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PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT · PROGRAMA DE LAS NACIONES UNIDAS PARA EL MEDIO AMBIENTE  
ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ**TELEFAX TRANSMISSION**

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Att: Programme Coordination

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Date: August 24, 1999

**From:**  John Pernetta  
Officer-in charge  
GEF Coordination Office

**Subject:** Kenya: Lake Baringo Community Based Integrated Land and Water Management Project

Please find attached the Project Brief for the above-mentioned Medium Sized Project. The project has been endorsed by the national operational focal point, and has been cleared by the Executive Director of UNEP.

In accordance with the operational guidance for approval of Medium Sized Projects, we are submitting this project brief to the GEF Secretariat for action by the Chief Executive Officer. We are simultaneously circulating copies to UNDP/GEF, WB/GEF, STAP and the CBD Secretariat for comments within 15 working days, or by September 14 1999. The implementing Agency Fee is US\$146,000.

We look forward to receiving the GEF Secretariat's guidance on the next processing steps for this Medium Sized Project by September 28, 1999, if not before.

Best regards,

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## MEDIUM SIZED PROJECT BRIEF

### PROJECT SUMMARY

Project Identifiers	
<p><b>1. Project name:</b> Lake Baringo Community Based Integrated Land and Water Management Project.</p>	<p><b>2. GEF Implementing Agency:</b> United Nations Environment Programme (UNEP).</p>
<p><b>3. Country or countries in which the project is being implemented:</b> Kenya</p>	<p><b>4. Country Eligibility:</b> Kenya ratified the Convention of Biodiversity on July 26th, 1994.</p>
<p><b>5. GEF focal area(s):</b> Biodiversity with focus on Land Degradation.</p>	<p><b>6. Operational programme/short term measure:</b> This proposal falls within two Operational Programs: Arid and semi-arid ecosystems/OP1, Coastal, Marine and Fresh Water Ecosystems /OP2.</p>
<p><b>7. Project linkage to national priorities, action plans, and programs:</b></p> <p>A. The proposed activities are fully consistent with Kenya's NEAP, which emphasizes community based conservation of Kenya's globally significant wildlife resources. The project also addresses directly the priorities identified in the National Biodiversity Action Plan of May 1999 regarding proper utilization of aquatic resources and Sustainable use of Arid and Semi Arid Ecosystems.</p> <p>B. Link to Sustainable development Planning:</p> <p>The proposed project will support the demonstration of community based sustainable land management that will control the degraded semi arid zones surrounding Lake Baringo and other Rift Valley lakes while contributing to poverty alleviation and sustainable livelihoods of the people in this area.</p> <p>C. Other links:</p> <p>The project will provide applied approaches in community based conservation which draws on indigenous land management practices that can be incorporated in other GEF activities in the region such as the East African Rift Valley Lakes project and the Lake Victoria Environment Management Project.</p>	
<p><b>8. GEF national operation focal point and date of country endorsement:</b> Mr. B. O. Komudho, GEF Operational focal Point, Ministry of Environmental Conservation has endorsed the project in a letter dated 10th August, 1999.</p>	

<p><b>9. Project rationale:</b></p> <p>(a) Increasing areas of marginal lands are being put under cultivation crops. The general result is conversion of good quality grazing land for livestock and wildlife into areas of lowered fertility, liable to water and wind erosion.</p> <p>(b) Grazing pressure from livestock on the rangelands have increased due to reduced mobility, provision of additional water supplies, improvement of veterinary services, and steady expansion of human populations.</p> <p>(c) High grazing pressure and poor land husbandry in Baringo District have resulted in erosion rates that threaten survival of the lake through sedimentation.</p> <p>(d) There is an ongoing loss of environmentally important habitats and vulnerable wildlife species on community owned land, due to changing land use patterns and a lack of incentive for communities to conserve these resources.</p> <p><b>The project objectives are:</b></p> <p>The overall objective of the project is to conserve acquisition and terrestrial biodiversity of globally significance in lake Baringo.</p> <p>The project will specifically focus on:</p> <p>(a) Strengthening capacity of the communities in sustainable land management by introducing resource use techniques for water, pasture and cultivated land that will minimize resource deterioration.</p> <p>(b) Extending conservation benefits to biologically important community controlled land and slow down the environmentally negative ongoing land use patterns by increasing the capacity of local authorities to promote and support community based conservation enterprises.</p> <p>(c) Ensuring the long term continuation of these conservation benefits.</p>	<p><b>Indicators:</b></p> <p>(a) Loss of rangeland plants and migratory wildlife.</p> <p>(b) Significantly reduced wildlife populations and area of distribution.</p> <p>(c) Reduced areas of community land available for effective conservation - increased areas fenced and used for agriculture; increased livestock numbers.</p> <p>(d) Reduced fish stocks in the lake and loss of habitat for migratory species.</p> <p>(a) Survival of endangered and vulnerable species in the area through community based integrated land and water management.</p> <p>(b) Increased number of communities engaged in sustainable conservation based enterprises; conservation benefits extended to environmentally important community controlled areas;</p> <ul style="list-style-type: none"> <li>• negative environmental trends halted.</li> </ul> <p>(c) The experience gained shared with other relevant stakeholders, such as communities, NGOs and Governmental Organizations.</p>
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<p><b>10. Project outcomes:</b> The expected project outcomes are:</p> <ul style="list-style-type: none"><li>(a) Enhanced collaboration between local authorities, communities and NGOs; creation of awareness of environmental problems among local stakeholders; empowerment of local communities to directly deal with integrated land and water management issues.</li><li>(b) Protection of endangered habitats of both grazing herbivores and migratory water fowl will be made more effective and efficient, enabling the communities to manage these resources effectively.</li><li>(c) Government capacity to support community based conservation initiatives will be enhanced as well as the technical capacity of local authorities to support community based enterprises will be strengthened, particularly in the areas of business planning and financing.</li><li>(d) The financial viability of NGOs and community groups in the area will be improved, making them more sustainable in the long-term and ensuring the long term continuation of the conservation benefits they provide.</li></ul>	<p><b>Indicators:</b></p> <ul style="list-style-type: none"><li>(a) Effective and sustainable functioning of community land management initiatives.</li><li>(b) Return of critical herbivorous species and migratory fowl to the lake and the surrounding area.</li><li>(c) Increased number of community conservation initiatives being supported. Increased area of community land being managed sustainably as well as more sustainable commercially viable community ventures developed.</li><li>(d) Improved financial management capacity of the NGOs and communities. Expanded income generating activities.</li></ul>
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11. Project activities (including cost in US\$):	Indicators:
<p><b>Output #1: Core Natural Resources Management Activities</b> (GEF: \$ 190,000 NGOs/Community Groups &amp; GOK 94,000 )</p> <ul style="list-style-type: none"> <li>(a) Identifying viable techniques and setting up demonstrations sites.</li> <li>(b) Upgrading of land use management plans.</li> <li>(c) Rehabilitation of range and degraded lands.</li> <li>(d) Promote soil and water conservation and water harvesting techniques.</li> <li>(e) Acquire necessary equipment.</li> <li>(f) Upgrade management and technical capabilities of stakeholders.</li> </ul>	<ul style="list-style-type: none"> <li>(a) Completion of demonstration sites</li> <li>(b) Completion of land use management plans</li> <li>(c) Reduction of soil loss and siltation of lakes, improved productivity of range and cropped land.</li> <li>(d) Improved soil conservation systems and water harvesting techniques, improved soil productivity.</li> <li>(e) Procurement of specified equipment</li> <li>(f) Stakeholders acquire skills in natural resources management techniques.</li> </ul>
<p><b>Output #2: Protection of land and water based wildlife habitats.</b> (GEF: \$ 110,000 NGOs/Community Groups &amp; GOK 35,000)</p> <ul style="list-style-type: none"> <li>(a) Establishment of community-based wildlife management and demonstrations.</li> <li>(b) Improved sustainable use of the lakes.</li> <li>(c) Upgrading of management and technical training.</li> <li>(d) Acquire necessary equipment</li> </ul>	<ul style="list-style-type: none"> <li>(a) Completion of demonstration.</li> <li>(b) Improve lake based tourism, improved fish stocks.</li> <li>(c) Completion of training of key staff.</li> <li>(d) Procurement of specified equipment.</li> </ul>
<p><b>Output #3: Support of Community Conservation Initiatives</b> (GEF: \$135,000 NGOs &amp; GOK 75,000)</p> <ul style="list-style-type: none"> <li>(a) Undertake Participatory Rural Appraisal and socio-economic survey.</li> <li>(b) The establishment of alternative sources of livelihood, increased community support operations.</li> <li>(c) Upgrade Resource Management Extension Programmes.</li> <li>(d) Strengthen capacity of the policy group, local authorities/NGOs/local communities to undertake integrated resource management .</li> <li>(e) Training of stakeholders.</li> <li>(f) Acquire necessary equipment.</li> </ul>	<ul style="list-style-type: none"> <li>(a) Completion of Participatory Rural Appraisal and survey. Community priorities, constraints, opportunities and socio-economic groups identified.</li> <li>(b) Alternative sources of livelihood identified and established and increased number of community projects identified, initiated and supported with particular emphasis on enhanced biomass production.</li> <li>(c) Appointment of Resource Management Extension Officers and design of extension Programmes.</li> <li>(d) Integrated Resource Management techniques being adopted.</li> <li>(e) Complete training of key stakeholders.</li> <li>(f) Procurement of equipment.</li> </ul>
<p><b>Output #4: Improve Long Term Viability of pilot activities and information dissemination.</b> (GEF: \$75,000 NGOs/Community Groups &amp; GOK 35,000)</p> <ul style="list-style-type: none"> <li>(a) Adopt efficient and sustainable financial management.</li> <li>(b) Increase returns from tourism potential and other activities particularly non-tourism wildlife utilization.</li> <li>(c) Establish financial scheme to support natural resource based rural enterprises to assure sustainability of activities undertaken by the project.</li> <li>(d) Development of Information Packages/Support of project activities.</li> </ul>	<ul style="list-style-type: none"> <li>(a) All budgets and reports to incorporate new financial management systems.</li> <li>(b) Finalize plan to increase income from tourism and other non-tourism wildlife utilization and start implementing.</li> <li>(c) Incorporation of Natural Resources Enterprise Development Fund.</li> <li>(d) Production and dissemination of relevant information.</li> </ul>

**12. Estimated budget (in US\$):**

GEF	750,000
Local Communities (Women Groups etc.)	200,000
NGOs and GOK	
Total	980,000

**Information on Institution Submitting Project Brief**

**13. Information on Project Proposer:** The Project will be implemented by the Baringo District Office, Office of the President in collaboration with Community groups and local NGOs including World Vision and Rehabilitation of Arid Environments Trust (RAE)

**14. Information on Executing Agency:** The project will be executed by the Baringo District Planning Unit in collaboration with Rehabilitation of Arid Environments Charitable Trust (RAE); Womens Groups; Kenya Marine and Fisheries Research Institute (KMFRI); Kenya Wildlife Service.

**District Planning Unit:** The DPU is a technical unit in the District Council which is responsible for the day-to-day co-ordination of planning and implementation of projects. It also serves as a secretariat for the various District Executive Committees. The District Planning Unit not only performs planning and monitoring functions but also provide technical services such as costing of projects, preparation of bills of quantities and technical appraisal of project proposals. It also ensures that projects and programmes being proposed and implemented are consistent with the Baringo District Development Plan. It also has the responsibility for ensuring the timely implementation of projects.

**Rehabilitation of Arid Environments Charitable Trust (RAE):**

Rehabilitation of Arid Environments Charitable Trust (RAE) is an NGO with its headquarters in the Baringo lowlands of the Rift Valley in Kenya. With over 16 years of experience in the Baringo area, RAE has developed a committed and well trained local staff and management team with comprehensive knowledge of the local people. RAE promotes sustainable solutions by reclaiming denuded wasteland – to date it has successfully reclaimed over 4,000 acres; strengthening community capacity and self-reliance; research, collaboration and the transference of knowledge and improving people's livelihoods, especially those of women. RAE has received support from a number of bilateral agencies and international organisations including the Netherlands Government, United Nations Environment Programme, (UNEP) Rockefeller Foundation, Danish International Development Assistance (DANIDA), Commonwealth Secretariat and International Development Research Centre (IDRC).

**Kenya Marine and Fisheries Research Institute(KEMFRI):**

The centre was established in January 1989, on the western shore of Lake Baringo at Kampi ya Samaki. Its main purpose is to carry out aquatic research in all the major water bodies in the Central Rift, except Turkana and Naivasha which are served by similar centres situated there. The centre has a reasonably equipped medium sized laboratory. It has undertaken research in lakes Baringo, Kamnarok, Bogoria and Chemeron dam. It has also carried studies in appropriate fishing technologies in the various water bodies, quality control of aquatic resources and post-harvest handling (transport systems, processing, storage, preservation and marketing)

**The Kenya Wildlife Services (KWS):** Kenya Wildlife Services (KWS) is the Government parastatal which deals with wildlife and conservation issues. The KWS Baringo office was established in 1972 and is vested with the responsibility of conservation maintenance and management of wildlife resources in Baringo and Koibatek districts.

**World Vision:**

World Vision is a Christian Non-Governmental Organization which is involved in relief and development projects in over 100 countries of the world. In Kenya, World Vision is working with communities in about 43 Districts within the framework of 24 large scale programmes known as Area Development Programmes (ADPs). In Baringo District there are two ADPs and World Vision has been working in the District for 10 years. World Vision's approach to development is through community-based initiatives and local participation.

**15. Date of Initial submission of project concept:** July 1999

Information to be Completed by Implementing Agency	
16. Project Identification number	
17. Implementing Agency contact person:	Mr. Ahmed Djoghlaif, GEF Coordination Unit, United Nations Environment Programme (UNEP) Nairobi, Kenya. Tel. 254.2.624165.
18. Project Linkage to Implementing Agency:	The project is linked to UNEP activities in land degradation and sustainable use of natural resources and their close collaboration with the Government of Kenya in environmental conservation matters.



## PROJECT DESCRIPTION

### PROJECT RATIONALE AND OBJECTIVE

1. Kenya is a medium sized African country which is well known for its contrasting landscapes of mountains (Mt. Kenya, Mt. Elgon and mountain ranges like the Aberdares, Chyulu Hills, Ndoto mountains, Marsabit mountain, Cheranganis and Mau Hills); rivers (Tana, Athi, Nzoia and Mara); lakes (Victoria, Turkana, Baringo, Nakuru, Naivasha, Natron and Magadi); the Great Rift Valley; Indian ocean coastline; and most of all Kenya is famous for its plains game they are found in several national parks, reserves and private land.
2. With limited mineral and fuel resources, land remains the basic resource in Kenya. The development of sustainable land management is perhaps the most pressing environmental issue before the nation. How Kenya uses its land is fundamental to all other environmental concerns. Only 12% of Kenya's surface area, however, gets adequate rainfall for intensive farming on high potential land. A further 6% of the area receives marginal rainfall, on what is called medium potential land. This leaves an aridity balance of 82% of total surface area covering 16 districts which contain nearly 30% of Kenya's total population.
3. Kenya's population is estimated at over 30 million, with one of the highest growth rates (3.3%) in the world. Over 90% of the population live in rural areas and at the time of the last census in 1989, population aged below 15 years accounted for over 50% of the total population. With one of the highest population growth rates in the world and such a severely limited area of productive land and fertile soils, food security has become a problem in many districts and rural livelihoods are no longer sustainable. In western Kenya, for example, it is estimated that with present population growth rates, as many as 8 million people must find non-agricultural employment or migrate from the region by the year 2000 if farm sizes are to attain economic size and household food security is to be ensured. Consequently, increasing areas of marginal lands are being put under food crops. The general result of this form of agriculture, in these ecologically sensitive areas, is to convert potentially good grazing land (for livestock and wildlife) into areas of lowered fertility, liable to wind and water erosion. Inland water bodies and rivers are in turn being choked by sediments due to erosion. These conditions pose serious threats to indigenous wildlife and fish populations in the Great Rift Valley - one of the world's remaining refuges for plains herbivores and migratory bird species.

4. A situation exists in Kenya today where land use interests such as agriculture, ranching, wildlife management, forestry and water conservation - each of them valid and nationally productive usage of land are in conflict with one another. Not only are various arms of government in disagreement or confusion on these issues but this is compounded by the demand of an increasing number of landless people. There is thus a need to develop clear and consistent land use policies that can cater for the peaceful coexistence of wildlife and man.
5. The project seeks to introduce sustainable land management and demonstrate good practice at the local level by building capacity among local stakeholders to enable their real involvement in local decision making at different levels in the management process and to strengthen their economic capacity by diversifying their livelihood base through enterprises such as wildlife and water based tourism. It is envisaged that a better involvement of the local stakeholders in resource management activities will permit a more equitable distribution of the benefits generated by the sustainable use of natural resources.
6. The project responds to provisions of the GEF Operational Strategy in the in the area of Biodiversity Conservation and sustainable land management through control of land degradation. It specifically addresses issues under Operational Programmes 1 and 2. It also fulfills, in part, objectives of the Convention on Biological Diversity (CBD) and the Convention to Combat Desertification (CCD). This area has been identified as priority area in the National Environmental Action Plan and the National Biodiversity Action Plan.

#### CURRENT SITUATION

7. Kenya's national environment action plan recognizes that a condition of extreme ecological fragility extends over very large portions of the country. Yet politically and economically, in these areas, there has been a history of opportunist exploitation, impelling ever increasing degrees of human hardship and ecological damage (loss of endemic plants and animal populations) that in some cases may be irreversible.

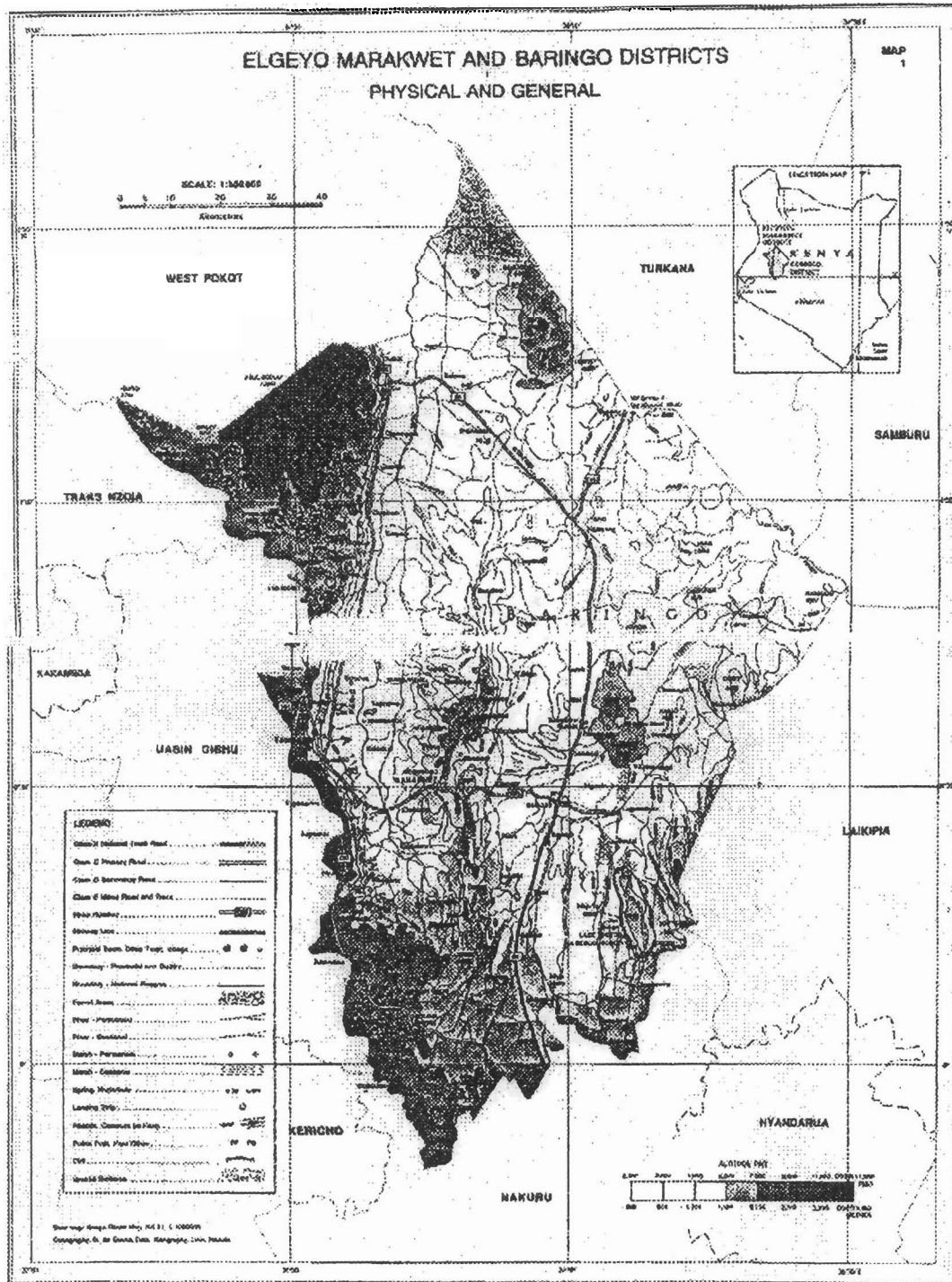


Figure 1: Location of Baringo District

wildlife is the immediate result, followed by official or individual reprisals on the culprits. There is naturally competition for water resources, and in the event of crop failure, the poaching of wildlife for protein is almost inevitable. The actual percentage of the total land area occupied for cultivation may be relatively small but, due to the scattered pattern, the disruptive effect on the major wildlife species is often total.

8. **The threat from extensive cultivation in marginal areas is especially insidious, so far as the wildlife populations are concerned, when it occurs on areas peripheral to wildlife sanctuaries or across traditional migration routes. The disruption caused by settlements and cultivation to wildlife stocks is normally out of all proportions to the area settled, and is at present major cause of wildlife elimination. The Baringo District (Figure 1) is no exception.**

#### **Socio-Economic and Environmental Setting:**

9. **The Baringo District, covering 8,655 km<sup>2</sup>, encompasses a wide diversity of ecological zones, ranging from fertile, well-watered highlands to semi-arid lowland plains (Figure 2). The district can be divided into two major zones; namely: the highlands and the lowlands. The highlands fall in the tropical zone with well drained fertile soils. The lowlands, however, are in the semi-arid zone with complex soils of various textures and drainage conditions.. Some of these soils are saline. A large area is characterised by shallow stony soils with rock out crops and lava boulders. This zone is essentially a rangeland with major socio-economic activities centred around livestock rearing. The only permanent rivers in the district are the Perkerra and Molo rivers which drain into the southern end of Lake Baringo at the Njemps Flats. Rainfall is erratic and highly localised with a yearly average of between 1,000-1,500 mm for the foothills and 500-700 mm for the arid and semi-arid lowlands.**
10. **The population of the Baringo District is increasing very rapidly. Based on the 1989 Population census the district population was 220,922, made up of three principal ethnic groups Pokot, semi-nomadic pastoralists, who occupy the flatter region to the north and north-east; Tugen who are primarily agriculturists who live to the west of Lake Baringo in the hills and on the plateau and the Njemps, sedentary agropastoralists around Lake Baringo. This is estimated to increase to 422,404 in 2001, with approximately 50% of the district population under 15 years. With increasing population it is anticipated that additional pressure will be placed upon a deteriorating natural resource base (soils, water, forest, wildlife). This implies that the exploitation of resources, will require improved technology**

and management to cope with increased demand for necessities such as food, water and shelter.

11. The Baringo District has a forest cover of 24,346.99 ha. Though approximately 94% (22,953 hectares) of the forest cover in the Baringo District is gazetted forests, it is nevertheless, being severely threatened by encroachment due to the high demand for agricultural and wood products including woodfuel. Since production from the forests is likely to be inadequate to meet required demand for fuelwood and timber, intensive conservation measures including afforestation and agroforestry is necessary.

#### **Biodiversity Importance:**

12. Lake Baringo and its associated lake catchment areas, Lakes Bogoria and Kamnarok, are important centres for biodiversity. They form part of the Rift Valley Lake System of Eastern Africa which extends into Ethiopia and Tanzania and which are known internationally, as areas of globally biodiversity significance. For example, Lake Naivasha and Nakuru are listed as wetlands of international importance (Ramsar Sites) under the Ramsar Convention (1971) while Lakes Turkana and Tanganyika are listed as Man and Biosphere Reserves (World Heritage Conservation, UNESCO).
13. Lake Baringo (168 sq. km<sup>2</sup>) and the nature reserves of Lakes Bogoria and Kamnarok (42 km<sup>2</sup>) provide suitable habitats for a variety of species of flora and fauna. Over 450 species of birds (migratory and resident) including, *inter alia* commorants, darters, pelicans, kingfishers, hummercops and ibis have been identified in Lake Baringo. It is also a breeding and roosting area for birds and serves as a stop over point for European birds. Both Lake Baringo and Lake Bogoria National Reserve have been designated by Nature Kenya and Bird Life International as globally significant areas for bird conservation and the Lake Baringo Club and Island Camp are world famous bird sanctuaries.
14. Lake Kapnrock National Reserve and its catchment area is the home of large numbers of crocodiles, elephants, buffaloes, baboons, vervet monkeys, bushbucks, dikdik, impala, and worthogs. Lake Baringo is an important habitat for aquatic animals like the hippopotamus and crocodiles. Lake Bogoria Reserve contains a wide variety of animals including the rare greater kudu, as well as buffaloes, zebras, leopards and jackals. The lake is saline and the only aquatic flora is blue green algae which is a major diet for over 2 million flamingoes.

Lake Bogoria is also a feeding site for the Lesser Flamingoes, mainly from lake Nakuru and Elementaita (Gichuki and Gichuki, 1992).

15. Lake Baringo's *aquatic phytoplankton* is dominated by cyanophytes, (90.89%) particularly *Microcystis aeruginosa* followed by *Chlorophytes* (7.88%) dominated by *Anabaena circinalis*. Bacillariophytes constitute 1.23% *Cyperus papyrus* dominates the Southern end of the lake while *Pistia stratiotes*, *Nymphaea caerulea* and *Aeschynomene* floats on the surface of small bays and along the lakeward edge of the papyrus swamp. The aquatic vegetation of Lake Bogoria is dominated by cyanophytes, primarily *Spirulina platensis*, along the lake edge grassland communities are dominated by *Spiroboles spicatus*, while the gallery forest in the river valleys is dominated by *Acacia tortilis*.
16. Lake Baringo also supports commercial and artisanal fisheries dominated by *Oreochromis niloticus baringoensis*. Other *Ichthyofauna* includes *Clarias gariepinus* *Protopterus aethiopiensis*, *Barbus gregori*, *Labeo cylindricus* and the two extremely rare species *Barbus lineomaculatus* & *Aphocheilichthys* both of which were identified in 1969. *Labeo cylindricus* is classified as an endangered species.
17. Tourism is an important economic activity of Lake Baringo and its associated catchment lakes of Bogoria and Kapnorok, the main attraction being the wildlife. An additional attraction at Lake Bogoria is the hot springs which are known to shoot up over seven meters above the ground.

#### Threats to biodiversity:

18. Environmental degradation is identified as a major constraint<sup>1</sup> to the development in Baringo because it negatively affects the natural resources base of the area (including the siltation of Lakes Baringo, Bogoria and Kamnarock). As a direct consequence of environmental degradation, particularly land degradation, the biodiversity potential is being severely threatened.

<sup>1</sup> Republic of Kenya, Baringo District Development Plan 1997-2001; Office of the Vice-President and Ministry of Planning and National Development. The Government Printers, Nairobi, Kenya.

19. Cultivation of the slopes in the catchment have resulted in much erosion. Moreover, high grazing pressure from livestock and poor land husbandry in Baringo District have led to destruction of rich grazing and bushland, and its replacement by acacia scrub without grass and offering no protection to the soil. Destruction of vegetation cover for fuelwood and other domestic uses is occurring at a rapid rate. Sheet and gully erosion have resulted in the steady sedimentation of Lakes Baringo, Bogoria and Kapnorok. The Kenya Rangelands Ecological Monitoring Unit (KREMU)<sup>2</sup> estimates that 37.6% of the total land for the Baringo District is affected by severe sheet and gully erosion whereas 21.6% is moderately affected. Figure 2 indicates the erosion classes for the Baringo District as observed by KREMU.
20. Land in Baringo is prone to degradation given the combination of the type of soil, the amount of rainfall – mainly rainwater from the Tugen Hills and human pressure. The soil in the lowlands or flats is friable and therefore liable to both water and wind erosion. Thus during the rainy season, soil is eroded and the consequence is the formation of gullies and badlands.
21. In 1981<sup>3</sup> the depth of lake Baringo was estimated to have decreased by 0.4m over the 12 years proceeding as a result of the deposition of 64 million cubic metres of silt. The report estimates that at least 5 million cu.m. of sediment were removed from the catchment area of 5,000 km<sup>2</sup> each year. It states that if sediment continues to accumulate in the lake at this rate, then in about 20 years time the lake will have changed drastically in character .... In the longer term the lake is likely to be destroyed. If this happens, the effect on the population's livelihoods will be irreversible. In addition, to being the most important source of water for people in the surrounding semi-arid lowlands, it supports wildlife, tourism and a fishing industry. Water erosion is severe in the areas surrounding lakes Baringo and Bogoria, particularly in the areas of Lobo, Eldume, Marigat and Endao. Water erosion is being accelerated in these areas due to the increased pressure of human activities and livestock population. Due to overgrazing, trampling and cutting of trees, the soils are degraded; thus increasing their vulnerability to both wind and water erosion.
22. Due to the increased siltation of Lake Baringo fish stock in the lake have been reduced significantly. Species such as the Labeo, which contributes significantly to the biodiversity of the lake, is now almost extinct due to increasing use of fertilizers in the irrigation schemes, the problem of salinization is increasingly becoming important. This trend of decreasing fish

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<sup>2</sup> Wahome, 1984 - Kenya Rangelands Ecological Monitoring Unit "Soil Erosion Classification and Assessment Using LANDSAT Imagery: A Case Study in Baringo District, Kenya".

catch is expected to continue if the necessary corrective measures are not taken. Salinity may well preclude the use of its waters for irrigation and as a migratory route for the lesser flamingoes. In closed ecosystems such as those of the Rift Valley, the threat of pollution by pesticides must be constantly monitored.

23. Another factor which contributes to land degradation and biodiversity loss is the land tenure system. Land ownership tends to be communal, particularly in the semi-arid parts of the district. As a consequence, most families do not have title deeds to the land they occupy. This limit opportunities for stakeholders to secure resources for development and may serve as a disincentive to environmental conservation.
24. Environmental degradation in the Baringo District is mainly caused by high grazing pressure, indiscriminate cutting of trees for fuel wood, non-protection of water catchment areas and unsustainable farming practices. This fact, in addition to the diminishing productivity and changes in the lake ecosystems, is contributing to the loss of globally significant biodiversity in the lakes Baringo, Bogoria, Kapnorok. The factors contributing to the loss of biodiversity due to land degradation are further outlined in the diagram contained in Annex 1.

#### **Responses to the Situation in Lake Baringo and Environs including baseline Activities:**

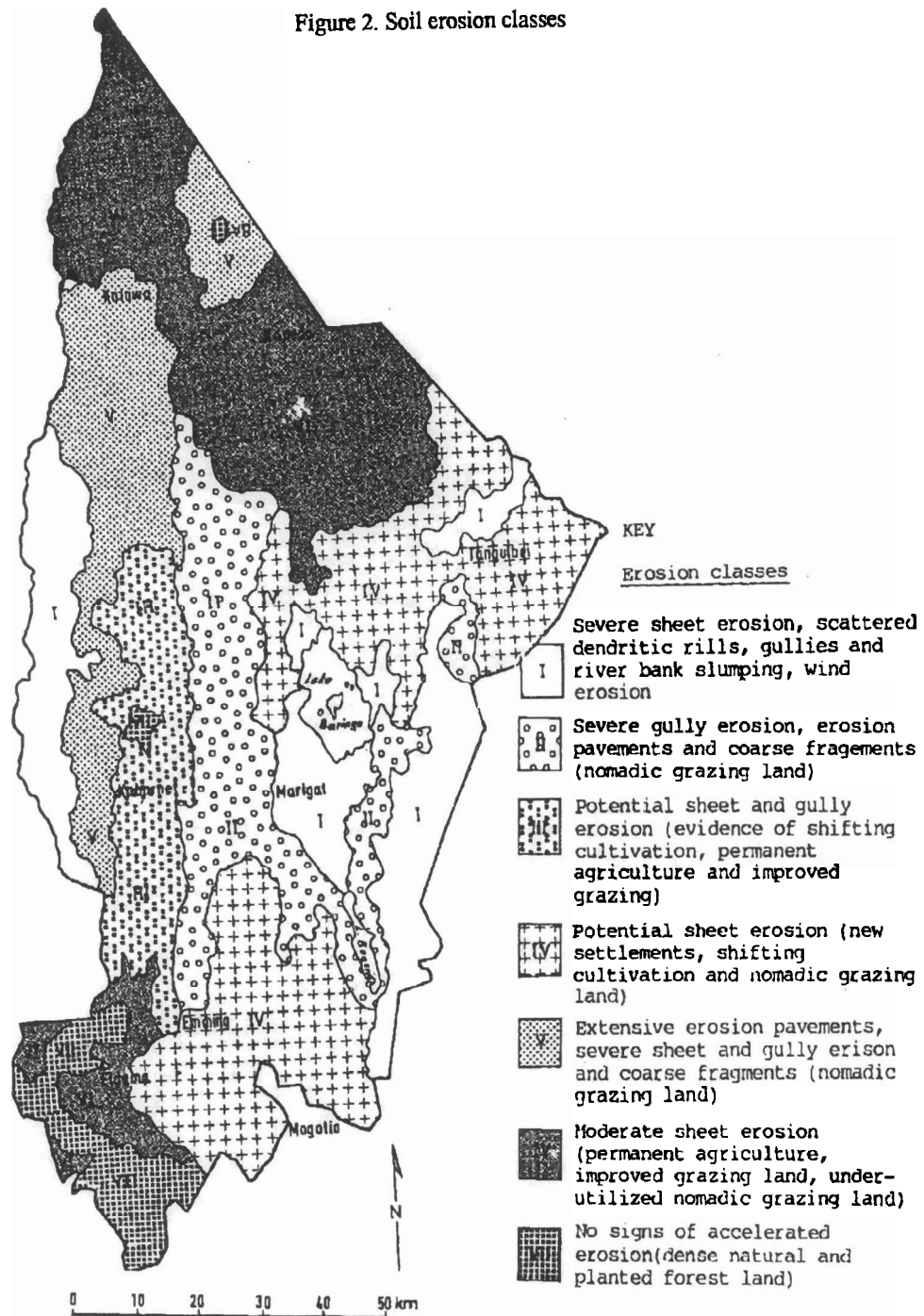
25. The situation in Baringo District and the sedimentation of the lake has been the concern of the Government of Kenya (GOK), Community Groups, NGOs and several development organizations for a long time. For example, the GOK has invested considerable amounts of resources in dam construction (e.g. the Kirandich Dam currently under construction is estimated to cost KShs. 2.8 billion); wildlife conservation; agroforestry and soil and water conservation.

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<sup>3</sup> Pencil Engineering Consultants Ltd. 1981. Central Baringo Water Development Plan 1983-2003. Preliminary Design Study, 4 Vols. Nairobi, Ministry of water Development, Government of Kenya.



Figure 2. Soil erosion classes



26. In an effort to encourage communities to better utilise existing land resources, the Ministry of Agriculture through its Livestock, Division, have established a limited number of high yielding pasture and fodder demonstrating sites, to demonstrate to farmers the benefits of using such an approach. The total contribution of the Livestock Division to this activity in Baringo during the last financial year (1998-99) was US\$30,000. The Local Afforestation scheme (LAS) and the Rural Afforestation and Extension Services (RAES) of the Forestry Department have made tremendous progress in producing suitable tree species including indigenous and fodder trees to be incorporated with agricultural crops. In 1998/999 financial year, the LAS spent approximately US\$52,000 and raised over 1.8 m seedlings. The production target for 1999/2000 is 2.0 million seedlings. The efforts of these organisations benefited greatly from the extensive research undertaken by the Regional Centre of Kenya Forestry Research Institute (KEFRI) located in the environs of the Baringo District.
27. To date the most impressive results in rehabilitation of degraded lands in the Baringo District have been achieved by the Rehabilitation of Arid Environments Trust (RAE). Since 1982 RAE (formally the Baringo Fuel and Fodder Project) have implemented a number of programmes aimed at the rehabilitating severely degraded lands around the lake and in the surrounding hills which are subject to heavy grazing pressure. It is primarily concerned with planting and encouraging regeneration of indigenous trees and grasses in badly eroded areas and establishing sustainable management systems for the rehabilitated areas with local communities. Research has been carried out in a number of enclosed fields (19) covering nearly 1,600 hectares varying in size from 5-400 ha designated by the local communities. The active involvement of the communities in every phase of the rehabilitation efforts have ensured sustainability.
28. Considerable baseline activities have already been undertaken by various government departments, particularly those of forestry and soil conservation to promote appropriate soil conservation techniques. These activities are supported by extension programme of the Ministry of Agriculture who work with the local communities to adopt such techniques.
29. In the water sector, UNICEF in collaboration with a range of NGOs including World Vision, Kipsaraman Integrated Development Project, CPK-Kampi ya Samaki, A.I.C. Loruk; Catholic Diocese of Nakuru – Water Programme and CCF- Marigat and Kenya Freedom from Hunger Council (KFFHC) have undertaken a number of community based water projects in the

project areas. Activities currently underway, or planned for 1999-2001 period is estimated at US\$107,000.

30. In the area of wildlife protection and conservation, baseline activities by the Kenya Wildlife Service-Baringo have tended to focus on the establishment of local committees for natural resource conservation and strengthening their capacities as a means of changing attitudes to wildlife and human/wildlife conflict management (identification of conflict cells; patrols to counteract destruction of property, water competition between wildlife and livestock, illegal acts against wildlife). Not enough focus however is being placed on the protection of biodiversity through integrated land and water management in the Baringo catchment which is essential if the biodiversity is to be protected.
31. The Kenya-Finland Livestock Development Programme Bull Scheme for upgrading and cow-for-cow revolving scheme are initiatives being undertaken to create alternative livelihoods for the communities, particularly women. These initiatives target women who have land that requires rehabilitation. Support is given for land preparation, napier and fodder tree propagation/establishment and the erection of a zero grazing unit or bull shed. The womens group contributes 30% of the total cost, mainly in the form of labour and the project provide 70% which is equivalent to approximately US\$74,000 per annum.

#### **Relationship with other GEF Initiatives**

32. This project recognises the GEF funded PDF B initiative "*Conservation and Sustainable Use of Biodiversity in the Eastern Rift Valley Lakes*", which is currently under preparation. This project will lay the groundwork for the type of land management pilot activities which could be fed into the larger project. To ensure complementarity between this project and the Rift Valley lake project the GOK will establish a Task Force to monitor the formulating and implementation of these two initiatives. There is also complementarity with the regional GEF project entitled "*Management of Indigenous Vegetation for the Rehabilitation of Degraded Rangelands in the Arid Zone of Africa*", which has sites in Turkana and Marsabit in Kenya. This large project will focus broader issues of land tenure and access rights, and lessons learnt will be fed into this medium size project.

### **Rationale for GEF Intervention**

33. Despite the baseline activities being undertaken in Lake Baringo and environs, globally significant biodiversity continues to be threatened. Efforts to control the situation have included projects to control soil erosion through construction of mechanical barriers, reduction of livestock numbers through the construction of holding grounds and auction yards but here efforts have been unable to reverse the situation because they have not involved the local populations and communities appropriately; nor have they been executed in an integrated manner. Building upon experiences gained from other interventions, the GEF intervention will address this situation by promoting an integrated land and water management strategy for the Lake Baringo Catchment areas. This will be accomplished by empowering local communities and stakeholders to see for themselves the value to be gained by realistic natural resources management and to undertake the tasks themselves. This will be done through training of the communities; making demonstrations on a small scale on how to undertake sustainable land management and water conservation techniques; seeking and demonstrating more diverse alternative livelihoods involving tourism, wildlife management and bee keeping; demonstrating small scale rural enterprises that relieve pressure from the land and provide alternative employment; and long term financial management schemes to support small scale rural enterprises.
34. The Government of Kenya through the Baringo District Planning Unit (DPU), shall oversee the project, but it will be implemented through local community groups (Women and Youth) and NGOs with technical support from Government Departments and Agencies particularly the extension services of the Ministry of Agriculture and Livestock Development, and the Kenya Wildlife Services. Project activities will be implemented in close collaboration with the United Nations Children's Fund (UNICEF) to ensure complementarity. The project will be largely concerned with capacity building and demonstrations. While the project will be based in Baringo District, the demonstrations will be able to be replicated in the other arid zone districts in the country.

### **EXPECTED PROJECT OUTCOMES**

35. The project will have a lasting impact on the conservation and sustainable use of a unique ecological system within the great rift valley which would have otherwise undergone

irreversible degradation. Sustainable land management that will control any further erosion and sustain the integrity of the lake environment will be introduced on a long term basis. The local communities will benefit from environment services introduced in the area, small enterprises, lake based tourism and other alternative livelihoods such as bee keeping and small scale farm based industries (vegetable canning, handicrafts small scale irrigation for export flowers). These will be achieved through the consolidation of land use planning, capacity building among the local populations and development of tools for effective local participation. It is hoped that the experience gained in this area will have an impact on the other surrounding districts where similar processes of land degradation are being experienced. The following specific results will be attained by the project;

- (a) The local populations will have adopted sustainable land use water and management plans and practically applying them in their land management activities.
- (b) Capacity of the communities to undertake wildlife conservation activities on their lands will be greatly enhanced. Protection of endangered species will be assured.
- (c) The viability of community enterprises will also be improved through improved business management and financial skills.
- (d) Broader income generating activities for the communities would provide employment and reduce pressure on land and water resources.
- (e) The project will validate improved production systems developed in pilot activities, and community groups will be adopting these systems for application in other key areas.

#### ACTIVITIES AND FINANCIAL INPUTS

36. The results of the project will be achieved by carrying out the following activities.

1. (a) **Identifying viable techniques and setting up demonstration sites.** Estimated cost US\$9,000.

On the basis of the Participatory Rural Appraisal (PRA) and Socio-Economic Survey, demonstration sites will be identified for the management of natural resources, improvement of pastoral systems, installation of agro-forestry systems, rehabilitation of degraded land and marketing of land management outputs. This activity will build on

indigenous technical knowledge as well as other proven community based techniques and approaches to integrated land and water management by establishing demonstration sites and test plots for developing different models of land and water management by the local population and promote their replication in similar surrounding areas. The *baseline* cost for this activity is estimated at US\$4,000 and the *GEF Alternative* at US\$5,000.

1.(b) **Upgrading of Land use Management Plans.** Estimated cost US\$35,000.

Existing land use management plans will be updated to clearly identify the areas in the catchment at greatest risk. Areas requiring protection (i.e forested areas) will be clearly demarcated. An integral part of this process will be the evaluation of the land use patterns and tenure policies with the view of making recommendations including enforcement mechanisms. The plans will also outline appropriate areas for the disposal of human waste, refuse and boma manure as a strategy aimed at reducing the rate of contamination of reservoirs and lakes. The baseline cost for this activity is estimated at US\$25,000. The GEF Alternative for this activity, estimated at US\$10,000, will be used to develop detailed site plans for the demonstration sites selected for project activities as a means of providing a framework for integrated land and water management, with the view of more effectively managing biodiversity resources.

1. (c) **Rehabilitation of Range and Degraded Lands:** Estimated cost US\$110,000.

The Rehabilitation of range and degraded lands will be done through a number of techniques including reseeding using suitable perennial grasses, (e.g. *Cymbopogon species*), revegetation etc. Suitable fodder trees and shrubs will be planted to supply feeding material for livestock, improve vegetation cover and soil fertility regeneration of perennial grasses and enriched planting with perennial grasses. These areas will also act as bulking units for harvesting seed of range grasses. Zero grazing will be promoted to encourage farmers to establish napier and fodder areas. Farmers will be taught how to manage and conserve high yielding pastures and fodder to reduce pressure in the resource base through overgrazing. In areas that are highly degraded, particularly in steep catchment slopes, suitable afforestation and agro-forestry systems will be established together with local communities. The baseline cost for this activity is estimated at US\$30,000. The GEF Alternative estimated at US\$80,000, will be used to expand demonstration areas to further increase biomass production on management lands, so as to reduce the pressure on the ecosystem as a whole.

1. (d) **Promote soil and water conservation and harvesting techniques.**

Estimated cost: US\$60,000.

The main objective of this activity is to minimise soil loss and improve soil productivity in the catchment areas while increasing and sustaining the use of the land for agriculture. The strategy will be to integrate soil and water conservation methods on crop and grazing lands. Suitable soil and water conservation measures will be implemented, building on indigenous knowledge. A range of agronomic and vegetation measures, including cropping and tillage practices, contour farming techniques and the planting of grasses and agroforestry practices will be employed. Activities will also focus on spring protection and improvements in order to protect and sustainably use viable springs within the catchment, particularly in areas where piped water may not have reached the community. Water harvesting techniques, such as roof catchment methods, will be implemented on a demonstrational basis. To achieve this objective the current soil and water conservation catchment approach will be employed. This will entail the establishment of catchment committees chosen by the stakeholders themselves. The baseline cost for this activity is estimated at US\$20,000 and the GEF incremental cost at US\$40,000.

1.(e) **Upgrading Management and technical Capability of Stakeholders:** Estimated cost US\$15,000.

The upgrading of the technical and manageable capability of stakeholders in the importance of integrated land and water management will be the key aspects of the overall project. Maximum use will be made of the training institutions in the project area like the Kenya Forestry Research Institute (KEFRI) and the Kenya Agricultural Research Institute (KARI) and the Kenya Marine and Fisheries Research Institute (KEMFRI) Skills development will take a number of farms including field demonstrations; seminars; workshops etc; as well as actual implementation of proven land and water conservation techniques. The baseline for this activity is estimated at US\$5,000 and the GEF incremental cost at US\$10,000.

2.(a) **Establishment of community-based wildlife management and demonstrations.**

Estimated cost US\$ 70,000.

This activity aims to develop and manage wildlife through the establishment of community based initiatives. It is anticipated that this activity while ensuring the sustainable use of wildlife resources will stimulate tourism by promoting and establishing based tourist attractions. This activity will be implemented in close collaboration with

the Kenya Wildlife Service (KWS) so as to benefit from its experience in facilitating the establishment of community based wildlife management programmes and wildlife sanctuaries in other parts of Kenya. This activity will assist in reducing the conflicts which currently exist between human, livestock and wildlife, particularly around the lakes. The baseline for this activity is estimated at US\$20,000 and the GEF Alternative at US\$50,000.

**2.(b) Improved Sustainable Use of the lakes.** Estimated cost US\$45,000.

This activity aims to develop activities which will result in the sustainable use of the lake resources. This activity will have three main components; namely the use of the lake resources for tourism; gene bank development through the preservation of important biological species of the Baringo region and the assessment and monitoring of fish breeding grounds to better determine the impacts from pollution, deforestation and inappropriate farming practices. This activity will build on the experiences of the Kenya Marine and Fisheries Research Institute (KMFRI), Baringo Research Centre in formulating activities in collaboration with the community aimed at exploiting the lake resources sustainably. The baseline cost for this activity is estimated at US\$10,000 and the GEF alternative at US\$45,000.

**3.(a) Undertake Participatory Rural Appraisal (PRA) and Socio-Economic Survey (SES).** Estimated Cost US\$45,000.

Appropriate technical personnel will be contracted to undertake the Participatory Rural Appraisal (PRA) and Socio-Economic Survey (SES). The PRA/SES will be an integrated part of the project since it will identify the specific sites for project intervention; identify the stakeholders in the particular pilot area and facilitate the formation of catchment and other resource based committees as may be necessary, preparation of action plans for development of income-generating activities based upon natural resources, and participatory monitoring and evaluation systems to assess project impacts and performance. The PRA will provide the opportunity to all members of the community to offer their views regarding soil, water and afforestation among other local problems. Communities will elect their own catchment committee to co-ordinate conservation work among members of the community. Participatory Planning of activities to be undertaken in the conservation pilot area, will include securing of agreements on boundaries where different activities will take place, obtaining operational premises and determining needed infrastructure and equipment, and initiating procurement activities. The SES will



assist in the analysis of the socio-economic status of the communities including their social stratification to ensure that customs and traditions are taken into consideration in the design and implementation of project activities. The baseline cost for this activity is estimated at US\$10,000, the GEF incremental cost at US\$35,000.

3. (b) **Identification and establishment of Alternative Sources of Livelihood.** Estimated Cost US\$65,000.

The ultimate goal of this activity will be the establishment of socio-economic benefits to the communities as a means of reducing pressure on the ecosystem as a whole and biodiversity in particular. This activity will therefore, assist stakeholders in identifying and establishing alternative sources of livelihoods. Particular emphasis will be placed on women, who are the main managers of natural resources in Baringo. A number of alternative sources will be explored including, agro-forestry, particularly as a provider of fuel wood, food and raw materials for industrial purposes; modern bee-keeping practices through the introduction of modern hives and training; honey processing and handicraft and cottage industries. The baseline cost for this activity is estimated at US\$10,000 and the GEF alternative at US\$55,000.

3. (c) **Upgrade Resource Management Extension Programmes.** Estimated Cost US\$40,000. Resource management programmes oriented towards sustainable use of natural resources, the diversification of agriculture, pasture management, management of water resources and management of wildlife, transformation of products, small business administration and marketing of agricultural products will be formulated and implemented. This activity will provide resource users with the additional technical knowledge that will help them improve the sustainability of existing and new productive activities. The baseline cost for this activity is estimated at US\$30,000 and the GEF Alternative at US\$10,000.

3. (d) **Strengthen Capacity of the Policy Group, Local Authorities NGOs and Local Communities to Undertake Integrated Resource Management.** Estimated Cost US\$25,000.

This activity will have two main components. Creating greater awareness among the stakeholders on integrated land and water management and strengthening existing community groups including women groups, youth groups and community catchment,

water and land conservation committees. With respect to the former, being aware of environmental issues is the first step towards providing solutions to safeguard the environment. A number of methods and approaches will be employed including seminars, field demonstration sessions etc. With respect to the latter, resources will be invested in community groups, particularly women groups, community based committees, schools; 4K Clubs and Environmental Education Clubs to ensure they have the capacity to undertake project activities. The baseline cost is estimated at US\$10,000 and the GEF alternative at US\$15,000.

4. (a) **Adopt efficient and sustainable financial management.** Estimated cost US\$20,000. This activity aims to establish mechanisms for efficient and sustainable financial management in support of project related activities. The baseline cost for this activity is estimated at US\$5,000 and the GEF Alternative at US\$15,000.

4. (b) **Increase from tourism potential and other activities particularly non-tourism utilisation.** Estimated cost US\$20,000. This activity will be designed to support the income generating activities of the project such as alternative sources of livelihood and community based wildlife facilities. Emphasis will be placed on the development of marketing skills and outlets for natural resource products including tourism resources. The GEF alternative for this activity is estimated at US\$15,000.

4. (c) **Establish financial scheme to support natural resource based rural enterprises.** Estimated cost US\$50,000  
Inaccessibility to credit is a major constraint in the Baringo district. Gender bias on the acquisition of credit is also evident because most women do not have rights of property ownership. To address this situation and to support local investment in conservation and wildlife protection activities a small Natural Resource Rural Enterprise Revolving Fund will be established to support natural resources rural enterprises in the project area. This activity will focus primarily on women who are the main resource managers in the district. The baseline financing for this activity will be US\$20,000 and the *GEF incremental* contribution US\$30,000.

4. (d) **Development of Information Packages to Support Project Activities.** Estimated Cost: US\$20,000.

The lessons learnt through project activities will be synthesized packaged and distributed to other areas for replication. The GEF Alternative for this activity is estimated at US\$15,000.

- 1(e),2(d) 3(f) **Acquisition of necessary equipment.** Estimated Cost US\$90,000. Equipment will be required to facilitate the implementation of activities in Outputs 1-3. The type of equipment will vary according to the activities being undertaken. For example, in the case of 1(b) equipment such as fencing materials will be required for the demonstration site as well as equipment for harvesting the fodder, whereas in 3(b) the focus will be on equipment to support alternative livelihoods (e.g. bee hives etc.) . The baseline cost for this set of activities is estimated at US\$30,000. The GEF alternative for this group of activities is estimated at US\$60,000.

37. All the project activities will be supported with training and upgrading of skills in integrated land and water conservation and small enterprises development. The target population for capacity building and training will focus not only on the stakeholders at the community level but also the government technical services, such as the District Development Officer; Rural Programme Officer, Water Engineers, Agriculture and Forestry Officers etc. Local capacity building efforts will also include the formulation of community conservation and catchment committees and actions to strengthen the local authorities and NGOs.

## **SUSTAINABILITY ANALYSIS AND RISK ASSESSMENT**

### **Long term Sustainability:**

38. The results and activities proposed by the project are directly related to the long term sustainability of conservation in this area based on the appropriate management of the natural resources of the area by the local people themselves and whose livelihood is most immediately affected by continued degradation. The participatory nature of the activities ensures that there is ownership of the project by the people. The local training of the people in natural resources management and financial management will also ensure that long term availability of the local management capacity is always there.

### Risk Factors

39. The greatest risk factor will be associated with failure of the central government to provide the external support services in the sectors that need it like marketing and necessary infrastructure like major roads. The other risk would arise from lack of security which would hamper the arrival of tourists to the lake.

### STAKEHOLDER INVOLVEMENT AND SOCIAL ASSESSMENT

40. In Baringo District, and more specifically in the catchments of Lake Baringo, Bogoria and Kamnarock, a wide variety of stakeholders have interests in land, biodiversity fisheries and water resources. These stakeholders include pastoralists, farmers; women who play multiple roles land, water, forest managers, and their organisations; fisherfolk; various resources users such as wood cutters and charcoal makers' non-governmental organisations; community based organisations and youth groups; government technical specialists; the government administration both at the district and central government levels and technical research institutes.
41. The project activities should *directly benefit* the above stakeholders, in particular women and youth. It is estimated that the project will directly reach approximately 20,000 persons throughout the project area. The activities undertaken as part of the project will lead to improved rural incomes; improved natural and resource management and more sustainable use of biodiversity resources. Stakeholders will also benefit from increased training in natural resource management skills; technology transfer and development of skills, particularly in managing rural enterprises.
42. The project is based upon *participatory community based approaches to improve integrated land and water management in Lake Baringo and environs*. Without the active participation of local groups and communities and NGOs, the project will not succeed. The various stakeholders will be involved in all aspects of project design, implementation, monitoring and evaluation.
43. *Project preparation* included consultations and site visits with local community groups, NGOs, farmers, Youth and technical officials and local government officials. A stakeholder

workshop was convened to provide stakeholders with the opportunity to identify the activities to be undertaken as part of the project as well as to ensure that their views were adequately reflected in the project document.

44. 33. The project will be *coordinated* by the District Planning Unit and executed by a number of community groups, NGOs and Research Institutes in the Baringo area, supported by government technicians and officials. A participatory monitoring and evaluation system based upon community catchment, water and conservation committees will be put in place, to ensure the effective involvement of the local community in project activities, and contribute to the overall project decision-making.
45. The project will maximise the range of expertise which already exist in the Baringo districts such as the technical government departments; and research and training institutions. Annex III provides more detailed information on the range of stakeholder and their organisations which will be involved in project implementation activities.

## FINANCIAL PLAN AND INCREMENTAL COST ASSESSMENT

### *Baseline:*

46. The baseline condition is continued degradation of the catchment areas in Lake Baringo, Bogoria and Kapnorok. Major changes are therefore required in the current approaches to land and water management in the area. Constraints to these change include lack of application of sustainable land and water management systems; inadequate awareness and training in integrated land and water management skills; lack of economic alternatives and inappropriate land resource tenure systems. The result is continuing biodiversity loss and the decreasing productivity of the lake systems in the Baringo District.
47. Baseline activities include:
- Core natural resources management activities
    - Protection of wildlife habitats in land and water
  - Strengthen and support community conservation initiatives
  - Improve long-term viability of pilot activities and information dissemination
- More details concerning baseline activities are given on page 16 paragraph 26-31.

**Global Environmental Objective:**

48. The global environmental objective is to move from ecosystem destruction and biodiversity loss due to land degradation to integrated land and water management and biodiversity conservation. These objectives will be addressed through a combination of capacity building and the establishment of demonstration sites for developing different models of land and water management by the local population for replication in similar surrounding areas. Community participatory resource management and training will result not only in improved land and water management but will also facilitate the development of alternative livelihoods as a means of reducing resource pressure. The global environmental benefit of this goal can be valued in terms of the globally significant biodiversity conserved and habitat restored.

**The GEF Alternative:**

49. The GEF Alternative will directly enhance biodiversity conservation while developing the capacity of the stakeholder to adopt sustainable and integrated land and water management approaches. This will be achieved by:

- Core Natural Resources Management Activities
- Protection of wildlife Habitats on Land and Water
- Support of Community Conservation Initiatives
- Improve Long term Viability of Pilot activities and Information Dissemination

**Expected Benefit:****Global:**

The project is expected to:

- Contribute to the protection of globally significant biodiversity as a consequence of improved land and water management in the Baringo Catchment area.
- Habitats supporting globally significant biodiversity resources improved, and sustainably managed.
- Catchment and habitat improvement.

Increase understanding of the value of habitat protection to sustainable natural resource management.

- Create replicable approaches for community based conservation.

**National/Local:**

The project fits with the Government of Kenya policy and objectives:

- It is the policy of the GOK to protect threatened species and habitats, particularly in arid and semi-arid regions.
- Productivity of degraded lands improved as well as the socio-economic conditions of the stakeholders.
- Increase awareness of integrated land and water management and its implications for resource utilisation.

**PROJECT BUDGET**

**Table 2 Total Costs Per Output (GEF Increment Costs only) US\$ millions)**

<b>Component</b>	<b>Total</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 1/2</b>
1. Core Natural Resources Management Activities	180,000	60,000	100,000	20,000
2. Protection of Wildlife Habitats on Land and Water	110,000	50,000	40,000	20,000
3. Support of Community Conservation Initiatives	135,000	60,000	75,000	20,000
4. Improve Long term Viability of Pilot Activities and Information Dissemination	75,000	30,000	30,000	15,000
Monitoring & Evaluation	10,000	5,000		5,000
Project Management	150,000	60,000	60,000	30,000
Equipment, Maintenance and Service	64,000	45,000	14,000	5,000
Administration Overheads	26,000	10,000	10,000	6,000
<b>Total</b>	<b>750,000</b>	<b>320,000</b>	<b>329,000</b>	<b>121,000</b>

**Table 2: Financial Plan and Incremental Costs Analysis**

	BASELINE SCENARIO US\$			PROPOSED ALTERNATIVE US\$	INCREMENT US\$
	GOK	COMMUNITY GROUPS NGOs AND OTHERS	TOTAL	TOTAL	INCREMENT REQUESTED OF GEF
1. Core Natural Resources Management Activities	70,000	24,000	94,000	284,000	190,000
2. Protection of Wildlife Habitats in Land and Water	33,000	12,000	45,000	155,000	110,000
3. Strengthen and Support Community Conservation Initiatives	50,000	25,000	75,000	210,000	135,000
4. Improve Long term Viability of Pilot Activities and Information Dissemination	24,000	9,000	35,000	110,000	75,000
Monitoring & Evaluation	-			10,000	10,000
Project Management	45,000		45,000	195,000	150,000
Equipment, Maintenance and Service	10,000		16,000	74,000	64,000
Administration Overheads				26,000	26,000
<b>Total</b>					<b>750,000</b>

**IMPLEMENTATION PLAN AND TIMETABLE.**

50. The project will be implemented by the Baringo District Council in collaboration with local community groups such as Women and Youth Groups; farmers and NGOs. A small project office within the District Project Management Unit will be established from project resources to execute the project. Policy and Technical inputs will be provided through the Steering Committee which has been established to support the implementation of this project. This committee comprises of representation from government organizations, both technical and policy as well as representation from the main stakeholder groups (e.g. NGOs; Women and Youth Groups etc.). Project activities will be executed in close collaboration with UNICEF.



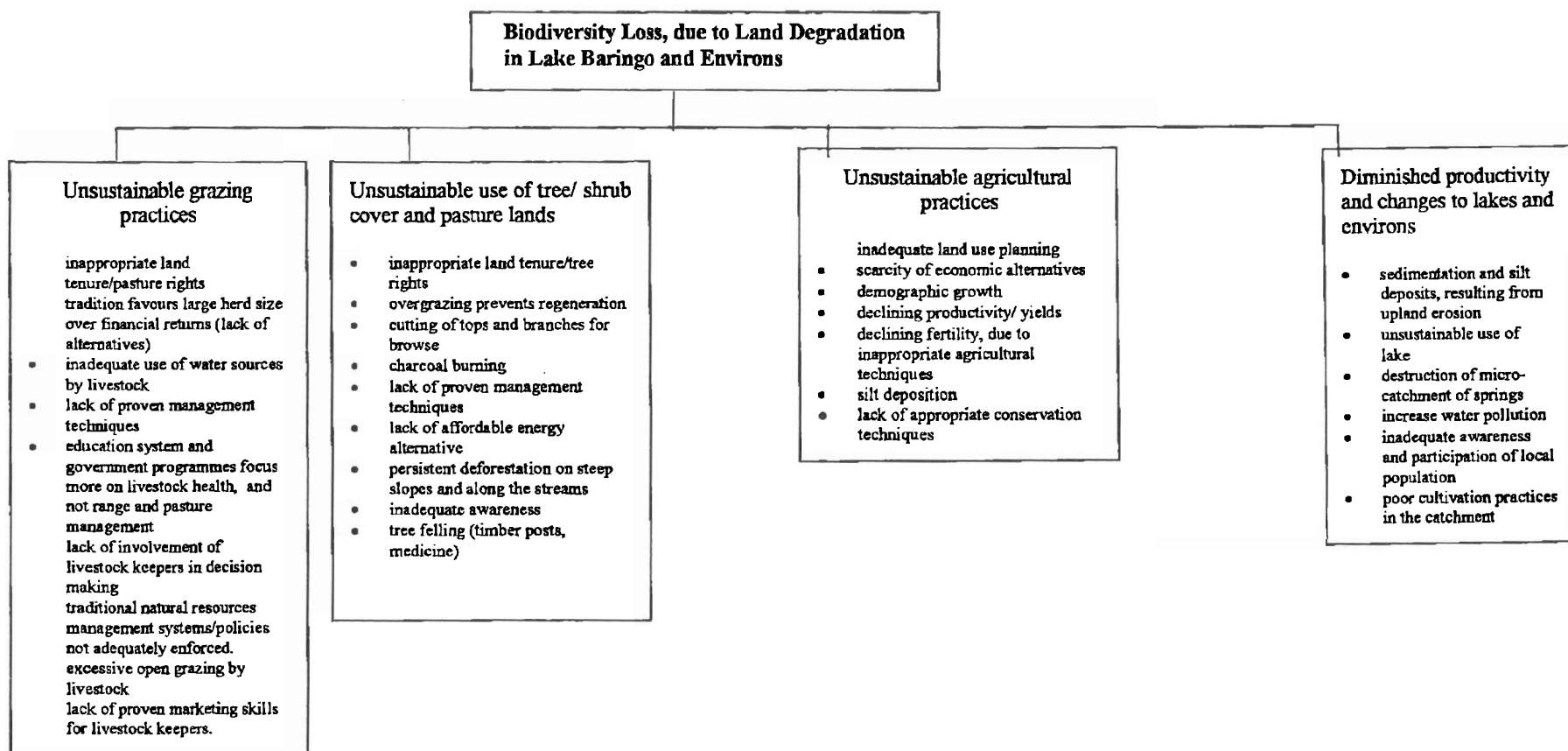
51. At the community level, community groups (e.g. community catchment, water resources and conservation committees) will be formed to implement and oversee various activities. These committees will be selected by the stakeholders themselves and will develop the necessary protocols, consistent with the project objectives, to ensure effective implementation of project activities. A detailed Implementation Schedule of Project activities is contained in Annex V.

## MONITORING AND EVALUATION

52. A Monitoring and Evaluation programme will be an important part of the project. Two types of monitoring and evaluation systems will be used, namely formal and informal. A Participatory Rural Appraisal and Socio-Economic Survey at the commencement of the project; a mid year formal review.
53. The ongoing process of monitoring and evaluation at the informal level will be provided by the various groups and committees established to co-ordinate and oversee project activities. The informal process of stakeholder feed back will commence with the PRA and SES during which the specific pilot site will be established, the social stratification of communities determined and community resource group (catchment committees) formed. This project indicators as outlined in the project document by the logical framework will guide the type of reporting required.
54. Six monthly reports will be prepared by the Project Co-ordinator to be transmitted to the Implementing Agency. The reports will provide the status of the implementation of project activities, constraints or obstacles impacting on those activities.

## Annex 1

### FACTORS CONTRIBUTING TO BIODIVERSITY LOSS IN LAKE BARINGO AND ENVIRONS



## Annex II

### Stakeholder Involvement in Different Phases of the Project

Project Involvement	Community Groups					Government Departments							
	F	YF	WG	YG	NGOs	MOA	KWS	DPMU	CCB	FD <sub>1</sub>	WD	FD	CSS
PREPARATION													
IMPLEMENTATION													
<b>1. Core Natural Resources Management Activities</b>													
(a) Identifying viable techniques and setting up demonstrations sites.	+++	+++	+++	++	++	++	++	++++	++	++	++	++	
(b) Upgrading of land use management plans.	+++	+++	+++	+++	++	+++	+++	+++	+++	++	++	++	
(c) Rehabilitation of range and Degraded lands	+++	+++	+++	++	++	+++	+	++	++	+++	++		
(d) Promote soil and water Conservation techniques	++++	+++	+++	++	++	++++		+++	+	+++	+++	++	
(e) Acquire necessary equipment.								++++					
(f) Upgrade management and technical capabilities of stakeholders.	++++	++++	++++	++++	+++	+++	++	+++	++	++	++	++	
<b>2. Protection of Wildlife Habitats on Land and Water</b>													
(a) Establishment of community-based wildlife management and demonstrations.	++	++	+++	++++		++	++++	++	+++	++	++	++	
(b) Improved of sustainable use of the lakes.	+++	+++	+++	+++	+++	++	++	++++	+++	++	+++	+++	
(c) Upgrade management and technical training.	++++	++++	++++	++++	+++	+++	++	+++	++	++	++	++	

Project Involvement	Community Groups						Government Departments						
	F	YF	WG	YG	NGOs	MOA	KWS	DPMU	CCB	FD <sub>1</sub>	WD	FD	CSS
<b>3. Support of Community Conservation Initiatives</b>													
Identify and the establishment of alternative sources of livelihood	+++	+++	+++	++++	+++	+++	+++	+++	++	+++	+++	+++	+++
(a) Undertake Participatory Rural Assessment.	+++	+++	+++	+++	+++	++	+++	+++	++	++	++	++	++
(b) Upgrade Resource Management Extension Programmes (rain grass Root officers from community Leaders)	+++	+++	+++	+++	+++	+++	+++	+++	++	+++	+++	++	+++
(c) Strengthen capacity of local Authorities/NGOs/local Communities to undertake integrated Resource management.	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++
(e) Training of stakeholders.	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++
(f) Acquire necessary equipment.									++++				
(E) Increased community support operations.	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++
<b>4. Improve LongTerm Viability of Pilot Activities</b>													
(a) Adopt efficient and sustainable financial management.	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++
(b) Increase returns from tourism potential.	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++
(c) Increase returns from other activities particularly non-tourism wildlife													
(f) Establish financial scheme to support natural resource based rural enterprises.					++		+	++++	+				

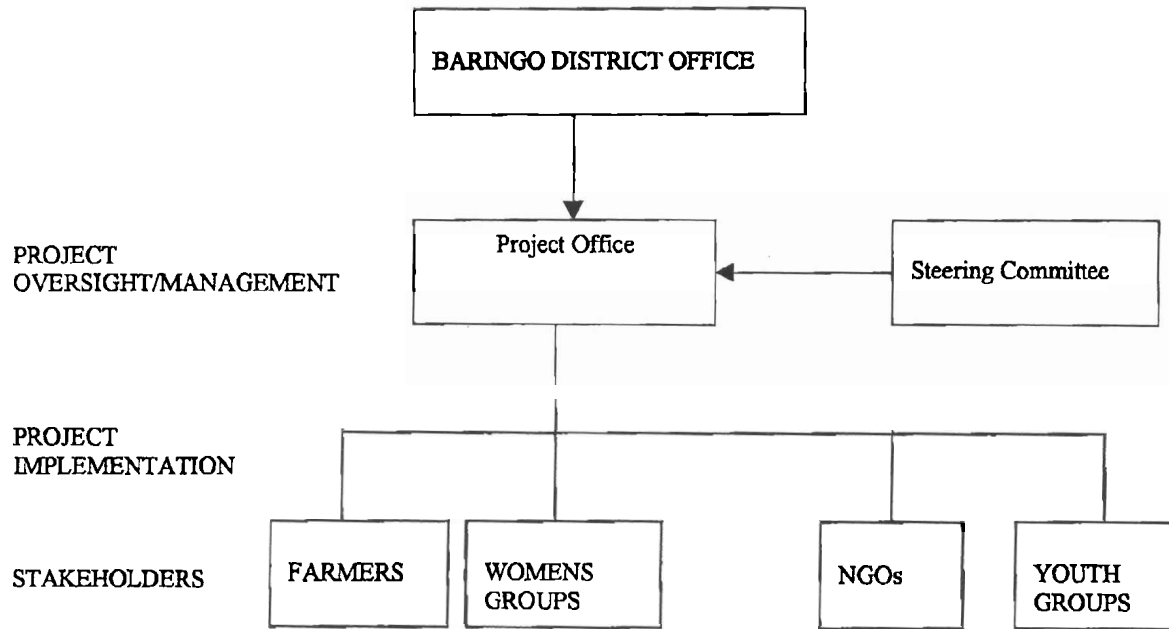
**Legend:**  
 F = Farmers  
 YF = Young Farmers  
 WG = Womens Groups Leaders  
 YG = Youth Groups including 4 K Club member  
 NGOs = NGOs  
 ++++++ Indicates intensity of involvement

MOA = Ministry of Agriculture/Livestock  
 KWS = Kenya Wildlife Services  
 DPMU = District and Project Management Unit  
 FD<sub>1</sub> = Forest Department  
 WD = Water Department

FD<sub>2</sub> = Fisheries Department  
 CCB = County Council of Baringo  
 CSS = Culture and Social Services

**Annex 1V**

**INSTITUTIONAL STRUCTURE FOR PROJECT IMPLEMENTATION**



**Annex IV: Detailed Budget by Activity**

Components/Outcomes	Outputs	Activities	Increment	Baseline	Total
COMPONENT 1 CORE NATURAL RESOURCES MANAGEMENT ACTIVITIES		(a) Identifying viable techniques and setting up demonstrations sites. (b) Upgrading of land use management plans. (c) Rehabilitation of range and degraded lands. (d) Promote soil and water conservation and water harvesting techniques. (e) Acquire necessary equipment. (f) Upgrade management and technical capabilities of stakeholders.	5,000 10,000 80,000 40,000 45,000 10,000	4,000 25,000 30,000 20,000 10,000 5,000	9,000 35,000 110,000 60,000 55,000 15,000
Outcome 1. (a) Enhanced collaboration between local authorities, communities and NGOs; creation of awareness of environmental problems among local stakeholders; empowerment of local communities to directly deal with integrated land and water management issues.	•Adoption and application of integrated land and water management techniques. •Improved land and water management				
			190,000	94,000	284,000
COMPONENT 2 PROTECTION OF WILDLIFE HABITATS ON LAND AND WATER		(a) Establishment of community-based wildlife management and demonstrations. (b) Improved sustainable use of the lakes. (c) Upgrade management and technical training. (d) Acquire necessary equipment	50,000 35,000 15,000 15,000	20,000 10,000 5,000 10,000	70,000 45,000 15,000 25,000
Outcome 2. (a) Protection of endangered habitats of both grazing herbivores and migratory water fowl will be made more effective and efficient, enabling the communities to manage these resources effectively.	•Wildlife Conservation activities enhanced. •Protection of biodiversity assured.				
			110,000	45,000	155,000
COMPONENT 3 SUPPORT OF COMMUNITY CONSERVATION INITIATIVES		(a) Undertake Participatory Rural Appraisal and socio-economic survey. (b) The establishment of alternative sources of livelihood, increased community support operations. (c) Upgrade Resource Management Extension Programmes. (d) Strengthen capacity of the policy group, local authorities/NGOs/local communities to undertake integrated resource management . (e) Training of stakeholders. (f) Acquire necessary equipment.	35,000 55,000 10,000 15,000 10,000 10,000	10,000 10,000 30,000 10,000 5,000 10,000	45,000 65,000 40,000 25,000 15,000 20,000
(a) Government capacity to support community based conservation initiatives will be enhanced as well as the technical capacity of local authorities to support community based enterprises will be strengthened, particularly in the areas of business planning and financing.	•Increase economic opportunities and reduction of pressure on existing resources.				
			135,000	75,000	210,000

Component/Outcomes	Outputs	Activities	Increment	Baseline	Total
COMPONENT 4 IMPROVE LONG TERM VIABILITY OF PILOT ACTIVITIES AND INFORMATION DISSEMINATION Outcome 4 (a) The financial viability of NGOs and community groups in the area will be improved, making them more sustainable in the long-term and ensuring the long term continuation of the conservation benefits they provide	•Improved management of community activities.	(a) Adopt efficient and sustainable financial management. (b) Increase returns from tourism potential and other activities particularly non-tourism wildlife utilization. (c) Establish financial scheme to support natural resource based rural enterprises (d) Development of Information packages/support of project activities.	15,000 15,000 30,000 15,000	5,000 5,000 20,000 5,000	20,000 25,000 50,000 20,000
			75,000	35,000	110,000
PROJECT MANAGEMENT/ADMINISTRATION  • Project Management	• Project Co- ordinating Unit established and managed.	Project Management/Supervision	150,000	45,000	195,000
EQUIPMENT, MAINTENANCE AND SERVICES			64,000	10,000	74,000
MONITORING AND EVALUATION		Independent Monitoring and Evaluation	10,000		10,000
Project Administration			20,000		
<b>PROJECT TOTAL</b>			<b>750,000</b>	<b>294,000</b>	<b>1,044,000</b>

Annex V

IMPLEMENTATION SCHEDULE

The project is proposed to be implemented for 30 months from October 1999 to 2002

ACTIVITY	1999			2000			2001			2002									
	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	
<b>1. Core Natural Resources Management Activities</b>																			
(a) Identifying viable techniques and setting up demonstrations sites.																			
(b) Upgrading of land use management plans																			
(c) Rehabilitation of range and degraded lands.																			
(d) Promote soil conservation and water conservation and harvesting techniques.																			
(e) Acquire necessary equipment.																			
(f) Upgrade management and technical capabilities of stakeholders.																			
<b>2. Protection of Wildlife habitats on land and water</b>																			
(a) Establishment of community-based wildlife Management and demonstrations.																			
(b) Improved sustainable use of the lakes.																			
(c) Upgrade management and technical training																			
(d) Acquire necessary equipment.																			
<b>3. Support of Community Conservation Initiatives.</b>																			
(a) Identify and the establishment of alternative sources of livelihood. And increased community support operations																			
(b) Undertake Participatory Rural Assessment.																			
(c) Upgrade Resource Management Extension Programmes																			





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## MINISTRY OF ENVIRONMENTAL CONSERVATION

ccc

Telephone: Nairobi 243088

When replying please quote

Ref. No. . . NES/CONF/07 VOL V  
and dateBRUCE HOUSE  
STANDARD STREET  
P.O. Box 67829  
NAIROBI

....., 19.....

10<sup>th</sup> August 1999UNEP/GEF Coordination Office  
P.O Box 30552  
NAIROBIAttn: Mark Griffith  
UNEP/GEF Focal  
Point on Land Degradation**RE: ENDORSEMENT LETTER FOR THE LAKE BARINGO  
COMMUNITY BASED INTEGRATED LAND AND WATER  
MANAGEMENT PROJECT**

This is further to our letter NES/CONF/07 VOL. V of and August 1999 and the fax message from the District Environmental Conservation Officer Baringo, to you dated 5<sup>th</sup> August 1999 regarding endorsement of the above mentioned project by the National Operational Focal Point.

The Operational Focal Point fully endorses the proposal for consideration for GEF funding. Taking into account the advice from the District Environmental Conservation Officer Baringo, the overall Government Executing Agency will be the Baringo District Planning Unit.

A handwritten signature in dark ink, appearing to be 'B.O. K'Omudho'.

B.O. K'Omudho

DIRECTOR, NATIONAL ENVIRONMENT SECRETARIAT  
FOR: PERMANENT SECRETARY