Fair and Equitable Sharing of Benefits Arising from the Use of Genetic Resources

Goal 4: Expand Lesotho's Capacity to Conserve and Manage Biodiversity.

Goal 5: Create Conditions and Incentives for Biodiversity Conservation and Sustainable Use.

Goal 6: Manage Biodiversity through International Linkages.

Policy and Legal Framework Support Biodiversity Conservation and Sustainable Use:

Table 12: National Policy Framework in Support of Biodiversity Conservation and Sustainable Use

| Policy | Objective | Responsible Institution | Challenges | Opportunities | Recommendations |
|---|---|---|--|---|---|
| National Environment Policy 1998 | Seeks to protect and conserve the environment so as to achieve sustainable development for Lesotho. | Department of Environment - Ministry of Tourism, Environment and Culture. | <ul style="list-style-type: none"> • The section on conservation of biodiversity (§4.10) lists strategies that have largely not been implemented mainly because of inadequate resources and capacity. • The policy is old • The institutional arrangements for the implementation are not in place. | Financial and technical resources are provided for in MEAs for the implementation of the policy, capacity building and policy review | <p>DoE should:</p> <ul style="list-style-type: none"> • review the policy • mobilize funds and technical assistance from MEAs to capacitate the department |
| National Biosafety Policy for Lesotho 2005 | To ensure use of biotechnology in order to protect human health and ensure the well-being of the environment, while maximizing the benefits from biotechnology. | Department of Environment - Ministry of Tourism, Environment and Culture. | <ul style="list-style-type: none"> • The objective is framed as though the policy seeks to ensure the use of biotechnology for: (a) protecting human health and (b) ensuring the well-being of the environment. This would be inconsistent with the objective of the Cartagena Protocol on Biosafety as contained in Article 1 • Lack of institutional, legal and human capacity for efficient implementation of the policy. For example, there are no risk-containment inspections at Lesotho borders to screen imported goods. | <ul style="list-style-type: none"> • South Africa's extensive experience and technical know-how in Biotechnology and Biosafety can be tapped into by Lesotho • The Cartagena Protocol on Biosafety has provisions for capacity building | <ul style="list-style-type: none"> • The policy should be reviewed to reflect the reality of resources and capacity constraints and the fact that Lesotho is surrounded by a country that has embraced use of GMOs for a while now. • GoL should capacitate the DoE for Biosafety |

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| <p>National Range Resources Management Policy 2014</p> | <p>Guidance for development of effective strategies to combat land and vegetation degradation and to motivate for improved legislation and its effective implementation. Specifically, the policy identifies “conservation of biodiversity and maintenance of ecosystems” as one of the key policy areas and, therefore, commits the DRRM to ensuring healthy biodiversity through proper conservation of plant and animal species in rangelands.</p> | <p>Department of Range Resources Management (DRRM) - Ministry of Forestry and Land Reclamation</p> | <ul style="list-style-type: none"> • Range resources in Lesotho are in a poor state of management • Management of range resources is a very difficult task due to lack of clarity on who, among the DRRM, Local Councils and Chiefs, is responsible for this sector. | <ul style="list-style-type: none"> • Financial and technical resources provided for in MEAs for implementation of the policy and capacity building • The provision for the catchment management in LHWP Treaty can be used to assist in range management throughout the project areas | <ul style="list-style-type: none"> • Most habitats for fauna, flora and microbial communities are found in rangelands, therefore, the DoE and DRRM should cooperate and collaborate in order to achieve the CBD objectives. • GoL should capacitate DoE, DRRM and Local Councils |
| <p>National Forestry Policy 2008</p> | <p>To achieve sustainable management and forestry development through promoting people’s participation in forestry programmes and activities towards improving their social and economic well-being.</p> | <p>Department of Forestry – Ministry of Forestry and Land Reclamation</p> | <p>Although the policy is relatively comprehensive in terms of the number of key policy areas, there is no specific proposition on the institutional and legislative or regulatory frameworks needed to achieve its goals.</p> | <p>Financial and technical resources are provided for in MEAs for the implementation of the policy and capacity building</p> | <ul style="list-style-type: none"> • The Department should amend the 1998 Forestry Policy or make a new policy that replaces the current one. • GoL should capacitate the Department of Forestry |

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| Lesotho Food Security Policy 2005 | To improve the adequacy and stability of access to food at household level | Ministry of Agriculture and Food Security | There is no reference to biodiversity in the policy. | | The policy should be reviewed to also reflect issues of biodiversity and ecosystems in food production and security |
| Lesotho National Health Policy 2011 | To significantly reduce morbidity and mortality, and thus contribute to attainment of improved health status among the people of Lesotho. | Ministry of Health | There is no reference to biodiversity conservation and sustainable use in the policy | Provisions of financial and technical resources in MEAs can be used for activities aimed at conservation and sustainable use of medicinal flora and fauna. | The Ministry of Health should revise the policy to include conservation and sustainable use of medicinal fauna and flora |
| Lesotho Energy Policy 2015 | To contribute towards poverty alleviation, economic growth and protection of the environment | Ministry of Energy | Indirect reference to biodiversity, notwithstanding that a significant section of the population relies on energy sources derived from biological sources (biomass). | The provisions for financial and technical resources in MEAs can be used for activities aimed at conservation and sustainable use of biological resources for energy. | Programmes for the conservation and sustainable use of biodiversity should be coordinated with those for the supply of energy, particularly for biomass and hydroelectricity (e.g., electricity supply companies can contribute to a biodiversity fund to offset the habitat loss incurred during dam construction) |

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| <p>Lesotho Science and Technology Policy 2006-2011</p> | <p>Promotion of utilization of science and technology as a tool for economic development.</p> | <p>Department of Science and Technology - Ministry of Communication, Science and Technology</p> | <ul style="list-style-type: none"> •The policy is too general and lacks specific and measurable outcomes related to biodiversity conservation, its sustainable use and fair and equitable sharing of benefits arising from use of genetic resources. •Biotechnology is superficially covered as a cross-cutting issue whereas it should be one of the central focal areas of the policy | <p>Financial and technical resources are provided for in MEAs for the implementation of the policy and capacity building</p> | <p>The Department should review the policy to include biodiversity and biotechnology issues and to accord these the priority they deserve in the area of science and technology.</p> |
| <p>Seed Policy 2016</p> | <p>To provide guidance for the development of an effective, efficient and sustainable seed system, capable of producing and supplying high quality seed to satisfy national requirements and tap into external markets</p> | <p>Department of Agricultural Research</p> | <ul style="list-style-type: none"> •The policy leaves out other forms of plant genetic resources •The policy only focuses on crop seeds, leaving out other kinds of useful plants such as wild edible plants, medicinal plants and ornamental plants | <p>Financial and technical resources are provided for in MEAs for the implementation of the policy and capacity building</p> | <p>The Department should review the policy to include other forms of genetic resources and other plant species of economic importance</p> |
| <p>Lesotho Water and Sanitation Policy 2007</p> | <p>To promote proper management and sustainable use of water resources, including provision of sanitation services, so as to maximize socio-economic benefits while</p> | <p>Department of Water Affairs (Ministry of Water)</p> | <ul style="list-style-type: none"> • Conservation and sustainable use of biodiversity are not addressed directly and yet water is a resource whose quality and quantity rely directly on biodiversity. • Furthermore, water as a habitat for a variety of fauna is not considered. This means that the quality | <p>Financial and technical resources are provided for in MEAs for the implementation of the policy and capacity building</p> | <p>The policy should be reviewed to mainstream biodiversity</p> |

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| | not compromising the integrity of the natural ecosystem. | | dimension of water in the policy is only concerned with its potability. | | |
| Mining and Minerals Policy 2014 | The policy has several objectives including one relevant to biodiversity conservation: to minimize or eliminate the adverse social and environmental impacts of mining development | Ministry of Mines | The policy correctly points out the need for human and institutional capacity development to ensure its implementation but suggests establishment of structures, such as the Environmental Protection Authority, that have been struck-off from the Environment Act 2001 apparently on account of cost implications to the government. | The acknowledgement by the policy that mining activities often lead to adverse impacts on biodiversity and ecosystems and the idea of establishing an Environmental Protection Fund are reassuring indications of concerns over biodiversity conservation. | <ul style="list-style-type: none"> • The mining industry should be persuaded to play a significant role in resource mobilization to support conservation activities that go beyond mine site rehabilitation upon closure. • The Ministry of Mines should ensure that the Environment Protection Fund is established • The GoL should ensure that the DoE is capacitated to undertake environmental monitoring and management, especially with regard to mining activities |
| National Decentralisation Policy 2014 | Reduction of poverty, promotion of equitable local development and enhancement of participatory governance | Ministry of Local Government, Chieftainship, and Parliamentary Affairs, | <ul style="list-style-type: none"> • Decentralisation is yet to be fully implemented | Local Councils have the greatest potential to manage biodiversity resources and provide the necessary stewardship of biodiversity, | GoL should devolve power, finances, and technical capacity to local councils to |

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| | through transferring functions, responsibilities and resources for service delivery to local authorities and empowering citizens to actively participate in all service delivery processes. | | <ul style="list-style-type: none"> • There is no reference to biodiversity <i>per se</i> but reference is made (in §2.2) to the promotion of sustainable use and management of natural resources and controlling environmental degradation. | given that they are strategically positioned at local levels | enable them to manage biodiversity resources sustainably. |
| National Disaster Risk Reduction Policy (NDRRP) 2005 | To promote sustainable development and sound environment management in order to build the resilience of the nation and communities to disasters. | Disaster Management Authority | This policy makes neither direct nor explicit reference to biodiversity conservation and sustainable use. | | DMA should revise the policy to stream-line biodiversity conservation and sustainable use as these are important in disaster risk-reduction, .g. role of healthy wetlands in regulating floods. |
| Transport Sector Policy 2006 | To provide an enabling environment for efficient, cost effective and safe transport to facilitate sustainable development of the economy, social services and of the population in general | Ministry of Public Works and Transport | Although the policy acknowledges that the transport sector activities can have adverse impacts on the biophysical environment, it does not articulate how management and mitigation of such impacts shall be undertaken. | The policy indicates that the transport sector shall develop an Environmental Policy and Action Plan by 2010 that will guide integration of environmental issues into transport activities. | The Department of Transport should revise the policy to align with the Environment Act 2008. |

Table 13: Legislative framework in support of Biodiversity Conservation and Sustainable use

| Legislation | Objectives | Responsible Institution | Challenges | Opportunities | Recommendations |
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| Constitution of Lesotho 1993 | Provision of principles and laws through which Lesotho is governed | Ministry of Law and Constitutional Affairs | | Section 36 of the Constitution provides for the promulgation of laws and policies on any environmental issue. This includes policies and laws on biodiversity conservation and sustainable use, as well as access and benefit sharing in the use of genetic resources. | |
| Biodiversity Resources Management Bill 2016 | <ul style="list-style-type: none"> ❖ To conserve and sustainably use biodiversity including through: <ul style="list-style-type: none"> • Protecting rare, endangered and endemic species • Controlling importation and exportation of wildlife species and specimens • Ensuring security of protected areas • Consolidating legislation relating to nature conservation and biodiversity • To provide for the fair and equitable sharing of benefits arising from bio-prospecting of indigenous biological resources | The National Biodiversity Management Authority | <ul style="list-style-type: none"> • There are no provisions for establishing statutory bodies or committees that will help and advise the National Biodiversity Management Authority in the administration of the various sectors of biodiversity resources management such as protected areas (i.e., national parks, etc.), Biotrade and other obligations under the Nagoya protocol on the ABS and TK. • The issue of funding for the implementation of the NBRM Bill will be tricky as it has become clear that, even if the government is willing, it may not always provide sustainable funding for the long term existence of the Authority. | The Bill can be reviewed to accommodate some of the gaps identified. | <ul style="list-style-type: none"> • Instead of advocating for the establishment of the Biodiversity Authority, the Bill should call for the establishment of the Environment Authority as had been proposed by the repealed 2001 Environment Act • The Bill should have a provision for the local councils representation at the level of the board |

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| The Biosafety Bill 2013 | To provide for the management of genetically modified organisms with the aim of protecting human, plant and animal health, the environment and biological diversity | Department of Environment (Ministry of Tourism, Environment and Culture) | <ul style="list-style-type: none"> • The Bill has no provision for the appointment of biosafety inspectors who are supposed to oversee the enforcement as per §35. • Given the porous nature of the Lesotho borders and the liberal biosafety laws and policies of South Africa, transboundary inspections of goods for GMOs might prove to be a big challenge. | South Africa's extensive experience and technical know-how in Biotechnology and Biosafety can be tapped into by Lesotho | This Bill should be reviewed to include a definition of "Biodiversity Hotspot" (§5 and §16) and provisions for the consolidation of transboundary law-enforcement, phytosanitary, biotrade and biosafety inspections with those of customs through capacitating the existing Lesotho Revenue Authority (LRA) and police agents. |
| National Heritage Act 2011 | Preservation, protection and management of the heritage of Lesotho and establishment of the Heritage Council. | Department of Culture - Ministry of Tourism, Environment and Culture | The Act only addresses cultural heritage preservation issues. | Potential for synergy and cross-referencing with legislation on biodiversity conservation, biosafety and biotrade. | The regulation of transboundary movement of heritage resources should be consolidated with that for biosafety, biotrade and agricultural products as explained above for the Biosafety Bill |
| The Land Act 2010 | To modernize land administration, regularise peri-urban land and settlements, facilitate investment, including foreign investment and create land markets and to abolish | Land Administration Authority (Ministry of Local Government, Chieftainship and Parliamentary Affairs) | <ul style="list-style-type: none"> • Makes an indirect reference to biodiversity conservation and sustainable use. • This act and other laws on biodiversity and related matters do not 'talk to each other', even where their | The Act provides for the expropriation of land for public purposes (§49-50), including use related to biodiversity conservation and restoration through designation and development of areas for parks and nature reserves, | This act should be harmonised with other laws on biodiversity conservation. |

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| | customary land tenure in rural areas | | concerns overlap, e.g., setting aside land for biodiversity conservation | management of watersheds and water catchment areas as well as land conservation through afforestation and control of erosion. This could also be extended to include protection of biodiversity 'hotspots'. | |
| Environment Act 2008 | Protection and management of environment and conservation and sustainable utilisation of natural resources of Lesotho | Department of Environment - Ministry of Tourism, Environment and Culture | <ul style="list-style-type: none"> • As framework law on environment, it is too general hence it does not specifically stipulate how biodiversity issues should be dealt with. • There are several provisions that have not been implemented, including institutional ones, e.g. the environmental council and environmental units in line ministries. | Since this Act is a framework law, it serves as a good basis for the development of regulatory tools that specifically address conservation of biodiversity, sustainable use of biodiversity resources and access to genetic resources and equitable sharing of benefits derived therefrom. | GoL to implement the act through: <ul style="list-style-type: none"> • Activating the institutional frameworks • Capacitating the DoE |
| Forestry Act 1998 | Regulation and control of dealings in forest produce and sustainable management of forests and forests reserves. | Department of Forestry - Ministry of Forestry and Land Reclamation | The Act focuses management (§8-9) only on the tree aspect of forests, leaving details of how other wildlife using forests as habitats will be managed | Potential for synergy and cross-referencing with legislation on biodiversity conservation, forestry, land, range management | The review of the Act should have management plans that address conservation and sustainable use of all biodiversity and its products found in forests. |
| Mines and Minerals Act 2005 | Not articulated; however, the act covers the following areas: <ul style="list-style-type: none"> • Ownership of minerals and acquisition of mineral rights • Administration • Prospecting licences | Ministry of Mines | <ul style="list-style-type: none"> •The provision for restrictions on mining rights only extends to national parks and does not include areas that may be biodiversity 'hotspots'. | Mining EIAs and EMPs can provide a lot of information on biodiversity that would otherwise not be easily available | The idea of an Environmental Protection Fund featured in the Mining and Minerals Policy 2014 should be included in the Act |

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| | <ul style="list-style-type: none"> • Mining leases • Mineral permits • Mineral concessions and surface rights • Environmental obligations • Financials • Withdrawal of applications, surrender and termination mineral concessions etc • Miscellaneous | | <ul style="list-style-type: none"> • Although there is a requirement for comprehensive Environmental Impact Assessment reports §58(3), there is no provision for developing and implementing Environmental Management Plans by mining lease holders and prospectors. • Lack of capacity by DoE to enforce and follow-up on EIAs and EMPs | | when amended so that this sector can contribute to resource mobilization for biodiversity conservation, especially in the areas surrounding the mines. |
| Roads Directorate Act 2010 | To provide for the establishment of the Roads Directorate as a body responsible for the planning, development and maintenance of roads | Ministry of Public Works and Transport | The act does not explicitly address biodiversity-related concerns resulting from roads construction activities | The provision for mitigating negative environmental impacts of road construction and rehabilitating affected areas (§4.1(r)) can be used for biodiversity conservation. | GoL should capacitate and empower DoE to oversee the enforcement of the Environment Act 2008 as it relates to this Act |
| Local Government Act 1997 (as amended) | Establishment of local authorities and local government. | Ministry of Local Government, Chieftainship and Parliamentary Affairs | The functions of conservation of biodiversity, sustainable use of the biodiversity components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources are not directly specified among the functions listed under First and Second Schedules of the Act. Biodiversity issues may be subsumed under the function of control of natural resources and environmental protection. | <ul style="list-style-type: none"> • The provision giving power to Local Councils to make by-laws can be used to make biodiversity-related by-laws. • There is also a provision for making regulations by the Minister, which can accommodate biodiversity issues in local government. | <ul style="list-style-type: none"> • The conservation and protection of Biodiversity Resources should explicitly appear in the First and Second Schedules • The Minister should make Biodiversity-related regulations |

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| Range Management and Grazing Control Regulations 1980 | Establishment of grazing areas, rotational grazing, regulation of stock numbers and prevention of grass burning. | Department of Range Resources Management (DRRM)- Ministry of Forestry and Land Reclamation | <ul style="list-style-type: none"> • The Regulations are too old • The regulations are not aimed at biodiversity conservation and sustainable use per se but are targeted at rangeland preservation by declaring “maboella”, regulation of livestock size and prohibiting grass burning. | Given that rangelands account for about 60% of the total land area in Lesotho, their management also protects habitats for a significant proportion of biodiversity in the country. | <ul style="list-style-type: none"> • This Regulation and the associated Land Husbandry Act of 1969 should be reviewed • DRRM and DoE should collaborate on issues of rangeland management and biodiversity conservation and sustainable use. |
| National Parks Act 1975 | To provide for the establishment and maintenance of national parks for purposes of conserving fauna and flora, as well as preserving objects of historical or scientific value. | Department of Environment (Ministry of Tourism, Environment and Culture) | The Act appears to be non-operational as the Board of Trustees provided for in §5, which is to be charged with controlling, managing and maintaining national parks, does not exist. | The Act is set to be repealed by the Biodiversity Resources Management Bill 2016 and this, therefore, provides an opportunity to address the limitations of the old Act. | DoE should expedite the enactment of the Biodiversity Resources Management Bill 2016 |
| Weeds Eradication Act 1969 | Eradication of certain injurious weeds by allottees or occupants of lands. | Ministry of Agriculture and Food Security | Biodiversity conservation is not the focus of this Act. The objective, provisions and the schedule of this Act all point to the weeds to be eradicated being only those of concern or injurious to agricultural products (crops and small livestock). | Given that native and exotic weeds are of common concern to several sectors, i.e., Agriculture, Range Resources Management, Forestry and Biodiversity Conservation, there are opportunities for synergistic cooperation among such sectors | This Act should be reviewed so that it encompasses all injurious weeds to crops, livestock and the wildlife, including invasive alien species that pose a serious threat to biodiversity. |
| Land Husbandry Act 1969 | To control and improve the use of land, soil conservation, water resources, irrigation and certain agricultural practices in land used for agricultural purposes. | Ministry of Forestry and Land Reclamation | The Act makes very little reference to biodiversity, by way of regulations which may be made to “provide for proper management of trees and other natural flora” (§4(2)). | The National Range Resources Management Policy 2014 has called for the review of this Act. Such a review can make provisions for soil conservation and other agricultural practices that | DRRM should expedite the review of this Act and also incorporate biodiversity issues |

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| | | | | reduce soil erosion and land degradation, preserve water resources and rangelands, as well as conserve biodiversity in agro- and natural ecosystems so that biodiversity services can be enhanced. | |
| Historical Monuments, Relics, Fauna and Flora Act 1967 | Protection of certain protected fauna and flora from damage, destruction or removal from original habitat. | Ministry of Tourism, Environment and Culture | The Act appears to have largely been ineffective with regard to the protection of fauna and flora as the administrative structure, the Commission, has long ceased to exist. | The Act is due for repeal by the Biodiversity Resources Management Bill 2016 and this, therefore, provides an opportunity to address the limitations of the old Act. | DoE to expedite the enactment of the Biodiversity Resources Management Bill 2016 |
| Game Preservation Proclamation 1951 | Regulation of hunting of game | Department of Environment - Ministry of Tourism, Environment and Culture | The Proclamation provides for the issuance of permits/ licences for hunting of fauna, yet this is prohibited under Historical Monuments, Relics, Fauna and Flora Act 1967. There is, therefore, conflict between these two pieces of legislations. | The Act is also due for repeal by the enactment of Biodiversity Resources Management Bill 2016 and this, therefore, provides an opportunity to address the limitations of the old Act. | DoE to expedite the enactment of the Biodiversity Resources Management Bill 2016 |

Lesotho has also signed and ratified several Multilateral Environmental Agreements (MEAs) besides UNCBD whose objectives seeks to Conserve biological diversity and promote Sustainable use of the components of biological diversity.

Table 14: *Conventions Related to Biodiversity Conservation and Sustainable Use*

| Agreement | Objective(s) | Date of Entry into Force | Date of Becoming Party | Focal Institution | National Regulatory Frameworks to Implement MEA Provisions | Challenges | Opportunities | Recommendations |
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| <p>Convention on Biological Diversity (CBD)</p> | <ul style="list-style-type: none"> • Conservation of biological diversity; • sustainable use of the components of biological diversity; • fair and equitable sharing of the benefits arising from commercial and other utilization of genetic resources | <p>29-12-1993</p> | <p>10-04-1995</p> | <p>Department of Environment – Ministry of Tourism, Environment and Culture</p> | <ul style="list-style-type: none"> • Environment Policy 1998 • Forestry Act 1998 • National Biodiversity Strategy and Action Plan 2000 • National Biosafety Policy 2005 • Interim Biotrade Framework 2006 • Environment Act 2008 • National Forestry Policy (2008) • National Range Resources Management Policy 2014 • Biodiversity Resources Management Bill 2016 • Biosafety Bill 2016 • Lesotho National Forestry Programme 2008-2018 | <ul style="list-style-type: none"> • Complying with the provisions of the CBD may have become a burden for Lesotho due to budgetary constraints that result in lack of necessary human and infrastructural capacity. • Lack of political will slows down compliance. • Article 20 (1) may also be construed as absolving parties not fulfilling their obligations. • Lack of implementation of the frameworks /action plans. • Lack of law enforcement • No regulations to implement existing laws. | <p>Provision for:</p> <ul style="list-style-type: none"> • funding to Parties, especially developing countries, to facilitate fulfillment of their obligations to the convention. • technology transfer (Article 16) • exchange of information among parties (Article 17) • international technical and scientific cooperation in the field of conservation and sustainable use of biodiversity (Article 18) | <ul style="list-style-type: none"> • GoL should capacitate the National Institutional and Regulatory Frameworks required for full implementation of CBD obligations • GoL should seize all the opportunities availed by and through CBD, i.e., financial and technical, to enable it to fulfill its obligations • The DoE to expedite enactment of the Biodiversity Resources Management Bill 2016 and Biosafety Bill 2016 |
| <p>Cartagena Protocol on Biosafety (CPB)</p> | <p>To foster the protection of biodiversity and human health from potential risks posed by the rapidly expanding field of biotechnology</p> | <p>11-09-2003</p> | <p>20-09-2001</p> | <p>Department of Environment – Ministry of Tourism, Environment and Culture</p> | <ul style="list-style-type: none"> • Environment Act 2008 • National Biosafety Policy 2005 • Biosafety Bill 2016 | <ul style="list-style-type: none"> • Limited human and infrastructure capacity to implement the requirements of the protocol • Limited transboundary control of movement of goods | <p>There is provision for capacity building facilitated by the Protocol</p> | <ul style="list-style-type: none"> • The DoE to expedite enactment of the Biosafety Bill 2016 • GoL to put in place human and infrastructural capacities necessary for the implementation of the CPB • GoL to establish a dedicated Police Taskforce for |

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| | | | | | | | | <p>Biodiversity protection and law enforcement (similar to Anti-Stock Theft Unit)</p> <ul style="list-style-type: none"> • GoL to strengthen cooperation among Police, LRA, MAFS, MoH, DoE |
| Nagoya Protocol | To promote fair and equitable sharing of benefits arising from the utilisation of GRs, by appropriate access to GRs and transfer of technology | 12-10-2014 | 12-11-2014 | Department of Environment – Ministry of Tourism, Environment and Culture | <ul style="list-style-type: none"> • Environment Act 2008 • Interim Biotrade Framework 2006 • Biodiversity Resources Management Bill 2016 | There is no legislation and administrative structures to effectively implement the Protocol | <ul style="list-style-type: none"> • Article 9 of the NP provides for the channelling of benefits arising from utilization of GRs to the conservation of biodiversity and its sustainable use. • Articles 22, 23 and 25 of the NP make provisions for capacity building, technology transfer, collaboration and financial resources | <ul style="list-style-type: none"> • The DoE to expedite enactment of the Biodiversity Resources Management Bill 2016 • GoL to develop and implement a stand-alone ABS legislation, policy and administrative framework |
| United Nations Convention to Combat Desertification (UNCCD) | To combat desertification and mitigate the effects of drought in affected countries, with a view to achieving sustainable development | 26-12-1996 | 12-09-1995 | Department of Soil and Water Conservation - Ministry of Forestry and Land Reclamation | <ul style="list-style-type: none"> • Environment Act 2008 • Environment Policy 1998 • Forestry Act 1998 • National Forestry Policy (2008) • Lesotho National Forestry Programme 2008-2018 • National Range Resources Management Policy 2014 • National Action Plans (1999, 2005, 2015) | Although the convention emphasizes the inherent nature of biological factors and processes in desertification and drought/land degradation, achieving the objective of this convention cannot, on its own, comprehensively address conservation and sustainable use of biodiversity | <ul style="list-style-type: none"> • UNCCD gives priority to affected African countries (Article 7) • UNCCD advocates for synergistic implementation of MEAs (Article 8) • UNCCD encourages international cooperation in technology transfer, scientific R&D, information collection & dissemination and financial resources | <ul style="list-style-type: none"> • GoL to develop and capacitate legislation, policy and administrative frameworks so as to effectively implement this convention and other related MEAs. • GoL to revise the Land Husbandry Act 1969 |

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| | | | | | | | <ul style="list-style-type: none"> • There is also provision for financial resources & financial mechanisms | |
| United Nations Framework Convention on Climate Change (UNFCCC) | <p>To stabilize concentrations of greenhouse gases in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, i.e., the combined atmosphere, hydrosphere, biosphere and geosphere together with their interactions</p> | 21-3-1994 | 7-2-1995 | <p>Lesotho Meteorological Services – Ministry of Energy and Meteorology</p> | <ul style="list-style-type: none"> • Environment Act 2008 • Environment Policy 1998 • Lesotho Energy Policy 2015 • Lesotho’s First National Communication 2000 • Lesotho’s Second National Communication 2013 | <p>The only reference to entities related to biodiversity is with (a) the definitions of “adverse effects of climate change”, i.e., change in physical environment and biota; and climate system (includes biosphere as its component) (Article 1); (b) one of the Commitments of Parties, i.e. parties shall promote sustainable management and conservation of sinks and reservoirs of greenhouse gases, such as biomass and forests.</p> | <ul style="list-style-type: none"> • Financial mechanisms and resources are provided for in UNFCCC article 11 for biodiversity conservation activities that relate to climate change. • Article 12 provides for developing countries to develop and submit project proposals for funding in the area of climate change mitigation and adaptation | <ul style="list-style-type: none"> • GoL to develop capacity to access and utilize financial resources from UNFCCC • GoL to develop climate change mitigation and adaptation policy • Revise and update the NAPA 2007 |
| Convention on International Trade in Endangered | <p>To ensure that international trade in specimens of wild animals and plants does not threaten their survival by regulating their trade, such that it is legal, sustainable and traceable</p> | 1-07-1975 | 30-12-2003 | <p>Department of Environment (Ministry of Tourism, Environment and Culture) = Management Authority National University of Lesotho = Scientific Authority</p> | <ul style="list-style-type: none"> • Environment Act 2008 • Biodiversity Resources Management Bill 2016 • Interim Biotrade Framework 2006 | <p>The provisions of CITES, particularly Articles III, IV and V, assume that Parties have scientific and management, regulatory capacities, but this is often not the case, e.g., to effectively implement its obligations in CITES, Lesotho requires capacity to regularly monitor the</p> | <p>Plans and activities under this convention can synergistically complement those aimed at achieving the objectives of the CBD.</p> | <ul style="list-style-type: none"> • CITES should develop financial mechanisms to facilitate its implementation • GoL should expedite enactment of the Biodiversity Resources Management Bill 2016 • GoL should enforce stricter regulation of transboundary movement of biodiversity specimens |

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| Species of Wild flora and fauna (CITES) | | | | | | status of species that are in Appendices I, II and III with respect to abundance and distribution. | | <ul style="list-style-type: none"> • The Police Taskforce Unit mentioned under CBD also applies here |
| Ramsar | Fosters the conservation and wise use of all wetlands through local and national actions and international co-operation, as contribution towards achieving sustainable development throughout the world. | 1975 | 1-11-2004 | Department of Water Affairs (Ministry of Water) | <ul style="list-style-type: none"> • Water and Sanitation Policy 2007 • Water Act 2008 • Environment Act 2008 • Draft National Wetlands Conservation Strategy • Letseng-la-Letsie Integrated Catchment Management Plan • Invasive Alien Species Management Plan | <ul style="list-style-type: none"> • Conservation of waterfowls, in particular, and all fauna and flora dependent on wetlands form an important part of the Convention as indicated in the preamble and in several Articles, this aspect is often forgotten in practice. • Wetland protection and conservation efforts are ineffective | Ramsar secretariat has provisions for financial, scientific and technical support to Parties for implementation of the Ramsar Convention | GoL should: <ul style="list-style-type: none"> • Develop wetland policy • Capacitate the Focal Institution to the level required for effective implementation of the convention • Enforce sections of the Water Act dealing with wetlands protection and rehabilitation |
| World Heritage Convention (WHC) | To identify and conserve the world's cultural and natural heritage by drawing up a list of sites whose outstanding values should be preserved for all humanity, and to ensure their protection through a close co-operation among nations | 17-12-1975 | 25-11-2003 | Department of Culture – Ministry of Tourism, Environment and Culture | National Heritage Act 2011 | The National Heritage Act is only concerned with cultural heritage or at best does not consider biological/ecological entities, which is contrary to the provisions of the WHC | <ul style="list-style-type: none"> • WHC has provisions for international assistance in natural heritage, including Biodiversity conservation and sustainable use • A national museum is under construction | GoL should amend the National Heritage Act to include natural heritage |

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| International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) | To conserve and sustainably use plant genetic resources for food and agriculture and to fairly and equitably share benefits arising out of their use in harmony with CBD for sustainable agriculture and food security | 29-06-2004 | 21-11-2005 | Department of Agricultural Research - Ministry of Agriculture and Food Security | Seed Policy 2016 | Relevant national policies, laws and institutions are not adequate to implement the ITPGRFA | <ul style="list-style-type: none"> • ITPGRFA has provisions for close collaboration with CBD (Articles 1, 15, 17 and 20) • ITPGRFA has several provisions for international cooperation, technical assistance and financial resources, with particular focus on developing countries | <ul style="list-style-type: none"> • GoL should develop policies related to other plant genetic resources, in addition to seeds • GoL should develop capacity to access resources available through the convention |
| International Plant Protection Convention (IPPC) | To protect world plant resources, including cultivated and wild plants by preventing the introduction and spread of plant pests and promoting the appropriate measures for their control | 1952-2005 | 24-10-2013 | Department of Agricultural Research | None is in place yet | It would seem, from the text of the convention, that phytosanitary measures or activities may not necessarily be aimed at biodiversity conservation as there is no mention of biological diversity or biodiversity. | Opportunities for collaboration at global and national levels exist as inferred from Article IV paragraph 2b, Article VIII and the recent recognition of IPPC as the seventh member of the Liaison Group of Biodiversity-related Conventions. | GoL should develop legislation, policy and institutional frameworks required for implementing the convention |
| SADC Protocol on Wildlife Conservation and Law Enforcement | To establish, within the SADC, common approaches to the conservation and sustainable use of wildlife resources and to assist with effective | 18-08-1999 | 18-08-1999 | Department of Environment | <ul style="list-style-type: none"> • Environment Act 2008 • Biodiversity Resources Management Bill 2016 • Interim Biotrade Framework 2006 • Lesotho - South Africa MOU on Maloti-Drakensberg Transfrontier Conservation Area | The body that supervises the protocol implementation consists of ministers of food, agriculture and natural resources (Article 5). This is inconsistent with Lesotho's ministerial | <ul style="list-style-type: none"> • The Protocol makes provisions for regional support and cooperation in capacity building for wildlife conservation and management, wildlife law | <ul style="list-style-type: none"> • GoL should capacitate the Focal Institution to the level required for effective implementation of the convention • GoL should develop capacity to access resources under this |

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| | enforcement of laws governing those resources | | | | | duties whereby wildlife issues are overseen by the minister responsible for environment. | enforcement, sharing of information and creating a Wildlife Conservation Fund <ul style="list-style-type: none"> • Other parties to the protocol have a lot of experience in wildlife conservation from which Lesotho could learn | protocol (e.g., regional support and cooperation, wildlife law enforcement) |
| Orange/Senqu River Commission (ORASECOM) Agreement | To promote equitable and sustainable development of the resources of the Orange-Senqu River, and to provide a forum for consultation and coordination among Parties to support integrated water resources management and development in the basin. | 3-11-2000 | | Ministry of Water | <ul style="list-style-type: none"> • Water and Sanitation Policy 2007 • Water Act 2008 • Lesotho - South Africa MOU on Maloti-Drakensberg Transfrontier Conservation Area | Capacity constraints in implementing the ORASECOM in Lesotho. | <ul style="list-style-type: none"> • Existing technical cooperation that can be utilized • Potential synergies and spinoffs with the Lesotho Highlands Water Project Treaty that can be taken advantage of | GoL should capacitate the Focal Institution to the level required for effective implementation of the Agreement |
| The Lesotho Highlands Water Project | To provide for the establishment, implementation, operation and | 1986 | 1986 | Lesotho Highlands Development Authority | Lesotho Highlands Development Authority Order 1986 | There is only indirect reference to biodiversity issues | Article 6(4) of this agreement sets out provisions for the establishment of Lesotho Highlands Development Authority | LHDA should fulfil the obligation of the Treaty, i.e., conservation of the biodiversity component |

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| (LHWP) Treaty | maintenance of the LHWP | | | (Ministry of Water) | | | (LHDA) in Lesotho, whose mandate is to, <i>inter alia</i> , encourage and promote measures for the conservation of the catchment of the Senqu River (Article 7(22)). | of the catchment of the Senqu River. |
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Overall actions taken to contribute to the implementation of the Strategic Plan for Biodiversity 2011-2020:

Various Conventions relevant for biodiversity conservation have been ratified and legislation promulgated. There are also various national policies and strategies developed, adopted and implemented for biodiversity conservation. Ministries, UN Agencies and the private sector are undertaking programmes and projects that contribute positively towards biodiversity conservation. Although it does not come out clearly from the reports, all the work done in biodiversity conservation and sustainable use takes into cognizance gender inclusion. Gender is mainstreamed in major policies and strategies, but due to absence of a comprehensive monitoring and evaluation system including precise and accurate reporting, gender issues are omitted in reporting.

Support mechanisms for national implementation (legislation, funding, capacity-building, coordination, mainstreaming, etc.):

Lesotho is successfully mainstreaming biodiversity in its major development policies. The country has ratified various biodiversity conservation support multilateral environmental agreements, and has developed national legislation to support biodiversity and environmental management. However, some legal instruments including those meant for domestication of some conventions are still in draft form. Coordination is a challenge due to shortage of staff and funds. Capacity building is required in both knowledge and resources. Lesotho needs to prepare projects to fast track her biodiversity conservation initiatives.

Mechanisms for monitoring and reviewing implementation:

The country faces many challenges in biodiversity conservation including limited baseline and monitoring studies which should at least be performed every five years. There is poor reporting due to negligence and absence of monitoring and evaluation framework. There is poor documentation of most of the biodiversity groups and their populations. The scantiness of this important information hampers effective conservation efforts, which should be informed by proper scientific studies. Another major setback is lack of monitoring for compliance to environmental clearances and permits by companies whose activities are potentially harmful to the environment. Conflicting mandates and lack of coordination among institutions involved in biodiversity conservation and fragmented legislation also pose challenges. These challenges are compounded by limited institutional capacity with regard to human, technical and financial resources. Furthermore, most of the projects and programmes are externally funded initiatives that are rarely sustained beyond the project phase and do not cover the entire country. Additionally, poverty presents challenges of various kinds, including overexploitation of biodiversity resources due to overharvesting, overstocking resulting in overgrazing and land degradation, disregard for laws, government budget allocations skewed away from conservation efforts and conflicting interests between development and conservation.