

## GLOBAL ENVIRONMENT FACILITY

### PROPOSAL FOR REVIEW

**Programme Title:** **Conserving Mountain Biodiversity in Lesotho**

**GEF Implementing Agency:** UNDP.

**Executing Agency:** National Environment Secretariat.

**Requesting Country:** Kingdom of Lesotho.

**Country Eligibility:** Convention on Biodiversity Ratified 10 January, 1995  
Notification of Participation in Restructured GEF; 2 June, 1994  
Eligible for UNDP technical assistance.

**GEF Focal Area:** Biodiversity

**Operational Programme:** Mountains (and Land Degradation).

#### **Summary of Expected Outcomes:**

The programme will establish a network of small (mostly less than 50 ha) community managed protected areas that conserve the full range of mountain biodiversity in Lesotho's Drakensberg-Maloti mountains. This biodiversity consists primarily of unique habitats, particularly wetlands and sandstone cliffs, with high plant endemism (over 500 species). The programme will also put in place a legal and policy environment conducive to biodiversity conservation in the broader rangelands. Site based work is divided between three geographical regions, a central region supported by the Lesotho Highlands Water Project, an eastern region by the European Union (and possibly the World Bank for a cross-border park with South Africa), and a southern pilot region by the GEF.

#### **GEF Financing and Leverage**

**GEF Financing (inc PDF A):** US\$ 2.51 million (PDF Allocation: US\$0.025 million)

**IA co-financing of PDF:** US\$ 0.20 million

**Cofinancing – IA:** US\$ 0.10 million

- **Donor:** US\$ 1.75 million (Lesotho Highlands Water Project)  
US\$ 2.50 million (European Union & possibly World Bank)

- **Natl. Govt:** US\$ 0.28 million

**Total Programme Costs:** US\$ 7.34 million

**Associated Financing:** US\$ 0.115 million (GEF Biodiversity Enabling Activity)  
US\$ to be determined (Agricultural Sector Investment Programme supported by UNDP, World Bank, IFAD, ODA)

#### **Operational Focal Point Endorsement:**

Bore Motsamai, Secretary General, National Environment Secretariat of Lesotho. 28 July 1997

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## **List of Acronyms Used in this Proposal.**

ASIP	Agricultural Sector Investment Programme
BD	Biological Diversity, Biodiversity
BSAP	Biodiversity Strategy and Action Plan
CBD	Convention on Biological Diversity
CBO	Community Based Organisation
CTA	Chief Technical Adviser
DANCED	Danish Council for Environment and Development
DAO	District Agricultural Officer
EIA	Environmental Impact Assessment
EU	European Union
GEF	Global Environment Facility
IFAD	International Fund for Agricultural Development
IUCN	World Conservation Union
LHDA	Lesotho Highlands Development Authority
LHWP	Lesotho Highlands Water Project
MoAg	Ministry of Agriculture
ODA	Overseas Development Administration (UK)
NES	National Environment Secretariat
NGO	Non-Governmental Organisation
NPM	National Project Manager
NUL	National University of Lesotho
PA	Protected Area (s)
RMA	Range Management Area
SABONET	Southern Africa Botanical Network (A GEF Project)
SADC	Southern Africa Development Council
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme
VDC	Village Development Council

## **COUNTRY / SECTOR BACKGROUND / PROGRAMME CONTEXT**

1. The small and mountainous Kingdom of Lesotho covers some 70% of the Drakensberg-Maloti Mountains. The mountains, which rise to an elevation of 3,400 m, support mountain grasslands and heathlands which are exceptionally rich in biodiversity<sup>1</sup>. They also contain many unique habitats, such as mountain wetlands and sandstone cliffs, and consequently support high levels of plant endemism and are recognized as the "Eastern Mountains Centre of Biodiversity and Endemism" of southern Africa.

2. Lesotho is also one of the worlds poorest nations. The economy is dependent on a livestock based agriculture and a large proportion of the workforce finding employment in South Africa, by which it is totally surrounded. A consequence of this is that the mountain grasslands and heathlands are also heavily over-grazed with severe erosion, loss of watershed capacity, loss of preferred species with an invasion of woody shrubs, and a worsening livelihood for pastoralist people. While this degradation was recognized in the mid 1930s, it has been greatly exacerbated by recent human population growth and the traditional communal tenure system operated by Chiefs has been unable to regulate such overuse.

3. Despite its biodiversity importance and the pressure on this biodiversity, Lesotho currently has the lowest protected area coverage of any African nation with only 0.35% of its land area protected. Consequently biodiversity values are degrading.

4. These environmental and biodiversity problems were recognized in the National Environmental Action Plan (NEAP), first produced in 1989 and revised in 1994 to incorporate the principles of Agenda 21. As a consequence Lesotho established a National Environment Secretariat (NES) and is currently developing a National Biodiversity Strategy and Action Plan. The draft strategy spells out the need for immediate support to the mountain areas which are recognized as the the key areas for biodiversity conservation in the country.

5. In response to these problems the NES has developed a programme for conserving mountain biodiversity in Lesotho which consists of three tightly integrated initiatives supported by three different donors:

- site conservation in central Lesotho (Lesotho Highlands Water Project)
- site conservation in the eastern mountains bordering Natal (European Union, and possibly the World Bank for a cross border "peace park" with South Africa)
- site conservation in the southern mountains and creation of appropriate policy and institutional mechanisms and linkages at national, district and local levels (UNDP and the GEF)

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<sup>1</sup> The biodiversity values of Lesotho are detailed in Annex 1 to this proposal. This information is taken from the GEF supported BSAP programme which includes a Biodiversity Country Study. Most biodiversity values are floral, see papers in Huntley B.J. (Ed) 1994. Botanical Diversity in Southern Africa. NBI. Pretoria.

## **Biodiversity Importance**

6. The Kingdom of Lesotho occupies an area of some 30,400 square kilometres, much of which is rugged mountainous terrain, with peaks of the Maloti - Drakensberg mountains rising to 3,482 metres. Local ecological and climatic conditions are altitude dependant, and subject to wide seasonal and geographical variation. Mean annual rainfall ranges from 500mm in the south to 1,200mm in the eastern highlands, where heavy snowfall is common during winter months. The area over 2,000m is referred to as the afro-montane grasslands and that over 2,700 m altitude is referred to as the afro-alpine grassland or heathland, both have significant floral biodiversity.

7. The Drakensberg (or Quathlamba) Mountains of KwaZulu-Natal and the adjacent Maloti Mountains of Lesotho form an area of outstanding natural beauty and a recognised centre of diversity and endemism, with extensive zones of Afro-Alpine and Afro-Montane vegetation, unique wetland habitats and high levels of endemism. High mountain systems are recognised as biogeographical islands, and typically support plant and animal communities found nowhere else. The highlands of Lesotho and the Drakensberg range are no exception, the Lesotho Mountains constitute the largest part of the Eastern Mountains "Biodiversity Hotspot" of Southern Africa. The flora of the hotspot is estimated as 1,750 species with 30% endemics. **Annex 1** describes the biodiversity values of this area in some detail.

## **Strategically Important International Water Resources**

8. The Lesotho Mountains support the Lesotho Highlands Water Project (LHWP), a major multi-laterally funded scheme for the capture and transfer of water to the industrial heartlands of South Africa and the generation of hydro-electricity in Lesotho. The scheme is planned for implementation in phases over a thirty-year period, and should provide substantial royalties to Lesotho well into the next century. The maintenance of good vegetated watersheds, through improved rangeland management, is seen as an essential pre-requisite to sustainable water supply.

## **Threats to Biodiversity : General**

9. Lesotho has the lowest proportion of conservation protected area of any country in Africa (formal reserves total < 0.35% of land surface). There is one small Wildlife Sanctuary, the Sehlabathebe National Park, of 65 sq km. Outside this Sanctuary biodiversity is lost through the degradation of vegetative cover as a consequence of heavy grazing (heavy grazing leads to loss of palatable species and weed encroachment), over-frequent burning, and, especially for wetlands, through erosion.

## **Root Causes of Biodiversity Depletion : Increasing Competition for Finite Resources.**

10. Lesotho has a population of 2 million people, increasing at a rate of 2.6% per annum. If current trends continue, numbers will double by the year 2020. Less than 15% of the land area is suitable for arable farming, and agricultural productivity is low. Most of the population is concentrated in the lowland western third of the country, where competition for limited land resources is intense and soil erosion is widespread. It is estimated that 90% of rural household energy needs are derived from biomass, in the form of fuelwood (which is already extremely scarce), shrubs (which are coming under increasing pressure), dung and

crop residues. As a consequence, stocks of woody vegetation have been greatly reduced and the beneficial effects of manuring crops are limited. Livestock are maintained at stocking levels above long term carrying capacity, resulting in extensive degradation of rangelands including the highlands.

11. Threats to biodiversity are exacerbated by the communal land tenure system on the mountains, which does not provide incentives for resource conservation. In the past, resource use regulation was by a system of hereditary chiefs. This is breaking down as population pressures continue to rise and processes of democracy empower village governments.

### **Regulatory and Institutional Context: Environment Law and Policy**

12. Currently Lesotho is undergoing a series of sectoral and cross-sectoral policy analyses, stemming from the widespread acknowledgement of the relative failure of past policies and legislation. Significant policy changes include a revised Environmental Policy and, following the policy, an Environmental Management Bill is shortly to go to Parliament. Both the policy and law processes have been supported by UNDP and UNEP, and both give considerable coordination and monitoring function to the National Environment Secretariat (NES), which is the designated lead agency for this programme.

13. A Biodiversity Action Plan and Strategy for the sustainable conservation and management of biodiversity, funded by UNDP - GEF, is being finalised by NES with extensive stakeholder consultation. The draft strategy spells out the need for immediate support to the mountain areas, which are recognized as key areas for biodiversity conservation in the country, as well as emphasizing the need for support to policy processes. Extracts from the draft strategy are provided in Annex 1.

14. While the main policy and regulatory institutions are within Central Government, there is an ongoing process of decentralisation stemming from the Local Government Act of 1997. This empowers village, ward and district development councils to take responsibility for planning and implementation. UNDP's ongoing governance programme provides direct support to this process. The increasing power of local councils is in turn slowly eroding the power of the Principal and Area Chiefs and Village Headmen who have traditionally regulated natural resource and land use.

15. A major Agricultural Sector Implementation Programme (ASIP) is currently under final review. This initiative, to be funded by UNDP, World Bank, IFAD, ODA and others, will address the long standing issues of agrarian reform, including land and resource tenure. While the ASIP programme will address agrarian and tenure reform in general it will not address biodiversity. This project will work with the ASIP programme to ensure that its actions do create a favourable environment for biodiversity conservation.

### **Regulatory and Institutional Context: Community Involvement.**

16. Several range management initiatives have attempted to reduce the problem of overgrazing over the past fifty years, with a conspicuous lack of success. Recently however the clear need to involve people in such decision making has been stressed. Village Development Committees and Grazing Associations with power over their Range Management Areas are being developed

with support by new legislation and programmes. Range Adjudication processes are now affirming user rights and defining rational user-group controls to rangelands.

17. NGOs and CBOs exist, but are relatively weak in the natural resource management sectors. However the new environment policies see them as playing a crucial role in biodiversity processes. Whilst CBOs are new and weak, the people through their communal title to virtually all land, have immense but untapped power for controlling biodiversity. The Quthing Wildlife Society is one of the stronger NGOs with good links to communities.

### **Programme History**

18. This programme originated from discussions between Government (NES) and UNDP in 1994, leading to a GEF PDF Block A Grant in 1995. Preliminary ideas were outlined in 1995 and early 1996 in conjunction with the development of the Drakensberg-Maloti Mountain Conservation Proposal to be supported by the European Union (also to be executed through NES), and the publication of the LHWP Environmental Impact Assessment and Plan for its Phase 1b. A series of missions, funded by UNDP, have assisted the government to develop the programme proposal in more detail. This programme is also identified as the most important priority within the draft Biodiversity Strategy and Action Plan. Recently, at the request of South Africa, the World Bank has become involved with the European Union in the eastern zone and is considering providing support to a cross-border park.

19. The details of proposal preparation are presented in Annex 2, showing the level of grassroots consultation.

### **Conceptual Framework**

20. Biodiversity loss in Lesotho is a result of three interlinked factors (see Annex 2 for full problem analysis):

- there are few protected areas which protect biodiversity through specific design;
- biodiversity on the open access rangelands is degrading rapidly due to increasing human populations placing pressure through overgrazing and poor farming practice; and
- communal land tenure, with grazing and land resources being allocated in traditional ways by the chiefs has not encouraged community investment in resource conservation.

21. Most biodiversity values are floral, most larger mammals have been gone for several decades. A well designed network of small core areas within buffer zones of managed habitat would adequately protect most biodiversity values. Rangelands are overgrazed, and it will be difficult to gazette large areas as free of livestock grazing. With sufficient control over their own range communities will have incentives to invest in resource conservation, ie. effective conservation of core areas and buffer zones will depend on community support and the cooperation of the Grazing Associations responsible for the appropriate Range Management Areas. Putting such a concept into practice will require the creation of a supportive policy and institutional environment, further empowerment of communities, and the development of capacity at central, district and local levels. While the proposed multi-donor Agricultural Sector Improvement Programme (ASIP) will directly address issues such as land tenure

reform, user rights and the legal status and powers of Range Management Areas and Grazing Associations, and hence contribute directly to reducing land degradation, these changes may not necessarily have positive consequences for biodiversity. Effective land husbandry involving simplified pasture ecosystems and chemical inputs, for example, would have serious negative consequences for biodiversity. Consequently, in addition to its work at site, community, district and central levels this intervention must also provide appropriate policy inputs into the national planning process, in particular ASIP.

### **Programme Strategy**

22. The programme strategy is:

- to develop a network of small protected areas based on collaboration between communities, NGOs, and both district and central authorities.
- to generate awareness, incentives, and a conducive policy and institutional environment at central, district and local community levels, to enable effective rangeland conservation.

### **PROGRAMME OBJECTIVES AND DESCRIPTION**

#### **Programme Objectives**

23. The long term goal (Development Objective) of the Programme is:

**to ensure the conservation and sustainable utilisation of unique alpine and montane landscapes in Lesotho.**

Under this are two separate but complementary Immediate Objectives :

*Immediate Objective 1:*

To establish a planned and rational network of small protected areas which adequately protect the full range of Lesotho's mountain biodiversity.

*Immediate Objective 2:*

To create an environment supportive of improved resource management systems such that the rate of biodiversity loss outside formal Protected Areas is reduced.

#### **24. Outputs and Activities**

These are described in detail in the Logical Framework Matrix (**Annex 3**) but are summarized below.

#### **Objective 1: Develop a Protected Area Network**

25. This will be a series of "managed resource conservation areas" consisting of small core areas surrounded by buffer zones where grazing is carefully managed, rather than large "national parks". Sites will be coordinated nationally by the NES but will be managed locally by the appropriate district and community institutions. Activities will include:

- 1.1. establishment of appropriate **institutional mechanisms** and capacities

- 1.2. filling in the identified gaps in biodiversity survey information in order to select and **prioritize key sites for protected areas**
- 1.3. organizing existing knowledge on biodiversity into an effective **information system** and defining gaps
- 1.4. developing and testing **mechanisms for community based protected areas**
- 1.5. **strengthening cross border collaboration** with South Africa
- 1.6. building linkages with **tourism development** plans
- 1.7. raising **community level awareness** of biodiversity.

## **Objective 2: Establish a Supportive Environment for Improved Resource Management**

26. This addresses the broader issue of biodiversity conservation outside protected areas in open range management situations. It will create an enabling policy and institutional environment for biodiversity conservation at national, district and local community levels, and ensure that biodiversity issues are appropriately addressed both within the policy and the implementation of the Agricultural Sector Investment Programme (ASIP). Activities will include:

- 2.1 review and **improvement of sectoral policies** affecting biodiversity conservation incentives, including land tenure and access
- 2.2 enhancement of systems for **valuing biodiversity** in planning and management
- 2.3 developing **sustainable financing** and incentive mechanisms for biodiversity conservation
- 2.4 strengthening the ability of local authorities and grazing associations to **control range management**
- 2.5 strengthening the **regulatory mechanisms for biodiversity conservation** at all levels
- 2.6 **clarifying institutional mandates** and responsibilities for biodiversity conservation
- 2.7 translating awareness of biodiversity issues into **community capacity** to implement biodiversity conservation
- 2.8 **strengthening institutional capacities** to coordinate biodiversity conservation at all levels

27. **At the completion of the programme, there will be:**

- (i) a more complete protected area network for in-situ biodiversity conservation.
- (ii) mechanisms in place to protect biodiversity resources outside the Protected Areas. Participatory Management Plans for Range Management Areas will have been developed and put in place. The policy regime will reinforce such communal initiatives.
- (iii) a stronger network of biodiversity institutions from the NES, the focal point for biodiversity, through the sectoral agencies and districts, to the communities which use and manage the resources directly. Agencies which promote environmental awareness and educational outreach as well as those that collect and disseminate information on biodiversity resources will be included in the networks.
- (iv) an integrated bio-regional approach to biodiversity conservation and watershed management in place.

## **Benefits and Beneficiaries**

28. The principal local beneficiaries will be the inhabitants of the mountain areas, who will gain greater control of the resources close to their homes. CBO's, NGO's, and the Range and Conservation Divisions of the Ministry of Agriculture will have gained in capability, as will the NES, the nation's main environmental institution. Land degradation in the catchment of a major water system will be reduced as a result of the adoption of sustainable land management practises. The global community will have gained in terms of protection of globally significant Afro-Montane and Afro-Alpine biodiversity.

## **RATIONALE FOR GEF FINANCING:**

29. Lesotho is eligible for UNDP and World Bank support, participates in the GEF, and has ratified the Convention on Biological Diversity. Lesotho has an active NEAP and Agenda 21 process. As a result of this a revised Environment Policy and Framework Environmental Legislation are virtually complete (support from UNEP and UNDP). Both law and policy give special recognition to biodiversity, indeed the law provides for private citizens to sue for despoilation of biodiversity, even by Government.

30. Lesotho is finalising a GEF supported Biodiversity Strategy and Action Plan at present. Key recommendations include: support to Protected Area mechanisms especially at community level; supporting maintenance of productive biodiversity rich rangeland outside these PAs; developing an enabling environment through policies and incentives; and empowering people and communities. Annex 1B provides a summary of the main actions recommended in the draft BSAP.

31. This programme will assist Lesotho in the implementation of the *Convention on Biological Diversity*. The key provisions of this programme follow from the GEF funded Biodiversity Strategy and Action Plan process, which is aimed at addressing the concerns of the CBD. In particular it promotes regional cooperation (*Article 5*), supports many provisions of the developing biodiversity Action Plan (*Article 6*), establishes sustainable development around protected areas (*Article 8*), develops policy and fiscal incentives for conservation (*Article 11*), includes training (*Article 12*), and technical and scientific cooperation (*Article 18*).

32. With respect to the *Guidelines for the GEF Biodiversity Work Programme, and the Programme Priorities of the Conference of Parties*, the programme:

- ? Is largely country driven and is endorsed as a national priority by the GEF Focal Point.
- ? Promotes and strengthens human resources and skills and promotes local expertise.
- ? Reduces risks from scientific and economic uncertainty by increasing and improving environmental information to support decision making and action.
- ? Addresses the root causes of global environmental deterioration through reducing institutional, resource tenure, user rights, and policy weaknesses.
- ? Develops capacity at decentralised and community levels to manage sustainable resource use.
- ? Assists Lesotho to fulfill her obligations under the Convention.
- ? Integrates biodiversity into Agricultural Development

33. The programme directly addresses one of the GEF Operational Programme Priorities : Mountain Ecosystems in that : *"the project seeks to protect representative habitats and strengthen the protected area network in the alpine and montane grassland zones". "The project will demonstrate and apply best practices for integrated landscape management". The project would develop linkages for cooperative management with adjacent Southern Africa Institutions.* Further, the cross-cutting issue of land degradation is addressed.

## **SUSTAINABILITY AND PARTICIPATION**

### **Government Commitment**

34. Lesotho was one of the first countries in Africa to prepare a National Environmental Action Plan and has established its National Environment Secretariat (NES) in the Office of the Prime Minister. Amongst many other functions the Secretariat is responsible for co-ordinating and overseeing implementation of Agenda 21 initiatives in Lesotho. These have been incorporated in a revised National Environmental Action Plan, and include Conservation of Biodiversity and Promotion of Sustainable Mountain Development, as priority concerns of Government. This conservation programme for mountain biodiversity is a priority for the NES.

### **Financial Commitment**

35. Government will allocate NES staff and resources to this programme. It has already allocated core posts to create a biodiversity unit which has been actively involved in programme development and which will be responsible for its monitoring and oversight, as well as implementing other priority actions identified in the BSAP process.

36. Long term support for this, and other biodiversity and environment programmes in Lesotho, will be provided for through the allocation of a proportion of the water export royalties from LHWP, currently estimated at US\$55 million per annum. Activity B.3 of the programme will support the development and implementation of specific mechanisms for this financing, including a possible trust fund.

37. Lesotho has considerable tourism potential associated with its scenery and biodiversity values. These are currently poorly developed and marketed, despite the existence of a large potential market in South Africa. Activity 1.6 of the programme will assist in the development of some of this ecotourism potential which will provide both local revenues and employment as well as potential revenues for a trust fund.

### **Participatory Planning Process**

38. The initial programme concept of a combination of inputs from three separate donors to develop a comprehensive programme to address the full range of in-situ biodiversity conservation issues in the Lesotho highlands was developed by NES in 1995 - 1996. This concept was endorsed by the participatory planning workshops conducted as part of the Biodiversity Strategy and Action Plan process in Lesotho which started in 1997.

39. Following endorsement of the concept, the new directions in policy and law, and the developing Action Plan process, the NES conducted a participatory planning process to flush out the details of the programme. Through an initial series of interactive workshops involving all institutional stakeholders, including NGO's and community leaders, ZOPP techniques were used to develop an agreed problem tree (Annex 2). Workshops were augmented by field visits to communities, where PRA style interviews and transect walks were used to verify workshop results. Interviews and consultations were also conducted with agency, NGO, private sector and donor representatives at village, district, and national levels. A week long interactive workshop with communities and agencies then rephrased the problem statements as objectives and outputs (Annex 3) and budgets and detailed institutional frameworks were flushed out through direct consultations with concerned agencies and institutions.

### **Stakeholder Commitment**

40. The programme has a wide range of stakeholders, with a variety of concerns and differing levels of commitment. These include: affected groups of both consumptive (livestock owners, herders and gatherers) and non-consumptive users (tourists and recreational users); implementing agency staff (NES, LHDA, Ministries of Agriculture, Education, and Natural Resources); national and regional policy makers; national and international NGOs (Lesotho Council for NGO's; Highlands Church Action Group; Quthing Wildlife Society, etc); donors; national and regional universities and research organisations; and private sector groups including hoteliers and tour group operators. During the two year programme development process, which included a series of grassroots and other workshops and consultations, almost all stakeholders expressed concern about resource degradation and support for actions to improve resource conservation. Real commitment to programme goals has already been demonstrated in south Quthing district where voluntary range closures resulted in increased dry season water flows. That a range rich in biodiversity is also a productive range provides direct incentives for grazing associations to work toward programme goals.

### **Incentive and Regulatory Systems**

41. While the incentives for some stakeholders to support the programme are clear, for many others they are not. Consequently the development and implementation of functional incentive and regulatory structures for biodiversity conservation and watershed management is critical to programme success and this is the thrust of objective 2. The draft national Biodiversity Strategy and Action Plan also calls for the greater use of incentives and disincentives and some of these are addressed in the draft environmental legislation for Lesotho. The water royalty system, environment fund, and tourism development are also possible sources of fiscal incentives for conservation and these will be developed under this programme. Other incentives to be developed include empowerment, awareness and education.

### **LESSONS LEARNT AND TECHNICAL REVIEW**

42. The programme will build on the experiences and achievements of successful community based programmes elsewhere. These have demonstrated the efficacy of participatory development, support for grass-roots initiatives involving village/district level land use planning, and increased production through conservation and range management. Programmes already reviewed include the LHWP Phase 1.b Participatory Committees, Quthing NGO

initiatives, and the Ministry of Agriculture Range Area Adjudication Process. Regional co-operation, private sector participation and technical back-stopping are also of paramount importance to the success and long term sustainability of the programme and are thus included within the programme activities.

43. The importance of not only creating an “enabling environment” at the national policy level but also extending this across sectors and down to district and local levels was demonstrated in the GEF financed East Africa Biodiversity Project. This requires the development of clear sets of mandates and institutional responsibilities and this is included in the programme, as is the need to create technical linkages at regional levels in order to reinforce political collaboration.

44. The GEF STAP Technical Reviewer raised two key issues regarding the programme, firstly the need to ensure that the programme is not externally driven but is based on local institutional capacities and that this is supported by a comprehensive survey and monitoring framework, and secondly a somewhat rhetorical question as to whether the programme goal is in fact achievable. While the text has been clarified, the programme’s incorporation of these concerns can be summarized as follows:

(i) the limited knowledge of Lesotho’s biodiversity and associated limitations in national institutional capacities are explicitly recognized in both the proposal and the draft National Biodiversity Strategy. However, as the reviewer notes, these are not reasons to stop the programme. Rather the need to develop both of these is addressed within the programme design, as well as the need to strengthen links to other institutions within the region in order to draw on available expertise. The monitoring framework for the programme will explicitly address both levels of concern, that of the state of the flora, and that of the institutional absorptive capacity and management response. The development of the monitoring framework will specifically draw on the regional expert networks developed under the GEF financed SABONET project in which Lesotho is a participant and the two programmes will mutually reinforce each other, as well as the proposed broader based Southern Africa Biodiversity Support Programme.

(ii) as the technical reviewer notes programme achievability is uncertain. The traditional African approach to protected areas, ie. exclusion, has given way to the recognition of the need to involve local communities in protected area design and management. Currently the lessons associated with ICDP’s and community-based approaches to protection are inconclusive. Essentially none have worked fully, all show some promise and some limitations. This is true across the whole of Africa and elsewhere. Thus the approach taken by the programme is to define the need: small (several hectares) reserves at key sites, together with a process for working out management agreements for each site (protected area). It is known that local control of grazing management is critical. Whether fencing is in order, and the specific management characteristics (fire, grazing and other harvesting regimes, etc) and the arrangements for management (sharing of power between local, district and national players and interests) will vary from site to site and will be worked out on a site by site basis through the programme process. While as with any programme success cannot be guaranteed, as the reviewer notes there is little alternative and without this effort “there is little hope for biodiversity conservation in Lesotho”.

## PROGRAMME FINANCING AND BUDGET

### 45. Summary Budget by Component (US\$ million)

Component	GEF	Govnmt	LHWP	EU	UNDP	Total
PA's - East		0.040		1.250		1.290
PA's - Centre			1.250			1.250
PA's - South	1.064	0.040				1.104
Total PA's	1.064	0.080	1.250	1.250		3.644
Supportive Envmt.	1.418	0.200	0.500	1.250	0.100	3.468
<b>Total</b>	<b>2.482</b>	<b>0.280</b>	<b>1.750</b>	<b>2.500</b>	<b>0.100</b>	<b>7.112</b>

### 46. GEF Contribution by Output and Year (US\$ 1,000)

Output	Total	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Objective 1. Protected Areas</b>						
1.1 Protected Area institutions	91	38	25	28		
1.2 Priority Sites identified	268	70	89	69	30	11
1.3 Information System	131	38	51	28	15	
1.4 Community Protected Areas	281	51	101	55	30	44
1.5 Cross Border Links	33	6	13	14		
1.6 Tourism linkages	33	3	18	7	6	
1.7 Awareness	160	127	13	14	7	
<b>Sub-Total Objective 1.</b>	<b>997</b>	<b>332</b>	<b>309</b>	<b>213</b>	<b>87</b>	<b>56</b>
<b>Objective 2: Supportive Environment</b>						
2.1 Policy Review	128	51	63	7	7	
2.2 Economic Valuation	205	51	76	41	15	22
2.3 Sustainable financing	64	25	25	14		
2.4 RMAs support	132	25	48	44	15	
2.5 Regulations	108	32	25	28	19	4
2.6 Mandates/Guides	144	13	38	41	30	22
2.7 Community Capacity	277	70	76	69	30	33
2.8 Institutional Capacity	425	120	171	96	15	22
<b>Sub-Total Objective 2.</b>	<b>1,485</b>	<b>386</b>	<b>524</b>	<b>340</b>	<b>131</b>	<b>104</b>
<b>TOTAL</b>	<b>2,482</b>	<b>718</b>	<b>833</b>	<b>553</b>	<b>218</b>	<b>160</b>

## INCREMENTAL COSTS AND COST EFFECTIVENESS

47. The incremental cost assessment (outlined in detail in Annex 5) demonstrates that in the absence of the proposed programme pressures on threatened endemic flora and fauna are likely to continue. The government of Lesotho is committed to addressing the problem of biodiversity loss and persistent degradation. The solution, however, requires a range of interventions that balance the immediate subsistence needs of communities with global biodiversity benefits, and national capacity to undertake these is limited. The program proposes interventions at the national level relating to capacity building and policy formulation,

along with targeted interventions at the community level to implement a system of community-managed, small core protected areas surrounded by areas with improved resource management systems. While some initiatives to further these objectives will occur in the baseline, financing will be required for incremental activities.

48. The cost of the baseline course of action amounts to US\$ 6 million. With the decision to adopt the alternative course of action, costs rise to US\$ 13.112 million. Therefore, the incremental costs are US\$ 7.112 million. This incremental cost will be shared by the Government of Lesotho (in kind: US\$ 0.28 million), GEF (US\$ 2.482 million), EU (US\$ 2.5 million), LHDA (US\$ 1.75 million), and UNDP (US\$ 0.1 million). The GEF will be contributing 35% of the incremental cost, with the remaining 65% coming from cofinancers. Details of the precise components covered by different co-financers are provided in the matrix in Annex 5.

49. The alternative proposed is based on the establishment of a network of protected areas sized to adequately protect the targetted biodiversity and no more. Management is to be based on community cooperation and, through the creation of a supportive environment for improved resource management coinciding with community interests in improved range management, is believed to be the most cost-effective long term solution to the problem of in-situ biodiversity conservation in Lesotho.

#### **ISSUES, ACTIONS AND RISKS**

50. Programme sustainability will face the usual problems associated with protected areas and sustainable use if there is no meaningful change in the pattern and intensity of land use - especially grazing, within the programme timeframe. Changes will be required in many sectors of society - from national agencies, through sectoral interests, to traditional and district leaders and the local communities and individuals themselves. While this programme will generate awareness, incentives and regulatory inputs with respect to biodiversity, other initiatives such as the ASIP programme which will establish new sectoral policies, agrarian reform, and improved resource user rights, are important parts of the change process. As in all countries, the root causes of biodiversity loss are embedded in global, regional and national policies and systems as well as in human nature.

51. In the absence of such changes, programme sustainability will rely on the benefits accruing from the establishment of small Nature Reserves and community based sustainable management of rangeland. These include local employment and commercial revenues from ecotourism as well as improved productivity and reduced erosion from improved rangeland management. Additional financial mechanisms to maintain the programme will come from water royalties from the LHWP and the associated establishment of a national environmental trust fund mechanism.

52. Currently there is limited national capacity for environment and biodiversity conservation within the NES and it will need considerable extra capacity if it is to perform its coordination role adequately. External Technical Assistance is seen as necessary for the first half of the programme period.

## **INSTITUTIONAL FRAMEWORK, CAPACITY ASSESSMENT, AND PROGRAMME IMPLEMENTATION.**

### **53. National Environment Secretariat (NES)**

The programme will be executed by the NES in the Prime Minister's Office. Established in 1994 the NES has broad responsibility for coordinating environmental activities and overseeing implementation of Agenda 21 initiatives, including the conservation of biological diversity and the promotion of sustainable mountain development. The Framework Environment Law, currently in draft, will upgrade the NES to a National Environment Authority. The law clearly designates the NES as the lead agency to plan, promote, and coordinate an integrated programme of biodiversity conservation.

54. While NES coordinates and oversees biodiversity activity, it does not directly implement activities on the ground. Rather it works through partners at central, district and local levels. NES will subcontract specific tasks within the programme to appropriate national, district and local agencies, institutions and NGO's. In order to do this the NES has started to establish a core biodiversity coordination, management, and training unit. The Biodiversity Unit will have direct responsibility for the establishment of a National Biodiversity Information System.

55. The Biodiversity Unit is also to establish a national biodiversity or protected area committee that will include a wide range of stakeholders including central, district and local governments, and agencies, NGO's, and the private sector. Among other things this committee will serve as the steering committee for the programme.

### **Ministry of Agriculture**

56. The Ministry of Agriculture has the mandate for the development and conservation of rangeland resources. Consequently the Ministry, either through its central offices or its district agencies, will implement many programme activities. Two parts of the Ministry are relevant:

- the Range Management Division (RMD) in the Department of Livestock Services; and
- the Conservation Division (CD) in the Department of Forestry, Conservation and Land-Use Planning

57. The Conservation Division will be primarily involved in activities under Objective 1 while the Range Management Division will be more heavily involved in Objective B. In both cases, capacity building support in terms of training and technical expertise will be required.

### **Quthing District** (the GEF supported pilot area)

58. Quthing District lies in the far south of Lesotho adjacent to the Eastern Cape Province of South Africa. The District rises from densely populated lowlands to over 3,000 m and has a variety of soil and habitat types. Quthing is not part of the LHDA programme and has no other major donor support. Quthing has one Range Management Area (RMA7) and the District is presently undergoing the process of Range User Adjudication, identifying areas and their user groups. This sets the pattern for future RMAs.

59. Range and Conservation issues are the responsibility of the District Agricultural Officer (DAO) who is responsible to the District, but receives technical advice and support from the Ministry. The DAO is assisted by technical officers including Range and Conservation

Officers. Currently the DAO suffers from staffing constraints, exacerbated by structural adjustment reforms, and it will need assistance from the NES in contracting out specific tasks.

**Quthing Wildlife Society (QWS).**

60. The QWS is a voluntary members organisation that has been in existence for many years and is the leading wildlife society in Lesotho, despite it carrying out most of its activities in the south. QWS has already identified a number of areas of potential conservation significance, based on floristic and birdlife values, and is seeking support for their management. The NGO has good relationships with Government and local communities and is developing communal conservation initiatives. The NGO will be provided with some additional technical, managerial and material support in order for it to carry out all its responsibilities under the programme.

*Programme Linkages*

61. The programme will build on and strengthen a variety of existing donor programmes addressing forest, watershed conservation, and pastoralist land-use issues. These include the LHWP, the World Bank led ASIP, the IFAD Anti-Desertification process, UNDP's governance and poverty alleviation programme, and DANCED support to NES for urban, water, energy and education issues. The programme will link to the GEF supported SABONET project and the proposed Southern Africa Biodiversity Support Programme.

**62. Programme Timetable** (Years divided into quarters)

Component	Year 1	Year 2	Year 3	Year 4	Year 5
Administration :					
CTA in post	+ + +	+ + +	+ + +		
NPM in post	+	+	+	+ + +	+ + +
DPO in post	+ + +	+ + +	+ + +	+	+
Order Equipment	+	+	+	+ + +	+ + +
Set up Strng Cttee	+ +	+ + +	+ + +	+	+
External Reviews	+	+	+		
Other staff appointed	+ +				
	+				+
	+		+		
1.1 PA Institutions	+ +	+ + +	+		
	+	+			
1.2 Priority Sites	+ +	+ + +	+ + +	+ + +	
		+	+	+	
1.3 Information System	+ +	+ + +	+ +		
		+			
1.4 Community PAs	+	+ + +	+ + +		
		+	+		
1.5 Cross Border links	+	+	+	+	+
1.6 Tourism linkages	+	+ + +	+ + +	+ + +	+ + +
		+	+	+	+
1.7 Community Awareness	+	+ + +	+ + +	+ + +	+ + +
		+	+	+	+
2.1 Policy review & land tenure	+	+ + +	+ +		
		+			
2.2 Economic valuation	+	+ + +	+ +	+ +	+ +
		+			
2.3 Sustainable financing		+ + +	+		
		+			
2.4 RMA's	+	+ + +	+ + +	+ + +	+
		+	+	+	
2.5 Regulations developed		+ +	+ +		
2.6 Mandates clarified		+ + +	+		
		+			
2.7 Community capacity	+	+ + +	+ + +	+ + +	+ + +
		+	+	+	+
2.8 Institutional Capacity	+	+ + +	+ + +	+ + +	
		+	+		

NPM = National Programme Manager, DPO = District Programme Officer.

**5 Budget Details**

**6 Incremental Cost Calculations.**

**7 STAP Technical Review**

**8 Letter of Endorsement from Government GEF Operational Focal Point.**

**9 Map**

## **Annex 1: The Global Biodiversity Values of Lesotho**

NOTE : the biodiversity values of Lesotho are of exceptional richness but relatively poorly known in the international literature, consequently significant detail is provided here. The biodiversity values are described in part A; key findings from the ongoing Strategy and Action Plan process summarised in part B; and existing and potential PA sites listed in part C of this Annex.

### **PART A BIODIVERSITY VALUES**

**Introduction** Southern Africa has seven recognized biodiversity hotspots, or areas of considerable diversity and endemism (Cowling & Hilton-Taylor 1994). These are :

Succulent Karoo	Kaokaveld
Albany	Pondoland
Maputoland	Wolkberg
Eastern Mountains	

These hotspots are recognized primarily on the basis of their floristics; the Succulent Karoo being the worlds richest single floristic type. The Eastern Mountains or Drakensberg - Maloti Mountains. are important for their higher altitude flora, estimated at 1,750 species, of which 30% are endemic to the mountains. Lesotho forms the greatest part of the recognized global biodiversity hotspot. It is these mountains that are the focus of the GEF project proposal.

Faunistically, the Eastern Highlands are recognized as an Endemic Bird Area (EBA) - Area C44.

#### **The Drakensberg - Maloti Mountains**

70% of Lesotho falls within the Eastern Mountains and over 60% of the 35,000 sq km Eastern Mountains is in Lesotho, the rest is in the adjacent Drakensberg Mts of South Africa, running northwards from East Cape Province through into western KwaZulu-Natal. The high mountains of Lesotho, mainly on old volcanic basalt overlying sandstones, are exceptionally rich in species, many of which are shared with the lower altitude steeper slopes on the Natal Drakensberg.

Lesotho forms the highest, widest and most convoluted part of the mountains which split into five separate ranges providing the catchments and high altitude peat bogs which are the source of the major South African rivers (Orange, Tugela, Vaal). This link to the most important water catchment of Southern Africa, which forms the single largest engineering project in Africa today (the Lesotho Highlands Water Project), is a key element of this GEF Proposal.

The bogs, themselves key areas for biodiversity, are only found on the flatter plateaux on the Lesotho Mountains. The southern end of the mountains are sandstone, not basalt, with a distinctive flora. Lesotho has Africa's highest sandstone formations.

Virtually none of these types are represented in the protected area systems of southern Africa.

The latter two high altitude vegetation types are described further, with community names following Loxton, Venn and Associates (1993) :

**The Alti-Mountain Biome** from 2,500 - 3,480m. 12,000 sq km in southern Africa; 32% transformed, more degraded, < 10% is conserved.

1. Temperate Alpine Belt
  - a Erica / Helichrysum heathland
  - b Merxmuellera temperate grassland
  - c Merxmuellera / Festuca temperate grassland
2. Temperate / Sub-Tropical Alpine Belt
  - a Merxmuellera / Themeda mixed grassland
  - b Merxmuellera / Harpochloa mixed grassland

**Afro-Mountain Grassland Biome** from 1700 - 2500m asl. 158,945 sq km of which 32% transformed and 0 % conserved. These grasslands are more widespread in southern Africa, over 10,000 sq km in Lesotho.

3. Sub-tropical / Sub-alpine Belt
  - a Themeda / Eragrostis sub-tropical grassland
4. Sub-Tropical Montane Belt
  - a Catalepis sub-tropical grassland
  - b Cymbopogon sub-tropical grassland

The more restricted sandstone areas are distinct botanically from the basalt, and contain many rare plants. There are no high sandstone plateau outside Lesotho.

In addition to these 'Zonal' vegetation types, three 'Azonal' vegetation categories can be recognized in the higher altitudes : wetlands (largely bogs and mires), riverine gorges, cliffs and talus.

### **The Highland Bogs and Mires**

"There are extensive bogs and sponglands in the high rainfall areas of the mountains; being most common in the South-East, they decrease in frequency and size to the west and south. Most are above 2,300m asl (ie above the sandstone on the basalts). Individual bogs are small (< 1000ha), but collectively cover tens of thousands of hectares" (Hughes & Hughes 1993). These alpine bogs are old (12,000 years since the last glacial), and of several distinct types:

footslope fens, valley-head fens, mid-slope fens, oxbows, drainage line wetlands, sheetrock depressions, marshes, springs & seeps.

They have different plant communities and vary greatly between groups and within groups depending on degradation. *Given the specific nature of some of the wetlands they may be regarded as unique in Africa and perhaps the world.* (Afridev 1966 Executive Summary p 29). They are rich in species and unusually rich in lower plants (eg thalloid hepatics), with many endemics, including at generic level (eg Quathlamba spp) vide Prof J Duckett, Univ London).

At highest altitudes the centre of bog has a short close cropped appearance, with Anagallis huttonii, Athrix fontana, Haplocarpha nervosa, Limosella spp, Lobelia aquatica, Ranunculus meyeri, Scirpus fluitans, & Sebaea marlothii.

Towards the edges: clumps begin - eg the orchid Rhodohypoxis rubella and occasional poker - Kniphofia caulescens. At fringes - bigger tussocks of Merxmuellera disticha & M. drakensbergensis. At the edge other herbs are present: Brownleea, Geum, Helichrysum, Senecio etc.

Within the flatter bogs are pools supported by springs, with truly aquatic vegetation : eg. Aponogeton junceus, Crassula natans, Lagarosiphon muscoides etc.

At lower levels, bogs are more grass/sedge covered, mainly Merxmuellera spp. Carex cernua, Cyrtanthus brevifolius, Deschampsia caespitosa, Juncus glaucus, Scirpus spp, etc. Sphagnum is absent.

A wealth of orchids is found on these bogs : Brownleea spp, Disa versicolor, Disperis tysonii, Habenaria dives, Holothrix incurva, Satyrium cristatum, S. macrophyllum etc.

## **Endemism**

There are an estimated 30% endemics out of a total 1,750 taxa on the Eastern Mountains. Key families for endemics in the Eastern Highlands are:

Asteraceae	118 endemic spp	out of a total of 167 spp
Scrophulariaceae	36 spp	43 spp
Ericaceae	11 spp	15 spp.

Whilst there are many endemics (c 600) to the Mountains, fewer are endemic to either Lesotho or Natal. Strict Lesotho endemics number about 50 higher plant species plus many more lower plant species.

A large proportion of the 30 % endemics are found in the heathlands and the bogs of the upper alpine belt (Hilliard & Burt 1990) ; It is these two categories that form the globally significant biodiversity value. Endemic plant taxa include:

<u>Helichrysum palustre</u>	<u>H. qathlambanam</u>
<u>Kniphofia hirsuta (red hot poker)</u>	<u>Crassula qoatihambensis</u>
<u>Dianthus basuticus (orchid)</u>	<u>Brownleea spp (4) (orchids)</u>
<u>Dierama jucundum (Harebell)</u>	<u>Saniella verna (an endemic genus).</u>

At least two endemics are recognized to be endangered:

Aloe polyphylla, the spiral aloe threatened by illegal trade.

Aponogeton ranunculiformis, a submerged water plant confined to a few small pools.

In addition Kniphofia hirsuta is considered threatened.

The South African Red Data List of Plants (Hilton-Taylor, 1995) lists a total of 79 taxa as Rare, Endangered, Indeterminate or Status Unknown for Lesotho.

The lowlands have some floristic values remaining, for example the Leucosidea woodlands (a patch to be a PA under LHDA Site 1a), and the Aloe ferox - Olea scrublands of the Quthing sandstone.

### **Faunal Diversity**

A few rare endemic species occur in the highlands and complement the important floristic diversity. These are:

Lang's Crag Lizard (Pseudocordylus lani)

Drakensberg Frog (Rana dracomontana)

Aquatic Frog (Rana vertebralis)

Maloti Minnow (Pseudobarbus quathlambae)

Rock Catfish (Austroglanis sclateri)

Butterflies (eg. Lepidochrysops oosthuizeni)

A distinctive group of primitive crustacea are endemic to high sandstone ponds.

Lesotho has significant populations of several potentially threatened and threatened bird species, including the largest population of bald ibis, and many bearded vulture or lammergeir. The developing Lesotho Report on Important Bird Areas (IBAs), recognizes the Lesotho Highlands as a node of endemism (EBA C44). There are three restricted range species in this node: Orangebreasted Rockjumper, Drakensberg Siskin, Mountain Pipit.

There are more endemic sub-species: eg. those of the Thickbilled Lark and Bearded Vulture. Over 90% of the world population of this subspecies are in Lesotho. Lesotho holds over 10% of the global population of Cape Vulture. Cape Vulture nesting sites are used to define Important Bird Areas of which six are proposed for Lesotho. These are described in Part C below.

## **PART B SUMMARY OF BIODIVERSITY STRATEGY AND ACTION PLAN OUTPUT**

Lesotho will complete its Biodiversity Strategy & Action Plan in late 1997. A draft Strategy was prepared in July 1997. These extracts are taken from the draft strategy documentation.

### **Section 1 In-Situ Conservation**

- 1a Designate additional protected areas
- 1c Involve communities in planning/managing the Protected areas
- 1d Strengthen regulatory measures for protecting species and ecological processes.

### **Section 2 Sustainable Use Issues**

- 2a To maintain traditional conservation Government will:
  - i) strengthen role of local authorities; and
  - ii) strengthen maboella regimes through better institutional mechanisms governing access.
- 2b Promote community participation in rangeland activities
- 2c Improve assistance to Grazing Associations
- 2f Document traditional knowledge
- 2g Promote policy reforms for biodiversity conservation and equitable use.

### **Section 3 Rangeland Issues**

- 3a Awareness campaigns for community participation
- 3c Improve technical management of rangelands by Grazing Associations
- 3g Document indigenous knowledge systems
- 3d Support existing community structures

### **Section 4 Threatened Habitats and Ecosystems**

- 4a Conduct inventory and assessment of key habitats especially wetlands
- 4c Reduce grazing pressure on wetlands.
- 4d Provide conservation inputs to Afro-alpine and Afro-montane ecosystems.

## **PART C EXISTING AND PROPOSED PROTECTED AREAS OF LESOTHO**

### **i) Existing**

Sehlabathebe National Park (but legally a no-hunting sanctuary) SE Sandstone montane. 105 sq km

**ii) Being Created** (Under LHWP Phase 1.a inputs; contractors from S Africa, no legislation as yet).

Bokong wetland (eroded from overuse and infrastructure, restoration attempts underway).  
Tsehlalyane woodland (best patch of Leucosidea woodland in Lesotho)

### **iii) Potential Areas**

#### **Sites under or close to LHWP Phase 1.b.**

River Gorge Thickets, indigenous woodland and vulture cliffs.  
Wetlands (alpine bogs) in upper Mohale catchment  
Whole Mohale area as a Biosphere Reserve Area

#### **Other sites**

Eastern mountain areas - possible cross-border "Peace Park" to South Africa (WB interest).  
Mount Moorosi IPAL gene sanctuary on Quthing River.  
Quthing afro-montane / afro-alpine site at Selomong on Sebapala River.  
Lake Letsie wetlands in Quthing District.  
Mont-aux-Sources alpine bogs; the ultimate source of Orange River system in eastern Lesotho, IBAs (Important Bird Areas). Six are proposed, one of which is Selomong.  
Spiral Aloe sites (several potential areas).

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## ANNEX 2

### FORMULATION OF THE PROBLEM STATEMENT AND PROBLEM TREE

The participatory programme development process worked through the following issues to develop the final problem tree as a basis for planning the programme:

#### **Problem statement:**

This was agreed by all stakeholders, including grassroots communities living in the mountains:

***" Both the diversity of species and the productivity of the rangelands are deteriorating at an increasing rate within the alpine pastures of the Drakensberg - Maloti Mountains of Lesotho. "***

#### **Stakeholders:**

A chain of actors (stakeholders) in this process, was agreed;

"..from those who herd the livestock - "the herdboys", through the livestock owners, to the village community and its attendant institutions (VDCs and Headmen), to the regulatory and advisory institutions of Area Chiefs and Principal Chiefs, to the Government civil service players in both the Central and District Ministry of Agriculture. Agriculture is guided by larger decision making processes from economic planning and the legislature, and, in environmental matters by the National Environment Secretariat. External groups also exert pressure on the rangeland activities through environmental lobbying and donor support."

#### **Problems:**

The first participatory planning workshop identified the following key problems which were validated through the ongoing consultative process (with numerical ratings based on an aggregated problem card approach):

- ? 19 - Policy/Policy Failure. Legislative & Institutional Problems,
- ? 10 - Poor Range Management, (which leads to the next issue):
- ? 8 - Overuse and Overstocking of Rangelands,
- ? 6 - Lack of Awareness on biodiversity & solutions at ALL Levels,
- ? 5 - Lack of Resource Tenure and Property Rights,
- ? 5 - Poverty,
- ? 5 - Population Growth, and Pressure on Rangelands
- ? 4 - Traditional Mechanisms Failing/ Lack of Participation
- ? 4 - Lack of Proper Resource Valuation System and Methodology,
- ? 4 - Lack of a Protected System to Conserve BD values.
- ? 3 - Cards on corruption/greed, on climate change, on fire,

#### **Theme Consolidation:**

From the above five key problem themes were isolated, as follows:

- 1 **The overall policy framework is inadequate.** Existing policies are not working either from inadequate implementation, or non-compatibility of policies, or from internal inadequacies. The pattern of land tenure, especially range user rights is central to this policy inadequacy. The key issue is to reduce the extent of transhumance, which leads to excessive impact in the highlands. It also leads to a loss of responsibility for the people who live in or adjacent to the highlands in conserving rangeland resources.

There is an ambiguity of mandate between traditional decision making (the chiefs), and the newer forces of democracy (the VDCs). The civil service extension agents and private sector development forces are additional players in this scenario of developing rangeland use options. Unless these institutional mandates are clarified, then resource policies will be of little benefit!

Decisions and policies to conserve the highlands should not be at the expense of increased degradation of the lowlands. There are linkages between the lowlands and the mountains. Impacts in one area affect the other.

The issue of "Free Goods" and value systems is important. The mountain rangelands are treated as free goods, so there is little incentive to invest in improved self regulation or resource conservation practice. The old practices are breaking down in face of changing institutions and trebling populations.

An increasing high proportion of livestock is owned by a small group of elite people. The poor get poorer and the rich get richer. There is little incentive for the rich to change the situation. They are not suffering.

- 2 **Resource Degradation.** There are too many livestock grazing the alpine pastures. A method to stimulate reducing grazing pressure has not yet been developed. Measures to close pastures for recovery are done for 3 months and not two years. Fire is a problem. Bush encroachment is a problem. Cattle post water points are a problem. Key resources are under extreme pressure, for example bogs are the only green pasture during the height of the dry season.

Overgrazing is one consequence of mismanagement. EVEN if there is no overuse, management, for example by fire for bush control, could still be poor. Simply resolving problems of tenure and access is not enough. Nor are isolated technology interventions, such as veterinary inputs. An integrated and concerted approach is needed.

- 3 **Biodiversity Loss.** While the principal focus of this intervention is biodiversity, it can only be achieved through better range management. However, efficient range management, such as forage introductions, might also have detrimental effects on biodiversity in the long term.

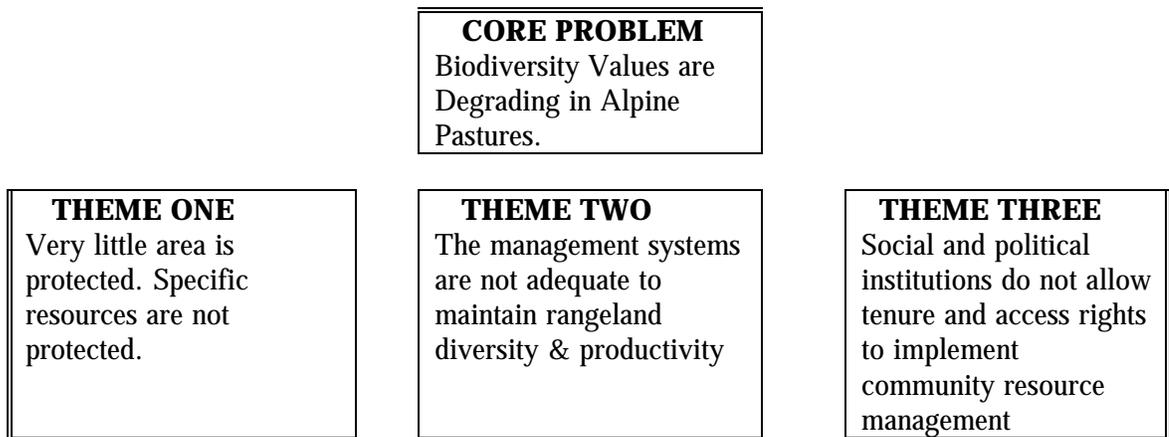
While Lesotho does have one protected area, it is not a legal park having been gazetted under old colonial game rules. While there should be more protected areas there is a huge shortage of land. This shortage is exacerbated by growing populations and

degrading pasture resources. While a network of small protected areas can be created, in the long run biodiversity conservation will depend on a better management of resources outside these tiny core sites.

Some species level and plant community resources are under specific threat (as opposed to the generalised over-use threat to the rangelands as a whole). These include the spiral aloe (targeted commercial collection) and mires and bogs (targeted dry season use, also drainage and damage through roads etc). There is currently a lack of clear institutional mandates to develop a protected area network or to protect specific resources such as the aloe.

- 4 **Poverty and Population** Often described as underlying factors behind biodiversity resource loss. These may be beyond the scope of the programme interventions, but the programme must be aware of the issues.
- 5 **Lack of Awareness** This lack is not only at the grassroots level, but within the civil service and the political leadership as well. The lack of awareness is especially acute at the solution level. Many people are aware that there is a problem; few are aware of how to implement an equitable long term solution.

These key themes became the next layers of the problem tree:



More detailed problem tree statements were developed for these separate themes with theme two being combined with theme three as the process progressed.

**THEME ONE : VERY LITTLE AREA IS PROTECTED. SPECIFIC VALUES NOT PROTECTED.**

**Very little area protected. Species not protected.**

No institutional mechanism to develop PA system

Much of area is heavily used by people. Little space for PAs

Uncertainty as to which are key "Hotspots", eg Wetlands

People are suspicious of conservation activity

Political commitment not sufficient

Full provision of Act not yet in force

High population pressure and demand for livestock grazing

Little coordination of research effort

Inadequate awareness messages in the past

**THEME TWO: MANAGEMENT SYSTEMS ARE INADEQUATE TO STEM THE RATE OF BIODIVERSITY LOSS**

**Management systems inadequate to stem biodiversity loss**

Policy Failure

**Land Tenure and Access Systems do not permit range biodiversity conservation.**

Area heavily impacted by transhumant livestock. This leads to OVER-STOCKING.

Management mandates of institutions not clear & undergoing change.

Technical inputs inadequate, eg fire use & control.

"Free Goods" philosophy. No mechanism to do proper valuation

Inadequate policy analysis and economic analysis against long-term scenarios

High population pressure and demand for livestock grazing from lowlands people and the rich.

Policy Failure. Also traditional systems no longer work.

Inadequate awareness messages and extension skills

Inadequate investment in understanding social implications of land tenure. This does not allow for greater policy debate

- Policy Failure, due to inadequate analysis, inadequate awareness and so political will.

- Insufficient awareness of solutions, how to increase community empowerment and access

### ANNEX 3.1 LOGICAL FRAMEWORK PLANNING : PROBLEM - OBJECTIVE - OUTPUT - ACTIVITY MATRIX

**Problem One: Very Little Area is Protected. Specific Values are not Protected**

**Immediate Objective 1: Protected Areas are in place which adequately cover the extent of Lesotho's Biodiversity**

Problem	Project Objective and Output	Activity
<b>1 Very little area is protected. Specific biodiversity resources are not protected.</b>	<b>IMMEDIATE OBJECTIVE 1: Protected Areas are in Place which Adequately Cover the Extent of Lesotho's Biodiversity</b>	
No institutional mechanisms exist to develop a full PA network.	1.1 Institutional mechanism in place to develop PA network *	1.1.1 Create Biodiversity Committee with ToR to develop PA plan. 1.1.2 Review categories & legal institutional mechanisms for PAs. 1.1.3 Strengthen biodiversity processes within mandated & lead agencies. (eg Training, HRD, Infrastructure and Operational Support).
Uncertainty as to which are key "Hotspots", eg Wetlands.	1.2 Survey data has identified sites to include in PA network. *	1.2.1 Analyse existing data sets, commission new surveys in gaps/hot-spots 1.2.2 Compile report on hotspots, with information on suitability for PAs.
No coordination of research activity.	1.3 Biodiversity survey activity prioritised and coordinated. Information System developed. *	1.3.1 Set up prioritised biodiversity research needs, (scientific and applied) 1.3.2 Set up biodiversity info. system, on hub - spoke principle
Much of the rangeland area is heavily used by people; so little space for Protected Areas.	1.4 Mechanisms for communal PAs are developed with local communities, and such PAs are implemented on the ground.	1.4.1 Assess, with communities, suitability of RMAs for BD conservation 1.4.2 Assess value of traditional reservations (leboella) for BD values 1.4.3 Assess possibility of setting aside small core areas on village land 1.4.4 Work with NGOs/CBOs to develop species conservation programmes 1.4.5 Work with communities, districts to create and manage local PAs
Inadequate cross-border interaction for shared BD resources.	1.5 Strong cross-border linkages for shared biodiversity resources on Drakensberg Mts.	1.5.1 Network with S Af biodiversity agencies for joint planning of PAs 1.5.2 Work on joint management of biodiversity resources across borders
Little tourism development means no alternative employment or use.	1.6 Network with tourism development initiatives to ensure adequate inputs.	1.6.1 Linkages to private sector/govt tourism to promote mountain areas. 1.6.2 Work with communities to promote ecotourism on biodiversity sites.
Lack of awareness of value of PAs	1.7 Communities and leaders with greater awareness of BD values.	1.7.1 Develop biodiversity awareness activities, at existing PAs 1.7.2 Develop biodiversity awareness via media, study tours and training.

PA = Protected Area, BD = Biodiversity, NES = National Environment Secretariat, RMA = Range Management Area, LHDA = Lesotho Highlands Development Authority, ASIP = Agricultural Sector Investment Programme, EU = European Union

\* Activities stated as priorities within developing Strategy and Action Plan.

## PROBLEM TWO : MANAGEMENT SYSTEMS INADEQUATE TO STEM BIODIVERSITY LOSS

### Immediate Objective 2: Environment Supportive to Improved Resource Management Systems

Problem	Project Objective and Outputs	Activities
<b>Management systems inadequate to stem biodiversity loss</b>	<b>IO 2 Improved resource management systems reduce biodiversity loss</b>	
Overall policy failure, BD & management inputs deteriorating. Inadequate investment in land tenure impacts on Biodiversity.	2.1 Land & resource based policies, including tenure/user rights issues, are reviewed and modified to support Biodiversity conservation *	2.1.1 Policy analysis for impact on biodiversity (+ ve/-ve) 2.1.2 Develop policy revisions to support biodiversity 2.1.3 Analysis of user rights options affecting BD 2.1.4 Promote preferred options in stakeholder user rights planning
"Free Goods" philosophy, no mechanism for valuation.	2.2 National planning systems use enhanced ecological valuation methods *	2.2.1 Build awareness of ecological economics & valuation of biodiversity 2.2.2 Develop incentives packages for BD conservation on community land 2.2.3 Undertake implementation of such incentive packages
Funding inadequate for conservation.	2.3 Mechanisms devised to seek sustainable funding inputs for biodiversity costs, including Trust Funds.	2.3.1 Develop Trust Fund Mechanisms with LHDA/Govt for mountain BD. 2.3.2 To work with donors to coordinate BD funding.
Key areas impacted by transhumant livestock causing over-stocking etc.	2.4 Key GAs and RMAs strengthened to reduce level of transhumant livestock inputs. Pressures for transhumance reduced.	2.4.1 Incorporate BD issues within GA & RMA management plan frameworks 2.4.2 Develop model RMA plans with BD issues 2.4.3 Network MoAg/Dist to develop alternative strategies - ASIP activity
Traditional rangeland regulatory systems no longer work.	2.5 Biodiversity concerns built into old and new regulatory mechanisms for mountain areas	2.5.1 Compilation of best practice information 2.5.2 Document/disseminate traditional knowledge, including women. 2.5.3 Regulatory mechanisms include BD issues
Management mandates of institutions are not clear with respect to biodiversity.	2.6 Management institutions with clear mandates for Biodiversity, management guidelines for BD developed for agricultural land use institutions. including fire.	2.6.1 Undertake review of institutional responsibilities and mandates for BD 2.6.2 Produce Sesotho literature guidelines on biodiversity/range. 2.6.3 Re-issue Range management guidelines incorporating biodiversity 2.6.4 Put fire management demonstrations in place.
Little awareness of need to increase levels of community empowerment and resource access for biodiversity.	2.7 Increased awareness leads to real community participation & empowerment in biodiversity conservation & wise use.	2.7.1 Assess empowerment/participation status and promote enhanced inputs 2.7.2 Strengthen NGOs and CBOS to develop inputs 2.7.3 Biodiversity Awareness issues disseminated at community/agency level. 2.7.4 Biodiversity education centres developed at key PAs in Lesotho
Lead institution for BD has little capacity to coordinate activities.	2.8 Lead institution has adequate capacity to address Biodiversity issues. *	2.8.1 Develop Biodiversity Unit and Advisory Group for Environment Council 2.8.2 To provide biodiversity training via short courses in Lesotho.

\* Activities which are indicated in the developing Country Study and Strategy Programme. (See Annex 1). \*\* Activities to be part of second UNDP project in NES (See Annex 5.

### Annex 3.2 Table Showing Pattern of Responsibility for Activity Matrix, and Any On-going (Baseline) Activity

Note that description of activity is shortened, see Annex 3.1 for full description.

NES = National Environment Secretariat. NUL = National University of Lesotho, ASIP = Agricultural Sector Investment Programme, MoAg = Ministry of Agriculture, MoFin = Finance, INGO = International NGO, NGO = NonGovernmental Organisation. CBOs = Community Based Organisation. DANCED = Danish Assistance.

<b>Activity</b>	<b>BASELINE ACTIVITY</b>	<b>RESPONSIBILITY FOR IMPLEMENTATION</b>
1.1.1 Biodiversity Committee 1.1.2 Review institutional mechanisms 1.1.3 Strengthen capability in agencies.	None - fragmented institutions!	NES networking with mandated agencies and NGOs etc. NES and Committee, with legal consultancy NES and project inputs
1.2.1 Analyse data, commission surveys 1.2.2 Report on hotspots for PAs.	Ad-hoc surveys for donors.	NES contracting NUL for institutional consultancy NES contracting NUL for institutional consultancy
1.3.1 Prioritised biodiversity survey 1.3.2 Interactive biodiversity info. syst.	Ad-hoc at present.	NES contracting NUL; NUL networking with Govt agencies. NES contracting NUL to develop scientific database at NUL, interacting with NES hub
1.4.1 Assess RMAs for BD conservation 1.4.2 Assess traditional reservations 1.4.3 Assess small core areas 1.4.4 NGOs/CBOs develop conservation 1.4.5 Communities manage local Pas	None at present	NES to MoAg / District and project staff. NES contracting eg NUL / MoAg NES contracting eg NUL / MoAg Project with District and NGOs Project with District, NGOs and MoAg
1.5.1 Network with SA for planning Pas 1.5.2 Joint management of biodiversity	Peace Park initiatives	NES and MoAg Conservation Division NES and MOAg Conservation Division
1.6.1 Link to tourism for inputs. 1.6.2 Communities promote ecotourism.	None at present	NES / project NES / project
1.7.1 Biodiversity awareness at Pas 1.7.2 Biodiversity awareness via media	LHDA starting	NES contracting to LHDA and MoAg Conservation Division NES / Project and contractors.

<b>Activities</b>	<b>Baseline Activity</b>	<b>Responsibility</b>
2.1.1 Policy analysis for biodiversity	Nil	NES contracting expertise, link to ASIP
2.1.2 Policy revisions for biodiversity	Minor	NES contracting expertise, link to ASIP
2.1.3 Analysis of land tenure options	Minor, ASIP a bit	NES contracting expertise, link to ASIP
2.1.4 Promote tenure options	None, ASIP a bit	NES contracting expertise, link to ASIP; District/MoAg
2.2.1 Build awareness of ecological economics & valuation	Nil	NES contracting ? NUL and international expertise
2.2.2 Develop incentives packages for BD conservation	Nil	NES contracting ? NUL, expertise and MoAg
2.2.3 Seek implementation of incentive packages	Nil	Project and District. MoAg
2.3.1 Dialogue with LHDA/Govt on Trust Fund mechanisms	Minor (see ASIP)	NES & Project. Link to GEF TRust Fund Expertise
2.3.2 Work with donors to coordinate BD funding.	Minor (Donor Group)	NES & Project.
2.4.1 BD incorporated in GA & RMA management plans	None, ASIP does not mention BD issues	NES & MoAg Divisions & Training School
2.4.2 Develop model RMA plans with BD issues		NES to MoAg and District/NGOs
2.4.3 Develop alternative strategies - as in ASIP		NES to District, MoAg (ASIP), link other donors.
2.5.1 Compilation of best practice information	Minor.	NES to NGOs and NUL
2.5.2 Document and disseminate traditional knowledge		NES to NGOs and NUL
2.5.3 Regulatory mechanisms include BD issues		NES to Disatrick, MoAg
2.6.1 Review of institutional mandates	Minor.	NES. Use of Biodiversity Comittee, Institutional Expertise.
2.6.2 Produce Sesotho literature guidelines on biodiversity		NES to District and MoAg
2.6.3 Re-issue range guidelines incorporating biodiversity		NES to District and MoAg
2.6.4 Put fire management demonstrations in place.		NES to District and MoAg
2.7.1 Assess empowerment status, promote enhanced inputs	A number of donor projects address community forestry, none address BD issues	NES to ? NGOs and INGOs
2.7.2 Strengthen NGOs and CBOS to develop inputs		NES/Project to expertise, INGOs
2.7.3 Biodiversity knowledge disseminated		NES to specialist expertise
2.7.4 Biodiversity education centres developed at key PAs		NES to LHDA and or MoAg Conservation Division.
2.8.1 NES develops Biodiversity Advisory Group	Little for BD	NES, Project
2.8.2 NES develops Biodiversity training.	"	NES and specialist agencies

**Annex 3.3 TABLE SHOWING LOGICAL FRAMEWORK PLANNING MATRIX : OUTPUTS & ACTIVITIES TO INDICATORS AND ASSUMPTIONS**

<b>Outputs and Activity</b>	<b>Indicators</b>	<b>Means of Verification</b>	<b>Assumptions / Risks</b>
<b>1.1 Institutional mechanisms for PA network</b> 1.1.1 Create Biodiversity Committee for PAs 1.1.2 Review categories and laws for PAs 1.1.3 Strengthen mandated agencies for PAs	A Protected Area Network Plan developed and put in place. Clear lines of responsibility are disseminated.	Documentation. In time new PAs are gazetted.	That lack of institutional clarity and goodwill do not permit such a PA network to be developed. PAs may be named but not supported on ground.
<b>1.2 Survey data identified sites for PA network.</b> 1.2.1 Analyse data & new surveys as needed. 1.2.2 Report on hotspot suitability for PAs.	Documentation shows areas of biodiversity importance and priority areas for gazettelement as PAs	Documentation.	That biologists / conservationists cannot agree on methodologies for PA planning. That areas of high biodiversity value have land-use problems.
<b>1.3 Research prioritised, Info. System functional</b> 1.3.1 Biodiversity info. needs prioritised 1.3.2 Set up interactive biodiversity info. sys.	Research plan approved by Research Council & funding available. Info. system linkages are functional.	Documentation. New research in progress. Data flows between institutions	Research bodies may not reach agreement. Data flow may be slowed by institutional rivalry.
<b>1.4 Mechanisms for communal PAs developed</b> 1.4.1 Assess RMAs for BD conservation 1.4.2 Assess traditional reservations for BD values 1.4.3 Assess small core areas on village land	Communal Protected Areas accepted by people and by District Administration	Document, Minutes of meetings. In time new PAs are demarcated!	People may not be convinced of benefits of maintaining BD on village land. Traditional methods may be of little relevance. Administration may delay approvals.
<b>1.5 Cross-border links for BD in Mts.</b> 1.5.1 Network SA agencies for planning of PAs 1.5.2 Joint management of BD resources	Cross border protocols in place, which lead to joint conservation of key resources.	Documentation. Activity on ground.	Institutions may not find common ground for joint activity. Activity may stay at discussion level with no field benefit.
<b>1.6 Network with tourism development</b> 1.6.1 Linkages to private sector 1.6.2 Work to promote ecotourism	Goal is for tourism development to assist areas and communities which protect BD. Communities see benefit.	Visitor flows to local areas. Local people see rewards.	Tourism inputs may take longer time to develop (this is likely). Tourism may benefit commerce rather than local communities.
<b>1.7 Communities with awareness of BD values.</b> 1.7.1 Develop awareness activities at PAs 1.6.2 Develop biodiversity awareness via media.	Awareness programmes in place and used. Communities indicate support for BD measures is second stage.	Awareness material. Community attitude changes.	Awareness restricted to problems, and unable to focus on solutions. People pay lip service to messages.

Note that description of activity is shortened, see Annex 3.1 for full description.

<b>Outputs and Activities</b>	<b>Indicators</b>	<b>Means of Verification</b>	<b>Assumptions / Risks</b>
<b>2.1 Resource based policies reviewed/modified</b> 2.1.1 Policy analysis for impact on BD 2.1.2 Policy revisions for BD 2.1.3 User rights options analysed 2.1.4 Preferred options promoted	Policies not supportive to BD are modified. Revised policies acknowledged to be supportive to BD.	Documentation. Analysis reports.	Other sectoral interests will not accept BD provisions within their sectoral policies.
<b>2.2 National planning uses valuation methods</b> 2.2.1 Awareness of ecological economics 2.2.2 Plan incentives packages for BD 2.2.3 Implementation of incentive packages	Ecological valuation methodologies used in Govt: in EIA, in policy analysis, in compensation etc.	Government documents, statements and technical publications.	Government may pay lip service to new methods. Communal resources may prove impossible to value.
<b>2.3 Trust fund Mechanisms devised</b> 2.3.1 Dialogue on Trust Fund mechanisms for BD 2.3.2 Govt Donors to coordinate BD funding.	Trust fund mechanism agreed, and established. Funds provide incentives.	Documentation. Funding flows to communities. Communities agree conservation.	Government may delay approval of trust fund mechanism.
<b>2.4 GAs/RMAs strengthened for BD</b> 2.4.1 BD issues in GA/RMA management plans 2.4.2 Model RMA plans have BD issues 2.4.3 Networks develop alternative strategies, ASIP	RMA plans specify biodiversity values. Plans in use in field. Alternative land use packages adopted (ASIP)	Documentation. Physical monitoring of RMA resources.	RMA stakeholders may not accept BD provisions. Alternative strategies promoted may not be acceptable.
<b>2.5 BD built into regulatory mechanisms</b> 2.5.1 Compile best practice information 2.5.2 Document/disseminate traditional knowledge 2.5.3 Regulatory mechanisms include BD issues	Documents disseminated and in use. Regulations include BD values.	Documentation. Field monitoring	As above
<b>2.6 Management agencies with clear BD mandate</b> 2.6.1 Review mandates for BD 2.6.2 Develop Sesotho BD literature 2.6.3 Reissue range guidelines with BD 2.6.4 Fire demonstrations in place	Mandates clarified at District and Local levels. Documentation exists	Documentation	As above
<b>2.7 Knowledge leads to community empowerment</b> 2.7.1 Assess participation empowerment status 2.7.2 Strengthen NGOs, CBOs for participation 2.7.3 Awareness at community level	Greater numbers of CBOs. NGOS acknowledge enhanced capability Knowledge shown through greater use of BD issues	Documentation. Presence of CBOs	Communities may pay lip service to issues/arising from knowledge. CBOs may not last after project closure.

2.7.4 BD awareness centres at key PAs			
<b>2.8 Lead Institution has Capacity for BD</b> 2.8.1 Develop BD Unit and Advisory Group 2.8.2 Develop BD Training activities in Lesotho	Lead institution with staff and unit in place. Training courses taken place.	Trained people. Publications from lead agency.	Trained personnel may leave Government. Emphasis on BD may cease after project.

#### Annex 4. Linkages of Key Outputs to Other Programmes

<b>Key Outputs</b>	<b>This Project<sup>2</sup></b>	<b>Biodiversity Enabling Activity</b>	<b>ASIP</b>	<b>SABO-NET</b>	<b>Southern Africa BD Support</b>
1.1 Institutional mechanism for PA's	Yes	No	No	No	No
1.2 Key sites identified	Full and detailed analysis	Preliminary based on existing information	No	Identifies some sites	No
1.3 Biodiversity Information System	Yes	Need identified	No	No	No
1.4 Community managed PAs in place.	Yes	Need identified	No	No	Technical support on CBNRM
1.5 Cross-border linkages for shared biodiversity resources in place.	Yes	No	No	No	Coordination facilitated
1.6 Tourism development coordinated with biodiversity	Yes	No	No	No	No
1.7 Communities and leaders aware of BD values.	Yes	Issues but not values	No	No	No
Land & resource tenure/rights clear and defined.	No	Need identified	Yes	No	No
2.1 Land & resource tenure/user rights support Biodiversity conservation	Yes	Need identified	No	No	No
National rangeland planning systems in place	No	No	Yes	No	No
2.2 National planning systems incorporate biodiversity values	Yes	Need identified	No	No	No
2.3 Trust fund mechanism in place	Yes	Need identified	No	No	No
Grazing & Resource Management Associations legal situation & powers clear	No	No	Yes	No	No
2.4 Grazing & Resource Management Associations conserve BD	Yes	No	No	No	No
National rangeland management regulations in place	No	No	No	No	No
2.5 National rangeland mngmt. regulations incorporate BD needs	Yes	Need identified	No	No	No
2.6 Institutional mandates and responsibilities for BD clear	Put in place	Defined	No	No	No
2.7 Communities & NGO's participating in BD conservation	Yes	No	No	No	Dvpmnt of methodologies

<sup>2</sup> This project is supported by three major donors: UNDP/GEF, Lesotho Highlands Water Project, European Union & World Bank. The geographical responsibilities of the three partners are shown on the Map. UNDP/GEF also addresses the national policy and institutional issues.

2.8 NES has adequate capacity to address Biodiversity issues.	Protected area policy & Mngmnt	Strategies and Action Plans	No	Herbaria and bot. gardens	Sustainable use
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## ANNEX 5 BUDGET DETAILS

The GEF incremental contribution is 2,482,000\$ US over 5 years. This is distributed between UNDP Budget lines and project years as shown in the accompanying table.

### 1 Analysis by UNDP Budget Lines. (Figures in '000 Us \$)

BL	Detail	TOTAL	Manmonths	1998	1999	2000	2001	2002
1100	International Expertise							
1101	CTA	360	36	115	120	125	0	0
1102	Environment	100	12	50	50	0	0	0
1199	Economist	460		165	170	125	0	0
	SUB-TOTAL							
1300	Administrative Staff (5) + +	200	5 x 58mm	40	40	40	40	40
1501	Travel	50	-	7	11	12	12	8
1601	Mission Cost / Review +	50	-	3	20	3	4	20
1700	National Expertise							
1701	Nat Project Director	125	60	25	25	25	25	25
1702	District Liaison Officer	98	58	18	20	20	20	20
1703	Sociologist	60	36	18	20	20	2	0
1704	Economist	80	48	18	20	20	20	2
1799	SUB-TOTAL	363		79	85	85	67	47
2100	Sub -Contracts (see table 2)	664	-	180	289	155	40	0
3100	Fellowship Training *							
	NES	50		25	25	0		
	MOAg	120		50	50	20		
	District	20		0	10	10		
	NGOs	20		0	10	10		
3199	SUB-TOTAL	210	-	75	95	40	0	0
3200	Study-Tour Training	40	-	10	20	10		
3300	In-Service Training	70	-	10	20	20	10	10
4100	Equipment**	160	-	100	30	10	10	10
5100	Operations/Sundry	120	-	20	20	30	30	20
9100	Support Costs							
	8% OPS on CTA/EE	37		13	14	10	0	0
	(460)	58	-	16	19	13	5	5
	3% on balance (1,927)							
<b>99</b>	<b>TOTAL</b>	<b>2,482</b>	-	<b>718</b>	<b>833</b>	<b>553</b>	<b>218</b>	<b>160</b>

+ Reviews include Mid-term Review, Terminal Review, and Back-stopping missions.

++ Admin Staff = 1 Admin Asst, 1 Secretary, 1 Driver at HQ; 1 Secretary, 1 Driver in District

\* Training has 6 x 1 year MScs in South Africa @ 18,000\$ each (2 in NES, 2 in Range, 2 in Conservation; Capetown Cons Biol. course); and three Diplomas in MoAg. Rest is

Short technical courses, Study-tours and Workshops. Training courses run by the project are under 2100.

\*\* Vehicles (HQ-3 & District-2); Motor-Cycles 2; Computers 4, Field, Awareness and Scientific Equipment.

Costings as per UNDP Lesotho norms.

**2 Sub-Contract Details (for line 2100) - Figures in '000 US \$.**

<b>No +</b>	<b>Activity</b>	<b>Total</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>
1.1.2	Review legal, institutional mechanisms	10	10			
1.1.3	Training needs assessment	10	10			
1.2.1	a) BD assessment in Quthing b) Wetland assessment in mountains	30 40	10	20 20	20	
1.3.1	Research needs/prioritisation study	10		10		
1.3.2	Information system development in NUL *	50	10	20	20	
1.4.1	Assess RMAs for BD Conservation	40		20	20	
1.6.1/ 2	Ecotourism study	12		12		
1.7.1	Commission PA awareness centres	100	100			
	<b>SUB-TOTAL Objective 1</b>	<b>302</b>	<b>140</b>	<b>102</b>	<b>60</b>	
2.1.1/ 2	Policy analysis/review *	30	10	20		
2.1.3	User rights study local levels	30	10	20		
2.2.2	Develop incentives packages *	60		40	20	
2.3.1	Trust Fund Mechanism *	30	10	20		
2.4.1/ 2	RMA management plans with BD	40		20	20	
2.5.1	Indigenous knowledge study	12		12		
2.6.2/ 3	Sesotho literature	15			15	
2.6.4	Set-up fire demonstrations	15		15		
2.7.4	Community empowerment, CBO support *	60		20	20	20
2.8.1	Preparation/Implementation of Training (Several courses)	70	10	20	20	20
	<b>SUB-TOTAL Objective 2</b>	<b>362</b>	<b>40</b>	<b>187</b>	<b>95</b>	<b>40</b>
	<b>GRAND TOTAL : OBJECTIVES 1 &amp; 2</b>	<b>664</b>	<b>180</b>	<b>289</b>	<b>155</b>	<b>40</b>

+ Number refers to contracts within specified Output/Activity

\* Indicates use of international expertise.

### 3 Analysis by Output (This includes pro-rata administrative and TA costs, etc).

<b>Output</b>	<b>Describe</b>	<b>TOTAL</b>	<b>Yr 1</b>	<b>Yr 2</b>	<b>Yr 3</b>	<b>Yr 4</b>	<b>Yr 5</b>
1.1	PA institutions	70	30	20	20		
1.2	Survey & data assess for PAs	200	55	70	50	20	5
1.3	Research & Info. System	100	30	40	20	10	
1.4	Community Pas	200	40	80	40	20	20
1.5	Cross Border	25	5	10	10		
1.6	Private Sector Links	25	2	14	5	4	
1.7	Awareness	125	100	10	10	5	
<b>I O. 1</b>	<b>Sub-Total</b>	<b>745</b>	<b>262</b>	<b>244</b>	<b>155</b>	<b>59</b>	<b>25</b>
2.1	Policy Review	100	40	50	5	5	
2.2	Economic Valuation	150	40	60	30	10	10
2.3	Trust Fund	50	20	20	10		
2.4	RMAs support	100	20	38	32	10	
2.5	Regulations	80	25	20	20	13	2
2.6	Mandates/Guides	100	10	30	30	20	10
2.7	Community capacity	200	55	60	50	20	15
2.8	Institutional Capacity (Includes Training)	320	95	135	70	10	10
<b>I O. 2</b>	<b>Sub-Total</b>	<b>1,100</b>	<b>305</b>	<b>413</b>	<b>247</b>	<b>88</b>	<b>47</b>
-	Administration: Admin staff, Review, half CTA,NPD,DPO cost	542	122	143	128	66	83
-	Support Costs	95	29	33	23	5	5
<b>TOTAL</b>		<b>2,482</b>	<b>718</b>	<b>833</b>	<b>553</b>	<b>218</b>	<b>160</b>

*Immediate Objective 1 Total = 745 + half admin/support 319 = 1,064,000 \$*

*Immediate Objective 2 Total = 1100 + half admin/support 318 = 1,418,000 \$*

## **Annex 6 INCREMENTAL COST ANALYSIS**

### **Broad Development Goals**

1. The government of Lesotho has established policy and regulatory institutions concerned with environment and conservation at the level of the Central government. With the Local Government Act of 1997, the process of decentralizing the regulation of natural resource and land use has commenced. The recognition that past policies have not necessarily been conducive to conservation has led to several sectoral and cross-sectoral analyses. A significant result of this is the revision of National Environmental Policy and the impending submission of the Environmental Management Bill to Parliament.

2. Lesotho has a National Environmental Action Plan, prepared in 1989 and revised in 1994, and has also ratified the Convention on Biodiversity in 1995. The National Environment Action Plan states that the conservation of biodiversity and promotion of sustainable mountain development are priority concerns of the Government. In addition, Lesotho is in the final stages of preparing a Biodiversity Strategy and Action Plan that emphasizes support to protected area mechanisms (especially at the community level), maintenance of productive, biodiversity-rich rangelands outside these protected areas, developing an enabling environment through policies and incentives, and empowering people and communities.

3. Clearly, the government recognizes the deleterious consequences of further degradation and is committed to addressing these issues. It is, however, limited in its capacity to undertake the full range of continued conservation efforts necessary to secure global benefits.

### **Global Biodiversity Objective**

4. Over 60 percent of the Drakensberg-Maloti Mountains, identified as one of seven biodiversity "hot spots"<sup>3</sup> in Southern Africa (Cowling and Hilton-Taylor, 1994), fall within the boundaries of Lesotho. The vegetation is primarily afro-alpine and afro-montane with significant high-altitude floral diversity. In addition, Lesotho is home to several endangered faunal species<sup>4</sup>, and the Lesotho highlands are recognized as an Endemic Bird Area by Bird Life International. The Drakensberg-Maloti Mountains are also an important catchment for three major Southern African Rivers -- the Orange, Tugela, and Vaal rivers. Further details on the biodiversity values of this region are provided in Annex 1.

5. By conserving the globally significant plant diversity of the mountains and the unique habitat (highland bogs and Africa's highest sandstone formations), the global community will benefit from the maintenance of existence values and options values. There are also likely to be regional benefits from watershed protection. Long-term severe over-use has already had an adverse effect on Lesotho's biodiversity. Wooded areas are largely destroyed, and four species of antelopes are extinct<sup>5</sup>.

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<sup>3</sup> "Hot spots" is the common term for referring to areas rich in diversity and endemism.

<sup>4</sup> Included, among others, are the Lang's Crag Lizard, Drakensberg Frog, Water Frog, Maloti Minnow (occurs only in five high-altitude source tributaries), Rock Catfish, Southern Bald Ibis, Rudd's Lark, and the Yellow-breasted Pipit.

<sup>5</sup> *Biodiversity in Sub-Saharan Africa and Its Islands: Conservation and Sustainable Use*, Occasional Paper of the IUCN Species Survival Commission No. 6, IUCN, Gland: Switzerland.

### **Baseline**

6. Biological diversity in Lesotho has been subjected to severe threats over the years, primarily from clearance of habitat for agriculture and settlements, and overgrazing. Only 10% of the land is arable, agricultural productivity is low, and agriculture and livestock form the mainstays of the people's livelihood. Livestock numbers are above the carrying capacity of the pastures. The consequences are overgrazing, severe soil erosion, and soil exhaustion in the rangelands (including highlands). Given that population is increasing at the rate of 2.6% per annum the anthropogenic threats are likely to continue.

7. The government, with help from bilateral and multilateral development agencies, has taken some steps toward addressing these problems. The National Environment Secretariat, established in 1994 with the help of UNDP, has broad responsibility for environmental activities and overseeing the implementation of Agenda 21. Further, the Ministry of Agriculture has a mandate for the development and conservation of rangeland resources. Included in the activities being pursued by the government as part of the baseline are the management of the Selabathebe National Park and limited nature conservation awareness and education programs. ASIP, a multi-donor investment in the agriculture sector (World Bank, ODA, IFAD, UNDP, EU), has a Mountain sub-component with a focus on tree-planting and sustainable management of livestock. In addition, the European Union is supporting activities relating to broad Environmental Awareness in the areas affected by the proposed Mohale dam. In terms of ex-situ conservation, SABONET is building capacity within the National University of Lesotho to prepare inventories and maintain botanical resources in its herbarium.

8. The above government initiatives, along with the EU Environmental Awareness program and multi-donor supported ASIP constitute the baseline. It should be noted here that the Danish Council for Environment and Development (DANCED) and the International Fund for Agricultural Development (IFAD) are involved in activities that are of relevance to sustainable rangeland management through their awareness-raising and outreach components. These costs, however, are a very small amount in relative terms, and have therefore not been included in the calculation.

9. However, it is clear that a more co-ordinated strategy that capitalizes on current efforts and deals with critical gaps is urgently needed to preserve biodiversity values. Current protected area coverage is less than 0.4 percent of land area, the lowest in Africa, and is not representative of the range of biodiversity. There is concern that Selabathebe National Park, which protects a small high-altitude area, is itself under threat. However, national capacity to identify critical sites and to set up a system of representative protected areas is inadequate. Further, given the very real competition for land from the subsistence needs of the community, strict reserves would be neither effective nor equitable. What is required, therefore, is a network of small core areas within buffer zones of community-managed resource areas. At present, the ability to regulate and manage the use of resources either by communities or government agencies is insufficient. Although some cognizance of the importance of biodiversity values exists, there is little awareness of how to conserve and capture these values.

### **Alternative**

10. The project will build on current initiatives to achieve the following immediate objectives.

i. To establish a network of small core protected areas that represents the range of biodiversity.

ii. To develop improved resource management systems in zones outside these protected areas.

11. These objectives will be achieved by first, analyzing existing data and new surveys to determine the suitability and feasibility of sites to be included in a Protected Area network. The institutional capacity to develop and manage a PA network will be put in place, followed by the implementation of community managed core protected areas. Initially these core areas will be developed in Quthing and neighboring districts<sup>6</sup>, central region of Lesotho<sup>7</sup>, and north-eastern part of the Drakensberg-Maloti Mountains<sup>8</sup>. Links with South African biodiversity agencies for joint-management of cross-border resources will also be explored.

12. The proposed alternative will improve coordination of biodiversity information systems thereby strengthening limited baseline capacities in the National University of Lesotho. By prioritizing and coordinating information systems needs this activity will maximise the benefits from existing and proposed activities in this area. Research on the prospects for eco-tourism forms an integral part of the alternative scenario, since developing alternative benefit transfer mechanisms is critical in an economic environment where local communities depend on the resource base. Activities that build awareness of the importance of biodiversity and ways to protect these values will be conducted among communities and political leadership.

13. The above initiatives relate mainly to developing core protected areas. The alternative scenario will also improve resource management in the rangelands surrounding protected areas. Efficient rangeland management is critical to mitigating threats to biodiversity. In furthering this objective interventions will have to take place at the national and community level. At the national level, a Biodiversity Unit will be set up within the NES, the lead counterpart agency, to monitor implementation of all activities. The Biodiversity Unit will also provide support for Environmental Impact Assessments, manage the NES data base with links to the DADC-GERF project data base in Harare, and implement other recommendations of the Biodiversity Strategy and Action Plan. The creation of this Unit will be co-financed by UNDP.

14. The sustainable use of biological resources will be mainstreamed into planning systems. This will be achieved by introducing economic valuation techniques that make such values explicit, and also by introducing incentive packages for conservation on community lands. Policies that affect resource management in buffer zones<sup>9</sup> will be analyzed and revised. In addition, the intervention will strengthen national capacity to raise awareness in local communities of sustainable management of resources outside core protected areas. The possibility of designating a part of the LHWP Development Fund as an Environmental Trust Fund will be explored<sup>10</sup>. This activity will help ensure financial sustainability.

15. At the community level, model rangeland management plans that incorporate biodiversity issues will be developed. Technical inputs for adequate control of fire and bush encroachment will also be provided. Livestock activities in the north-eastern part of the Drakensberg-Maloti

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<sup>6</sup> This area is in the south-eastern part of the Maloti-Drakensberg Mountains.

<sup>7</sup> Area surrounding the Khatse and proposed Mohale dams.

<sup>8</sup> This will extend from Oxbow in the north to a little south of the Sani Pass.

<sup>9</sup> This will include the issue of user rights that is critical to establishing the correct incentives for sustainable management.

<sup>10</sup> At present the LHWP (Lesotho Highlands Water Project) Development Fund, which consists of \$55 million per annum in royalties from the sale of water to S. Africa, is targeted to poverty alleviation.

Mountains will benefit from veterinary care and animal husbandry, and improved rangeland management. Traditional regulatory mechanisms for use of mountain areas will be examined and enhanced to include biodiversity values. The sharing of responsibilities for biodiversity conservation and management between the traditional decision makers (Chiefs) and newer democratic forces (Village Development Councils) will be made clear.

16. The proposed alternative, therefore, suggests a number of activities that are complementary to the baseline (for details see matrix below). The incremental activities will be co-financed by the EU, GEF, LHDA, and UNDP. The GEF component will bolster the overall policy development and vision for protected areas with initial field activities in Quthing district (south-east part of the Drakensberg-Maloti Mountains), while co-financers will undertake interventions in other regions namely, north-east and central parts of the Drakensberg-Maloti Mountains.

### **Scope of Analysis**

17. The scope of the incremental cost analysis covers all activities, country- and donor-funded, that are directly relevant to the project objectives of establishing a network of protected areas within zones of community-managed resource areas. The analysis includes all significant changes that would occur from the decision to adopt the alternative course of action. The complementary nature of the intervention is such that it does not result in significant avoided costs (cost savings).

18. There is the likelihood of some domestic benefits from the alternative such as, revenues from eco-tourism, and greater certainty in being able to meet subsistence needs as a result of improved resource management. Likewise, improved availability of water<sup>11</sup> may result in regional and domestic benefits by avoiding costs of any remediative action countries may be taking to make up for reduced water flow. These incidental domestic benefits, however, will most likely not accrue within the five years of project life. Further, at this point the benefits are uncertain and difficult to quantify, and have therefore not been included in the calculation.

### **Costs and Incremental Cost Matrix**

19. The cost of the baseline course of action amounts to US\$ 6 million. With the decision to adopt the alternative course of action, costs rise to US\$ 13.115 million. Therefore the incremental costs are US\$ 7.115 million. This incremental cost will be shared by the Government of Lesotho (in kind: US\$ 0.28 million), GEF (US\$ 2.482 million), EU (US\$ 2.5 million), LHDA (US\$ 1.75 million), and UNDP (US\$ 0.1 million). Details of the precise components covered by different co-financers are provided in the matrix below.

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<sup>11</sup> The Drakensberg-Maloti Mountains are an important catchment for three major Southern African rivers - Orange, Tugela, and Vaal.

### Incremental Cost Matrix

Benefit/ Cost	Baseline (B)	Alternative (A)	Increment (A-B)
Global benefits	<ul style="list-style-type: none"> <li>Limited coverage of protected areas, resulting in little protection for threatened, endemic flora and fauna.</li> <li>Lack of an institutional mechanism to secure protection of globally significant biodiversity.</li> </ul>	<ul style="list-style-type: none"> <li>Creation of a more representative network of protected areas.</li> <li>Improved resource management in rangelands surrounding protected areas.</li> <li>Enhanced national capacity to protect biodiversity.</li> </ul>	<ul style="list-style-type: none"> <li>Options and existence values stemming from the protection of unique habitat and endangered fauna.</li> </ul>
Domestic benefits	<ul style="list-style-type: none"> <li>Subsistence needs met from natural resource base, but continuing degradation of the resource base might become a limiting factor .</li> </ul>	<ul style="list-style-type: none"> <li>Subsistence needs met from natural resource base, and this is rendered more sustainable by improved management.</li> </ul>	<ul style="list-style-type: none"> <li>Improved chances of meeting subsistence needs from the natural resource base.</li> </ul>
Costs: Immediate Objective 1 (Protected Areas)	<p>B1. Management of Selabathebe National Park and limited education programs.      US\$ 1.00 m</p> <p>B2. Broad-based environmental awareness activities in areas affected by the LHWP.      US\$ 0.60 m</p> <p>B3. SABONET      US\$ 0.40 m</p> <p><b>Total for baseline:      US\$ 2.00 m</b></p>	<p>A1. Management of Selabathebe National Park and limited education programs.      US\$ 1.00 m</p> <p>A2. Broad-based environmental awareness activities in areas affected by the LHWP.      US\$ 0.60 m</p> <p>A3. SABONET      US\$ 0.40 m</p> <p>A4. Determine critical sites to be included in protected area network.      US\$ 0.31 m</p> <p>A5. Establish institutional mechanism to plan and develop the PA network      US\$ 0.11 m</p> <p>A6. Implement community-managed PA's.      US\$ 2.845 m</p> <p>A7. Biodiversity information systems activities.      US\$ 0.15 m</p> <p>A8. Potential for eco-tourism development.      US\$ 0.04 m</p> <p>A9. Raise BD awareness among communities.      US\$ 0.19 m</p> <p><b>Total for Alternative:      US\$ 5.645 m</b></p>	<p><b>Total Increment:      US\$ 3.645 m</b></p> <p>GEF      US\$ 1.064 m</p>

			Govt (in kind)	US\$ 0.08 m
			LHDA	US\$ 1.25 m
			EU & World Bank	US\$ 1.25 m

<b>Benefit/ Cost</b>	<b>Baseline (B)</b>		<b>Alternative (A)</b>		<b>Increment (A-B)</b>	
Costs:	B1. ASIP	US\$ 4.0 m	A1. ASIP	US\$ 4.0 m		
Immediate Objective 2 (Resource management outside Protected Areas)			A2. Develop capacity in lead institution to address BD issues.	US\$ 0.57 m		
			A3. Instill economic valuation of environmental resources in national planning systems.	US\$ 0.22m		
			A4. Review and modify land and resource-based policies at the national level.	US\$ 0.15m		
			A5. Develop an Environmental Trust Fund mechanism.	US\$ 0.07 m		
			A6. Strengthen key grazing areas and range management areas.	US\$ 1.4 m		
			A7. Traditional and new regulatory mechanisms for rangelands are made more BD sensitive.	US\$ 0.12 m		
			A8. Clarify institutional responsibilities for rangeland management.	US\$ 0.15 m		
			A9. Raise awareness of biodiversity issues relevant to areas outside core protected areas.	US\$ 0.79 m		
	<b>Total for baseline:</b>	<b>US\$ 4.0 m</b>	<b>Total for Alternative:</b>	<b>US\$ 7.47 m</b>	<b>Total Increment:</b>	<b>US\$ 3.47 m</b>
					GEF	US\$ 1.418 m
					Govt (in kind)	US\$ 0.2 m
					LHDA	US\$ 0.5 m
					EU	US\$ 1.25 m
					UNDP	US\$ 0.1 m
<b>TOTAL COSTS</b>	<b>BASELINE:</b>	<b>US\$ 6.0 m</b>	<b>ALTERNATIVE:</b>	<b>US\$ 13.115 m</b>	<b>INCREMENT:</b>	<b>US\$ 7.1 15m</b>

## **Annex 7. STAP Technical Review**

**Annex 8. Map**

**Annex 9. Letter of Endorsement by GEF Operational Focal Point**