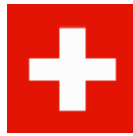


## **The Ramsar Convention's Swiss Grant for Africa**



### **Swiss Grant for Africa - Report for 2000**

The Swiss Grant for Africa is a generous voluntary contribution offered annually to the Ramsar Convention Bureau by the Federal Government of Switzerland, over and above the annual contribution provided to the Convention's core budget, in order to support wetland conservation and wise use and the implementation of the Convention in Africa. This annual contribution dates back to 1989 following the establishment of the Convention secretariat in Switzerland in 1988.

The Swiss Grant is extremely useful in financing suitable emergency action or specific activities in needy areas of wetland conservation and wise use. This contribution is also particularly helpful in promoting the Convention in the region.

#### **Report of the activities and funding disbursements from the Swiss Grant for Africa 2000**

Total budget allocation SFR 140,000

The 2000 Grant has been used to support 4 major actions

1. **Continuation of the work on the formulation of an integrated management plan for the Okavango Delta in Botswana.**
2. **Formulation of a management plan for the Manambolomaty Ramsar Site in Madagascar.**
3. **Coordinating mechanisms for a joint implementation of environment-related conventions.**
4. **Communication capacity in Sierra Leone**

Progress and achievements

#### **1. Botswana: Development of a management plan for the Okavango Delta System.**

Disbursed budget in 1999: SFR 40,000; in 2000 SFR15,000

#### **Summary**

## **Justification of the project**

One of the important considerations regarding planning and management of the natural resources in the Okavango Delta is the fact that there are already a large number of site-specific land use and management plans in place, covering most of the area. In addition to these site-specific plans, there are broader planning documents, which provide planning guidelines. The Tawana Land Board and the Department of Wildlife and National Parks have approved management prescriptions for most of the core area of the Delta, and many of the Controlled Hunting Areas administered by communities are subject to community management plans and technical operation plans. The Pan Handle (where the Okavango river enters the delta system) and a few areas set aside for community management have no overall plan yet, but these plans are under discussion

However, what is still lacking is an overarching plan for the whole area, as called for in the Ramsar Convention, and this is the main goal of the project. The overall management plan has to integrate the existing land use plans, and take into consideration existing, land use planning guidelines and regulations, such as veterinary control measures and fences, agricultural production zones, health and social service plans and physical infrastructure. Such an overall planning framework should provide management prescriptions for a number of scenarios.

One fundamental aspect that is lacking for the development of such a strategic ecosystem management plan is a comprehensive biodiversity assessment of the area, including flora and other forms of life, and research on the resilience of biota to changes in water availability and quality. Related to this is the need for more specific research about key and indicator species, including the threat of introduction of alien and invasive species

Another key issue that has been identified as a requirement for developing the overall plan is a reliable model of the flow distribution pattern in the Okavango Delta. Although models have been developed in the past, a more detailed assessment is needed, and models have to be tested to determine the flow pattern under different climatic and seasonal conditions. The other key aspect of this is to determine the impacts from upstream water abstraction on the flow regime of the delta, which will empower the Government of Botswana in its discussions and negotiations in the OKACOM.

In order to determine the macro-economic effect of any water diversion from the area, or any long-term modifications of the recharge, it is important to determine the real values of the Okavango wetlands ecosystem, its functions and the goods and services it provides. An economic valuation of the Ramsar site is therefore called for.

As tourism is the key economic driver for the area, and a major source of income for both the District and the Nation, it is important to have clear and comprehensive management prescriptions for the development of this sector. The tourism and hunting concessions within the core Ramsar area (WMA) are well managed and, considered to be at optimal rates of use leaving little scope for further expansion. However, there are areas that do not yet have a proper site management plan, and there is need for overall clearer environmental guidelines and control.

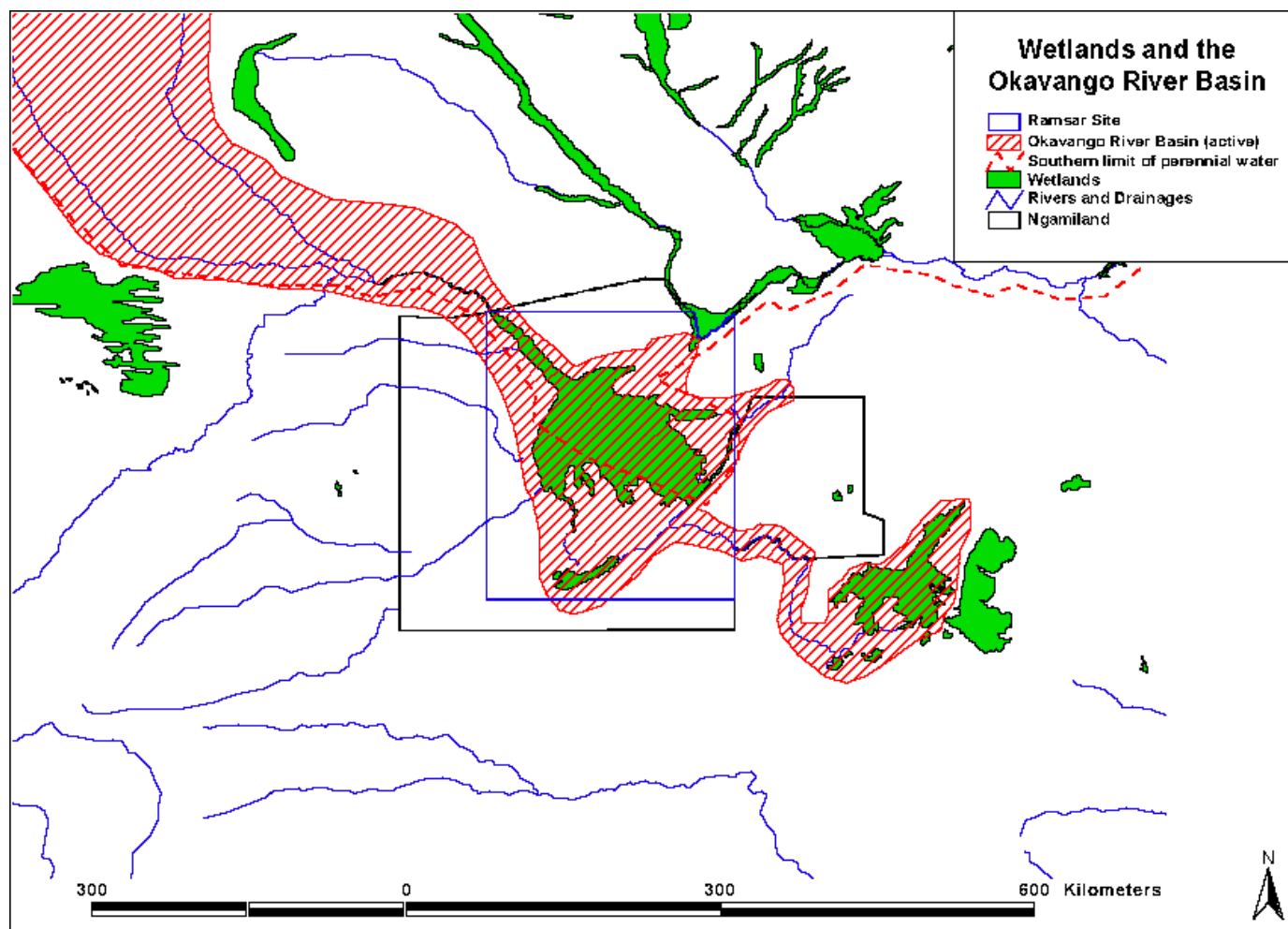
In order to ensure stakeholder commitment in planning and management, there is need for consultation, community participation and local livelihood support. This will, in particular include close liaison with an extended Ngamiland district CBNRM Forum, with DLUPU and the Tawana Land Board.

One problem recognised by many stakeholders is the fact that information is scattered, formats are not standardised and many data are not accessible. It is proposed that a data and information management and storage centre be established for the management plan of the Delta, which will become the reference centre for all information about the Ramsar Site.

Finally, there is need for raising awareness about wetlands values, there is a requirement to publish research results and project information, and it is important to improve communication between all interest groups.

The National Conservation Strategy (coordinating) Agency (NCSA) is responsible for ensuring that a management plan be developed and devised a three phased approach to developing the plan; Phase I; Design Mission; Phase II Analytical Mission; and Phase III Implementation Mission. The Ramsar bureau provided subsequently funding to NCSA thanks to the Swiss financial assistance for the design mission, with the main objective "to prepare a detailed proposal for the development of a management plan for the Okavango Delta "

**Figure 2: Location of the Okavango Delta System Ramsar site**



The analysis and the first draft of the Design Mission Report provides a brief outline of the sectors, highlights issues, identifies underlying causes of the issues and generates the basic groupings of issues into components. A logical framework has been drawn up to identify activities, outputs and indicators for each component of the management plan. Institutional requirements, budget and schedule are also presented.

### **Background information: Objectives of the Design Mission**

The objectives of the Design Mission have been defined in the ToR:

"Provide a detailed proposal for the development of a management plan for the Okavango Delta Ramsar Site" (ToR for the Design Mission – April 15 1999).

In addition to the objective for the Design Mission, the project purpose for Phase 2 will be defined in the Design Mission report.

The aims of the Phase 1 output are to design ToR, which match the major issues identified that need to be addressed by the Okavango Delta Management plan, highlight the necessary activities to tackle the issues and provide an estimate of fund requirements for the plan.

## **Approach**

The planning guidelines of the Ramsar Convention and the principles laid down in the draft wetland policy guided the team in coming up with a vision, principles and the overall objective of the Okavango Delta Management Plan. In two reference group meetings called by NCSA the objectives, the approach and the vision of the plan were discussed and supported.

Prior to the finalisation of the terms of reference a Stakeholder Workshop will be held in Maun from 21-22 February to verify the selection of issues, the aims and objectives of the plan, the terms of reference for each component and the approach planned. The Ramsar Bureau will be represented in this workshop by the Regional Coordinator for Africa.

The workshop will certainly modify and improve the draft results. The Stakeholder Workshop should also be used to help define the expected structure of the management plan (including stakeholder participation in the institutions developing the plan). After receiving comments from the Reference Group and the stakeholders the Design Mission Report will be finalised and submitted to the National Conservation Strategy (coordinating) Agency (NCSA).

## **Major findings: Situation analysis**

### **Environmental status**

The Okavango Delta, an inland delta, forms the core of the largest Wetland of International Importance protected as a Ramsar site. The site, which also includes the Kwando/Linyanti river system, is located entirely within Ngamiland District in a semi arid region and experiences large variations in flooding of permanent, seasonal and intermittently flooded areas. Annual inflow ranges from 7,000 to 15,000 million cubic metres and variations in flow have a profound effect on ecological processes such as sedimentation and water distribution. Approximately 97% of the inflow is lost to evaporation and seepage to groundwater leaving only about 3% to flow downstream towards the Makgadikgadi Pans (proposed as a Ramsar site).

The system is important for terrestrial and waterbird species with 650 birds species identified. Two resident species, the Wattled Crane (*Burgeranus carunculatus*) and the Slaty Egret (*Egretta vinaceigula*), are globally threatened. The Delta contains high densities of large mammal species particularly elephant. It is also the habitat of one of the largest remaining populations of the

African wild dog (*Lycaon pictus*) and is a stronghold for the Sitatunga antelope (*Tragelaphus spekei*) and the Nile crocodile. There is a high diversity of vegetation with 208 aquatic and semi-aquatic species, 675 herbs and grasses and 195 woody species. One endemic has been identified, the ground orchid (*Habenaria pasmithii*). A number of other plant species have been identified as rare or endangered in the ecological zoning study carried out in 1990.

Approximately 7% of the area falls within the Moremi Game Reserve and is protected under the 1992 National Parks Act, a further 65% is protected under the same Act as a Wildlife Management Area and activities are controlled through the WMA Regulations (2000) which allow for both consumptive and non consumptive use of wildlife. The rest of the area (28%) is zoned for agricultural and residential development.

Large parts of Ngamiland's population still depend directly or indirectly on the utilisation of natural resources of the Delta for subsistence. Fishing, hunting, livestock grazing, floodplain cultivation and collection of raw materials for building, fuel, and the production of handicrafts are important factors of the local economy. Arable agriculture is practised in Ngamiland mainly at a subsistence level, as soils and climate are generally not well suited for crop production. At the fringes of the Okavango Delta small-scale flood recession farming is found locally. The grazing resources are generally good in the dry land areas. However the availability of palatable water and the occurrence of tsetse fly close to the Delta restrict the development of the livestock sector. The Okavango Delta itself is a livestock free zone. Due to the outbreak of a cattle lung disease 320 000 cattle had to be culled in Ngamiland in 1996. By now livestock numbers in the planning area have built up again to about 100 000. The outstanding natural beauty and the abundant wildlife resources form the basis of a fast growing tourism industry, which is offering alternative employment opportunities to people in the rural communities of Ngamiland District.

### **Land and natural resource use**

In an arid country like Botswana water is very precious and thus the Delta and its abundant water, vegetation, and wildlife resources has always attracted people. Since 100000 years the Delta and its periphery has been inhabited. However, natural factors like the changes in the flow pattern, outbreaks of epidemic diseases and the spreading of tsetse fly have affected the settlement and land use pattern of the Okavango swamps. Many ethnic groups, like the BaYei, the BaTawana, the HaMbukushu, the OvaHerero and the River San, with different perceptions on land and natural resource utilisation are presently living mainly along the fringes of the Okavango Delta.

### **Land and resource use conflicts**

The increasing demands of the fast growing district population (3.9% per annum), the changes in economic structure and the tremendous expansion of the tourism sector have augmented the pressure on the natural resources of the Okavango Delta and the sustainable level of off take is often disputed. In years of low floods the increased water demand of the district capital Maun could not be met and led to a serious water crisis. The consequences of human induced environmental changes like pollution, alteration in the flow regime and destruction of habitat for rare and endangered species are not monitored and fully understood. Research data on the magnitude of the actual resource off-take, sustainability and reproduction level of the natural resources are not available. For planning of the sustainable use of the natural resources of the Okavango Delta the establishment of carrying capacity guidelines, the setting up of user restrictions and the establishment of zoning recommendations are crucial.

Through the improvement of the rural roads network, even the remote areas of Ngamiland have become more easily accessible and more vulnerable to exploitation. Traditional land rights are often not defined and documented and consequently are not protected. Land use conflicts amongst different user groups are prevalent and need to be addressed.

In the last decade community based natural resource management has been adopted in Botswana as a new development strategy. Several community trusts around the Okavango Delta have been given the authority to manage the wildlife resources of their areas.

A series of constraints have been identified by the different stakeholder groups, which are hampering the effective implementation of the CBNRM strategy. The lack of capacity to implement the new strategy, the lack of mutual understanding between stakeholders and the unclear definition of the roles and functions of new established institutions are some of the examples.

As the majority of the communities in Ngamiland have not been empowered under the CBNRM strategy unequal chances have been created resulting in political friction and lack of commitment to the policy by non-beneficiaries. To control the spreading of Tsetse fly and the outbreak of Trypanosomiasis in the District large scale blanket aerial spraying of almost the entire Delta is envisaged to start in 2001. The possible negative side effects of this control measure have led to a controversy between environmentalists, tourism operators, the local population and Government Institutions.

### **Land and resource use planning**

Extensive land use planning exists for the Okavango Delta. Ngamiland is divided into planning zones and into 18 gazetted Controlled Hunting Areas (CHAs) for which principle land uses have been identified. In Protected areas and Wildlife Management Areas detailed physical planning

exists. Furthermore there are various sectorial development plans. However the land use plan produced in 1991 covering the entire Okavango Delta has been drawn up without stakeholder participation and consequently lacks support and commitment of the local institutions to implement it. The individual area or sector plans need to be examined, analysed and if necessary harmonised. All existing plans are static and do not follow a holistic ecosystem planning approach. As they do not include a constant monitoring component they cannot be regularly adjusted to the dynamics of the Delta ecosystem.

### **Plans for large-scale water off-take**

In the past many plans have been made to extract water from the Okavango in order to support development projects in Botswana or in the neighbouring countries. Even though most of these projects did not materialise up to now, plans for water management interventions form a constant thread as there is not enough information to predict the impacts of hydrological changes on the Delta's ecology and socio economic functioning. Furthermore the overall economic value of an intact Delta ecosystem has never been considered in the planning and decision making process.

### **National and District planning guidelines**

In NDP 8, the Government of Botswana has added 'sustainable economic diversification' to the existing four planning objectives, which are rapid economic growth, social justice, economic independence, and sustainable development which are the basis of all the National Development Plans. The natural beauty and abundant availability of wildlife resources make the Okavango Delta an ideal area to diversify the traditional land use system and gain additional incomes from the tourism industry.

### **Laws and legislation and international treaties signed**

In 1997 Botswana government ratified the Ramsar Convention. Thereupon the Okavango Delta has been listed as 'Wetland of International Importance'. In order to ensure its conservation and wise use the drawing up of a Delta Management Plan is required. In addition to the Ramsar Convention, the Government has supported the implementation of a number of environmental policies and related legislation and is signatory to international environmental Conventions, Treaties and Agreements. These commitments need to be brought into the management planning of the Delta and contradictions between environmental and other policies need to be addressed and harmonised.

### **The Okavango Delta Management Plan**



## Goals and Principles

The long-term goal of the Management Plan is:

"Integrated resource management for the Okavango Delta that will ensure its long-term conservation and provide benefits for the present and future well being of the people, through sustainable use of its natural resources."

The objective of the project is:

- To develop a comprehensive, integrated management plan for the conservation and sustainable use of the Okavango.

The goals of the management plan are:

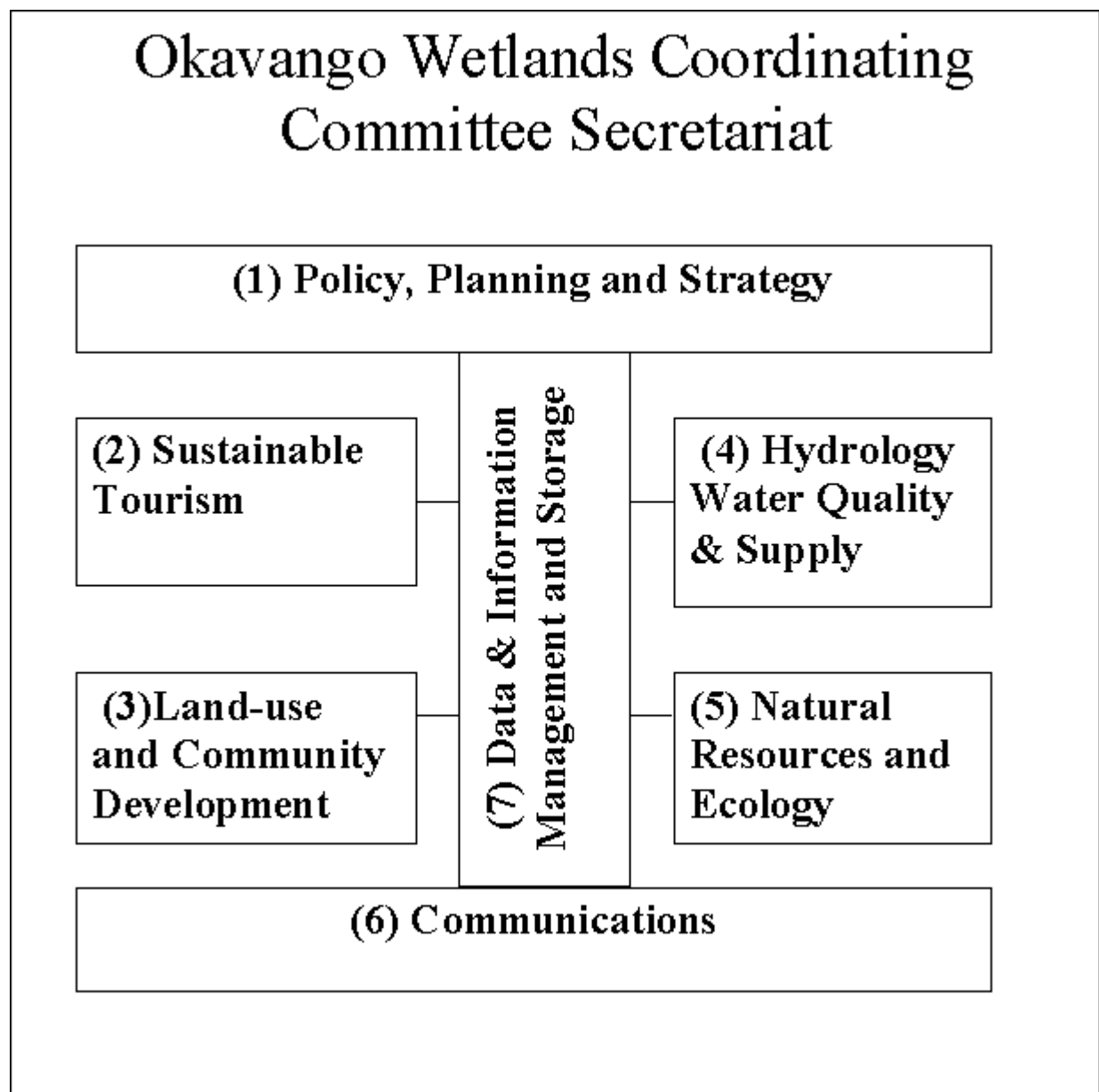
- To provide a long-term vision of the development options and management scenarios for the Okavango Delta.
- Serve as an integrated master plan, which provides the framework and guidelines for individual area plans.
- Determine levels of use in order to ensure sustainability and protection of the natural resources of the Ramsar site.
- Set up the institutional framework required for the management of the Ramsar site.
- Determine research and monitoring requirements and standards.
- Feed development options into OKACOM basin management planning exercise.

The principles of the management plan are:

- Dynamic planning with a strong, consistent monitoring and evaluation component.
- Based on the ecosystem approach, which aims at adapting to the constant changes of the ecosystem and maintaining the integrity of the Okavango Delta.
- Accommodate active stakeholder participation in the main stages of the planning process and make use of traditional knowledge.
- Ensure transparency in the planning process and stakeholder access to information.
- Recognise and respect traditional resource user rights.
- Benefit stakeholders responsible for managing the resources.
- Bring together social, economic and environmental components.
- Take cognisance of the existing relevant land use and management plans.
- Inclusion of existing institutions for the implementation of the management plan.
- Ensure that international environmental obligations are observed.

## Components of the Management Plan

The components of the management plan (Phase II) planning project have been identified from the list of issues (see page 15 and 16). These groupings are artificial hence there is some overlap between components. The components are necessary to give the project structure, to indicate links between the different sectors, and to assign specific activities. Seven components were identified, all of which would fall under the "Secretariat" of the Okavango Delta Ramsar Wetlands Coordinating Committee (Institutional structures).



Component 1 - Policy, Planning and Strategy: This component would have overall responsibility for managing the other components and drawing together their contributions into a single,

comprehensive and integrated plan. The team leader (The Chief Technical Advisor) would head this component and would report directly to the Director of the Secretariat. A number of short-term consultancies will be carried out under this component such as legal and policy review and economic analysis.

Component 2 – Sustainable Tourism: To be headed by a senior ecotourism planner with the responsibility of stabilising the sector, developing guidelines and providing an ecotourism focus. This component has been drawn out of land-use in recognition of its potential.

Component 3 – Land-use and Community Development: This large and important component will be headed by a participatory land-use planner and will focus on natural resource use, conflicts and community development.

Component 4 – Hydrology, Water Quality and Supply: The component is to be headed by a senior hydrologist and will focus on all aspects of water. Emphasis will be on modelling (with links to Component 5).

Component 5 – Natural Resources and Ecology: This component is to be headed by an ecologist with planning experience or a natural resource planner. Emphasis will be on increasing our understanding of the ecology of the Delta and the linking of these results to planning and the hydrological model.

Component 6 – Communications: Recognition, that the plan has to be supported and fully understood by the stakeholders, has led a component which aims to ensure dissemination of information in suitable formats. This component will also be responsible for detailing training requirements.

Component 7 – Data and Information Management and Storage: As the plan is to be dynamic master plan, data need to be constantly updated and made available to stakeholders involved in more detailed planning. This component on data storage is seen as a key pillar underpinning the planning process.

---

## **2. Madagascar: preparation of a management plan for Manambolomaty Ramsar site.**

### **Background and objectives of the proposal**

Madagascar joined the Convention in 1998 and has designated two Ramsar sites. As one of the means for the implementation of the Convention, Madagascar sought assistance in order to prepare and implement a management plan the Manambolomaty Ramsar site.

The proposal focus on participatory approach with an emphasis on local community involvement both in the formulation and the implementation of the management plan.

Expected outputs:

- Consensus on and adoption of a management plan
- Integration of traditional regulations into the management plan
- Effective participation of local communities to the management of the site
- Sharing of benefits
- Lessons to be used for other management schemes

Budget: SFR 38 000

Progress report

The project has started with a consultative process that bring together the major players for the management of the Ramsar site: the relevant institutions in the Ministry of Water and Forest, the local communities, the local administration, the Peregrine Fund and the Durell Wildlife Conservation Trust.

As a result of the consultation, 2 full-time technical officers have been appointed by the government and one animator has been hired by the Durell Wildlife Conservation Trust. These officers are joining a team that was already in place through the work of the Peregrine Fund Project.

The preparation of the management plan will build on existing activities, mainly the ones carried out by the Peregrine Fund Project and the Durell Conservation Trust project.

In this regard, it is worth noting the following elements of the base line on which the project will build:

- Promotion of sustainable use activities:
- monitoring and evaluation of the impacts of fishing
- options for promoting local community participation, including the establishment of user group associations, transfer of management rights from the government to the local associations

- role of the National Ramsar committee
- Ecological monitoring

Ecological surveys are mainly carried out on Lake Antsamaka on flora, hydrology and fauna (mainly birds).

One of the major activities is birds census. The most critical bird species on the site is the fishing eagle, *Haliaeetus viciferoides*, an endangered species (UICN red List) for which the Pregrine project is carrying out a range of actions. Other endangered species include *Anas bernieri*, *Ardea humbloti*.

Other activities are related to the endangered, fresh water turtle, *Erymnochelys madagascariensis*.

- Village-based conservation activities

Following a workshop at local level, a village association has been established and the fishermen have committed themselves to a code of conduct that bring about new ways of fishing with little impact on birds.

Due to heavy rains, the project activities have been stopped, waiting for better conditions to continue the preparation of the management plan.

---

### **3. Combined implementation of environment-related conventions:**

#### **3. 1 Background information**

##### **3. 1.1 Objectives**

This action is intended to encourage Contracting Parties in the implementation of the joint work plan between the Convention on Biological Diversity (CBD) and the Convention on wetlands (Ramsar, Iran, 1971) and the Memorandum of Co-operation between the Convention to Combat Desertification and the Convention on wetlands. In this regard, part of the Swiss Grant Fund is used to encourage collaborative work between national institutions responsible for the formulation and implementation of National strategies/Policies/Actions Plans relating to biodiversity, desertification control and wetland conservation and wise use.

In response to the Operational Objective 7.2 of the Ramsar Strategic Plan, this action will enable to undertake some coordination of cross-sectoral approaches for the development of national policy instruments which integrate biodiversity, desertification control and wetland conservation

considerations into broader frameworks. In view of the inter-relationships and impacts between land use, desertification process, and the status of inland water and coastal ecosystems, collaboration will be developed between the work programs of the various national institutions responsible for the implementation of the above conventions. It is envisaged to select two or three countries which are undertaking the formulation of Policies/Strategies/Action Plans relating to Biodiversity or Desertification control so as to provide the opportunity for inclusion of wetland concerns into these Strategies and Actions Plans.

Disbursed budget: SFR 39 000

### **3.2. Progress report**

The following countries have been identified as recipients of a financial assistance so as to help them in their efforts to build synergy between national institutions in order to promote wetland conservation and wise use:

3.2. 1 Kenya: Lake Bogoria : Following a request from Kenya, a sum of SFR10,000 was allocated to Kenya Wildlife Service in order to collect updated information and to undertake a consultation process so as to designate this lake as a wetland of international importance.

The designation process was made through the promotion of synergy between the Ramsar Convention, the Convention on Biological Diversity (CBD) the Convention on Migratory Species (CMS) and the Convention to Combat Desertification. The process involved the national institutions that are coordinating the work of the above conventions.

This process was used to initiate collaborative work between national institutions on land use planning, wetland management, desertification control and biodiversity conservation.

A detailed implementation plan was approved as part of the proposal and contract with the Ramsar Bureau.

Progress to Date: The Ramsar Information Sheet and a map have been sent to the Ramsar Bureau in April 2001. The Bureau is undertaking the analysis for the designation of Lake Bogoria as the third Ramsar site in Kenya.

#### **Details of the achievements**

- Formation of a Local Ramsar Committee to oversee site listing process has been accomplished. The committee includes the chief executives (clerks) of the two local authorities County Councils of

Baringo and Koibatek districts on whose common border Lake Bogoria stands; District Departmental Heads of Agriculture, Water, Livestock, Forest, and Wildlife. Also WWF as a local NGO and 3 community representatives are part of the management committee.

- A local Education and Awareness activity has been organised for the committee on Ramsar Convention, wise use principles and the responsibilities and obligations of listing a site as a Ramsar site has been done. Such awareness is paramount for effective support and participation of stakeholders to the management of the Ramsar site.
- A more detailed training for the Ramsar Committee and Reserve Management authority on wetlands conservation and application of the wise use principle has been undertaken. The training has also addressed general management issues on a protected area, wetlands and biodiversity specific reference have been made on how to use the wetlands sustainably.
- Substantial amount of data on the characters of the lake and catchment has been collected for filling up of the Ramsar information sheet. KWS, WWF, Egerton University, Nairobi University have collaborated in data/information collection. IUCN has collaborated especially in carrying out final editing of the information sheet. The first draft has been sent to the Ramsar Bureau.

### **3.2 2 Senegal : intervention on Djoudj National Park, a Ramsar site and a World Heritage site**

Salvinia molesta in the delta of the Senegal River: a major threat to nature conservation.

Salvinia molesta appeared for the first time in the Senegal River delta in September 1999 and has spread since then to a number of bodies of water and water basins, disturbing existing biological equilibrium and threatening human health as well as the overall ecological and economic characteristics of the delta. Salvinia molesta is an aquatic fern considered to be one of the most invasive plants in the world. It is native to southeastern Brazil and easily adapts to different environments, doubling its area every two to four days. Furthermore, it can propagate from simple pieces of the plant and, as a result, quickly completely covers a body of water. It has the following effects:

- almost complete blockage of the exchange of gases between the air and water;
- during decomposition of leaves there is heavy consumption of dissolved oxygen, which is needed by the aquatic fauna, especially fish;
- blockage of irrigation pumps;
- increase in the habitat for mosquito and gastropods, which are disease vectors;
- impossibility for waterfowl to land on the water;
- risk of spreading to rice fields, which are well-known areas for the growth of this species;
- impossibility of river traffic;

- a great risk of interference with supplies of potable water to the cities of Dakar and Saint Louis;
- impossibility of fishing;
- decrease in the access for cattle to the water.

The Bureau of the Ramsar Convention continue to provide its support of the Contracting Parties in their efforts to implement Resolution VII.14 on invasive species in wetlands, adopted at the 7th Conference of the Contracting Parties in San Jose, Costa Rica in 1999.

In this regard, a joint mission took place following a request by the government of Senegal to the Bureau of the Convention on Wetlands (Ramsar) and to the UNESCO World Heritage Centre, asking them to organize a joint mission to study the situation in the Parc National des Oiseaux du Djoudj and to make recommendations on measures and programmes. In reply to this request, the Bureau of the Convention on Wetlands (Ramsar), the UNESCO World Heritage Centre and IUCN Headquarters organized this joint mission from 14 to 21 September 2000, in cooperation with the governments of Senegal and Mauritania in order to study the situation in the Parc National des Oiseaux du Djoudj (Senegal) and the Parc National du Diawling (Mauritania).

Following this mission the Ramsar Bureau allocated SFR12 500 to the Senegal Government so as to enable the local communities and the wetland managers. This small allocation has been successful as a seed money to support and encourage local players' action while a more substantial support is sought from other donors.

### **Background information**

#### **Parc National des Oiseaux du Djoudj (Senegal)**

Approximately 450,000 and up to 550,000 Anatidae, 250,000 Limicolae, 20,000 greater flamingos, 3,000 to 12,000 lesser flamingos and 2500 European spoonbills owe their winter survival to the quality of the environment of the Senegal River delta (Triplet and Yésou, 1997, 1998, 1999; Schricke, Leray and Triplet, unpublished). These species have already been directly affected by the Diama dam, which has prevented salt water from moving up stream. The increased fresh water is responsible for the proliferation of many plant species, specifically *Typha australis*, *Pistia stratiotes* and more recently *Salvinia molesta*.

The Parc National des Oiseaux du Djoudj, listed on the Montreux Record since 1993, had earlier been placed on the World Heritage list of sites in danger. It was taken out of this category after sluices were constructed that allowed better regulation of water. However, the spread of invasive plants now fully justifies its reinscription in this category.



Taking this into account, the UNESCO World Heritage Centre and the Bureau of the Convention on Wetlands (Ramsar) decided to organize an evaluation mission to study threats to nature and to propose measures and programmes to counter the threats.

After field visits and meetings with the institutions involved, the mission feels that the threat of *Salvinia molesta* to the ecosystem of the Senegal River basin and to the economic, social and ecological functions of the Parc National des Oiseaux du Djoudj and the Parc National du Diawling is very serious and merits the continued and constant attention of local officials, national leaders at all levels and the international community.

Measures should first be aimed at preventing the entry and growth of *Salvinia molesta* in the backwaters of the tributaries to these two national parks. Next, a revised management plan for the Djoudj and Diawling parks should be prepared in order to obtain additional financing for the programmes managed by IUCN.

Listing of the Parc National du Diawling in the Montreux Record is highly recommended in order to bring the threat to the attention of the international community and to begin eradication in partnership at the local, national and international levels. The Parc National des Oiseaux du Djoudj should be added to the list of UNESCO World Heritage sites in Danger, and this has the support of the governments of Senegal and Mauritania.

It is also urgent and necessary to recognize the important function played by the buffer areas around Djoudj and Diawling (Trois Marigots and the Dioup-Keur Macène system), by designating them as Ramsar sites in addition to existing designated sites on both sides of the river.

All of the delta is a wintering area (as defined by Wetlands International) that merits recognition by Ramsar.

At the international level, it is also urgent to inform public opinion about the dangers threatening the delta. National and international media should be used, specifically through targeted articles in nature or conservation publications, before the *Salvinia* problem becomes a regional disaster.

It is urgent to save the Parc National des Oiseaux du Djoudj. At the policy level, it is important to act simultaneously in the Parc National des Oiseaux du Djoudj and the rest of the delta in order to avoid a situation where the park becomes the only unaffected area and because of that the object of economic interest.

The director of the Parc National des Oiseaux du Djoudj must play a key role. He must be responsible for the organisation of eradication of the invasive plants. He also must involve the local

communities, tour operators and visitors, who should all be involved in the eradication effort. Priority must be given to prevent all entry and any development of *Salvinia molesta* in the backwaters of the tributaries. There must be as complete clearing as possible of the parts of the backwaters located between the river and the inlets, followed by regular clearing aimed at eliminating all of the remaining plants. Eradication around the backwaters should be backed up by the cutting of *Typha* to prevent the spread of those plants. This measure requires reinforcement and extension of fencing. A new barrier should be constructed on the Gorom, at Flamant, where daily inspection can take place as at other sites. There are plans to create a surveillance team, from among the park guards. The whole team will be mobilised when large quantities of *Salvinia* are found. If that is impossible, a team of four to ten persons will remove the plants found and clear areas colonised by *Typha* daily.

Eradication could be financed by the introduction creation of a fee of about FCFA 500 added to the entrance fee for the park. This contribution should be paid against a special numbered ticket from a book of tickets in order to avoid any possibility of fraud. The money collected in this way should be invested locally in several approaches to mechanical eradication of *Salvinia molesta* and *Typha*. These funds could be administered by the Station Biologique, authorised to collect the fees.

An objective must be added to the three-year integrated management plan, aimed at protecting the national park from any harmful impacts on the reasons for its creation: preservation of unique delta environments and populations of waterfowl. This new objective would include the following operations:

- a) mechanical eradication of invasive plant species, especially *Typha* and *Salvinia molesta*: continuation of the intervention already described, financed by a special fee.
- b) development and application of all stages of biological eradication in order to follow up on mechanical eradication and ensure control of the effects of the invasion. This should include a system for reproducing *Cyrtobagous salvinae* in order to have a sufficient population and to obtain the results expected on *Salvinia molesta*. Regular monitoring of progress in biological eradication should be set up.
- c) reinforcement of the exchange of information and cooperation between the park managements (especially the park director and IUCN) on the one hand and the local inhabitants around the national park in order that the eradication of *Salvinia molesta* becomes a continuing concern for everyone. The work being carried out by the park wardens in cooperation with the GTZ should be part of this approach.

d) promotion of information and awareness among the captains of the boats taking tourists to pelican nesting sites in order that the boats do not act as vectors for the spread of *Salvinia molesta*. If *Salvinia molesta* spreads to the national park, the boats should be cleaned systematically after excursions, including the propeller and removal from the water of plants found during the visit. The plants should be removed from the water for destruction by drying.

e) Review of the role of water in the park

- drying of the largest possible area in the lakes and backwaters, which will require the complete closing of the backwaters until the flooding season, without any possibility of reopening;
- use of the results of the topographic study provided for in the three-year integrated management plan for creation of a system of drainage of saline soils towards the backwaters and bodies of water;
- identification of the problems of water flow (backwaters blocked by live or dead vegetation or by sedimentation);
- clearing of all the backwaters and canals making it possible to allow circulation of the water in all of the lower parts of the park.

f) restoration of the lakes

- elimination of the vegetation that has developed in Lake Lamantin and study of the possibility of filling it better including suppression of any barriers in the inlet canals or, if necessary, after studies during the dry season, partial clearing of specific areas;
- elimination of vegetation from the eastern shore of Grand Lac, opposite the Président observation point. If necessary and after a detailed study during the dry season, restoration of areas subject to flooding.

#### Immediate and short-term measures

Important efforts have already been made by the government of Senegal, the army and the public. The response of the Senegalese government has been insufficient given the extent of the risk of ecological catastrophe facing the delta. This has been acknowledged by the Senegalese government. The assistance is, however, real, of considerable importance and can be expanded.

Reinforcement of the two eradication committees and placing them under the sole authority of the minister for the environment is urgently needed. Broad discussion of the possible use of chemicals should take place at several levels of the administrations and then involve NGOs and all local participants. The projects and interventions should be in harmony with the overall strategy decided

upon by the two eradication committees and coordinated by the Ministry for the Environment. All decisions and measures should be announced through the press to all of Senegal. In Senegal, a detailed eradication project has been prepared for all of the delta by SAED.

The creation of a national committee for wetlands, under the aegis of the Ministry for the Environment is absolutely necessary in order to gather quickly detailed information on the response needed to counter any threat to the wetland.

#### Strategic measures

Eradication should be continuous and reinforced and should be the object of national concern. The starting point for general mobilisation could be a message by the president of Senegal requesting vigilance by everyone and a responsible attitude to the catastrophe and towards all invasive species threatening the ecosystem.

Legislation has been proposed, and regulations for its application will be adopted with the following provisions:

- Preventive measures (procedures concerning intentional introduction, reduction of risks of unintentional introduction, early warning);
- Quick-response measures to the invasions (containment of the invasion, management of the effects of the invasion);
- penalty provisions.

A review of strategies and action plans concerning the environment is recommended in order to integrate preventive measures and eradication of invasive species (Strategies and action plan for the conservation of biodiversity, action plan for combating desertification...)

#### **Extract from 24<sup>th</sup> session of World Heritage Committee, 2000**

##### Djoudj National Bird Sanctuary (Senegal)

The Committee noted the results of the joint expert mission by the Centre, IUCN and the Ramsar Bureau undertaken from 14 – 22 September 2000, which was examined by the Bureau. The report of the mission called for urgent financial assistance to deal with the introduced species *Salvinia molesta*. In view of the imminent danger facing the site, the Director of Senegal National Parks had requested that the site be inscribed in the List of World Heritage in Danger. IUCN highlighted the seriousness of the threat to both the environment and the economy of the region, and the difficulty of controlling the introduced species. The Delegate of Benin commented that the site is

facing a number of threats as discussed by the Bureau, and that danger listing would be an appropriate step to be taken.

The Committee decided to include the site in the List of World Heritage in Danger, in accordance with the expressed wishes of the State Party. The Committee furthermore called on international donor support. s to continue their work and keep the momentum until a more substantial contribution could come from other source of funding.

As a result of the above actions the World Heritage Committee has allocated US \$130, 475 to the Senegal government for an emergency programme to control and hopefully eradicate *Salvinia molesta*.

Follow up actions:

A team of three international experts and two national experts has been set up in order to carry out the following actions:

- In Senegal, consult with the relevant agencies and individuals in the Government of Senegal as well as major donors and partners of Djoudj National Park with a view to assessing their actions and plans in relation to the eradication of *Salvinia*. Relevant government agencies, donors and partners should be identified by the team, including the Ministry of Environment; the Ministry for Agriculture; Mr. Mbarak, Advisor to the President; the Senegal River Basin Organisation; IUCN Senegal; Wetlands International; the European Union Representative in Senegal; the German Embassy; the Dutch Embassy; and local project and community representatives.
- Assess the extent of *Salvinia* infestation;
- Assess the effectiveness of the biological control agent released in May 2000;
- While in Senegal and Mauritania, develop an interim emergency recommendations for the control of *Salvinia* and other invasive species and pass on to the relevant actors;
- Working with the UNESCO project management expert, develop an action plan for the control of *Salvinia* and other invasive species. The action plan should include the expected outputs, the methodology, the required expertise, the required budget and the timetable to implement the plan;
- As part of the action plan, make recommendations on a monitoring programme and identify indicators for the implementation of monitoring activities;

- Provide UNESCO and other partners with a trip report identifying key areas where the organisations should follow-up on the mission.

### **3.1 3. Guinea: Strengthening institutional mechanism for a better coordination of the implementation of the Ramsar Convention**

Following a visit by the Ramsar Regional Coordinator for Africa in Guinea, the need for a better coordination of the implementation of the Convention was felt. In response to this need, the Ramsar Administrative Authority in this country put forward a proposal in order to seek financial assistance for the establishment of a National Ramsar Committee. This proposal was also intended to initiate an institutional review. A consultative process was carried out with the involvement of all relevant governmental institutions and non governmental organizations.

Disbursed budget: SFR 15,000

outputs

- Establishment of a National Ramsar Committee
- Designation of a lead agency for co-ordinating the work of the Committee
- Initiation of joint actions for the implementation of the Convention
- A common understanding of the Convention work by all relevant institutions

Background information:

Guinea joined the Convention in 1992 and has designated 6 Ramsar sites. The implementation of the Ramsar Convention in Guinea can have implications for the whole West Africa sub-region: The watersheds in this country are important catchment areas for the Niger River, the Senegal River and The Gambia River.

The major issues associated with the implementation of the Convention in Guinea are:

- How to create or strengthen synergy between national institutions for the implementation of the Convention? In this regard it is recommended to establish the National Ramsar Committee and to undertake an review of institutions: This review should investigate the work of each institution on wetlands so as to identify who is doing what and what are the major tools which are so far available for action. The review should highlight the strategic and operational tools which are used by each institutions: Policy, legislation (strategic tools); programmes, projects and activities (operational tools).

- How to improve existing knowledge, instruments and approaches? (undertaking inventories, development of policies, review of legislation, formulation of new programmes at national and local levels).
- How to improve communication? (Establishment of a National Ramsar Committee and reaching consensus on mechanism for co-ordination and exchange of information).

#### Objectives of the proposal

- To raise awareness of wetlands functions and values throughout the country at all levels
- To establish co-ordinating mechanisms and structures for communication and sharing of information
- To facilitate participation in the identification and the implementation of joint activities that promote to the implementation of the Convention
- To increase co-operation and synergy between national and local institutions

---

#### **4. Sierra Leone: enhancing communication between the Ramsar Bureau and the major players for the implementation of the Convention.**

Support to institutional capacity provides opportunities to share information and experiences in wetland conservation, management and sustainable use of wetland resources with other organisations. Information has been accessed on preferred projects and best practice guides as well as compiling a register and maintaining a database on natural wetland experts who have good experience of a particular sort of wetland issue.

This enabling facility has enhanced the capacity to organise events at national and international events such as Wetland Day, training sessions and on –the-ground activities in wetland conservation and management and work exchange programmes with partner organisations that have adequate expertise on wetland issues.

proposed budget SFR 20,000

#### Background information

Sierra Leone has acceded to the Convention on 13 December 1999.

In order to facilitate communication between the Bureau of the Convention and the Administrative authority of the Convention in Sierra Leone and other relevant institutions, Sierra Leone is seeking a financial assistance.

The proposed assistance will benefit both the Forestry Service (Administrative authority) and the Conservation Society of Sierra Leone. The Conservation Society of Sierra Leone has been instrumental in the accession of Sierra Leone to the Convention.

Following the signing of the Ramsar Convention by the Government of Sierra Leone, The Forestry Service and the Conservation Society of Sierra Leone as a major stakeholders in Wetland Conservation and Management in the country need enabling facilities and institutional development capacity to enhance their wetland conservation effort in the country. The value-added effect is active involvement of these institutions and use of tools to interact with the Ramsar Secretariat and national and international organisations interested in wetland conservation in Sierra Leone.

#### objectives

- To assist the Forest Service and the Society to develop into a powerful locally based liaison force for implementation of Ramsar Convention in Sierra Leone
- To Provide information technology and basic training for the newly established wetland unit to work with Government Agencies interested in wetland issues in Sierra Leone.
- To make necessary contacts with the Ramsar Bureau and other donor agencies to produce a proposal for a large scale field programme and persuade other stakeholders to implement it.
- To convene a Sierra Leone National Wetland Forum to define a national wetland action plan.
- To persuade Government of Sierra Leone to ratify the Ramsar Convention and sign the AEWA and Bonn Agreements and produce country wetland conservation action plan.
- To advocate for the legal protection of five priority wetlands in Sierra Leone.

#### Expected outputs

- Email/Fax facilities available and functioning at the Forestry Service and CSSL Office.
- 4 CSSL staff trained in computer/interact programming
- The Ramsar Convention ratified in Parliament
- The AEWA/Bonn Agreements signed and Ratified
- The Sierra Leone River Estuary given legal protection as a protected Ramsar Site
- Four wetland sites legally protected
- Proposal for Conservation site action of the Ramsar site developed and funded.

#### Progress Report

##### 4.5.1. Forestry Division



An internet connection has been established and since the connection to the Internet, the Forestry Division has made frequent contacts with the following International Conservation

Organizations:

- a. Conservation International
- b. New York Zoological Society
- c. United Nations Env. Programme
- d. UN convention to combat Desertification (Secretariat)
- e. Fauna and Flora International
- f. CITES Secretariat
- g. Commonwealth Secretariat
- h. FAO of the United Nations
- i. Miami University
- j. City University of New York

Both Conservation International and New York Zoological Society are interested in the conservation and management of the 12 km<sup>2</sup> Tiwai Island, which is rich in species diversity and endemism. Also the Forestry Division is in touch with Fauna and Flora International with the view to identifying possible areas of collaboration. Conference documents for the UNCCD and reports on the Forestry Outlook Study for Africa (FOSA) are often downloaded using our internet line.

Information on conservation - related meetings are often obtained from the internet. Communication with forestry and environmental experts in the sub-region is bound to yield fruits faster than the conventional mailing system.

While the US 2000 - UPS has protected the laptop from fluctuating voltage the Robin Generator will be used in stakeholder workshops in the provinces particularly where the rebel war resulted in the destruction of infrastructure (including powerlines, transmission poles and generating plants).

Conservation Society of Sierra Leone.

The Conservation Society has increased its contacts with local and international NGOs and particularly with BirdLife International which organization it represents in Sierra Leone as BirdLife Partner. Contacts with the Royal Society for the Protection of Birds for the management of the 748 km<sup>2</sup> Gola Forest Complex was also enhanced.

The video recorder was used to film parts of the Gola and Western Area Peninsula Forests which are currently under threat of deforestation through powersaw operations, charcoal burning and bush pole collection for the construction of camps for the internally displaced. Specifically, the following are worth mentioning:

(i) Programme Coordinator/Administration

A laptop has been purchased and is utilized by the Programme Coordinator of the society (CSSL) to review reports, publish information leaflets and advocacy materials, and to send messages to government agencies, partner organizations in Sierra Leone and abroad and to the CSSL general membership.

As a result, CSSL has been able to establish and consolidate contacts with the donor/environmental agencies, mentioned below:

1. Royal Society for the Protection of Birds in the UK
2. Birdlife International Secretariat in the UK and Partner Organizations in Africa, America and Asia.
3. Conservation International in the USA
4. World Society for the Protection of Animals in Kenya
5. Wetlands International in the Netherlands
6. Wetlands International West Africa Programme in Dakar, Senegal
7. GEF-UNDP in New York
8. IUCN the World Conservation Union in Switzerland
9. IUCN West Africa programme in Burkina Faso

10. The Convention Secretariats of Ramsar, CMS, AEWA, CBD

11. Embassies/Diplomatic Missions in Sierra Leone e.g. British Council, British High Commission, USA, Nigeria High Commission, European Union, etc.

12. Business Houses such as the Rokel Commercial Bank, University of Sierra Leone, Sierra Leone State Lottery, Sierra Leone Ports Authority, Mass Media and relevant government functionaries particularly Wildlife Conservation Branch, Forestry Division, Environmental Division, and Youth, Education and Sport Ministry etc.

(ii) Payment of the Current Telephone Services

As the CSSL telephone service became improved, contact with local and international individuals' organization were established and consolidated. CSSL members and the general public contacted us on a lot of conservation issues.

This improved facility helped us contact individuals for meetings and since then our meetings have been very successful.

(iii) The Camcorder

Video documentaries have been developed for important events and activities such as:

1. Sierra Leone Wildlife Week celebration in 2000
2. Field visits to the Western Area Peninsula forest, and the Kambui hills
3. Organised school Nature Club visits to the chimpanzee sanctuary
4. Waterbird census and monitoring in the Western Area and the Yawri Bay in the southern Province
5. Field visits and community meetings in Kenema and Shenge
6. Inter-agency meetings in Freetown and the provincial town of Kenema.

In addition, both computers and internet lines of the two institutions are being used for the upcoming stakeholder workshop on the Tiwai Island involving Professors from the University of Miami and the City University of New York, amongst others. A primate survey of the Western Area

Peninsula Forests involving the University of Wisconsin - Madison is also being planned to be implemented in April 2001. Data will be analysed using the appropriate statistical packages.

Communication on these studies have been remarkably facilitated by internet facilities as opposed to the expensive and inefficient fax message system which leaves a lot of room for improvement in the developing world situation.

Finally Sierra Leone has today jointly started working on a proposal targeting the EC Budget Line 6200 "Environment in developing countries" for EU funding.

The first servicing of the computer and the installation of programmes to facilitate the making of international calls is now being done.

### **Follow up**

Pertinent activities for which a project proposal is being developed include the inventory of all major wetlands to include the collection of socio-economic and biodata; threat to water yield; contamination (pollution) threats; general information to support management etc. Due to Sierra Leone's late accession to Ramsar and to CITES the government intend to accelerate the implementation of these conventions so as to catch up the time lost due to decade-old rebel war.