# The Perspective of Environmental Education: Significance of Awareness Levels towards Conservation of Wetlands in Uganda

**Gorrety Nagawa**[9]

*Bishop Stuart University*

**Abstract**

Conservation awareness is a major prerequisite for proper management of the environment and the earth's natural resource heritage. Similarly, the lack of alternatives to particular resources can lead to increased degradation of wetlands even in areas where the people are highly sensistised and are environmentally aware. However, where people get tangible goods they always conserve that resource in order to continue benefiting from its existence and regeneration. This article examines the relationship between the levels of awareness of environmental conservation in Uganda and also seeks to establish the procedures for integrating awareness activities into conservation management of wetlands for development.

## Introduction

Wetlands are vegetated areas of land that are flooded permanently or seasonally and stay wet enough for certain plants and animals to grow even when there has been no rain (NEMA 1999). Wetlands are distinguished from terrestrial habitats by having significant water for a large proportion of the time (Gilman 1994). Wetlands provide a wide range of goods, services and attributes that constitute a considerable ecological, social and economic value that may be lost when wetlands are converted or altered (IUCN 2000). Because wetlands are the interface between dry land and truly aquatic ecosystems such as large lakes and oceans, they contain species whose living space straddles the boundaries between dry land –wetland aquatic systems. Wetland goods include fish, wild foods, medicine and pasture, and thatch material, among others. Wetlands are so vital and useful for their

[9]Goretty Nagawa is a Lecturer in the Department of Economics and Management, Bishop Stuart University, Mbarara, Uganda

ecological attributes and functions that include; climate modification, water purification and storage, flood control and storm protection. Wetlands can be used for agricultural, industrial and leisure purposes. Some wetlands cross international frontiers and the species, which use them, are often migratory between the different countries. Likewise, the functions and services associated with such trans-boundary wetlands cut across more than one country. An example is the Sio-Siteko wetland, which is a trans-boundary resource, shared by Uganda and Kenya. There are no statutory regulations so far defining the identification or demarcation of wetland boundaries. The most significant boundary to be identified/located on the ground is between the dry land and the seasonal wetland; this key boundary may be identified either; ecologically or legally by agreement and survey (Nile Basin Initiative 2009). Wetlands are recognized as important for a wide variety of flora and fauna and various functions and services. Various population groups attribute wetlands to cultural, aesthetic and bequest values. Although some wetlands provide more benefits than others do, all wetlands are considered to be important and are in need of sustainable management.

**Table 1: Categories of wetland benefits**

| DIRECT VALUES | INDIRECT VALUES | OPTION VALUES | NON-USE VALUES |
|---|---|---|---|
| ***Production and consumption goods such as:*** | ***Ecosystem functions and services such as:*** | ***Premium placed on possible future uses and applications, including:*** | ***Intrinsic significance in terms of:*** |
| Fishing<br>Fuel wood<br>Building poles<br>Thatch<br>Water<br>Wild foods<br>Medicines<br>Agriculture<br>Pasture<br>Transport<br>Recreation | Water quality<br>Water flow<br>Water storage<br>Water purification<br>Water recharge<br>Flood control<br>Storm protection<br>Nutrient retention<br>Micro-climate<br>Shore stabilization | Pharmaceutical<br>Agricultural<br>Industrial<br>Leisure<br>Water use | Cultural value<br>Aesthetic value<br>Heritage value<br>Bequest value |

Source: Musinguzi & Katikkiro, (2000: 1)





## Global status and significance of wetlands

Wetland ecosystems in the world account for about 6 percent of the global land area (Turner, 1990; cited in Ngaku, 2002). Wetlands of international importance are referred to as Ramsar sites. The Ramsar Convention is one of the four international nature conservation treaties in addition to World Heritage Convention, Convention on International Trade in Endangered species of Wild Fauna and Flora (CITES) and the Bonn convention (Ngaku 2002).

The Ramsar definition of wetlands is given by Davis (1994) as "areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static, or flowing, fresh, brackish or salty, including areas of marine water the depth of which at low tide does not exceed six meters." In addition the convention provides that wetlands "may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six meters at low tide lying within the wetlands." According to this wetlands cover a wide variety of habitats including shallow coasts, rivers and coral reefs.

Wetlands are categorised into groups according to the level of degradation hence the intact, degraded and highly degraded (critical) wetlands. Today critical wetlands tend to be located in urban areas of a country where 'reclamation' of wetlands for industrial, commercial and residential developments is the main cause of wetland loss. Some wetlands can be more important than others locally, nationally or internationally because their loss or alteration would result in totally unacceptable adverse social, economic and environmental impacts (IUCN, 2000).

Wetlands are categorised into five priority classes depending on the level of degradation, the wetland attributes and associated resources. According to Musinguzi and Katikiro (2000), wetland classes are: Class 1- Vital wetlands (Critical), class 11- Vital wetlands (Non-critical), class 111- Valuable wetlands (Critical), class 1V – Valuable wetlands (Non critical) and class V- Various wetlands. Class 1 includes wetlands under serious degradation while they provide at least one essential good or service for which there is no alternative source of supply. Class 11 wetlands bear some characteristics of class one but are not currently under degradation. Class 111 carries wetlands subject to ongoing degradation while they provide essential

resources, which are also available in other wetlands. Class 1V carries wetland category of class 111 but when the wetland is not subject to ongoing degradation. Then class V wetlands are those that do not provide essential goods or services upon which many people depend or, they do provide resources that are locally abundant that degradation or over - harvesting is unlikely in the foreseeable future. Some wetlands may be beyond threat because of their size or their connection to permanent lake systems, or because they are already so highly modified that they are not economically recoverable. Examples of wetlands that are not economically recoverable are (many of) the urban wetlands which have turned to be a 'nuisance' than a necessity.

Dugan (1990) indicates that many of the practical changes for wetland conservation cannot easily take place until people understand the purpose of wetland ecosystems, and species and are aware of the actions to do so. Gilman (1994) adds that the management of wetlands for conservation alongside land used for agriculture or development requires an understating of the principles of wetland hydrology and hydrological processes, which have maintained its site's natural habitats in the long term.

Ministry of Water, Lands and Environment (2003) shows that The Constitution of Uganda imposes on the state the duty to 'hold in trust' and protect wetlands for the common good of all citizens. These important clauses have been translated into strategic objective number 7 of the Ministry of water, lands and environment (Similar to the main objective of the National Wetlands Policy, and has been further operationalized by the Wetlands Inspection Division into 8 strategic objectives as formulated in the WSSP (2001-2010)

**State of wetlands in Uganda**

Uganda is widely recognised as one of the most advanced countries in Africa and the world in terms of wetland conservation (WID 2001). Wetlands in Uganda form an extensive network covering 30,000 square kilometers (13 percent) of the total area of the country. The most common type of wetland in Uganda is the papyrus swamp dominated by *Cyperus papyrus* (MoWLE, 1999; cited in Ngaku, 2002). Wetlands in Uganda as well as in other parts of the world are recognised for their functions, services and attributes.





The responsibility of wetland management in Uganda is based in Wetlands Inspection Division (WID) and National Environment Management Authority (NEMA). WID (2001) indicates that the Local Government Act of 1997 decentralises the conservation and management of wetlands to the local Governments. This means that the management of wetland areas is primarily the responsibility of the district in which they fall. This poses a challenge to the districts. Many districts have extensive wetland areas but lack sufficient personnel and funds for proper planning and management of the resource. WID further states that wetland management is not an easy task and few districts have included wetland planning and management in their District Development Plans (DDPs). However for wetlands shared by districts or countries, collaborative management between the owners is necessary. For example 'The Nile Basin initiative Secretariate' has prepared 'The Nile Trans- boundary Environmental Action Project for the Management of Sio-Siteko wetlands. Sio-Siteko wetland system is a trans-boundary wetland that consists of a number of inter-connected secondary and tertiary wetland sub-systems connected through a system that stretches along the Kenya-Uganda boarder and draining into Lake victoria (Nile Basin Initiative, 2009).

The Nile Basin Initiative Secretariat indicates that Sio-Siteko wetland stretches along the district of Busia in Uganda and Busia and Samia districts in Kenya. The location of Sio-siteko wetland system, along two countries, poses a challenge in terms of specific administrative structures and legislative measures to guide management of such a resource. This requires harmonization of environment and natural resource management policy and legislative frameworks in Uganda and Kenya. The effects of mismanagement of Sio-Siteko wetland system are likely to be felt by countries in the area, however, wider impacts can be felt beyond as Sio-Siteko wetlands drain in Lake Victoria which is a trans-boundary water resource shared by Uganda, Kenya and Tanzania and whose water ultimately flows to Sudan and Egypt.

In Line with that, Nile Basin Initiative (2009) emphasises that the management of Sio-Siteko wetland system must use a trans-boundary approach, which brings together input from the stakeholders from Kenya and Uganda to harmonise the different structures and systems, as much as possible. Nile Basin Initiative (2009) shows that; a rapid

survey of the economic importance of Sio-Siteko wetlands indicated that there are very important ecological and social- economic values from the wetlands in the area. These ranges from use for extraction of construction and craft materials for example sand, clay, to grazing and fishing, which contribute a lot to the livelihoods of local communities in the area. The wetlands are also used for growing of yams, sugar cane, potatoes, maize and millet and to a small extent for fish farming. The Sio-siteko wetlands provide water for domestic and livestock use and are appreciated for providing filtration and purification services, especially for polluted water from urban areas in addition to storage of water. However the wetlands are facing pressures due to unsustainable utilization, with impacts arising from conversion for agriculture and burning.

Lake Victoria wetlands are also continuously having the same problems. The 'Lake Victoria Environment management Project (LVEMP) was started to secure Lake Victoria environmental situation; including proper management of the lake waters and wetlands. Sango Bay wetland stretch of Lakai is still fairly intact and more cooperation is necessary to save Uganda wetlands for sustenance and use by future generations. Wetlands in pallisa district have been largely drained for rice growing. The most affected are the flood plains. Ministry of Water, Lands and Environment; Wetlands Inspection division –WID 2003) shows that almost 60 percent of the total seasonal wetland area in Pallisa is converted. This percentage indicates low seasonal wetlands are largely being used as compared to 0.7 percent of the permanent ones. The permanent wetlands are less affected because they are deeply - water logged and drainage is difficult. There is continuous need for awareness creation on wise use of wetland ecosystem in order to promote wetland management in particular and environmental Conservation in general.

Uganda was the first country in Africa and the second in the world after Canada to have a wetland policy (Sunday Vision, February 2, 2003), and is now the point of reference for other nations wishing to conserve their wetland resources through policy development. The National policy for the conservation and management of wetland resources was adapted in 1995 (Musinguzi and Katikiro 2000).

**Awareness levels and people's attitudes and behaviours towards**





**wetlands in Uganda**

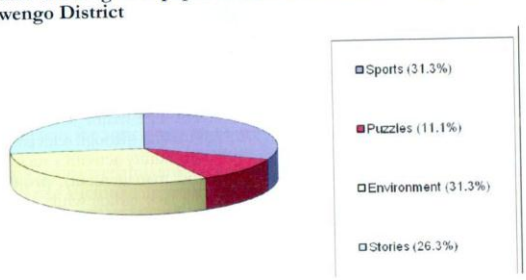
National Wetland Conservation and Management Programme (NWP) phase III (2001) indicates that awareness of wetland issues at the district level was increased through seminars organised for the District Development Committees of Kabale, Bushenyi, Masaka, Mpigi, Kampala, Iganga, Tororo and Pallisa. NWP further indicates that awareness materials (including posters, calenders, stickers and booklets on wetlands) were produced and distributed to, among others, District administrations, NGOs, and educational institutions.

In Uganda the people who receive information on wetland management are less than the non receivers. The major sources of wetland information in the country are mass medias through television, radios, magazines and news papers; and Community activities such as music festivals (involving songs on wetland management), projecs and Local Council meetings. Some people lack radios while many more are too poor to purchase television sets. Even those people that access wetland programmes do not listen to them regularly. For example in Masaka a high percentage of respondents listen to Radio Uganda (Radio Star) because it is the oldest radio station and its reception covers the whole country. They also listen to Buddu FM the local radio station in the area. There is thus a higher chance for information to reach a bigger population in the local area through the most listened to radio by the community. Because people are more interested in listening to issues pertaining to their own country, BBC which has global news is less listened to (especially in the rural areas), hence such people miss global issues of wetland management.

Less than1/2 of the people of Uganda read newspapers and those who read the newspapers have focus at their articles of interest, not necessarily wetland management or environment news. Only a few people can afford to buy newspapers regularly, while others receive them by chance either from a friend or from organization offices where they work. Primary children get environmental information from Young Talk, which is sent to schools every fortnight from New Vision office and they also receive some information from their lessons in class. Since there is quite a reasonable number of people interested in environmental issues, when more information sources are available and when more awareness programmes are conducted,

many more people can easily learn and adapt environmental conservation procedures. When a survey was made to find out the newspaper articles of interest to the people of Lwengo District the results are indicated in the chart below.

**Chart showing newspaper articles of interest to the people of Lwengo District**




In addition to newspapers, environmental newsletters have contributed to the increase of community awareness. Quite a sizeable number of people (about 34.9 percent) in Uganda have access to magazines and newspapers, however very few read them. This is because they are written in English and majority of the population especially in rural areas cannot read and interpret the information they carry. Others receive environment information brochures and magazines but lack the interest to read them. The major types of Environmental newsletters read in Uganda are NEMA news, Wetnews Bulletin and Young talk.

In order to establish people's knowledge of the existence of wetland degradation, its after effects; the need for conservation and knowledge on the wetland policy, there is need to study the different/various communities (including those near wetlands and those involved in wetland management projects) in Uganda. Wetlands Inspection Division organized a training workshop for Environmental Non-Governmental Organnisatins (NGOs) working in the central region; the workshop lasted for four days and attracted over 25 participants; and was held at Brovard Hotel in Masaka (Wetnews Bulletin Volume 8 Issue 1: June 2004).





When some people are asked whether they experience problems due to wetland degradation in Uganda some agree while others indicate that they do not have any problems, an indicator of low levels of awareness to some, because environment /wetland deterioration problems such as climatic instability, are faced even within far areas from the wetlands. Even those who are aware that there are wetland degradation problems cannot easily indicate the problems they experience.

A sample of population in Pallisa district was asked to give the problems of wetland degradation in their areas and the following graph indicates their response

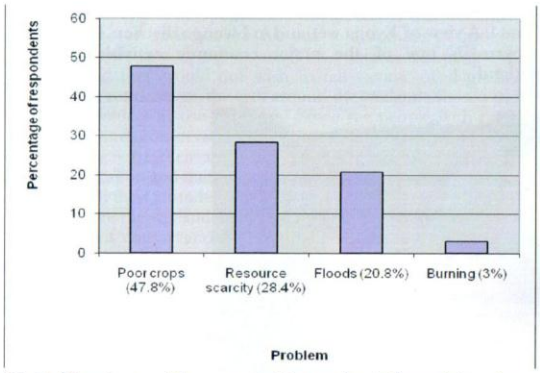


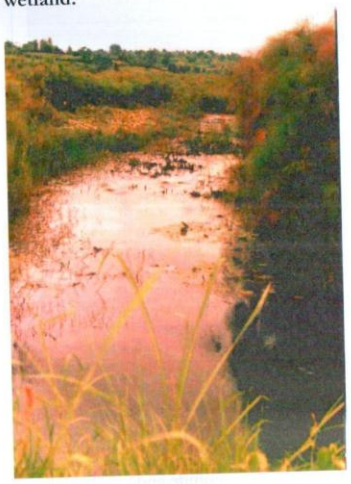

**Fig 1: Showing problems caused by wetland degradation in Pallisa district**

The major problems indicated were poor crop yields (47.8 percent), resource scarcity (28.4 percent), floods (20.8), and burning (3 percent). Many of these problems were caused by wetland drainage for agriculture.

Although many people are aware that wetland degradation causes problems, they cannot easily assess the magnitude and effects of the problems. On the other hand many people blame the wetlands for

being the direct cause of these problems. This means that many people are not sufficiently aware of the impact of their activities on the wetlands. The wetland resources that have become scarce or extinct in Uganda are papyrus, palm leaves, medicinal herbs, firewood trees and fish. In Uganda wetlands are seen covering extensive areas and one can easily think itis the most abundant resource in the country. People harvest papyrus from wetland margins causing the mature papyrus to exist further in the interior of the wetland making harvesting harder and expensive. When such a valued resource becomes one of the most scarce products, the people may apply all the possible conservation measures to maintain its growth and regeneration so that they continuously enjoy the functions and services from the resource.

**Plate 1: A view of Kyojja wetland in Lwengo district: Harvesting papyrus is one of the major economic activities on this wetland.**







The wetlands in Uganda are reported to have animals like monkeys, wild pigs and birds, which creatures were in big numbers in the past, but had been lost due to the clearing of the wetlands. As a result of exposure to hunters and other predators, these animals have migrated to more favorable places.

Up to today not all people of Uganda support the conservation of wetlands. However a community with many people in support of conservation can easily adapt new innovations that promote wetland awareness. The recommended way of improving the availability of resources can be through involving all the people (especially at community level) in wetland awareness and conservation activities.

Although majority of the population do not realise that wetlands are getting destroyed and that this has led to a number of problems, they support wetland conservation. This indicates that people value wetlands and they would not wish to fall victims of degradation effects. The residents of the area around the wetlands should be the main stakeholders in conservation. Since the people with positive attitudes towards conservation, are the same people who are not aware of the impacts of their activities to the wetland, there is need for massive education and training so that people's level of understanding matches with their attitudes. Many of the people supporting wetland protection are the wetland users/beneficiaries, and are eager to learn better ways of conservation in order to sustain the wetland benefits.

Over ½ of the people of Uganda are not aware of the policy for the conservation and management of wetlands. Lack of awareness on Wetland Policy is one of the factors that contribute to the degradation of wetlands.

The best way to improve wetland conservation is involving people in community workshops. Even in school communities wetland festivals are carried out where a number of drama activities supporting wetland conservation are done.

Generally the people living adjacent to Kyojja wetland have positive attitudes towards its conservation, however these attitudes are mainly influenced more by the economic values attained out of the wetland than the need to maintain it in its natural form. That is why the people

who are involved in conservation activities are taken to be against community development. Some people can only leave the wetland when provided with alternative land, or another activity. However unavoidable factors such as scarcity of funds and lack of alternatives to particular wetland products have persistently made some people continuously degrade the wetlands despite the positive attitudes they hold towards their (wetlands) conservation.

## The wetland management projects and programs operating in Uganda

The most active wetland conservation programs in Uganda are National Environment Management Authority (NEMA), Wetlands Inspection Division (WID); these operating at National scale to promote wetland conservation. These National programs support Local Communities wetland management projects such as Kyojja Wetland Management Association (KWMA); Wetland school festivals which are mainly held is schools of Kumi, Kamuli, Pallisa and Masaka Districts; Sun Flower Dramar Clubs and VI Projects , all dealing with conservation management of wetlands in Uganda. Ministry of Water, Lands and Environment (MoWLE) 2003, indicates that; the activities of the Wetland Sub-Sector (Under WID) are guided by the National Wetlands Policy (1995) which states as the main objective: The social-economic and bio –physical value of wetlands maintained for present and future generations. The wetland Sector Strategic plan (WSSP) overall goal is formulated as follows: Contribution of Uganda's wetlands to human welfare and the health of the environment increased. Improved wetland management contributes directly to the right of Ugandan 'to a healthy and clean environment' as enshrined in the constitution 1995 (MoWLE 2003).

There are some projects like Masaka Youth Development Project (MAYOD) and VI project which are not directly concerned with wetland management, although they promote wetland conservation besides other activities. Other projects in the same category are Kulika Sustainable Agriculture and Kamenyamiggo Farmers.

The Programs (organisations) that do facilitate and fund the local wetland NGOs are Wetlands Inspection Division (WID) and Lake Victoria Environment Management Project (LVEMP). Although LVEMP has its independent aim it operates through the Wetlands





Inspection Division (WID). Those two organisations operate under the guidance of the National Environment Management Authority (NEMA); the overall institution dealing with environment resource management in the country. WID and LVEMP are funded by international organisations like USAID, IUCN and the Netherlands Funding Agency.

WetNews Bulletin (2004) shows that WID develops working relationship with international organnisations such as Project Wet-USA. For example among the 27 participants that attended the Project-Wet international Conference at Jackson Hole, Wyoming-USA; who included states and country coordinators (from America Samoa, Canada, Cameroon, Japan, Togo and Hawaii Islands) in November 2003; Uganda was represented. The main aim of the conference was to share experiences amongst international committees and strengthen the network for water education. WID is also interested in Collaborating with Project-Wet on issues of wetland curriculum development for schools. The interactive workshop provided hands on information on material development and adaptation and how to use audiovisuals to illustrate source management issues. In this line, the Secretary General of The Ramsar Convention (The Convention for Wetlands of International Importance) Dr. Peter Bridgewater attended and addresses people who turned up to mark the world wetlands day 2004 in Kamuli district (WetNews Bulletin 2004)

Although many people are aware of the environment projects operating in Uganda, they cannot easily identify and differentiate them. The demonstration sites for the wise use of wetlands have been established at Kitangs, Kyojja and Limoto in Kabale, Masaka and pallisa districts respectively. Their establishment involved much discussion with the local authorities, and so enhanced local participation in wetlands issues. Many of these projects have a number of sub projects operating under them. For example KWMA runs a number of sub-projects including Craft Making, Training and Awareness, Tree and fruit growing, and has plans to start a fish farm in Kyojja wetland. However apart from training and awareness rising, craft making, and selling of wetland products, the roles of other KWMA sub programmes are not clearly defined. The lack of proper role definitions by many organisations has led to the duplication of activities in wetland/environmental management activities. This is one of the major factors that have made people fail to clearly identify

the roles and obligations of particular programmes and projects in wetland management. KWMA's stakeholders include the National Wetlands Programme, Masaka District Administration and the local community in Kisekka and Kingo sub counties.

Although different projects of wetland management have varying approaches they have similar aims as follows:

- Holding project meetings
- Involving of external workers
- Visiting other organisations
- Setting up specific craft/wetland market days, as a way to show value of wetlands to the people
- Operating of short-term (training) courses.

Wetland projects hold meetings which can promote the programme roles through 'moulding' the population towards proper wetland management practices. People are also given guidelines over the potential conservation activities. For example, planned fish farms can be located in one of the clay ponds, as a strategy to utilsise the ponds that would otherwise lead to unpleasant sites, which can also become a threat to human life.

A small number of people can attend all the project meetings during the year. A higher number cannot attend meetings due to lack of commitment. Such failure of some people to attend meetings can make some members to lag behind in knowledge, skills and practices hence, limiting the potential achievements of the projects. Such issues influence programme approaches by affecting project plans especially when people do not respond as expected. This results in the failure of these projects to achieve the stated goals in due time. However, some people update themselves with information from the frequent attendants. Many organisation instructors have received a number of seminars in Kenya at Kisumu, especially on craft making. They then go back and train fellow members. KWMA members have also visited Kitanga Fish Project in Kabale purposely for training Kitanga people on wetland conservation measures, and to learn about fish management from Kitanga project. Projects reputations have enabled many of the members to get integrated into other environmental conservation organisations like Uganda Community





Tourism Association (UCOTA) and Uganda Wild Life Authority (UWA). This has enabled the members to gain advanced knowledge on conservation and to get empowered to handle the communities in training and awareness promotion.

Another approach to the promotion of Wetland project activities is the taking of WID visitors to the site so that they can study the projects and see the products and services of those local community projects. Some of the reported benefits out of the relationships with incoming visitors to wetland management projects are; the donation of a project materials like Computers and vehicles some of which are grants directly from the Secretary General of Ramsar Convention.

Trained and qualified members in wetland conservation have conducted training sessions on wetland management in various areas. This has led to the extension of wetland conservation education in other areas. It is however realised that training and awareness promotes positive action towards wetland conservation. However, not all people acting positively towards wetland management hold positive attitudes to wetland conservation; neither do all people with positive attitudes get involved in conservation activities. There are some members who are well aware about the need for conservation but are found to be involved in wetland destruction. For example, the cutting of premature papyrus can be found rampant even in areas, where the majority of the respondents are found to support wetland conservation

**Plate 2: A variety of wetland products sold at KWMA shops**

This can happen especially where the community has the highest number of wetland users. The papyrus sellers do not want to penetrate deeper inside the swamps for fear of snakes and other problems associated with water logged conditions. The many papyrus users (like women and old people) that cannot manage to penetrate the wetlands can just buy and use the papyrus brought by the harvesters. Such circumstances can make the people who are aware about proper wetland management not to abide by its obligations, and might bar other people from getting involved in wetland conservation. It is necessary to operate short-term craft and wetland management courses to the people especially holiday makers and school dropouts. When those 'students' qualify, they can teach other community members.

In Masaka, Kumi and Pallisa districts the wetland school projects started as an additional programme whose activities run along other school programmes, especially drama, for the purpose of extending wetland management to the community/parents through their children. The programme was then identified as 'The Wetland School Festival'. It was anticipated that this programme would promote awareness among school children, parents and the general community. The schools with the wetland programme were selected from those near both the wetland and the main road, as a strategy by WID and other conservation organisations to easily reach the school community. However, the programme intends in future to extend to other schools away from the wetlands. In addition to festivals, the programme also aims at establishing tree growing projects and formulating strategies for teaching environment education.

## Conclusion

The conclusions and recommendations below have been synchronised in relation to the topic

The Medias, wetland festivals and souvenirs are the major wetland information sources in Uganda. People within the community who advocate for wetland conservation also participate in activities that degrade the wetland. This is in some cases due to the lack of awareness on the causes of degradation. On the other hand it is due to lack of alternatives to wetland gains. Conservation organisations both local and national have promoted wetland awareness and positive attitudes towards the conservation of wetlands but the impact of this





is only felt in the major areas of concentration of these programmes. People have positive attitudes towards wetland conservation basically because of the social economic gains than the natural-biological benefits achieved from the wetland. Wetland awareness only, cannot fully promote positive attitudes and actions towards conservation. It has to be supplemented with the building up of positive attitudes directed towards transforming people to willingly get involved in conservation activities. Communities with schools having the wetland programme have had more people receiving wetland information than communities with schools without the programme . This means that the wetland school programme has played a significant role in the promotion of wetland awareness in Uganda.

Mass media tools like newspapers seem to be valuable to only the rich and the educated. However, the poor are more likely to respond especially when circumstances relate to their own local problem.

The weaknesses that have been identified for decentralized wetland management seriously constrain the functioning of local governments in the sound management of the wetlands. Although the actual effects of wetland management on the quality of the wetlands have not been assessed, these weaknesses of decentralised wetland management result in degradation of the wetlands. The decentralised wetland management system as it is, does not provide for an environmentally sustainable management of the wetlands.

## Recommendations for integrating wetlands awareness and management in Uganda

The following recommendations can be advanced by government and conservation organisations in order to realise further improvement in awareness, attitude and action towards the conservation and management of wetlands for development.

1. People should be further guided on the media sources, channels and time when to listen to environment/wetland conservation issues. Wetland trainers and other concerned people should emphasise further the need for wetland conservation and hence the need to listen to environmental programmes.

2. Since it is realised that the people who support conservation also deal in wetland degradation activities, there is need to improve the promotion of awareness and attitude levels of the community through:

   (a) Governments should work hand in hand with conservation organisations to promote the wetland policy requirements. This can be done by:
      (i) Increasing the pace and rate at which the seminars and lectures are conducted.

      (ii) Causing a competitive conservation atmosphere where the most adaptive and active people in the community are rewarded, as a sign of motivation to others.

      (iii) Rewarding the people who report wetland abusers and punishing the abusers. For example they can be made to pay penalties worth the loss made to the wetland.

      (iv) Promoting of advertisement measures for the improvement of awareness and controlling degradation. For example posters and banners containing messages like; 'No dumping', 'Cultivation in the wetland is strictly prohibited', 'Only mature papyrus should be harvested', can be used.

   (b) The environmental organisations and other projects operating in the country should clearly identify themselves to the community and give clear differences between each organisation from the others. In addition conservation organisations should clearly define the boundaries of their roles in order to reduce the confusion people have over these organisations.

   (c) Measures should be adopted for rewarding the external trainers who deliver wetland knowledge to others, as an incentive to promote their work.





   (d) Forest conservation and renewing of the natural forests, plus growing of other forests and trees is highly recommended for the provision of wood in the country. This will reduce the rate of eucalyptus growing with its effect on the wetlands.

   (e) Attitude change focused lectures and other approaches focused at attitude change should be encouraged. In addition guidance and counselling oriented meetings should be adapted to find the causes of negative attitudes amidst the high awareness levels, so that solutions can be sought.

   (f) Seminars and workshops should be extended to various districts. Points of recognition/intergration should be set up in various districts as areas of contact between districts and the national organisations, over set issues in the conservation programmes. This calls for more funding schemes for the widening of wetland activities. Wetland management programmes like KWMA should be set up in other areas with wetlands for the promotion of wetland conservation.

3. In order to promote the approaches, strategies and contributions used by these conservation organisations, the following should be further considered.

   (a) Proper co-ordination and co-operation between WID (and other conservation organisations) and the local wetland organisations should be further improved. This can be done through increase in WID staff. Part time workers can be employed as time and money can allow.

   (b) The District environment workers should get deeply involved with committees of the various conservation organisation agencies. They should supervise and recommend as required on the ground. The community conservation and local leaders should constantly listen to people's expressions and forward them to the concerned people. On the other hand community leaders should hold meetings with the people who are not involved in conservation work, in order to check their attitude

and awareness levels. This can help in seeking ways of training and counselling those people towards achieving positive wetland conservation attitudes.

(c) Measures should be sought to extend the supply of wetland literature to other people who have not received wetland information. The distribution of wetland materials to these people can be done through organisations like churches, schools and co-operatives. Arrangements can also be made to train those people.

(d) More effective approaches to the extensive promotion of wetland conservation should be sought. For example:

- Awareness information should continuously be printed on bags, cups, cloths and many other materials.
- Wetland exhibitions should continuously be made portraying information on wetlands and their products.

(e) WID and other environment conservation organisations should solicit for funds to promote the above-mentioned issues.

## 8.0 References


Busuulwa Henry and Joseph Oonyu, 2009, *A Resource book for Tertiary Institutions. A Production of the Nile Transboundary Environmental Action Project.* Nile Basin Initiative, Entebbe, Uganda.

Davis T.J. ed., 1994, *The Ramsar Convention manual: A guide to the Convention of wetlands of International importance especially as Waterfowl Habitant.* Ramsar Convention Bureau, Glad, Switzerland.

*Dugan, P.J. ed., 1990, Wetland Conservation: a Review of Current Issues and Required action. IUCN, Glad, Switzerland.*

Gilman, K., 1994, *Hydrology and Wetland.* John Willey and sons Ltd, England.







Karin Andeweg, 2006, *Central issues in Decentralised Wetland management; A comparative case study in Kumi and Mukono district, Uganda.*

Lake Victoria Environment management Project (LVEMP) II preparation, 2006, PHRD GRANT No. TF0511477 Consultancy serices on Preparation of National Transboundary Diagnostic Analysis (TDA) For lake Victoria RFPNO. EAC/LVEMP/PHRD/INCON/005: Draft Final Report

Majamba H.I., 2001, *An analysis of wetland-related legislation and policies in Tanzania with reference to the implementation of the Ramsar Convention.* United Republic of Tanzania, Ministry of Natural resources and Tourism wildlife Division (Wetland unit)

Ministry of Water, Lands and Environment, 2002. *Guidelines for wetland edge gardening.* Printing company not given.

Ministry of Water, Lands and Environment: *Wetlands Inspection Division: Work plan for the Wetland Sector Strategic plan July 2002 – June 2003*

Musinguzi, A. K. and Katikiro, M.A., 2000, *Kasese District Wetland Inventory Report.* Kampala, Uganda: Printing company not given.

Musinguzi Moses, 2007, *A spartial Data Infrastructure for modeling wetland Functional Capacity In Uganda. PhD Thesis.*

Nanyunja, R., 2001, *Awareness and Attitudes towards wetland conservation in Rakai District. A Case Study in Sango Bay Area.* Kampala, Uganda: M.Sc. Dissertation.

National Wetland Conservation and Management Programme Phase III, 1996, Five Years Project July 1996 – June 2001.

National Wetlands Conservation and Management Programme, 1996, The Wetland Status Report for Pallisa District

NEMA, 1997, *District State of Environmental Report; Masaka.* Publishing Company not indicated.

NEMA, 1999, *District Environment Profile;* Masaka.

NEMA, 2005, *The Future of Wetlands in Uganda.* Key note address

presented at the public debate organized by the Wetlands Inspection Division and the Uganda Wild life Society at the Uganda Museum to mark the World Wetlands Day 2005

Nile Basin Initiative, 2009, *Sio- Siteko transboundary Wetland management Plan. Wetlands andBiodiversity Conservation Components of The Nile Transboundary Environmental action Projects.* Nile Basin Initiative Secretariat

Wetlands Inspection Division (WID) 2005, *Wetlands and the Law: Legisilation Governing the ownership, Use and access to wetlands and thir Resources.* Kampala- Uganda

Ngaku, A.C., 2002, *Local community awareness and use of wetland resource in Kyeizooba sub-county- Bushenyi District.* M. Ed. Dissertation.

Ramsar, National Wetlands Programe, EnviroConserve-Africa (Year not Indicated). *Welcome to Uganda; Wetlands and Water: Supporting life, sustaining livelihoods.*

The New Vision; Friday 30 March 2001, *Nature Watch.* Kampala, Uganda.

The Wetlands Inspection Division, 2000, *WetNews Bulletin Vol.3 Issue 4.* Kampala, Uganda: Newsletter.

The Wetlands Inspection Division, 2001, *The Wetland Sector Strategic Plan.* Kampala, Uganda.

Wetnews Bulletin, 2004, *The Newsletter of the Wetlands Inspection Division,* Volume 8 issue 1.