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ENGAGING LOCAL USERS IN THE MANAGEMENT OF WETLAND RESOURCES

**THE CASE OF THE NATIONAL WETLANDS PROGRAMME,
UGANDA**

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1. THE NEED FOR WETLAND MANAGEMENT IN UGANDA

Introduction

With an estimated coverage of 13% of Uganda's land surface, wetland ecosystems constitute an important natural resource in this country, both from ecological and from social and economic point of view. In reaction to widespread and uncontrolled drainage of wetlands in the 1960s and 70s, the government of Uganda established the Uganda National Wetlands Programme (NWP) in 1989. The original task of the NWP was to formulate a national policy for the conservation and management of wetlands. From 1993 onwards, the NWP expanded its objectives and operations to include the development and dissemination of principles and methods for sustainable wetland use by local wetland users. This objective has been pursued by supporting a limited number of wetland adjacent communities in the management of small wetland sections. Of recent the emphasis has shifted from collaboration with villages to supporting specific resource user groups. The purpose of this paper is to describe the achievements and setbacks of the National Wetlands Programme in facilitating community management of wetland resources.

Wetlands in Uganda

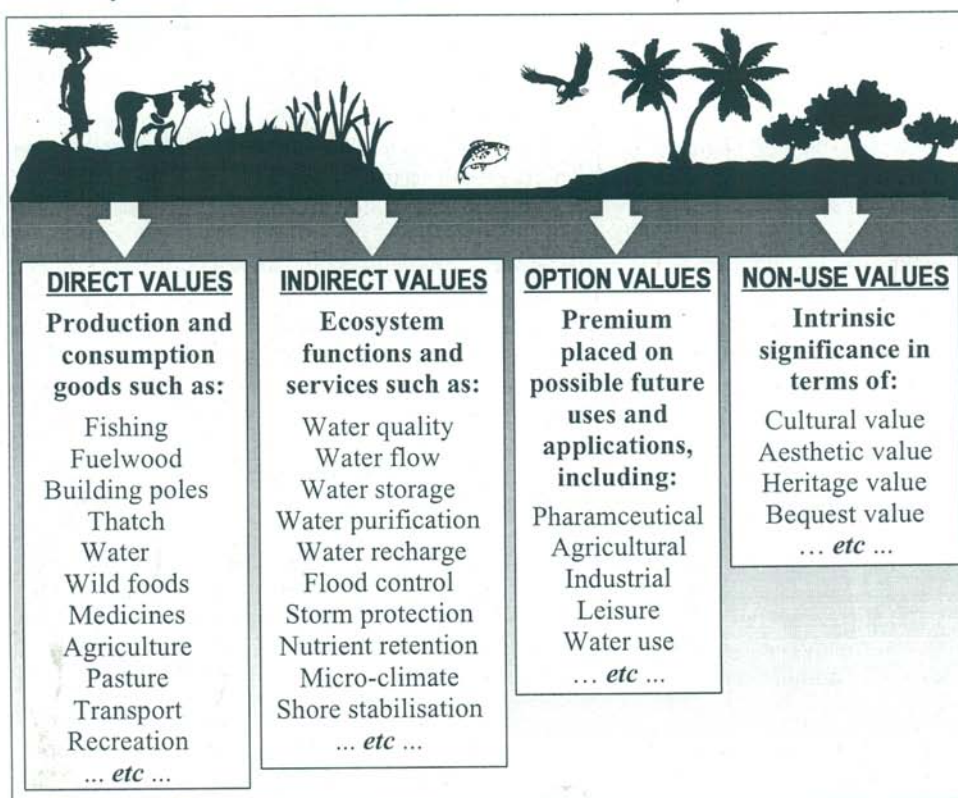
The wetlands in Uganda are widespread and complex. Their overall presence in the southern and western part is in the form of an extensive low gradient drainage system in steep V-shaped valley bottoms with a permanent wetland core, and relatively narrow seasonal wetland edges. The northern parts of Uganda mainly consist of broad floodplains, whereas in the east a complex network of small, vegetated valley bottoms exist in a slightly undulating landscape.

The water regime of the wetlands in Uganda is determined by many factors, of which rainfall is probably the most important. Most of Uganda has a bi-modal rainfall regime. The southern half of the country receives between 1200 and 2000 mm of rain, the drier areas in the north-east may receive up to 600 mm in one rainy season. High and relatively well distributed rainfall in the south and west of the country, result in a heavily vegetated wetland core, often covered by *Cyperus papyrus*, *Typha*, *Phragmites*, or swamp forest complexes. The wetland fringes, which are inundated during the wet seasons and dry out during the drier periods may consist of grassland, sedges and small trees like *Sesbania* sp. In the north, where rainfall is less abundant and reliable, the permanently wet plains are covered with grasses like *Vossia* and *Oryza* spp, and the seasonal wetlands plains consist mainly of natural grasslands.

The wetlands and people interface

Uganda has a population of about 20 million, of which over 80% lives in the rural areas. Given the finger-like shape and wide distribution of wetlands in the country, one can assert that the majority of the Ugandan population lives within walking distance from a wetland edge. Research carried out by the National Wetlands Programme indicates that many Ugandans interface with wetlands on a regular basis, and that the resources in natural wetlands contribute directly and significantly to their sustenance (Box 1).

Box 1: Importance of Wetlands to Uganda



Source: Emerton, L., 1999, *Economic Tools for Valuing Wetlands*, Nature and Economy Programme, IUCN Eastern Africa Regional Office

Box 1 shows four different groups of wetland benefits: wetland services, wetlands products and wetland attributes. Although probably the most valuable contributions of wetlands to people's livelihoods in Uganda comes from the wetland services, research has shown that for an average rural person the wetland products are considered the main if not the only value they derive from wetlands. Luwum and Acuba (1998), found in a review of NWP-project site activities, that even among communities that were exposed to wetland information for several years the majority (66%) of the interviewees mentioned immediate economic benefits as the major importance of wetlands for communities. A much smaller group (22%) mentioned wetland services, and only 4% was aware of attributes and future options. The same research revealed that 97% of the respondents expressed a desire for their wetlands to be conserved. From the above figures it is safe to assume that this desire is largely based on economic arguments.

In this respect it is important to realise that the different available products in a wetland are not of equal interest to all wetland adjacent people. In a certain wetland section a limited number of people may be specialised in extracting a single product, whereas others concentrate on other products. In many cases specialisation is related to a social attribute like gender or age. For example, papyrus harvesting and brick making are predominantly carried out by young males, whereas the harvesting of palm leaves and the respective weaving of mats is mainly dominated by women.

In most cases, activities like wetland fishing, papyrus harvesting or mat weaving are not the economic mainstay of the people involved, but may constitute a moderate cash contribution to the household subsistence production. Although this cash income may be essential, few families will be solely dependent on it. Discussions with rattan cane craft makers, for instance, indicate that if rattan cane was depleted, they would have no problem shifting to other products to make their crafts from. However, there are clear exceptions to this. For instance, small-scale brick making in wetlands is a well-established industry providing large numbers of specialised artisans with a regular income. Another example of an established wetland use is rice cultivation in

eastern Uganda. Preliminary results from a socio-economic study amongst farmers in eastern Uganda show that those with access to wetland plots derive a large portion of their cash income from rice cultivation. The study indicates that rice farmers may be economically better off than non-rice cultivators.

Although, a considerable number of people derive some income from wetlands in an average wetland adjacent community in Uganda, many community members have hardly any direct business in the wetlands. For them, the wetland is more a burden than a benefit. In their view wetlands harbour diseases, take up valuable agricultural land, block their movement from one side to the other side, or if they are no burden, are of no relevance for their daily survival. This perception of wetlands as wastelands may be widespread, and was strengthened by official government policy in the 1950s and 60s to reclaim the wetlands in the overpopulated south-western districts to provide for more agricultural land.

There is no doubt amongst academics that most wetlands in their natural state perform important functions. However, the wetlands' widespread presence is only appreciated by a limited group of direct users; the majority of Ugandans cannot be considered as enthusiastic wetland supporters. This is partly due to the fact that many Ugandans derive no apparent immediate benefits from them, and partly because most people take the services that wetlands perform for granted.

Wetland management in Uganda

The total area of wetland in Uganda is estimated at almost 30,000 Km² (13% of Uganda's surface area). Almost all of this is taken up by an intricate system of relatively narrow interconnected wetland sections that together constitute the major drainage systems in the country. As a result of the huge wetland surface area and its narrow river like shape, Uganda has several hundred thousand kilometres of wetland edge. Many of the wetland edges are only accessible by foot or (motor) bike, whereas the inner parts of many systems, especially the larger papyrus swamps, are totally inaccessible. The length of the wetland edge and the inaccessibility of the larger wetland systems are two important factors to consider when devising an effective system for sustainable wetland management.

There has been no concerted effort to manage the wetlands in Uganda until 1989, when the National Wetlands Programme was established. Before that, wetlands were not considered of sufficient value to set up a country wide management system, as was done for forests almost a hundred years ago. Exceptions are the reclaimed wetlands in the overpopulated south-western districts, and the development of two wetlands in eastern Uganda into large-scale rice farms in the 1970s. In the same period, and probably as a side effect of the large rice schemes, small holder rice cultivation started to pick up in the valley bottoms in eastern Uganda. Apart from these few exceptions wetlands were largely ignored by government and private developers.

At a community level, many wetlands were common property areas, set aside for edge cultivation, fishing, grazing and harvesting of natural products. Community regulations for use of the permanent wetlands and the grazing areas stipulated free access and user rights for all community members. Exceptions to this general rule were the reclaimed wetlands in the south-west, for which individual farmers got either legal title deeds, or exclusive user rights from their community. In many of the seasonal wetland valley bottoms in the east families may have got exclusive user rights from the community or clan some generations ago. However, exclusivity only started to be exerted when rice cultivation increased the value of the land significantly. In the process, the original 'owners' turned their valley bottoms into rice fields or leased their valley bottoms to rice cultivators. Farmers with no user rights to valley bottoms lost their access to the seasonal grazing areas.

In the 1980s the pressure on wetlands was mounting both in rural and urban areas. In the urban areas, notably Kampala, the wetlands were the last 'free' or cheap areas for infrastructure development, and despite the designation of most wetlands as 'green corridors' in the Kampala Structural Plan (1994) wetlands are turned into industrial sites or are slowly filled in with semi-slumps. In the rural areas, small but continuous 'nibbling' at wetland edges has reduced the wetland area though this is mainly restricted to the seasonal wetlands. In eastern Uganda, for instance, almost all the seasonal wetland valley bottoms fit for rice cultivation are reclaimed. The damage to the permanent wetlands in the rural areas is probably still limited. Here the

inaccessibility and the lack of drainage technology have protected these systems from encroachment and/or wholesale drainage.

All these developments have taken place without a well-developed decision making framework that regulates wetland use. The lack of a legal framework is compounded by the limited understanding of how wetlands work, what the immediate and long term impacts of modifications may be, and the economic value of wetlands as compared to the economic benefits of a major development. Basically, abuse could continue as there was no law to stop it, and no strong scientific or economic proof that in many cases developments would do more ecological or economic harm than good. Similarly, at community level, the original abundance of wetlands and the resources within them did not necessitate a strict local management regime for a long time. When over-harvesting and reclamation leads to depletion of, or exclusion of individuals and groups to wetland resources, in many cases the traditional community rules for wetland management were not sufficiently developed to check such abuses.

When the National Wetlands Programme started its community operations in an attempt to strengthen local management systems, it found itself confronted with four major problems:

- ❖ the sheer magnitude of millions of people living along hundreds of thousands of kilometres of wetland edge;
- ❖ the lack of a clear understanding, and thus clear data, of the hydrological, ecological and socio-economic importance of wetlands. As a result, community operations started more or less empty handed as far as sustainable management principles are concerned;
- ❖ the absence of clear traditional or state induced legal instruments to regulate wetland management; and
- ❖ a widespread indifference amongst the population and politicians towards wetlands and the need for wetland management.

On a positive note the achievements of the first 3 years of the National Wetlands Programme are:

- ❖ some key-data on the extent and the importance of wetlands in Uganda were available. From these data it appeared that the total surface area of wetlands in Uganda was far greater than originally thought, and, secondly, that in specific regions the threats and losses were considerable;
- ❖ these findings, well publicised through an intensive awareness campaign, lead to the establishment of a small but serious group of wetland defenders in environmentalist circles and amongst politicians;
- ❖ the awareness campaigns had an impact on the general public in that a considerable number of Ugandans picked up the word wetlands, and the notion that they may be more useful than previously thought; and
- ❖ the framework for a National Wetlands Policy was in place and was discussed amongst environmentalists, politicians and the state.

The combined impact of all this should not be underestimated. In 1994 cabinet approved the National Wetlands Policy. In 1995, wetlands appeared as areas in need of protection in the new Constitution, and in the National Environment Statute. A similar reference to wetlands was made in the Land Act 1998, and the Local Government Act.

Consequently when the NWP community operations started in 1993, widespread behavioural change had not taken place, but the groundwork for turning the no-management attitude into active wetland management was laid.

2. ENGAGING LOCAL USERS IN WETLAND MANAGEMENT

The NWP concept of project sites

During the formulation of the second phase of the National Wetlands Programme in 1992, it was generally felt that, after 3 years of policy formulation and research, the new phase should pay more attention to practical wetland management at community level. The importance attached to this component was based on the need to develop practical systems and procedures for local level management of wetlands. The reasons for decentralising natural resources management to local levels are many and well documented: "... local level involvement can, ..., contribute significantly to maintaining or restoring the ecological integrity of wetlands, as well as contributing to community well-being and more equitable access to resources' (Ramsar, 1998). In addition to this general summary, the Ugandan situation provides two very practical reasons for decentralising wetland management:

- ❖ natural resources management, including wetlands and forests, has been decentralised to the districts and local councils through the Local Government Act (1997). The role of the Central Government is limited to monitoring compliance to national legislation, and to providing general technical support to the districts; and
- ❖ given the extent of the wetlands in Uganda, it is obvious that no centralised or even district management body will ever be in the position to exert effective management on such a widespread and inaccessible resource as the wetlands are.

Secondly, and as has been argued before, apart from rice cultivation and some reclamation, active wetlands management is a new concept in Uganda, and little was known about which activities are possible and desirable in wetlands. Data collected during phase 1 suggested that "traditional uses" (grazing, fishing, papyrus harvesting) could be sustainable, and the National Wetlands Policy allows such uses to continue. However, this view has been challenged on the basis that these practices were sustainable not by their nature but by the fact that they were carried out under low population densities. Increasing intensity of such practices without regulatory measures will eventually render them unsustainable. Consequently, there was a definite need to test a variety of potential sustainable-use options, including the traditional ones, with communities to establish their ecological and socio-economic feasibility.

Thirdly, initial discussions with the phase 2 donor indicated that a considerable portion of the funding should be used for rural development activities, within the framework of sustainable wetland management. Combining the three underlying arguments for working with communities, the National Wetlands Programme developed the concept of 'demonstration sites' with the overall objective "to encourage and assist self help, community based wetland initiatives in selected districts through provision of intervention funds by the appropriate line ministry". This was focused on the following objectives:

- ❖ Define strategies to enhance, broaden and maintain the diversity, benefits and activities in wetlands;
- ❖ Mobilize community support for wetland conservation;
- ❖ Work towards improving community based wetland conservation by assisting communities in making better management decisions regarding their wetlands;
- ❖ End the unsustainable use of wetlands; and
- ❖ Ensure a fair and equitable distribution of benefits to all people with a stake in wetlands.

It is important to note that the objective of testing the feasibility of potential wise-use and improving the well-being of wetland communities are not necessarily compatible. As the outcome of the wise-use tests was unknown, the communities could not be guaranteed that by investing time and effort in the tested activities their livelihood would be improved.

In order to increase the chances for activities being both ecologically and economically feasible, the process of site development included feasibility studies and participatory appraisals of proposed interventions, and is summarized the following key steps:

- ❖ Site selection;
- ❖ Socio-economic surveys, wetlands appraisals and feasibility studies;
- ❖ Setting up village management committees and a central management committee at parish or sub-county level; and
- ❖ Selection and implementation of a starter activity and follow up activities.

Each of the steps is discussed below.

Site selection

In the course of 1993-1996 three demonstration were established in the south-west, south-east and the centre of the country. Selection of the sites was based on the following criteria:

- ❖ the wetland: had clear problems of past abuse, or was located where a community had already shown an interest in wetland development;
- ❖ location: it was well known as an important natural resource;
- ❖ community attitude: compatible with the proposed activity;
- ❖ product: ready market available; and
- ❖ feasible: in terms of environmental factors, management, community participation, and able to support an integrated approach.

With hindsight, these can be seen as 'ecologically cautious' criteria, assuming that wise-use activities would indeed be compatible with community interests. The initial enthusiasm of the collaborating communities strengthened the project's view that the community's interests were indeed fully in line with the wise-use concept on the NWP.

The actual site selection process began with the identification of eight pilot districts as the ones with the most extensive wetland's degradation. In May 1993, a workshop, bringing together the administrations of the eight districts, selected three demonstration sites, to represent three regions, Kabale (South-western Uganda), Masaka (Central Uganda) and Pallisa (Eastern Uganda). The process involved acquiring the approval of the Local Council 5, the District Development Committee and the county authorities. Up to 1997, the NWP concentrated its community operations on the development of these three sites.

The process of site-selection was broad based, and supported at the highest political levels in the districts. However, in subsequent site operations, the NWP took a strong lead. Regular contacts were maintained with the relevant district officers, but their contributions to site development, both technically and financially, were limited. Analysis of the situation in 1997 and 1998 lead to the conclusion that the district administration should be more actively involved in the development and management of the site, and in other wetland related activities.

Socio-economic surveys, wetland appraisals and feasibility studies

In the course of the site development process various studies were undertaken to identify ecologically and socio-economically feasible activities. The original socio-economic surveys and the wetland appraisals followed a Participatory Rural Appraisal (PRA)-approach. For each site the survey would establish five activities in order of community priority. The suggested first priority activity would then be scrutinised on its ecological feasibility and either be approved or rejected by the NWP in consultation with district authorities. For the three sites the outcome of the surveys are summarized in Table 1.

Table 1: outcome of problem analysis from PRA-studies and the starter activity for the three project sites

Project site	Priority choices	Chosen activity
Kitanga	Farming	Fish farming
	Dairy farming	
	Fish-farming	
	Horticulture	
	Agro-forestry	
Kyojja*	Reduced vegetation cover	Crafts making
	Changing rainfall patterns	
	Reducing soil fertility	
	Poverty	
	Diseases	
Limoto	Landshortage	Tree planting
	Fodder production/zero grazing	
	Rice cultivation	
	Tree-planting	

* priority problems, not choices

The socio-economic surveys revealed that none of the three communities were giving wetland conservation related activities priority. For instance, the socio-economic survey in Kyojja indicated that "...problems related to the use of the wetlands were not highly prioritised by the participants" (Mijumbi and Tumusiime, 1994). This is not to say that the communities were opposed to the eventual choice of a first intervention, neither does this mean that the NWP, with a clear mandate in wetland management, should automatically adopt any first priority suggestion that would surface from such a participatory process. However, it does stress the point that broad-based support for wetland conservation, however important it may be from a NWP-point of view, was not widespread in the rural areas.

The NWP decided to follow a two-pronged approach to tackle this: firstly to step up the awareness raising around the sites, in order to convince people that wetland conservation was a sensible thing to do, and secondly, to support the community activity that would come the closest to the wise-use concept of the NWP.

The final choice for a certain activity was to be backed up by more detailed feasibility studies, which were expected to address the question as to what extent the activity could sustain itself after the NWP was phased out. Studies were carried out in Kitanga and Kyojja in 1995. Both studies looked into logistical and financial requirements for fish-farming and crafts production respectively, and both revealed major challenges to make the activities a financial success. However, at this stage the option to change to more feasible activities was, and probably could not be considered anymore, since the activity was well underway. In both cases the challenges were not entirely met during the next two years, and the activities are still financed to large extent by the NWP.

An important lesson from this is that the financial feasibility of community-based environmental management activities should become part of the prioritisation criteria, that is it should be brought in as early as possible in the decision making process.

The implementation of site activities

Implementation of the site activities started in earnest at the Kitanga and Kyojja sites in 1994, and at the Limoto site in 1996. In the implementation the NWP intended to follow the following strategies:

- ❖ creating a broad local consensus for wetland management by encouraging the establishment of site management committees;
- ❖ building local capacity for wetland management through training of communities in resource management, leadership and related topics;

- ❖ starting with one starter activity, and, when successfully implemented, broaden the activity range into a fully fledged management plan;
- ❖ initially a strong technical input and supervision from NWP-staff, to be phased out and handed over to district technical staff;
- ❖ providing seed money for a limited period and withdrawing as soon as the sites start to generate sufficient income; and
- ❖ on the basis of the findings at the sites, establish generic principles for wetland management to be disseminated to other wetland adjacent communities.

All of these principles were geared towards creating sustainable activities, which within a period of 3-4 years would be run by the communities themselves. The role of the NWP would be to "kick-start" the activities, learn from the experiences and replicate those in other areas in the country.

The functioning of project site management committees

The site activities were meant to concentrate first on a limited number of wetland adjacent villages, called focus communities. For the day-to-day management of the sites the NWP encouraged the establishment village management committees, and a central management committee. The role of the management committees was to handle awareness raising, solve wetland-related problems, and mobilising the community. In due course the NWP facilitated the formation of a wetland management Community Based Organisation (CBO) from the members of the central management committee.

It was initially assumed that the focus community would be representative of the wider community. Over time, however, it appeared that the focus community lost contact with the wider community, and became the sole beneficiaries of the project interventions. The best example of this is the project site in Kitanga where eventually the focus community was reduced to 22 people, the so-called 'insiders', who were facilitated substantially in rehabilitating four fishponds. Other fish farmers, the 'outsiders', received some training, but no further facilitation. The villagers, who originally elected the central management committee, were sidelined by the insiders in the process.

There are several factors that may have contributed to losing contact with the wider community: firstly, wrongly assuming that all villagers have an interest in the adjacent wetland, and thus in the project interventions. It is likely that a considerable number of villagers were never interested in wetland management at all, since they were, in their view, not directly depending on the wetland resources. Consequently, from the start they never bothered to be involved.

Secondly, the lack of immediate results in terms of improved livelihoods may have discouraged villagers with initial high expectations. In the first three years of site operations none of the sites produced any significant income for the focus community, leave alone for the wider community. Indeed in the course of phase 2, it appeared that some of the tested wise-use activities, notably the fish-farming and tree-planting, although possibly wise from an ecological point of view, were not feasible from economic point of view.

Thirdly, the concentration of the NWP on the central management committee and later the CBO, may have created the impression that the project was meant for a few, and not for the wider community. This process of exclusion may have been consciously or subconsciously strengthened by the members of the central management committee, who may have feared a dilution of their benefits if they were to be shared with the wider community.

Overall, the following lessons may be drawn:

1. It is of extreme importance for a successful local level wetland resource management programme, to identify the true stakeholders for that specific resource: the resource users, being defined as the people who were positively benefiting from the resource before the project intervention started. This is not the village as an administrative entity, but a group of people bound by a similar interests in a wetland resource, e.g. papyrus harvesters, pottery groups, rattan cane users, who should be targeted as the prime managers of that resource. This is supported by the observation of the NWP that the Kyojja project site, which deals with papyrus craft makers, is more successful than the Limoto and Kitanga project sites,

where new activities were being introduced. The prime interest of the Kyojja group is in increasing their income from an existing wetland activity: papyrus harvesting and processing. In Limoto and Kitanga the collaborating communities had no history in the adopted site activity, and this, compounded with the low and slow returns has made them strongly dependent on project subsidies.

2. The local administrations have an important role to play in the subsequent steps of consolidating resource user plans and provide the legislative backing for them. Only if local resource users and their wetland resources are sufficiently protected by local bye-laws, will they be willing to invest in the proper management of their resource. If the role of the local administration is not to manage the resources, but to support the resource users in their management endeavors, interventions at that level should consist of strengthening the capacity of LC-3 environmental committees to formulate the necessary bye-laws.

Awareness and training of community members

In order to have the management capacity and skills of the participating community enhanced, the National Wetlands Programme organised various training sessions for community members. Training needs were assessed by the communities in consultation with the NWP. They covered a wide range of topics, including general environment management (wetland ecology), improving resource use (fish-farming, crafts-making, tree-nursery maintenance, bee-keeping etc), and local level leadership and management techniques (book-keeping, organisation and planning skills etc). The target group for these trainings was the focus communities and local LC-leaders. In addition to the trainings, the NWP organised exchange visits for the focus communities to other wetland sites, NGOs, and crafts-production centres.

The impact of the combined awareness and training activities on the focus communities is probably considerable. During the review of the project sites an average of 24% of a random sample of community members mentioned that they had gained skills and knowledge from the project activities (Luwum and Acuba, 1998).

Although the awareness and training activities had most likely a positive impact on the potential of the communities to manage their own affairs, it is probably too early to assess to what extent this has contributed to improved wetland management. But the awareness and training activities have established some pockets of wetland knowledge and concern in the project areas.

The impact and viability of the wetland management activities

From 1994 onwards, the NWP supported communities at the three sites in implementing one starter activity, with the aim of adding new activities as soon as the first one was well established. At the Kitanga site, the original aim was a more integrated approach, including fish-farming, horticulture and agriculture, however the project focused on to fish farming from 1995 onwards. At the other two sites, crafts making (Kyojja) and tree-planting (Limoto) were the starter activities. By 1997 all three sites had embarked on a second or even third activity (Table 2).

Table 2: starter activities and follow-up activities at the three project sites

Project site	Starter activity	Second activity	Third activity
Kitanga	Fish-farming	Bee-keeping	
Kyojja	Crafts-making	Fish-farming	Tree-planting
Limoto	Tree-planting	Bean-cultivation	Bee-keeping

The bean-cultivation in Limoto was done without consultation with the NWP, and was originally thought to be outside the objectives of the project site. The second and third activities in Kyojja were done at the initiative of the community, with technical contributions from the NWP.

The question as to what extent the site activities were successful should be answered from the perspective of the intended beneficiaries, and from the perspective of the larger objective of improved wetland management country wide.

The review of the sites reveals that focus communities did notice some improvement in their livelihoods as a result from the site activities (Table 3).

Table 3: Percentage of respondents at the three project sites mentioning benefits from activities

Project site	Benefits		
	Financial	Material	Knowledge
Kitanga	31	88	6
Kyojja	100	?	20
Limoto	8	50	33

Source: Luwum and Acuba (1998)

The data does not allow a quantification of the improvements, and, thus, does not allow a comparison of project investments and gains. However, additional data shows that the site activities did have a multiplier effect in the wider community.

Given the considerable investments the NWP made, especially in Kitanga and Kyojja, it is unlikely, even in the long run, that the gains will surpass the investments. This is not necessarily a problem so long as the second objective of the project sites, namely to build experience for replication elsewhere, is sufficiently achieved. With respect to this second objective, it is too early to make a proper judgement. However, the NWP has definitely learned that the combined objective of improving livelihoods and at the same time building experiences may not always be compatible or possible. The pressure to improve the livelihoods of the test communities has sometimes resulted in continued high investments in non-viable activities. This was enforced by the original emphasis of the NWP on the ecological viability of the activities, sometimes at the expense of economic aspects. Once the focal community has invested considerable time and resources in an activity, and the economic gains are not forthcoming, it is extremely difficult for any project to withdraw on the basis that the lesson "what not to do" has been learned.

The key-issue here is that for such a set-up to be successful, both parties must fully agree on the objectives of collaboration. The alternatives are several (wetland conservation *per se* with economics as a secondary objective, testing alternative uses with the risk of no economic gains, or improving livelihoods of the communities with wetland conservation as a secondary objective) but have to be agreed upon before the onset of the activity.

In the case of the NWP some uncertainties about the objectives may have resulted in different expectations of the collaborating partners. The project site review indicates that some community members were disappointed with the project site activities. A wide range of problems were mentioned including: negligible monetary gains, insufficient financial or material project inputs, too high labour inputs and logistical problems (Luwum and Acuba, 1998). On the other side, the NWP-staff, on several occasions, felt a limited commitment of communities to the site activities. The general picture that can be drawn from this is that community members were hoping for quick monetary benefits that the NWP was not able to guarantee, and not willing to handout in non-wetland related incentives.

These experiences point to a dilemma for any environment management programme with a community management component: what to do in cases where the ecologically optimal management regime does not meet the 'management costs' of the community. There are several economic solutions to this problem, whereby the ultimate one is to subsidise an ecologically optimal and economically non-viable regime from other sources (Table 4).

Table 4: management costs and benefits

Management costs	Key-questions	Management benefits	Key-questions
Direct wetland costs	Who incurs costs?	1) Direct benefits from products ❖ benefits as they are now ❖ potential benefits from new products, added value ❖ benefits from acceptable wetland modifications	Who gains?
Foregone benefits	Who loses benefits?	2) Income from off-site benefits from commercial/industrial/profit making activities	Who pays?
Opportunity costs	Who pays?	3) Income from non-use benefits and option values	Who pays?
Direct management costs	Who pays?		
X		Y	

(based on Emerton, 1998)

Table 4 indicates that if the management costs (X) incurred by the 'managers' (presumably the community) cannot be met by direct gains, contributions from other commercial beneficiaries or non-commercial beneficiaries (Y) are needed to offset the community loss. The NWP has been exploring the first level benefits as they can be derived from as little interference with the natural system as possible. This cautious approach has proven difficult in terms of meeting the management costs/expectations of the community managers. A wider exploration of acceptable wetland modifications that incur direct benefits to the community members, and other sources of income from commercial and non-commercial off-site beneficiaries may be necessary to make community management a viable option.

3. COMMUNITY MANAGEMENT OF WETLAND RESOURCES: THE WAY FORWARD IN UGANDA

The wetlands in Uganda are vast, complex and extremely important ecosystems. The NWP has succeeded to make this clear to the general public in Uganda, and has been able to have them protected in the Constitution, the National Environment Statute, the National Wetlands Policy, and recently in the Land Act (1998). Today, the NWP has moved into the area of wetland management at district and local levels. There is no doubt that practical management will need to involve the local users. This is so, firstly because of the legal requirements under decentralised environment management. Secondly local level management is the only viable option because no centralised management system will ever be able to effectively control the large wetland surface area and all the wetland edges in Uganda. Thirdly, it is now generally agreed that local level management as opposed to a centralised system will in many cases make the management regime more realistic and more geared towards the need of the local users. As such a local level management systems will make direct and tangible contribution to the development aims of individuals and the state.

The endeavours of the NWP in this field have been relatively short in duration, especially when compared to other resource managers, like forestry, and fisheries. Very little is known about the ecology, hydrology and socio-economics of wetlands in Uganda. This has an immediate bearing on what the NWP can offer in terms of viable management options, which is indeed, as yet, very limited. Therefore a key-task for the NWP is to build-up this knowledge base as soon as possible, in order to give sensible advice to local level managers on what can be done, and what should be avoided.

What is known about the socio-economics of wetlands in Uganda poses a major challenge to the programme. Generally speaking, wetlands in Uganda are not perceived as a key-resource by the majority of Ugandans, even by those who live right on their edge. For specialised groups a certain product from a wetland may be essential for their income, and those are the groups that may have an immediate interest in wetland resource management. For other wetland adjacent communities, they may not be willing to invest in wetland management unless value can be added to existing products, new valuable wetland products can be identified, or profitable wetland modifications are being allowed. This is one of the key-tasks of the NWP and should proceed, or at least go hand in hand with the development of local level management systems.

This raises the question of the viability of the wise-use concept. Wise-use, in Ramsar terms means the *sustainable utilisation of wetlands for the benefit of mankind in a way compatible with the maintenance of the natural properties of the ecosystem* (Ramsar, 1998). This definition leaves ample room for interpretation. In its strictest form, a modification of any wetland that impacts on the ecological integrity is not allowed. Such an interpretation leaves, at least in the Ugandan context, probably not enough room for creating the tangible economic benefits needed for sustained local level management. There are at least two ways out of this dilemma.

1. The first option is to widen the interpretation of the definition of wise-use by defining a *minimal sustainable wetland integrity*, which allows wetland modifications to a certain threshold level, provided that such modifications indeed increase the overall socio-economic benefits of the wetland for the local managers. The threshold level can be defined on the basis of certain criteria, a key-one being that the overall hydrology of the wetland system is not disturbed significantly. Such an approach would open up possibilities for integrated wetland management, whereby, for instance, part of the wetland vegetation is replaced by rice or trees, certain areas are mined for clay, and the core of the wetland remains intact to perform its ecological or hydrological functions.
2. The second option is to have off-site beneficiaries pay for their off-site benefits to the local managers. This option is widely used in eco-tourism/development projects, but could be considered for instance to apply to water companies that extract water from a wetland, and in return pay for social infrastructure in the adjacent villages. In the Ugandan context this second option is still has long way to go, but should be explored in some circumstances.

Any of the management options will work only if the managers are empowered to play their role. A key-issue here is the availability of a proper legislative framework that binds and supports the various users and managers. Although the NWP has made enormous progress in this respect, issues of wetland ownership and local level bylaws needs further strengthening. The ownership of wetlands is complex and is variously interpreted by different stakeholders depending on their particular interests. Some wetlands are believed to be individually owned, some are communally owned, some are under 'assumed ownership', others are leased. However, in very few cases does a central or local management authority exist, with the ultimate power to give or withhold access and user rights to wetland areas. As a result, few of the guidelines on wise use of wetlands currently being developed by the NWP are being enforced. In addition, wise users of wetlands are usually not protected from other unwise users who may disturb their management regime. The NWP is planning to address this issue in two ways:

- through the more active encouragement at sub-county level for the development of bylaws that regulate wetland use; and
- a further strengthening of wetland legislation by the enactment of a Wetland Statute that regulates wetland use, and empowers relevant authorities to take corrective measures if abuses occur.

Lastly, the NWP has come to realise that it does not have the slightest possibility of reaching more than a fraction of wetland edge dwellers with practical demonstrations of wise wetland use. The most the NWP can do is develop the legislative framework, the management principles and lessons from pilot practice. Dissemination, training and to some extent monitoring has to be carried out by other players, like the existing agricultural and forestry extension system and the NGO-sector. An effective strategy to make such institutions partners in wetland management has the highest priority if the NWP is to make practical contributions to instituting practical and sustainable wetland management at local level.

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