Project ID 000397, Expedition number: EXP1009564

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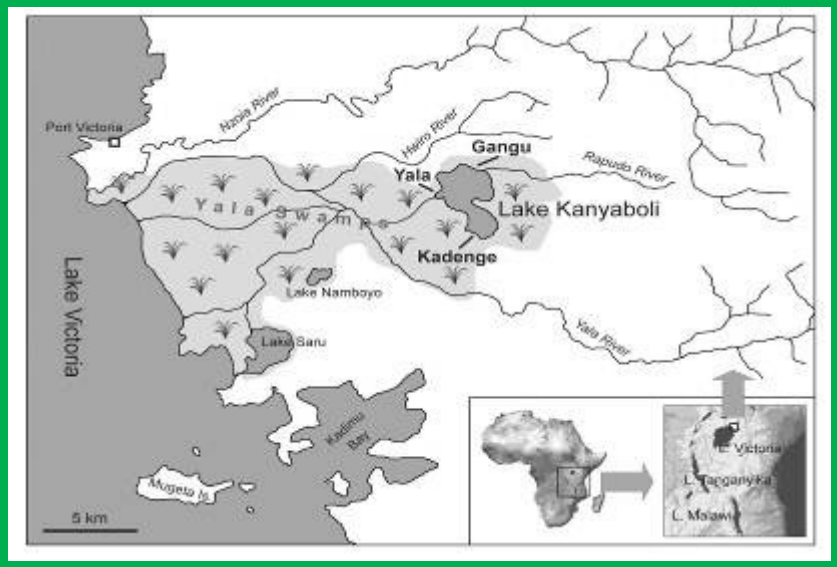
Project Site: Yala swamp, Western Kenya, East Africa.


Port Victoria
Hzoia River
Hero River
Gangu
Yala
Rapudo River
Yala swamp
Lake Kanyaboli
Kadenge
Lake Victoria
Lake Namboyo
Lake Saru
Yala River
Kadimu Bay
Mageta Is
5 km
L. Victoria
L. Tanganyika
L. Malawi

Introduction

This team from Maseno University won the wetlands category of the 1997 grants award. This project comprising of a group of undergraduates from Maseno University was led by a Kenyan lecturer from that institution who had prior experience conducting research on the Yala Swamp, a rare wetland ecosystem of western Kenya.

This project was one of the pioneer ones to undertake an evaluation of the role the local community could play in the conservation and sustainable management of the wetland and to undertake a preliminary economic valuation of the wetland resources.

The Yala swamp is one of the few extensive wetlands found in western Kenya. The wetland covers an area of 17,500 ha and contains three freshwater lakes, Kanyaboli, Sare, and Namboyo. The swamp vegetation is mainly papyrus (*Cyperus papyrus*) and *Phragmites* reeds. This wetland is nationally important in that it is one of the few habitats where the threatened Sitatunga antelope (*Tragelaphus spekeii*) is found in Kenya. The associated lakes contain some critically endangered tilapiine and haplochromine cichlid fish species including *Oreochromis esculentus* and *Xystichromis phytophagus*, some of which are no longer found in Lake Victoria. Lake Kanyaboli has suffered as a consequence of land reclamation. In 1970, inflow into the lake from the Yala River, the lake's only major inlet, was stopped, by the construction of a diversion canal, 8 km long, to convey the river water directly into Lake Victoria. At present the only inlets into the lake are through River Rapudo, a small stream flowing from the east and through some broken dykes. The wetland is important for biodiversity, but also has great socio-economic value to the local communities, for whom the wetland has long been a source of fish, vegetables, medicinal plants, building materials, and agricultural land. Since the wetland is not protected, it is vulnerable to overexploitation. The Yala swamp wetland is thus important to three different, and sometimes conflicting constituencies:

1) to the local people, who use it for agriculture, fishing, grazing, brick making, papyrus exploitation etc.

2) to development planners, for whom it represents a potential area where agro-industrial exploitation could lead to economic development and

3) to the conservation body, the wetland represents a unique area, important in its own right. The challenge facing the management and conservation of this wetland is therefore how to reconcile and harmonize the three apparently conflicting interests.

Objectives of this project

The aims of this project were to elucidate the patterns of utilisation of the wetland, including a preliminary economic valuation of the resources, and compare these with the costs and benefits of conversion. The specific objectives of the project were to examine the past and current relationship of local communities with the wetland, and identify the threats to species and habitats and the sources of pressure. Surveys, interviews, and participant observation were used to obtain information. Direct economic values were calculated for fisheries, water transportation, agriculture, building materials, fuel wood, grazing, hunting, mat making, salt licks, and tourism. Indirect values include medicinal plants, vegetables, flood control, and wildlife habitats. The project further compiled a preliminary species inventory and carried out an initial habitat assessment of the wetland. The projected outcome of the project was that information gathered would shed light on how the local communities might become involved in biodiversity conservation and sustainable use of the Yala swamp resources, with a view to establishing a community based conservation programme. The project

leader has since used the information gathered to make contact with key organisations in Kenya, such as the Kenya Wetlands Working Group, the Kenya Netherlands Wetland Programme as well as local community based organizations and individuals working on biodiversity conservation and sustainable development within the Lake Victoria region.

Our findings

1. Economic activities in the Yala swamp include grazing, hunting, fishing, agriculture, tourism, papyrus exploitation, brick making, transport, salt lick and collection of water for domestic use. Comparing these economic gains with the cost of conversion, short term returns and taking into account soil fertility loss we concluded that it is not economical to convert the wetland. Instead the above sustainable uses of the wetland should be promoted and supported and the potential tourism value of the wetland be developed.

2. The wetland also plays an important socio-cultural role in the local peoples' lives. Several taboos and omens are associated with the wetlands. Critical examination of these show that they can and have contributed to the conservation of the wetland. 27 species of vegetable and 59 medicinal plants (subject to taxonomic confirmation) were collected. Seven sacred places are found within the wetland. Most of these were sacred as sites of sacrifice to gods to bring rain. It is noted that these sacred places harbour fauna and especially flora that have been lost in the wetland. One sacred place has been lost as a result of habitat destruction.

3. Ecologically the wetland is important locally in controlling floods, improving water quality and abating eutrophication and as a habitat for wildlife. However, the numbers of mammal and fish species have reduced drastically and this can be attributed to over exploitation and human disturbance.

4. Information on the peoples' views on whether the wetland should be turned into a protected area or carrying out community based conservation programme should be pursued were varied. Majority of the respondents (58.5 - 93%) do not support creation of protected areas, the main reason being fear of losing land and economic base. This is important to note as creating a protected area in the wetland would inevitably lead to human-wildlife conflict and greatly affect its success.

5. Conversely, majority of the respondents (70 - 93%) support community based conservation. They find this to be more appropriate to their needs and would improve their economic status. However, some reasons given for supporting this indicate ignorance of the idea and also indicate high expectations from the residents. Those who rejected this gave similar reasons to rejecting creation of reserve areas. There is therefore need for an education programme to explain what either conservation initiatives would entail before they can be implemented.

6. The wetland was also found to have existence, option (bequest) and aesthetic values which will all be lost if it were reclaimed. A strong case for conservation of the Yala swamp is presented. The information obtained from the study can be used to plan a community based conservation programme.

Outcomes of the project

1. **Our work provided the first attempt to undertake an economic valuation of the Yala swamp wetland. The information produced during this project has been used as a launching point for subsequent studies on the consequences of large scale land use changes on water resources, environment and food security in the Yala swamp.**

2. **The findings of our work have been published in refereed journals and presented at international scientific meetings. For example the findings of our study were presented during the 1998 2nd International Conference on Wetlands and Development in Dakar, Senegal and have subsequently been published by Wetlands International/WWF.**

3. **Recommendations from our project were instrumental in the formation of Lolwe Rural Development Programme (LORDEP) a community based organization. Through LORDEP tangible efforts have been made to enable conservation of Yala Wetland through grass-root mobilisation and partnerships. For example the organization was in the forefront in lobbying for a re-evaluation of an EIA work done for a multinational company that is currently involved in agro industrial activity in the wetland. LORDEP has further been involved in training of site conservation groups and conservation education and public awareness for attitudinal and behaviour change for wetland conservation. LORDEP has also trained local individuals in questionnaire administration and these individuals have been hired by individuals and other NGOs undertaking research work in the Yala swamp.**

4. **The Yala swamp wetland was recently gazetted a game reserve by the Government of Kenya. We believe evidence from research like ours contributed to this decision.**

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Fishing activities in Lake Kanyaboli

Papyrus fringed edge of the Yala swamp wetland

A

B

The Christmas ‘Fulu’ *Xytichromis pytophagus* (A) and the native Lake Victoria ‘Ngege’ *Oreochromis esculentus* –critically endangered cichlids whose range in Lake Victoria is now restricted to Lake Kanyaboli.