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WETLANDS EDUCATION AND AWARENESS MATERIALS FOR POLICY MAKERS

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UNIT 1: WETLAND CONCEPTS AND DEFINITIONS

Introduction

In this exciting Unit, you will learn what we mean by a wetland and its characteristics, the roles wetlands play and how we can benefit from them, including their contribution to our livelihoods. You will also look at the different types of wetlands, the threats they face, and the suggested course of action. In addition, you will be introduced to concept of wise use of wetlands and how to value wetland benefits. It will become clear that wetlands can be a source of wealth if utilized wisely.

As a member of the community, it is important for you to appreciate he role of wetlands in our daily lives so that your actions and those of other people do not destroy our wetlands.

Here are a few questions to keep in mind as your read this unit:

- Give examples of wetlands in your area and how members of the community benefit from them.
- What are the major threats to wetlands and how can they be addressed?
- In which way can wetlands be source of wealth for your community?
- In the past, wetlands were regarded as wastelands. Why is this inaccurate perception?

Learning outcomes

By the end of this unit, you should be able to:

- Define the term wetland and give the different types of wetlands
- Explain the roles and benefits of wetlands
- Explain how wetlands can help to reduce poverty among members of your community
- Identify threats to wetlands in your area and design strategies to solve them
- Apply the different techniques learnt to the valuation of wetland resources

Main concepts

- Wetlands are of different types
- Wetlands contain valuable resources and attributes which can be utilized to improve our lives
- Wetlands are facing a number of threats which need to be addressed

Understanding our wetlands

We have all interacted with areas that may be flooded temporarily or permanently and contain plants or animals that are able to thrive grow well even when there is no rain. These areas are known as wetlands. Many people in the Nile basin region and in other parts of the world seem not to understand what wetlands are. Despite their importance, wetlands are among the most affected and degraded of all ecological systems partly because of their indirect benefits to local communities. Such benefits are less visible and most people take them for granted or do not know about them.

Definitions of wetlands vary considerably but the Ramsar convention gives a more universal definition of wetlands as, "areas of marsh, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, brackish or salt. Wetlands are dynamic and complex habitats either continuously or periodically flooded by seasonal rains.

While most wetlands are natural sites, artificial water bodies such as fish ponds, reservoirs and artificial lakes are also included under the Ramsar definition in view of their ecological and cultural importance.

Wetland ecosystems are highly varied ecosystems where water accumulates for at least part of the year. Driven by the hydrological cycle, water is continuously being recycled through the land, sea and atmosphere in a process, which ensures the maintenance of ecological functions.

Wetlands may be defined as areas where plants and animals have become adapted to temporal or permanent flooding with water that may be flowing or static.

ACTIVITY

Think for a moment about any wetland near you. What are the main plants and animals it contains? What other characteristics or features are common to it?

- Wetlands occur in every country - from the tundra to the tropics. The World Conservation Monitoring Centre has suggested an estimate of about 5.7 million square kilometers - roughly 6% of the Earth's land surface. The greatest proportion is made up of bogs (30%), fens (26%), swamps (20%) and floodplains (15%), with lakes accounting for just 2% of the total.
- They exist as swamps, flood plains, seasonally flooded grasslands, edges and shallow waters of rivers and lakes, estuaries and coasted mashes, mangroves, creator lakes and peat bogs.
- They have characteristic flora and fauna with specified features for adapting to variability in hydrology, chemical composition, environmental physical characteristics like temperature, soil nature, sediment composition, etc.
- They are very fragile habitats, which are easily degraded in terms of ecological functioning, social and economic services and products provision.

Component parts of a wetland

A wetland in its natural state is composed of four features. These include;

- Water
- Soils
- Plants
- Animals

Wetland water

Water is the key element in wetlands i.e no water, no wetland. Water modifies soil types and influences flora and nutrient availability. Wetlands contain water that does not flow at all or flows slowly due to little or no slope. Wetland water comes from all sources including direct rain fall, the hydrological cycle and the rising groundwater.

Wetland soils

Soils are the second vital component of wetlands. The wet characteristic of wetlands has a profound impact on its soils. Wetland soils are waterlogged permanently or seasonally and are often subjected to a fluctuating water table. Water logging creates anaerobic conditions, which in turn result in structural and chemical properties that are very different from dry land soils.

Wetland soils have a high organic matter, which gives them a darkish colour. Wetland soils may also have high clay content. The high organic matter binds wetland soils together. Once lost, the soil falls apart and can easily be carried away by water.

Wetland soils are often wrongly considered to be good for agricultural production because of the water availability and nutrient content in the organic matter. However, their productivity is linked to the water logging. Once the water is drained, the structure and chemical properties alter very quickly. The organic matter breaks down, resulting in an overall breakdown of the soil structure and a quick loss of nutrients.

Wetland flora and fauna

Wetlands are one of the most diverse ecosystems in the world. A wide range of plants and animals live at least, part of their life cycle in wetlands. However, life in wetlands is not easy, and many plants and animals have evolved special adaptations to survive with soggy soil, fluctuating water and little oxygen. Plants are a vital part of the ecology of the wetland and form the basis for many of its beneficial functions such as; flood control, food and habitat for fauna.

Wetland fauna includes microbes and animals. Microbes are the smallest in size but play a vital role in nutrient cycling as the main decomposer organisms in the system. Swamp plants are normally unavailable to many animals because of the physical nature of the swamps and because they are very fibrous. These are broken down by mechanical and microbial action, becoming more nutritious and available to smaller animals. It is important to note that organic material from a swamp provides both physical support and food for a major food web outside the swamp.

The macro-fauna, although large and often conspicuous, are relatively unimportant in the functioning of wetland ecosystems.

Wetlands and the hydrological cycle

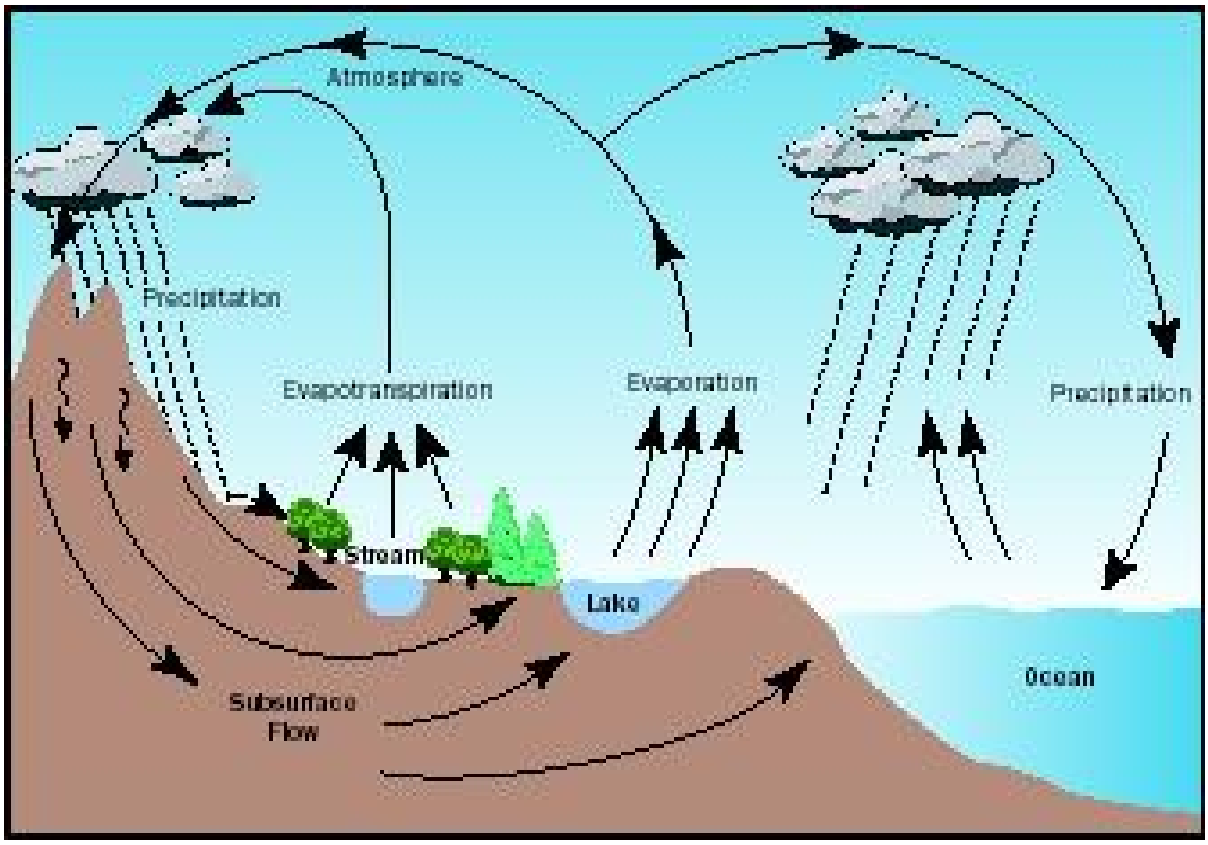
It is important to note that water is continually moving from one water reservoir to another. This movement of water is called the **hydrologic cycle**. The hydrological cycle involves three main phases and these include; **precipitation** (in form of rain, hail dew and frost or snow), **evaporation** (from land, water bodies and plant surfaces) and **surface and ground water run off**.

- Precipitation involves all processes by which water moves from the atmosphere to the earth's surface.
- Evaporation is the process by which water returns to the atmosphere as water vapour

Water that falls to earth as precipitation follows many paths on its way back to the atmosphere. Precipitated water may be intercepted and taken up by plants; it may infiltrate the soil; or it may flow over the land surface or through the subsurface to reach streams, lakes, wetlands, and ultimately the ocean. Some of the discharged water is evaporated from surfaces and transpired by plants to reenter the atmosphere, and the hydrological cycle continues.

Wetlands are an integral part of the hydrological cycle, playing a key role in the provision and maintenance of water quality and quantity as the basis of all life on earth. They are often interconnected with other wetlands, and they frequently constitute rich and diverse transition zones between aquatic ecosystems and terrestrial ecosystems such as forests and grasslands. Wetland ecosystems, by definition, depend on water to maintain their ecological functions.

A simplified illustration of the hydrologic cycle is shown in the figure below



The hydrological cycle renews the flow and quantity of water in rivers, aquifers, lakes and all other freshwater ecosystems. These are complex ecosystems, the boundaries of which are often in a state of flux. Wetlands are therefore easily affected by external events. Nutrient and sediment loads, for example, are frequently moved from one site to another and from one habitat to another. Thus, nutrients obtained in the headwaters of a stream may find their way into lakes or fens. Minerals and nutrients not absorbed by living freshwater organisms may find their way into the marine ecosystem, often thousands of kilometers from where they first entered the water. While the fluid nature of such exchanges guarantees a continued renewal of energy, it also represents a major potential hazard since many harmful agents (pesticides, fertilizers or other chemicals) can also be easily and rapidly transported to other areas where they might have an adverse impact on the environment.

It is widely accepted that wetlands have a significant influence on the hydrological cycle. Wetlands have therefore become important elements in water management policy at national, regional and international level. There are many examples where Wetlands reduce floods, recharge groundwater and other global water balance aspects.

Activity

- Identify and discuss the various human activities that could have a big impact on the hydrological cycle in your area.
- With reference to the hydrological cycle illustrated in the figure above, discuss the role wetlands play in the maintenance of the water balance.
- In groups of six people, discuss the various ways in which climate change could have a significant impact on the hydrological cycle. Share your answers with other groups and draw up a joint class list of impacts of climate change on the cycle**.**

Wetland formation

Wetlands are formed where water is retained or delayed within catchments. The crucial ingredients for wetland formation are water and a place for it to collect. Rainfall and dew, which precipitate on the catchments and do not return to the atmosphere by either evaporation or transpiration, flow downhill through the catchments towards its lowest point. This may be in a depression or basin or where the slope along the valley is very slight. A wetland therefore develops where water collects and soil beneath becomes waterlogged and anaerobic.

Wetland vegetation then develops, and as it becomes established, the speed of water flowing through the wetland reduces. This lower speed then results in the sedimentation of suspended silt in the water. This in turn promotes more vegetation growth and further reduction in water speed, and thus the wetland continues to expand slowly sideways across the valley.

Types of wetlands in our area

Wetlands are of many types and they can be grouped in many ways for example. However five major types of wetland are generally recognized:

- **Marine** (coastal wetlands including coastal lagoons, rocky shores, and coral reefs);
- **Estuarine** (including deltas, tidal marshes, and mangrove swamps);
- **Lacustrine** (wetlands associated with lakes);
- **Riverine** (wetlands along rivers and streams); and
- **Palustrine** (meaning "marshy" - marshes, swamps and bogs).
- In addition, there are **human-made wetlands** such as fish and shrimp ponds, farm ponds, irrigated agricultural land, salt pans, reservoirs, gravel pits, sewage farms and canals.
- **Seasonal and permanent wetlands**
- **Reed swamps, grassland swamps or march depending on the dominant vegetation**

Wetlands are found in the entire Nile basin region. Eastern Africa is estimated to have one third of all wetlands in Africa, Most of them (75%) being in Sudan, Uganda, Kenya, Tanzania, Rwanda, Burundi, Egypt and Ethiopia. Also contains many wetlands that are associated with rivers and lakes. About 10% of Uganda's total land area (23,000km^2) contains wetlands. Usually at the edges of lakes or rivers we have wetlands with distinct vegetation from that found on either land or water.

Below is a picture of the wetlands

A	B

Q What type of wetlands do you think is A and B and why?

Examples of Wetlands of International Importance

In response to the Ramsar convention on wetlands of international importance, countries in the Nile basin region have gazetted the following sites as wetlands of international importance;

COUNTRY	**WETLAND**	**DESIGNATION DATE**
UGANDA	L .George	4/March/1988
	L. Nabugabo wetland system	11/Feb/2004
	L. Bisina wetland system	15/Sept/2006
	L. Mburo-Nakivali wetland system	15/Sept/2006
	L. Nakuwa wetland system	,,

	L. Opeta wetland system	,,
	Lutembe bay wetland system	,,
	Mabamba bay wetland system	,,
	Nabajjuzi wetland system	,,
	Murchison falls-Alberta Delta wetland	,,
	Sango-bay-Musambwa island-Kagera wetland system	,,
KENYA	L. Nakuru	5/June/1990
	L. Naivasha	10/April/1995
	L. Bogaria	27/Aug/2001
	L. Boringo	10/Jan/2002
	L. Elmenteita	5/Sept/2005
TANZANIA	Malagarasi-Muyvozi wetlands	13/april/2000
	L. Natron	4/July/2001
	Rufigi-Mafia-Kulwa marine Ramsar site	29/Oct/2004
D.R. CONGO	Parc.national des virunga	18/Jan/1996
	Parc.national des mangroves	18/Jan/1996
RWANDA	Rugezi-Bulera-Ruhondo	1/Dec/2005
SUDAN	Sudd	5/June/2006
EGYPT	L.Bardawil	9/Sept/1988
	L.Burullus	9/Sept/1988

The Sudd Wetland is one of the largest tropical wetlands in the world.

(Photo courtesy Sudan's Higher Council for Environment and Natural Resources)

Wetland Benefits

A look at the picture below (Picture 3) and in groups, describe what is happening

A picture or drawing showing multiple uses of wetlands

Although some wetlands may be inaccessible, and are therefore seen as wastelands, there is growing recognition of their importance. Wetlands provide products (goods), services and attributes that are important to our well being. List the products provided by this wetland in the picture? Compare your list to that of your neighbour. Which one(s) did you not include?

Wetlands are among the most precious natural resources on earth, existing as multiple value systems. These highly varied ecosystems are natural areas where water accumulates for at least part of the year. Driven by the hydrological cycle, water in the wetland is continuously being recycled through the land, sea and atmosphere in a process which ensures the maintenance of ecological functions.

Wetlands are some of the most productive ecosystems in the world and indeed they are an important, and in many cases the exclusive source of natural resources upon which rural communities depend for food, medicine, building material, and dry season grazing.

The functions and services provided by wetlands are many and varied. They may be divided into either natural/ecological or socio-economic functions.

Ecological (natural) uses of wetlands

These are the natural uses of a wetland which seem to be less visible (or hidden) to man and are always not appreciated until a wetland is lost. They may also be referred to as the indirect values of a wetland. They include the following;

- Flood control
- Ground water recharge
- Water filtration
- Habitat for flora and fauna
- Erosion control
- Sediment retention
- Carbon retention
- Climate modification

Flood control

Wetlands play an extremely important role in reducing harmful and costly effects of the flow of storm-water. They slow down the speed of water flow from heavy rains. This reduction in speed lessens the harmful impacts and frequency of flooding during the wet seasons.

Wetlands act as natural sponges that trap and slowly release surface water over time. When water pours into a wetland after a storm, the wetland will flood, but it will do so slowly and over an extended period of time. This ability to store water in periods of heavy rainfall means that wetlands can help prevent flooding.

In areas where wetlands have been drained, heavy rains cause floods that damage crops, livestock, infrastructure and humans drown in the flood waters. Preserving wetlands therefore offers superior flood protection. Many cities in the Nile basin region have faced serious problems of floods in the recent past due to wetland degradation. For example in Sudan, Uganda, Kenya, Tanzania and Ethiopia, floods have been rampant.

Groundwater recharge; Wetlands play an important role in replenishing or "recharging" ground water supplies and maintaining ground water levels. By retaining the water for long, the wetland allows the water to infiltrate into the underground aquifer.

Water filtration; Wetlands have the remarkable ability to improve the quality of water by filtering runoff and removing sediment, nutrients, pesticides, metals, municipal sewage and other types of pollutants. This is so, because the speed of the water reduces as it enters the wetland while it filters slowly through the vegetation.

These pollutants that are often dissolved in water are absorbed by wetland plants and microorganisms in the soil. In many cases, this filtration process removes much of the water's nutrient and pollutant load by the time it leaves a wetland, thereby improving the water quality.

Habitat for flora and fauna

Wetlands provide important habitats to countless bird, fish, and native plant species. In fact, wetlands are some of the most productive ecosystems in the world. They provide a habitat for more aquatic and terrestrial species on an area basis than any other habitat type, making them to be among the most ecologically important ecosystems on earth.

The abundant vegetation and shallow water provide diverse habitats for wildlife species of plants and animals, including fish. Aquatic plant life flourishes in the nutrient-rich wetland environment and energy converted by the plants is passed up the food chain to fish, bird and other wildlife and to humans as well.

Erosion control

The wetland ensures that the flow of water is slowed down. This allows the region down stream of the wetland to receive less erosive force of water runoff that would result in soil and stream bank degradation.

Sediment retention

Materials that are eroded from the surrounding catchment by rainfall and carried into wetlands by surface runoff can be trapped in the filtration and sedimentation processes that occur in wetlands. Sediment retention prevents downstream resources of dams, farmland, rivers and lakes from being silted up. Retention of sediment also helps to cleanse the water. Sediment retention by wetlands generally benefits those down stream. Facilities such as water storage dams and irrigation schemes that would fill with sediment are protected from in-filling and their lifespan increased. However, it may also gradually lead to in-filling of the wetland resulting eventually into dry land conditions.

Carbon retention

Wetlands absorb carbon dioxide from the atmosphere through photosynthesis by wetland plants thus acting as carbon sinks. In carrying out photosynthesis, wetland plants convert atmospheric carbon dioxide into biomass. This retention of carbon dioxide greatly reduces global warming of the atmosphere.

Climate modification

Wetlands modify local and regional climate by evaporating enormous quantities of water into the atmosphere. This process of evaporation reduces air temperature and increases humidity thus providing cool climate. Wetlands therefore act as local “air conditioners”. Dust in the atmosphere is reduced, and the air quality is improved. The presence of a wetland also helps to trigger rainfall in its catchment.

Socio-economic uses of wetlands;

These are the direct benefits of wetlands to man that seem to be visible and appreciated. Despite these direct benefits, wetlands are still undergoing serious degradation. These uses include the following;

Water supply

Water is the most important product of wetlands. Water is a daily commodity that occurs in all wetlands, permanently or seasonally. Wetlands retain water for long periods thus making it available for local people and domestic animals. The water supplied by wetlands is free and

clean. Generally the wetland water is used for, rural and urban domestic use, livestock and industrial use and for irrigation.

Fish production

Wetlands have a great importance and potential in fisheries. Large amounts of fish are present in wetlands which provide valuable protein to local communities. This is especially important for those who would be unable to afford other sources of proteins. The common types of fish found in wetlands include, the catfish, lungfish, and some tilapia. Wetlands also act as breeding and nursery grounds for commercial fish species, including tilapia and the Nile perch. Thus, the fish biomass in the lakes depends upon the existence of fringing wetlands.

Provision of craft and building materials

Wetlands provide a variety of craft and building materials such as reeds, grasses, sedges, papyrus and palm trees that are usually harvested for thatching and mulching or processed into domestic items such as baskets, mats and furniture. Crafts add beauty to the home, reinforce culture and provide employment and income when sold.

Timber, sand and clay are often extracted from wetlands in many areas of the Nile basin region as building materials. Wetland sand and clay are used for bricks, tiles and pottery, while wetland trees are used for doors, roof supports furniture and fences.

Livestock grazing

The parts of wetlands, where the soil is permanently or seasonally moist are often used as grazing areas for livestock especially during the dry season. For example the Sudd wetland in southern Sudan supports large numbers of domestic animals during dry seasons.

Migratory mammals depend on the Sudd wetland for their dry season grazing. (Photo courtesy Sudan's Higher Council for Environment and Natural Resources)

Recreation and eco-tourism

The diversity of wetland biological communities has a potential for earning tourism income. Some wetlands can be developed for recreation and eco-tourism, especially in national parks. There are many recreational activities that are dependent on wetlands such as hunting, bird watching, boating, and wildlife photography.

Threats and Impact to wetlands

The following are some of the major activities that degrade or negatively affect the quality of our wetlands:

- **Drainage**: This is an activity that denies water access for or residence in a wetland. Water drainage can be in form of
  - Diversion of water to prevent it from entering the wetland
  - Water removal by digging drainage channels
  - Excess removal of water for industrial, agricultural or other use.
  - Damming of upstream water sources
  - In filling with municipal industrial solid waste in a landfill situation or with earth, murram or rocks in a land-making process.

- Planting trees or other plants with high water demand with the aim of lowering the water table e.g. Eucalyptus and sugarcane.

Figure 1: Picture of the drainage channels in a wetland used for cultivation in Ethiopia

ACTIVITY

- In groups of 5-6, discuss the likely impacts of drainage of wetlands to communities living in adjacent areas.

- Draw a programme detailing how you organize activities to sensitize fellow policy makers about the dangers of excessive drainage of wetlands. Your programme should include practical solutions or alternatives for the people.

- **Encroachment**: This means taking part of the wetland and utilizing it for a specific purpose. This changes the natural state and the functions of the wetland.

Encroachment may be in form of activities such as large scale agriculture, live stock grazing and watering, fishing (including aquaculture), in-filling for industrial and residential developments, mining for minerals and materials e.g. sand and clay, and road and railway construction.

- **Over exploitation of resources (over-harvesting**):

  This involves large scale harvesting of wetland products which is not sustainable i.e. an act which comprises the wise-use concept for now and future generations e.g. over harvesting papyrus and rattans for crafts, etc.

- **Some activities are off-site / away from the wetland but within the surrounding (catchment)**. The impacts of these activities affect the quality, quantity and timing of water entering the wetland.

  Some activities that pollute water lead to the decline of quality e.g. sewage discharge, effluents from septic tanks of oil, etc. Land use activities also affect the quantity of water flowing into the wetland.

Despite the usefulness of wetlands, pressure has been exerted on them in both rural and urban areas. Many wetlands have been converted to land for industrial or agricultural use, residential areas, waste disposal points etc. This causes wetland degradation. By wetland degradation we mean a major alteration of the wetland features which adversely affect its functioning.

The main impacts and indicators of wetlands degradation include;

- Increased flooding
- Outbreak of water borne diseases e.g. cholera
- Pollution of surface and under ground water
- Loss of biodiversity (especially plants and animal resources due to over harvesting).
- Hydrological effects such as increased water flow due to drainage channels, decreased water retention time, water quality deterioration, etc.

Wise Use concept

It is now widely recognized that wetland play an important role in our lives. However, some of their functions and products are now under threat due to human activities. These activities include extensive drainage of wetlands to create room for farm land, sand and clay extraction for construction, drainage and infilling for establishment of factories and, the dumping of wastes into wetlands.

Use of wetlands for agriculture if done prudently does not destroy wetlands and can be beneficial to communities by ensuring food security. The main challenge is however how to ensure that drainage is not done for a prolonged period of time and that we do not excessively use synthetic fertilizers and pesticides that will contaminate water from the wetland. In the past, it was considered prudent to drain wetlands to meet the growing need for land and to destroy the breeding places of vectors such as mosquitoes and snails. However, we no longer consider this as the best way of utilizing and ensuring that wetlands continue to serve their functions.

The 'wise use of wetlands' is a term borrowed from Ramsar convention and states: "their sustainable utilization for the benefit of humankind in a manner that will ensure the maintenance of the natural properties of the wetland ecosystem." This definition introduces terms that need clarification. Sustainable utilization is defined by Ramsar as human use of a wetland so that it may yield the greatest continuous benefit to people of the present generation while maintaining its potential to meet the needs and aspirations of future generations. Natural properties of the wetland ecosystem, is defined by Ramsar as those physical, chemical and biological components, such as water, soil, plants, animals and nutrients and the interactions between them.

Wise use of wetlands means the use of wetland resources in a manner that will ensure that the rate of recovery is faster than that of harvest so that not only do we benefit but also the future generations

Despite the importance of wetlands and the fact that in some countries they are held in trust for the common good, it does not mean that they should not be used. On the contrary, wetlands should be actively and properly (wisely) managed to help sustain the people and the economies of the Nile basin countries.

Wise use of wetlands would result in our wetlands functioning well and in supporting our development goals. This means the countries of the Nile basin would have fulfilled their international obligations on wetlands. It also implies that most of the wetland issues would be prioritized in the national development plans of the Nile basin countries.

Guidelines for proper conservation of wetlands

The wise-use principles of the Convention on Wetlands (Ramsar 1971 encourages wetland use that does not endanger the vital wetland functions and the overall integrity of the wetland ecosystem. The guidelines for proper conservation of wetlands are based on four basic principles aimed at maintaining or enhancing wetland functions.

The hydrological and ecological integrity of the wetland ecosystem must be maintained

Sustainable use of wetlands means using selected portions of wetlands for a variety of multi-purpose activities. Original conditions of the wetland will be expected to change, the extent of change depends on the kind of use the wetland is subjected. However, not the main hydrological and ecological processes must be maintained.

Wetland conservation guided by larger ecosystem management objectives

Wise use of wetlands has to be considered also in the context of sustainable use of the ecosystem as a whole. Proposed wetland management options must, therefore, support wider ecosystem management objectives and options should be guided by information from EIA.

Wetland conservation options must be supportive of the socio-economic objectives and aspirations of the people

Wetland conservation is expected to contribute to local livelihoods and poverty alleviation by acting as a stimulus foe economic development through continued or expanded sustainable wetland. Wetland conservation is also expected to create new opportunities from consumptive and non-consumptive wetland uses.

Interconnectedness of wetlands

Many natural wetlands are trans-boundary, the establishment of cross border cooperation on wetland management required. While management of wetlands on a national scale has challenges, the management of trans-boundary wetlands is more complex because of wetland connectivity across the borders which call for shared responsibility. Trans-boundary wetland management needs to take into consideration the role wetlands play at restoring the natural discharge and recharge patterns of the water system of the overall catchment. In addition, trans-boundary wetland management needs to acknowledge the role wetlands play to purify water and to trap sediments.

Trans-boundary areas could be politically fragmented or transitional wetland areas. These wetlands do not have more moral pressure in their management than strict obligations. It calls for harmonization of legal frame works (e.g. ownership), access to information, encouraging coordinated management and positive cooperation. Creating awareness, fostering a sense of shared responsibility, cooperation, and opening common and a broader view on management is vital for the survival of trans-boundary wetlands.

ACTIVITY

Think for a moment about the wetlands in your area and you practices/ activities and those of your.

- List down those activities that can be grouped under “wise use of wetlands “ and those that “threaten wetlands”
- Prepare a talk to your community members on the reasons for the wise use of wetlands.
- In groups, discuss why it is difficult to ensure wise use of wetlands in your community and what should be done about it.

ACTIVITY

Examine the picture below (Picture 4) and describe some of the activities that can destroy the wetland.

- Which of these activities are taking place within your own community?
- Which other activities are taking place other than those shown in the picture that is destroying wetlands in your area?
- Suggest ways of preventing these destructive activities your community aware of the dangers of destroying wetlands
- Prepare a list of the benefits and dangers of draining wetlands.

Unit Summary

In this Unit we have;

- Defined the term wetland
- Explained how wetlands are formed
- Given examples of wetlands in the Nile basin region
- Explained their roles, values and uses
- Critically analyzed the rationale for wetland valuation
- Evaluated the major threats to wetlands and their impacts in the Nile basin region

In this unit, you have successfully learnt about what wetlands are and their roles and benefits to us. You now know that wetlands are areas which are permanently or seasonally covered with water and which have unique plants and animals that are specially adapted to these conditions. As we stated earlier, there are many types of wetlands and their classification will depend on the criteria used.

Wetlands are extremely valuable to society. Wetlands can decrease flooding, remove pollutants from water, recharge ground water, protect shorelines, provide habitat for wildlife, and serve important recreational and cultural functions. If wetlands are lost, the cost of replacing them can

be extremely expensive, if at all possible. It is therefore important to ensure that they are conserved.

STUDY QUESTIONS

- What are wetlands?
- Describe how wetlands are formed.
- In which way can wetlands be source of wealth for your community?
- In the past, wetlands were regarded as wastelands. Why is this inaccurate perception?
- Discuss the likely consequences of wetland degradation to the communities in your country

Important points to remember

- Wetlands are important because they provide services and products that are important to us. Wetlands support the livelihoods of many people in the region
- Our actions can lead to the destruction of wetlands.
- Wetlands are a common good in many parts of the Nile basin and as such communities have a responsibility towards their conservation.

ACTIVITY

- In groups, discuss and draw up plan of how your community can wisely use the wetland for the benefit of the currently populations but also future generations
- Discuss the various approaches/ strategies that you will awareness of the importance of wetlands to you community, particularly the youth.

Further reading

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UNIT 2: WETLANDS AND NATIONAL DEVELOPMENT

Introduction

Having looked at wetlands and their roles and functions, this module will now focus on wetlands and national development. In this module, we will focus on economic valuation of wetlands, government planning and budgeting, the roles and responsibilities of different stakeholders in the management of our wetlands, and the national planning and development frameworks, and the concept of Millennium Development Goals (MDGs) and the Millennium Ecosystem Approach (MEA).

This Unit highlights the relationship between wetlands and national development and the need to effectively plan and ensure effective wetland management. It also highlights the roles of various stakeholders in wetlands management and conservation.

Here are some questions to keep in mind as you go through this Unit:

- Why do we need to carry out economic valuation of wetlands?
- Using examples, explain the effective wetland management is important for national development of your country
- Name the different categories of stakeholders in wetland management and conservation in your area/country and their roles and responsibilities?
- Give examples of national planning and development frameworks
- Name the Millennium Development Goal(s) related to wetland conservation
- Give an example of a wetland that is shared between two countries in the Nile basin region.

Specific learning outcomes

By the end of this module, you should be able to:

- Explain the meaning of “wetland valuation”
- Explain why it is important for the different stakeholders to manage and use wetlands wisely
- Give the roles and responsibilities of various actors in the conservation and management of wetlands
- Apply various interventions in order to effectively conserve and manage wetlands in your area
- Apply the national and development frameworks in ensuring effective management of wetlands

Main Concepts

- There are many categories of stakeholders involved in wetland management
- Wetlands should be wisely used to ensure their continued contribution to economic and social development of the Nile basin region
- When we all know our roles and responsibilities within the community, there will be effective wetlands management
- There are a number of policy frameworks and management interventions that are available to us
- For the Nile Basin countries to meet the Millennium Development Goals, a concerted effort should be made to strengthen environmental conservation.

Wetlands and national development

It is now widely recognized that wetlands have an important contribution to the economic and social development of the Nile basin countries. However, the magnitude of this contribution in economic terms is not widely understood. This is partly because wetland valuation is only a recent phenomenon. In this section, we shall explore the various techniques used to establish the economic value of our wetlands.

In simple terms, wetland valuation means putting a monetary value on the products that are sold e.g. firewood, papyrus, fish, sand, etc. Economists and decision makers normally focus on these values. The total economic value of wetlands however extends far beyond the value of raw materials and physical products. A holistic economic valuation technique must therefore be employed.

If researchers are to value wetland uses and decision-makers are to take these into account when making policies that affect wetlands, then a framework for distinguishing and grouping these values is required. The concept of *total economic value* (TEV) provides such a framework and there is an increasing consensus that it is the most appropriate one to use. Simply put, total economic valuation distinguishes between *use* values and *non-use* values, the latter referring to those current or potential) values associated with an environmental resource which rely merely on its continued existence and are unrelated to use. Typically, use values involve some human 'interaction' with the resource whereas non-use values do not. The total economic valuation framework, as applied to wetlands, is illustrated in the table below.

Direct Values	*Indirect values*	*Option Values*	*Non-Use Values*
These are production and consumption goods.e.g. Fish Fuel Wood Building poles Sand, gravel, clay Thatch Water Wild foods Medicines Agriculture/cultivation Transport recreation	These are ecosystem functions and services. e.g. Water quality Water flow Water storage Water purification Water recharge Flood control Storm protection Nutrient retention Micro-climate regulation Shore stabilization	This is premium placed on possible future uses and applications of wetlands. e.g. Pharmaceutical Agricultural Industrial Leisure Water use	This is an intrinsic significance of a wetland. e.g. Cultural Aesthetic value Heritage value Bequest value Existence value

Generally, wetlands have intrinsic attributes, perform functions, and produce goods and services. Some of these are of primarily local interest, but others have regional, national or international importance. In summary, wetlands represent considerable ecological, social, and economic value. The box below shows wetlands values-derived from attributes, functions, goods and services classified into four categories i.e.; direct values, indirect values, option values and non-use values.

- **Direct value**: these are extractable resources of the wetland, which can be used directly and often processed and traded.
- **Indirect values**: these are non -extractable services, which cannot be removed from the wetland directly, but do produce benefits to users.
- **Option values**: this is a value obtained from a wetland by retaining a claim on future use.
- **Heritage value:** this is a value placed on the ability to pass the wetland on to future generations, and let them have the choice to use it the way they want.
- **Existence value**: this is a value derived from knowing that the wetland is there.

Question

1. Which other products, services and attributes can you add?
2. In groups, discuss how wetlands community if property used
3. In which ways can wetlands be or problem to the people in the community?

Question
Can you think of examples of such animals and plants and what your community uses them for?

Please note

Wetlands can also modify or affect our climate. You may have noticed how cool you feel when you pass near a wetland, even when the day is hot

Economic valuation is determined by and in a market. In the market, the potential buyer sets a price they are willing to pay, and the seller sets the price they are willing to accept. An acceptable price for both parties is taken to be the market price hence the economic value of a given product. This applies to scarce goods according to the economic theory.

For services of wetlands not traded in the market like consumptive products, other valuation techniques are employed to determine their economic value.

Activity 3: Wetland market products value assessment.

- With reference to a local wetland, identify possible market products.
- Make a list of these products and attach a market price for each.
- Make a simple survey of the market products value of your local wetland in a specified period.

The economic value of a given wetland includes direct values, indirect values, option values, heritage values and existence values. To determine the total economic value of a wetland, the values of all the components of the wetland must be established.

Valuation techniques

- **Market prices method**.

This involves the use of prevailing prices for goods and services traded in domestic or international markets. Market prices reflect the private willingness to pay for wetland costs and benefits that are traded (e.g., fish, timber, fuel wood, recreation). They may be used to construct financial accounts to compare alternative wetland uses from the perspective of the individual or company concerned with private profit and losses. Price data are relatively easy to obtain.

The advantage of this method is that the Market imperfections and/or policy failures may distort market prices which will therefore fail to reflect the economic value of goods or services to society as a whole. Seasonal variations and other effects on prices need to be considered when market prices are used in economic analysis.

- **Efficiency (shadow) prices method**.

The efficiency prices method involves the use of market prices but adjusted for transfer payments, market imperfections and policy distortions. May also incorporate distribution weights, where equality concerns are made explicit. Shadow prices may also be calculated for non-marketed goods.

Efficiency prices reflect the true economic value or opportunity cost, to society as a whole, of goods and services that are traded in domestic or international markets (e.g., fish, fuel wood, peat). The disadvantage of this method is that the derivation of efficiency prices is complex and may require substantial data. Apparently, ‘artificial’ prices may not be accepted by decision-makers.

- **Hedonic pricing method.**

In this method, the value of an environmental amenity (such as a view) is obtained from property or labour markets. The basic assumption is that the observed property value (or wage) reflects a stream of benefits (or working conditions) and that it is possible to isolate the value of the relevant environmental amenity or attribute.

Hedonic pricing has potential for valuing certain wetland functions (e.g., storm protection, groundwater recharge) in terms of their impact on land values, assuming that the wetland functions are fully reflected in land prices. The disadvantage of this method is that Application of hedonic pricing to the environmental functions of wetlands requires that these values are reflected in surrogate markets. The approach may be limited where markets are distorted, choices are constrained by income, information about environmental conditions is not widespread and data are scarce

- **Production function approach.**

This method estimates the value of a non-marketed resource or ecological function in terms of changes in economic activity by modelling the physical contribution of the resource or function to economic output.

Production function approach is widely used to estimate the impact of wetlands and reef destruction, deforestation and water pollution, etc., on productive activities such as fishing, hunting and farming. This method however, requires explicit modelling of the 'dose-response' relationship between the resource or function being valued and some economic output. Application of the approach is most straightforward in the case of single use systems but becomes more complicated with multiple use systems. Problems may arise from multi-specification of the ecological-economic relationship or double counting

- **Related good method.**

It involves the use of information about the relation-ship between a non-marketed good or service and a marketed product to infer value. The *barter exchange approach* relies on actual exchange of non-marketed goods. The *direct substitute approach* simply assumes that a

marketed good can be substituted for a non-marketed good. The *indirect substitute approach* also relies on a substitute good, but if the latter is not exchanged in the market, its value is inferred in terms of a change in economic output (i.e., the direct substitute approach combined with the production function approach). These approaches may provide a rough indicator of economic value, subject to data constraints and the degree of similarity or substitutability between related goods.

The barter exchange approach requires information on the rate of exchange between two goods. The direct substitute approach requires information on the degree of substitution between two goods. The indirect substitute approach requires information on the degree of substitution and on the contribution of the substitute good to economic output.

- **Constructed market techniques.**

This involves the measure of willingness to pay by directly eliciting consumer preferences. This technique directly estimates Hicksian welfare measure - provides best theoretical measure of willingness to pay. However, practical limitations of constructed market techniques may detract from theoretical advantages, leading to poor estimates of true willingness to pay.

- **Cost-based valuation.**

This is based on assumption that the cost of maintaining an environmental benefit is a reasonable estimate of its value. To estimate willingness to pay:

It is easier to measure the costs of producing benefits than the benefits themselves, when goods, services and benefits are non-marketed. Approaches are less data- and resource-intensive.

The disadvantage of this technique is that these second-best approaches assume that expenditure provides positive benefits and net benefits generated by expenditure match the original level of benefits. Even when these conditions are met, costs are usually not an accurate measure of benefits.

- **Travel cost approach.**

The travel cost approach derives willingness to pay for environmental benefits at a specific location by using information on the amount of money and time that people spend to visit the location. Other techniques exist but we shall not go into them.

Discussion Questions

1. With special reference to your country, describe the importance of wetlands economic valuation.
2. How does economic valuation of wetlands help the economic policy makers in making sustainable development choices?
3. Prepare a 30 minutes presentation that can effectively convince a panel of politicians in your country to reverse their decision of allocating an urban wetland to investors ready to construct a multi-million dollar flower farm with hundreds of job opportunities.

A systematic Guide to Undertaking a Valuation Study

There are seven practical steps, which must be followed to undertake an economic valuation of a wetland. These are presented and described below.

Seven steps to conducting a valuation study

1. ***Choose*** the appropriate assessment approach (impact analysis, partial valuation, total valuation)

2. ***Define*** the wetland area and specify the system boundary between this area and the surrounding region

3. ***Identify*** the components, functions and attributes of the wetland ecosystem and rank them in terms of importance (e.g., high, medium, low)

4. ***Relate*** the components, functions and attributes to the type of use value (e.g., direct use, indirect use and non-use)

5. ***Identify*** the information required to assess each form of use (or non-use) which is to be valued and how to obtain the data

6. ***Use*** available information to quantify economic values, where possible.

7. ***Implement*** the appropriate appraisal method, e.g., cost-benefit analysis (CBA).

Step 1: choosing the appropriate assessment approach

There are three approaches: impact analysis; partial valuation; and total valuation. If the problem is a specific external impact, such as effluent polluting a wetland, ***impact analysis*** will be appropriate. If the problem is the necessity of making one choice between wetland use options, including conversion of the wetland to residential land or diversion of water upstream of the wetland to intensive irrigation, then **a *partial valuation*** would be the correct approach. Sometimes the problem is more general. For example, developing a national conservation strategy may require assessment of the total net benefits of the wetland system. In this case**, a *total valuation*** should be undertaken.

- **Step 2: defining the wetland area**

The boundary of the wetland may already have been defined for political purposes, such as gazettement as a National Park or Ramsar site. No definitive methodology exists to delineate the boundary scientifically. This will be the first task for the multi-disciplinary team based on maps of flood extent, soils, agricultural use and vegetation.

- **Step 3: identifying and prioritizing components, functions and attributes**

The third step involves using various data sources, including scientific studies, consultancy reports and national resource inventories, to produce a more definitive list of components, functions and attributes present in the wetland, and then to place them in order of importance. This may be in rank order, say 1 to 10, or expressed as being of high, medium or low importance. The major components, functions and attributes are discussed in other chapters. Clearly, no single wetland will exhibit all of these, and it is important for the multidisciplinary team to work together to identify the key components, functions and attributes of the wetland being studied and to use all available ecological, hydrological and economic information to score these various characteristics.

The distinction between components, functions and attributes is directly useful from an economic perspective, but scientists from other disciplines may have some difficulty with these concepts. Regardless of whether these characteristics or others are used, it is important that all members of the team understand their meaning and work together to establish priorities for valuation amongst themselves.

- **Step 4: relating components, functions and attributes to use value**

The fourth step is to determine whether each of the components, functions and attributes is associated with a direct use, indirect use or non-use. Interviews with local communities, census data and consultancy reports are usually good sources of information on direct use. More detailed scientific investigation is usually required to uncover the indirect use values, concentrating on the physical links between wetland system functioning and the economic activities affected. Some of the intangible values – option and existence values – may be more difficult to determine, and it will often be up to the multidisciplinary team to use its best judgment, keeping in mind the difficulties of quantifying these values.

- **Step 5: identifying and obtaining information required for assessment**

The fifth step involves identifying and obtaining information required for the valuation. Different physical, chemical and biological data will be required depending on the values that are to be assessed and the methodology for collecting and analyzing the data must be specified. The range of data to be collected can be extremely diverse. For example, it may include fish population status, numbers of rare species, rates of groundwater recharge, and amounts of flood storage, degree of nutrient retention or coastal protection and so forth. Information on the extent and rate of various human uses of the wetland must also be collected.

The types of data may again be diverse, including agricultural yields, fish catches, tourist use or reduction in annual damage from storms or floods. A variety of collection methods and sources may be required. Obtaining agricultural and fisheries yields, for example, may involve interviews with fishermen and farmers, collection of statistics from government offices and visits to markets. Travel agents or tour companies could provide data on tourism in general, whilst parks and protected areas will know visitor numbers. Insurance agencies may have information on flood and storm damage in the area, whilst environmental authorities may collect water quality data.

Information is required on all inputs and outputs for all economic activities that are either directly or indirectly supported or protected by wetland ecological functions. This will include the economic costs of the inputs (e.g., labour-time, materials, and physical assets) and the prices of the outputs (products). On the inputs, a distinction needs to be made between purchased inputs (e.g., tools, licenses, hired labour) and non-cash inputs (e.g., use of their own or family labour and borrowed tools). Similarly, distinction must be made between outputs which are marketed (e.g., rice sold at the local market) and those which are non-marketed (e.g., fish eaten at home).

Information is required on the producer prices, the final market prices, the transportation, and other intermediary costs of marketed products. For non-marketed products, it is necessary to know their rates of consumption, and it may be helpful to obtain information on the market price of any substitute or alternative product.

The information required to assess non-use or preservation values is extremely difficult to collect for developing countries and may require specific studies to estimate willingness to pay. If such analysis is beyond the scope of the study, assessment of such values may warrant a qualitative rather than quantitative approach. This can be approached through interviews with local people and those outside the area who have a connection with it.

More general social and economic data should also be collected on communities living within the wetlands or where they benefit from, or are affected by, wetland functions. For example, this may include population growth rates, income levels, credit facilities and rates of interest, inflation and exchange rates.

Data collection should begin with **a *literature survey*** of available statistics, existing studies, and their analysis for the region, which may yield some of the required information. Next, any site surveys of specific economic activities should be undertaken. In the first instance, **a *rapid rural appraisal*** based on brief farmer or producer interviews and group participation may be relevant to collecting basic information on human uses and economic data. More detailed ***baseline surveys*** may be required for in-depth data collection for actual valuation purposes. In all cases, it is important to be clear in advance about the information required to avoid collecting ‘data for data’s sake’.

- **Step 6: quantifying economic values**

In this step, the appropriate valuation techniques should be selected and implemented. There are many sophisticated techniques, such as contingent valuation and hedonic pricing, which are being applied to value temperate wetland functions, products and attributes, and such methods are increasingly being implemented especially in tropical regions. Although alternative approaches are available, some of these may yield extremely inaccurate valuation estimates. Care must therefore be exercised in choosing a technique which is theoretically sound but which is also appropriate to the circumstances where it will be applied.

- **Step 7: implementing the appropriate appraisal method**

In the final step, the economic analysis of the wetlands should be placed in the appropriate framework as selected during the planning for the study. An example is *cost-benefit analysis* (CBA), which normally involves calculating, on an annual basis the benefits and costs of conserving the natural wetland functions, products and attributes over a selected time period. The three most common methods for comparing costs and benefits are *net present value, internal rate of return* and *benefit-cost ratio*. Any valuation should be subject to a sensitivity analysis, which defines the variation in results arising from different assumptions or benchmark values used in the study, such as discount rates.

However, CBA is not the only possible appraisal method available, and other frameworks, such as environmental impact assessment, multi-criteria analysis and risk assessment may also require economic valuation as part of the assessment procedure. Initial planning of the study should determine which framework for assessing costs and benefits is desirable, as the choice of framework may affect all seven steps of the analysis.

Management planning and budgeting

A wetland management plan outlines the direction and actions which are required to ensure wetlands remain health. Therefore a management plan helps in achievement of objectives, while protecting the benefits that wetlands bring. Wetlands function as integral parts of the general landscape. Understanding how wetlands work is essential to the process of developing a wetland management plan. Most actions taken to protect wetlands involve both the wetland and adjacent wetland areas. Management of the adjacent areas reduces negative effects of land use practices on wetlands.

There are five basic steps involved in preparing a wetland plan

- Inventory and assessment of wetland resources
- Define values, goals and objectives
- Prepare activities and budget for them
- Implement a course of action that will protect wetlands and meet objectives
- Monitor the effectiveness of your actions

Wetland inventory and assessment

Wetland management planning involves taking decisions about the wetlands in consideration. Descriptions and documentation of the wetland characteristics is important. This inventory should include the extent and type of wetland, its condition/health and also the condition/health of the surrounding areas. Information on aspects such as; number of wetlands in the area, total area of the wetlands, how many of these are temporary, seasonal or permanent, are these wetlands part of a main water body or isolated; is important.

The condition/health of the wetland

This refers to ability of the wetland to perform its functions. The assessment of the condition/health can be based on physical, hydrological and vegetative factors. The vegetative factor (types of species of plants) provides the greatest insight into the condition of wetlands. The wetland condition can be assessed by looking at either a representative area of the wetland or a critical area.

Examples of indicators used assessing wetland conditions

- How much ground is covered by vegetation? If less than 85% determine why?
- How much of the shoreline is protected by vegetation with deep binding root mass? Plant species in the category of woody vegetation, bulrushes and sedges have good root systems. If 85% of the shoreline is covered by these species, it is a good indication.
- How much soil in the wetland is exposed due to human disturbance or land use practices? More than 5% is problematic.
- Are there any invasive species or noxious weed?
- Are undesirable plants dominant in the vegetation?
- Is there a diversity of sizes and species of trees and shrubs? The roots of trees and shrubs hold soil together and prevent erosion. It is also important to note the presence of young plants as they replace older ones.
- Is the woody vegetation heavily browsed? If there is high browsing, regeneration of shrubs may be impaired.
- It is equally important to look at the surrounding areas of the wetland. Information to answer questions such; are the surrounding areas cultivated or grazed? What is the size of the individual fields, Are wetlands used for grazing? Has drainage affected wetland water supply?
- Incase the surrounding areas are cultivated; how close does cultivation come to the wetland? If grazed, are the pastures native or artificial? Is grazing pressure uniformly distributed? Do stocking rates much foraging ability?

Wildlife habitat

What kind of birds and animals are commonly present?

Checklist for the wetland condition

Attribute	Score (%)
Plant cover of wetland attribute	
Shoreline with deep binding root mass	
Exposed soil the wetland margin	
Invasive species	

Undesirable species

Diversity of shrubs/trees

Browse on woody vegetation

Dead or decadent woody vegetation

Artificial control of water

Defining values or goals

Clearly stating what you value the wetland for and what your objectives are is vital to the development of a wetland management plan. Values and objectives are useful in setting realistic management goals. The goals relate to information from assessment of the wetland and the surrounding areas. The goals provide a sense of direction, guide the actions needed and are a basis for measuring success. There are varying reasons for conserving and protecting wetlands. The common ones include; livestock forage, wildlife habitat, erosion control, recreation opportunities and water source among others. However, due to limited time and resources, priorities need to be set so that so values and objectives are split into short and long term.

Prepare activities to be implemented

Activities for effective wetland management and conservation must be drawn for implementation. These activities must be budgeted for.

Budgeting is an important activity that needs to be done at the local and national levels. Adequate funds must be sought for the implementation of targeted activities. In the Nile basin countries, local administrative units such as regions, bomas or districts exist, and wetlands management activities must be incorporated into their work plans. Where the levels of decentralization are high, it is possible for these units to retain a certain fraction of the income that accrues from wetland resources. In some countries, wetland custody is entrusted in the national governments.

The following considerations must be put in place to ensure that budgets are both realistic and acceptable to all stakeholders:

- It should consider wetland conservation and management plans for a particular administrative unit and for the whole country
- The level of involvement in the budgeting process from consultation to the drawing up of the budget should be high. As many stakeholders as possible should be consulted and involved in the process
- It must consider sources of income against the anticipated expenditure. Overblown and unrealistic budgets are unlikely to be implemented
- It should take into consideration the realities of the country's economy or that of an administrative unit

Implement a course of action that will protect the wetland

A majority of wetlands exist as agricultural landscapes and most management plans tend to reflect this. The information collected during inventory and set objectives helps in deciding upon the best set of land use management practices for a given wetland. Management considerations for land use activities include grazing and wetlands, cultivation and wetlands and wetland drainage. Managing wetlands for grazing requires that the wetland plant communities are grazed in a controlled manner. These include considerations such as timing, intensity, and frequency of grazing. Also important is the stocking rate, fallow period and rotation among others.

Monitor the effectiveness of your actions

This is a continuous process after the management plan has been implemented so as to assess the effectiveness. It is necessary to revisit the assessment of the wetland to check for change in condition of the wetland or any evidence that change is taking place. This can give an indication of the effectiveness or success of the plan. Continued periodic evaluation ensures that actions have desired effects and wetlands remain healthy.

Role of different stakeholders in wetland conservation and management

The principle of wise use integrates the conservation of wetlands with sustainable use for the health and well-being of people through an integrated management approach. This is achieved through facilitation of equitable and effective participation of all stakeholders (government, local communities, NGOS, private sector and academicians) in decision making about how resources of wetlands can be managed.

The goal of ensuring that wetland resources are utilized for the benefit of all the people will depend on the voluntary support of the local people and that willingness to implement appropriate regulations. The extension staff and law enforcement officers can not enforce good wetland practices all over the region and without the support of the local people. In order to increase community support may be obtained by;

- Making people to see and receive the immediate and long term benefits of wise management of wetlands.
- Increasing their levels of awareness and cultivating positive values and attitudes towards wetlands.
- Making people to effectively participate in designing and monitoring strategies that will ensure wise management of wetlands.

ACTIVITY

- Think for a moment of other ways in which support for the conservation of wetlands can be increased in our community.
- Which factors have tended to erode the willingness and support of the local people in the conservation of wetlands in your area

The management and conservation of wetlands involves many people and organizations. These collectively are what are known as stakeholders. When the stakeholders are clear about their

roles, it will become easier to monitor and evaluate their activities in the conservation and management of the wetlands. The following are key stakeholders in the conservation and management of wetlands:

- The general community
- Resource User groups
- Community leaders
- Extension staff
- Administrative leaders
- Non governmental organizations/community based organization
- Government agencies
- The Nile basin initiative

A. The roles of the local communities

Members of local communities particularly those living near wetlands have an obligation to play an important role in the conservation and management of wetlands. To the communities living adjacent to wetlands, wetlands are an integral part of their lives for they provide the people with fish, water and other materials that are needed almost daily. As the main users and beneficiaries of the wetland, the community can pay the following roles;

(i) Help ensure wise use of wetlands so as to minimize wetland abuse.

(ii) Help strengthen the management of wetlands by providing the necessary information on wetland characteristics or features.

(iii) Help the relevant people to map the boundaries of the wetland

(iv) Develop wetland management plans with the help of the relevant agencies or NGOs and to prioritize things which need urgent attention

(v) To be vigilant and to act as watchdogs to report people who break the laws on wetlands. They should also take interest in the changes occurring in the wetland particularly if they threaten the lives of the people.

(vi) Influence the local administrators to make byelaws that will strengthen the conservation and management of wetlands. However, one of the challenges is the inability of the local people to interpret laws relating to wetlands.

B. <u>The roles of community leaders</u>

The leaders within the community should play the following roles;

(i) To help in the formulation of byelaws on wetland conservation and management.

(ii) To convene meetings of the local community on wetland issues and concerns so as to seek a collective solution.

(iii) To link communities with the extension staff or other government or non government agencies for effective management of wetlands.

(iv) To interpret wetland laws and policies to the local people or to invite appropriate resource persons to do so.

(v) Where possible, to collect and properly utilize funds that may be obtained for use by communities to assist them to conserve wetlands

(vi) To initiate wetland awareness meetings among the local communities.

C. <u>The roles of resource user groups</u>

The resource user groups should play the following roles;

(i) To ensure proper use of wetland resources.

(ii) To convene meetings of the resource user group on wetland issues and concerns so as to seek a collective solution.

(iii) To link up with the extension staff or other government or non government agencies for effective management of wetlands.

(iv) Where possible, to collect and properly utilize funds that may be obtained from the user groups to assist them in their livelihoods and to conserve wetlands

(v) To initiate wetland awareness meetings among the local communities.

D. The roles of extension staff

Extension staff is the technical group of people who are well qualified to implement wetland management policies. Some of their key responsibilities include;

(i) Draw up wetland management plans for implementation by the various stakeholders.
(ii) To conduct wetland awareness activities on various issues including the dissemination of information about wetlands.
(iii) Carryout wetland inventories
(iv) Helping to carry out environmental impact assessment (EIA) before a major activity is done on a wetland.
(v) Helping to train community leaders or members of the local community to manage and conserve wetlands.
(vi) Helping to establish community based wetland management structures
(vii) Monitoring and evaluating wetland related activities.

E. Roles of administrative leaders

Administrative leaders may include heads of district or provinces, regions or other units as defined in the individual countries within the Nile basin region. Administrative leaders can play the following roles;

- Assist in the formulation of byelaws which apply to the specific administrative units.
- Prioritizing wetland issues in the administrative units.
- Facilitating and participating in the formulation of unit wetland management plans.
- Coordinating some activities on wetlands
- Raising funds to facilitate the implementation of unit work plans outside the country, such as among donors.

F. Roles of NGOs / CBOs

NGOs can supply both technical and financial assistance in wetland management at many levels.

- **Drawing up management plans**

  NGOs usually have technical staff, and can therefore facilitate and participate in drawing up wetland management plans.

- **Finance**

  Sometimes NGOs do not have enough staff to implement activities but they can still help by, for example, financing reputable organizations and firms to carry out wetland conservation and management activities.

- **Awareness and training activities**

  The need for training and awareness information is great and can not be accomplished by the ministry of NWP alone. NGOs tend to be close to the community. They are also often well equipped with facilities and technical staff. They therefore can play an important part in training and awareness.

  Most NGOs have grassroots representative and enjoy the good will of the local people. They command respect, and their messages are taken seriously. NGOs can therefore facilitate awareness campaigns like radio and TV talk shows and demonstrations on wise use practices.

- **Providing wetland management materials**

  NGOs can often produce publish and distribute wetland management and conservation materials for the communities they serve. These may be posters, leaflets, booklets, etc.

- **Supporting the establishment of wetland management structures**

  Many NGOs have an organized structure with different levels of responsibility and activity. These can be reference points for communities and government in choosing the best structure for wetland management and conservation. Because they are

experienced in management structures, they can also give useful advice on management of a particular wetland.

- **Monitoring and evaluating**

  When NGOs participate in projects on sustainable use and management of wetlands, they need to monitor and evaluate how resources are spent. This establishes what has been achieved and identifies areas for further input.

G. Roles of the private sector

The private sector can supply both technical and financial assistance in wetland management at many levels.

- **Drawing up management plans**

  The private sector can facilitate and participate in drawing up wetland management plans.

- **Finance**

  The sector can finance the implementation of wetland management and conservation activities. The idea of a corporate image is now common among members of the private sector

- **Awareness and training activities**

  Some awareness and training activities could be funded by the private sector through awareness campaigns like radio and TV talk shows and demonstrations on wise use practices.

- **Providing wetland management materials**

  Like the NGOs, the private sector can produce, publish and distribute wetland management and conservation materials for use by the various stakeholder.

- **Monitoring and evaluating**

  The sector can participate in projects on sustainable use and management of wetlands, they need to monitor and evaluate how resources are spent.

H. The role of government wetland conservation and management agencies

The government wetland programmes in the region require increasing support at all levels, including from local administration units, non governmental institutions, communities and individuals for the realization of their objectives. The government agencies can play the following roles:

- Ensuring that wetlands remain high on the government agenda and that any developments in wetlands are related to national goals and objectives.
- The recognition that wetland management requires local, national and even international cooperation. Most wetlands cross or divide two, three or more local administrative units or countries. The cross-boundary situation is worsened by the fact that many local and national boundaries follow the centerline of wetland water courses.
- Analysis and dissemination of research data.
- Formulate policies, laws, regulations and guidelines that relate to the objectives of wetland management.
- Development of clear wetland management criteria for classifying wetlands according to their suitability for specific users with or without modification.
- Wetland management guidelines and techniques based on the assessment of the wetland stock at local and national level and its potentials for use. These should be regularly updated form research data.
- Conducting training, information and awareness campaigns to keep managers, potentials users, developers and the public up to date and able to manage wetlands according to the latest information.
- Providing overall support, implementation of international agreements relating to wetlands.
- Developing an effective system for cross border wetland management within the Nile basin area.

I. The role of the wetland and biodiversity conservation component of the Nile Tran boundary action project (NTEAP)

The Nile basin initiative (NBI) is a partnership of riparian states of the Nile, Burundi, Democratic republic of Congo, Egypt, Ethiopia, Kenya, Rwanda, Sudan, Tanzania, and Uganda. The NBI's shared vision is to "achieve sustainable socioeconomic development through the equitable utilization of and benefit form the common Nile basin water resources".

The Nile Trans boundary environmental action project (NTEAP) is one of the eight projects under the Nile basin initiatives (NBI) whose aim is to provide a strategic environmental framework for the river basin. One of the ways NTEAP meets its objectives is by conducting studies that improve the understanding of the relationship between water resources development and the environment so as to enhance basin wide cooperation and capacities for better environmental management of Nile basin resources.

The wetland and biodiversity conservation component of the Nile Trans boundary action project (NTEAP) is aimed at enhancing the understanding of wetlands function in sustainable development and to demonstrate an improved management at selected Trans-boundary wetlands sites. The component builds on nationally focused wetland conservation and management initiatives within the Nile basin and uses the network of existing centers of knowledge and experience to provide a trans-boundary overlay of set perspectives to complement national wetlands conservation programmes.

The above exposition shows the multiplicity of stakeholders involved in wetland management and conservation. Very often they have differing interests as shown in the stakeholder cards in the table below. As a result, decision making can be a big challenge. In a group, try the activity immediately after the table, and write down your experience. As policy makers, it is useful to consider the views of all the major stakeholders in wetland management and conservation.

Stakeholder cards

Central Government	National Investment authority	Investors
The municipality has little industrial development and wants to expand its industrial base. The local municipal council is firmly behind the development. There is an economic recession taking place, so the municipality needs to attract new development. Local mayors in the regional municipality are opposed to the establishment of a greenbelt around the area since this would limit development in their jurisdictions.	Its purpose is to attract new business and industry to the area and help maintain the economic health of the region. It has already attracted several new businesses to develop at the proposed business park. They have put lots of work and economic resources into planning this project and don't want to start from square one again. They consider the land swap proposed by the region to be a poor solution since it will set the project back too far to replan on another site. They claim the business park can still be built while preserving part of the wetland and it will also create green space in the form of recreational areas around the new office buildings.	They want development to continue and are interested in creating an environmentally attractive community but are not especially concerned with the ecological level of preserving habitats and species and creating a green buffer zone. They support the business park development but are not adamant about maintaining it on the current proposed site.

Regional Government	Local Environmental Organization
Regional government is interested in 'greening' the region and designating special ecological areas for protection, such as a greenbelt in the official regional plan. They have instituted a planning process to identify these special areas, but the process is not completed. Sympathetic to protecting the wetland, the region is offering a 'solution' in the form of a land swap of some of its own less ecologically sensitive land in the affected municipality.	Interested in saving green spaces and special natural areas. They are opposed to the business park development and want the entire wetland to be protected within a greenbelt around the region. They also want an immediate moratorium on development generally. The group is involved at the regional level and has good experience and expertise in this process. The organization is supported by 1 000 which includes several ecological scientists and environmental experts.

Local Conservation Authority	Local Community Groups
Its mandate is to improve and maintain the environmental health of watersheds. They want to see the whole wetland protected with a buffer zone around it. REDCO and the municipality want the Conservation Authority to de-list this wetland from their proposed protected list. The Conservation Authority is not prepared to de-list it but might be persuaded to protect less of it. They have an “open mind”.	Their concerns are basic — controlling pollution in the water and air, having good and well-maintained infrastructures and keeping taxes down. Their environmental concerns are at the level of recycling programmes and water filtration and sewage treatment. The members have different concerns. This community organization has been involved in many similar issues and is an old hand at regional politics and the planning process. They are very confident.

National institutions overseeing wetlands

In some of the Nile Basin countries, we have specific agencies or bodies charged with the responsibility of overseeing the implementation of policies and legislation on wetland management and conservation. In Uganda, for example, the Wetlands Inspection Division has done a commendable job in ensuring increased awareness and training of Ugandans. Through its activities, important policies and legislation have been enacted. A national policy for the conservation and management of wetlands in the country was enacted and is being implemented. In other countries, the ministries of land, water and environment and agencies such as National Environment Management Authority and Environment Protection Agencies are responsible. The exact mandate will vary from country to country.

The concept of MDGs and MEA

The Millennium Declaration signed in 2000 at the UN Millennium Summit, commits the member states to the attainment of eight broad goals known as the millennium Development Goals (MDGs) by 2015. The goals are as follows:

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equality and empower women
- Reduce child mortality
- Improve maternal health
- Combat HIV/AIDS, Malaria and other diseases
- Ensure environmental sustainability
- Develop a global partnership for development

These goals are ambitious and their achievement will require a concerted global effort. However it is evident that for wetlands conservation and management, the focus is on Goal number seven: Ensure environmental sustainability. But these goals are intertwined. The effects of extreme poverty are adverse on environment and so are the unfair international trade terms. Wetlands as

we know provide and support the livelihoods of many people (Unit 1). The development goals of any country, and indeed the world cannot be attained if wetlands are poorly managed. The Millennium Ecosystem Approach (MEA), initiated by the UN in 2001 is an approach that is used to assess changes in the ecosystem for human wellbeing and the scientific basis for action needed to enhance the conservation and sustainable use of these systems. In the wetlands sector, it is important to look at wetlands in terms of ecosystems as this will provide more accurate information on the human impact on wetlands. It is a strategy for the integrated management of land, water, and living resources of the wetland that promotes conservation and sustainable use in an equitable way.

Unit summary

In this unit, you have reviewed the importance of wetlands in national development. The need for economic valuation of wetlands impacts and assets arises for pursuing efficient policies and investing in efficient projects and programmes. Valuation is still required for wise use and conservation considerations.

You have also examined the importance of planning and budgeting for effective wetland conservation and management. In addition, you have identified key stakeholders in wetland management and conservation, and the roles that they play. The important lesson we have learnt is that all stakeholders need to play their roles actively in order to ensure effective management and conservation of wetlands.

Lastly, you have looked at the Millennium Development Goals and the Millennium Systems Approach and their implications on wetland, management and conservation.

Important points to remember

- Economic valuation of wetlands is an important component of the wise and sustainable use of wetlands, and is therefore important in ensuring proper managenet.
- The main stakeholders in wetland management are local communities, extension staff, local leaders, administrative leaders, NGOs/CBOs, the private sector, Government agencies and the Nile Basin Initiative.
- Key stakeholders in the conservation and management of wetlands have various roles

- The Nile Basin Initiative is an important intervention in the management of the Nile basin waters, including its wetlands

ACTIVITY

- Why do we value wetlands and what techniques are best suited for our situation in this country/region?
- In groups, discuss and draw up plan of how your community can wisely use the wetland for the benefit of the currently populations but also future generations

- Discuss the roles of various stakeholders in the conservation and management of wetlands.

- Discuss the various ways in which the MDGs can be influenced by activities of the people on wetlands in your country

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UNIT 3: POLICY, LEGAL AND INSTITUTIONAL FRAMEWORKS FOR WETLAND MANAGEMENT

Introduction

This is yet another exciting unit which you should become familiar with. This Unit covers what the Ramsar convention on wetlands is, why countries join the Ramsar convention, what commitments are expected of contracting parties joining the convention and the Ramsar concept of wise use of wetlands. It also looks at the meaning of a policy, the benefit of having a policy and how a national wetland policy can assist governments. As a policy maker it is important for you know the legislation governing wetlands and what is involved in enforcement of the policy.

It will become clear that wetland use needs to be regulated if they are to provide various products and to continue playing their vital roles and functions. It is therefore important for you to appreciate the importance of the various regulatory policies which guide the management of our wetlands so that your actions and those of other people do not destroy our wetlands.

Here are a few questions to keep in mind as your read this unit:

- Explain what is meant by the Ramsar Convention.
- Give examples of policies that guide wetland conservation and management in your country?
- Explain the role of policies in wetlands management
- Give examples of institutions involved in the management of wetlands in your country

Learning outcomes

By the end of this unit, you should be able to:

- Explain What is meant by the Ramsar Convention
- Give examples of policies that regulate wetland conservation and management
- Explain the roles of different institutions involved in wetland management in your country
- Identify threats to wetlands in your area and design strategies to solve them

Main concepts

- The Ramsar Convention is an important agreement for the management and conservation of wetlands of international importance
- Wetland policies at local, national, regional and international levels help in the management and conservation of wetlands
- There are a number of institutions that are involved in the management and conservation of wetlands in our countries, regions and internationally

What is the Ramsar Convention on Wetlands?

The convention on wetlands is an intergovernmental treaty adopted on 2nd February 1971 in the Iranian city of Ramsar on the southern shore of the Caspian Sea. It is the first modern global intergovernmental treaties on conservation and wise use of natural resource. Over the years the convention has broadened its scope from Waterfowl Habitat to cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well being of human communities

The convention entered into force in 1975 and as of August 2006, 1,610 Wetlands of International Importance, totaling 145.2 million hectares, have been designated and consisting of 152 contracting parties. The administration of the convention is entrusted to a secretariat called the "Ramsar Bureau" which is housed in the headquarters of IUCN- The world conservation Union in Gland, Switzerland.

Why do countries join Ramsar convention?

Membership in the Ramsar convention attracts:

- Endorsement of the principles the convention represents hence facilitating the development of national level of policies and actions, including legislation that helps nations make best use of their wetland resource.
- Presents opportunity for a country to make its voice heard in the principle intergovernmental forum on the conservation and wise use of wetlands.
- Bring access to the latest information and advice on application of the conventions internationally accepted standards for instance identifying wetlands of international

importance, guidelines on application of the wise use concept and guidelines on management planning in wetlands.

- Bring increased publicity and prestige for wetlands designated for the list of wetlands of international importance hence possibility of support for conservation and wise use measures.
- Brings access to expert advice on national and site related problems of wetland management and conservation through contacts with Ramsar Bureau personnel and consultants.
- Encourages international co-operation on wetland issues and brings the possibility of support for wetland projects through the conventions small grants fund and other support agencies

What are the commitments of parties joining the Ramsar Convention?

The treaty involves four main commitments

1. listed sites

   The first obligation is to designate at least one wetland for inclusion on the list of wetlands of international importance and to promote its conservation and wise use. Selection of the wetland should be based on the wetlands significance in terms of ecology/ Botany, Zoology, Limnology or Hydrology. Guidelines for site identification are already in place.

2. wise use

   Include wetland conservation considerations in their national land use planning. Guidelines on how to achieve wise use have been approved by the conference of contracting parties.

3. reserves and training

   Establish nature reserves in wetlands and promote training in the fields of wetland research, management, and wardening.

4. international co-operation

   Consult with other contracting parties about implementation of the convention especially concerning transfrontier wetlands, shared water systems and shared species

Unit Activity 1

- *Briefly give an overview of the Ramsar convention, stating clearly its mission and objectives.*
- *With reference to any country in the Nile basin region, find out the extent to which the Ramsar convention has been implemented.*
- *Which countries in the Nile basin region have not ratified the convention and what reasons do they give for not doing so.*

The implementation of the Convention in Africa

The achievements and major challenges towards the implementation of the convention in the Nile basin region and Africa at large are as follows;

Achievements

The major achievements of the convention include the following;

- Increased membership and increased Ramsar site designations, confirmed or in the process
- Development of national wetland policies and strategies, finalized or in the process
- Development and implementation of management plans, already in place or being prepared
- Establishment of coordination mechanisms at national level, including National Ramsar/Wetlands Committees
- Progress in capacity building in some countries

- Most countries have designated more than one Ramsar Site since the last COP.
- Most countries are in the processes of developing or reviewing wetland policies and legislation. For example, South Africa is preparing specific legislation to enable full Ramsar implementation, including designation of Ramsar sites that are not protected areas.
- Most countries have National Ramsar/Wetlands Committees and others are in the process of having one, for example, Kenya is considering establishing a broader Kenya Wetlands Forum.
- Most countries have developed or are in the process of developing management plans for their Ramsar sites.
- For those countries with environmental legislation, Environmental Impact Assessment (EIA) has been incorporated in the legislation.
- Previous efforts in designation of Ramsar Sites have been directed at designating protected areas, as observed in Kenya, South Africa and Zambia. However, a focus to designating unprotected wetlands as Ramsar sites is gaining momentum.
- Most countries are in the process of or are planning to undertake inventories.
- Most countries are involving local communities at the lowest appropriate level and other sectors in wetlands conservation and management through formation of management committees.

Challenges

The main challenges still prevailing include:

- Accession to the Convention of the remaining countries in the sub-region
- Need for further policy development and implementation
- Adoption of legislative frameworks to allow full implementation of the Convention
- Communication within the region
- Conflicting sectoral policies
- Better knowledge of wetland values

- Further increasing the profile of the Convention to ensure more political support for wetland conservation and wise use.
- The need to mainstream wetland issues.
- To put policies into practice and to effectively enforce environmental legislation.
- Cross-sectoral cooperation in implementing the wise use principle.
- How to balance development activities and wise use.
- How to enhance local communities' livelihoods as an incentive to wetlands management.

Way forward

- The need to have an overall legislation for management of wetlands in the region.
- The need to emphasize stakeholder's involvement in wetland management, in particular the local communities and the private sector, including using incentives to do so.
- The need to build capacity in terms of training and funding for wetland management.
- The need to reinforce education and public awareness in wetland management.
- The need to harmonize existing policies and legislations
- The huge costs of combating alien invasive species in wetlands constitute a high priority to address.
- Legal status of the Convention and Ramsar Sites in Contracting Parties: need for specific enabling legislation for the implementation of the Ramsar Convention.

Unit Activity 1

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Wetlands of international importance

The Ramsar convention requires contracting parties to designate at least one wetland of international importance. Some criteria have been put in place for identifying these wetlands.

Article 2.2 of the convention provides that;

"*Wetlands should be selected for the List on account of their international significance in terms of ecology, botany, zoology, limnology or hydrology" and indicates that "in the first instance, wetlands of international importance to waterfowl at any season should be included"*.

The process of adopting specific criteria for the identification of internationally important wetlands began in 1974, but the first official Criteria were agreed at COP1 in 1980. In 1987 and 1990, the Conference of the Parties revised the Criteria further, and at COP6 in 1996, the Parties added new Criteria based on fish and fisheries. The Criteria were reorganized into two groups – based upon representativeness/uniqueness and upon biodiversity – by the *Strategic Framework and guidelines for the future development of the List* and at COP9 (2005) a ninth Criterion was added to cover wetland-dependent non-avian animal species.

Recognizing that cases may arise where a Ramsar site was designated for the List prior to the adoption of the latest version of Criteria and may no longer meet any of those current Criteria, or where a Ramsar site has subsequently lost the ecological values for which it was originally designated, the practice has been that the Secretariat, in consultation with the Contracting Party concerned, evaluates what measures might be necessary to extend, enhance or restore the wetland's functions and values to the degree that it would qualify for inclusion in the List.

Where there is no possibility of extension or enhancement/restoration of its functions or values, the Contracting Party concerned instructs the Secretariat to remove the site from the List, and the Party then applies the provisions for compensation, as provided in Article 4.2 of the Convention. This has only occurred in a very few cases.

The designation of a wetland in this respect is governed by eight specific criteria. A wetland should be considered internationally important if it:

- Contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.
- Supports vulnerable, endangered, or critically endangered species or threatened ecological communities;
- Supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographical region.
- Supports plant and/or animal species at a critical state in their life cycles, or provides refuge during adverse conditions;
- Regularly supports 20,000 or more water birds.
- Regularly supports one percent (1%) of the individuals in a population of one species or sub-species of water bird;
- Supports a significant proportion of indigenous fish subspecies, species or families, life-history stages, species interactions and/or populations that are representative of wetland benefits and/or values and thereby contributes to global biological diversity;
- Either is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, within the wetland or elsewhere, depend.
- Regularly supports one percent (1%) of the individuals in a population of one species or subspecies of wetland-dependent non-avian animal species.

Basing on the above criteria, member countries of the Nile basin region have designated the following sites as wetlands of international importance.

COUNTRY	WETLAND	DESIGNATION DATE
UGANDA	L .George	4/March/1988
	L. Nabugabo wetland system	11/Feb/2004
	L. Bisina wetland system	15/Sept/2006
	L. Mburo-Nakivali wetland system	15/Sept/2006
	L. Nakuwa wetland system	,,
	L. Opeta wetland system	,,
	Lutembe bay wetland system	,,
	Mabamba bay wetland system	,,

	Nabajjuzi wetland system	,,
	Murchison falls-Alberta Delta wetland	,,
	Sango-bay-Musambwa island-Kagera wetland system	,,
KENYA	L. Nakuru	5/June/1990
	L. Naivasha	10/April/1995
	L. Bogaria	27/Aug/2001
	L. Boringo	10/Jan/2002
	L. Elmenteita	5/Sept/2005
TANZANIA	Malagarasi-Muyvozi wetlands	13/april/2000
	L. Natron	4/July/2001
	Rufigi-Mafia-Kulwa marine Ramsar site	29/Oct/2004
D.R. CONGO	Parc.national des virunga	18/Jan/1996
	Parc.national des mangroves	18/Jan/1996
RWANDA	Rugezi-Bulera-Ruhondo	1/Dec/2005
SUDAN	Sudd	5/June/2006
EGYPT	L.Bardawil	9/Sept/1988
	L.Burullus	9/Sept/1988

Unit Activity 2

- *With reference to any country in the Nile basin region, identify the wetlands that have been designated as Ramsar sites (wetlands of international importance)*
- *With specific reference to each wetland, what criteria have been considered for identifying them?*
- *Using the knowledge obtained, which other wetlands in the country of your choice do you think can qualify as Ramsar sites.*
- *Briefly give an overview of the Ramsar convention, stating clearly its mission and objectives.*

Policies and Wetland Conservation

It is important to recognize that the process of establishing and implementing wetland policy at a national level may take time and needs adequate consultants to overcome barriers such as scarce financial resources or institutional reluctance to change ways of doing government business . To be effective, a national wetland policy must be wide in scope and not just a wildlife protection policy. A number of opportunities for resolving issues and achieving wetland conservation are identified below.

1. Establishing wetland conservation objectives in government policies:

   State, provincial and municipal governments have rarely recognized the value of wetland conservation in their policies and programmes. The lack of government direction results in:

   - Wetland loss because decisions to convert wetlands to other land use not related to conservation policies
   - Lack of accountability by agencies charged with stewardship of wetlands
   - Lack of guidance to decision maker who balance the advantages and disadvantages of land use decision
   - Failure to enforce existing policies where they are in place

A national wetland policy can assist government agencies in establishing accountability for actions and modifying policies to the benefit of wetland ecosystems.

2. Enhancing Coordination and Communication among Government Agencies:

Jurisdiction over wetlands in most governments is spread in different departments and agencies. The need is not for one agency to look after wetlands, the need is to stress better communication. A national wetland policy can be the mechanism to enhance and promote effective coordination and communication among agencies.

3. Creating Incentives to Conserve Wetlands:

The national wetland policy can be a tool to foster implementation of new and better economic and sectoral incentives and to retire factors and disincentives that lead to wetland decline.

4. Fostering Better Wetland Management after Acquisition or Retention:

Non governmental organisations, local communities, private landowner, government agencies often have difficulty managing wetlands. Personnel costs are often high and managers are not familiar with methods to raise revenue from the use of wetlands in an ecological sensitive manner. The national wetland policy is an opportunity to address these factors and find solutions.

Why Are Wetland Policies Needed?

A wet land policy draws considerable attention to wetland issues particularly by legislators and the public. Articulation of clear goals and objectives for wetlands identifies clear responsibility of the government and an expectation that the government will actually deliver on these commitments.

What is a wetland policy?

A policy has been defined as “a collection of principles which indicate intended and acceptable activity or direction for an organization or government”. Any policy must be viewed as a statement of the considerations which will guide both rational decision and actions.

A wetland policy will reflect attitudes, express desired principles, state intentions, show what choices have been made about strategic directions, make commitments, provide a focus for consensus, express concerns and provide advice, and make roles and responsibility clear. A national wetland policy will function as a framework that enables clear conclusions to be drawn about what actions are required and what end result is expected.

It is the policy of the governments in the Nile basin region should be to promote the conservation, sustainable management and wise use of wetlands by all stakeholders for the benefit of present and future generations. Adoption of the Wetlands Policy means that the governments, in their decision-making will give explicit consideration to the biophysical requirements of wetlands with the goal of ensuring their sustainable management.

Goal of the Policies

Policies should assist in the protection of wetlands in good condition, rehabilitate degraded wetlands where feasible, and support appreciation of wetlands by:

- protecting wetland biodiversity, functions and services;
- protecting social and economic benefits of wetlands;
- providing flow regimes that mimic natural conditions, where possible;
- providing wetlands with water of appropriate volume and quality;
- limiting further fragmentation and reconnecting wetland systems;
- preventing or limiting catchment activities that impact upon wetlands;
- protecting the cultural heritage and spiritual significance of wetlands;
- rewarding wetland managers who improve the condition of wetlands; and
- promoting the importance of wetlands to the community.

Principles governing the Policies

The governments should achieve these goals by adopting the following principles:

- Wetlands are valued as significant parts of landscapes - their conservation and management are most appropriately considered at the catchment scale.
- Appropriate water regimes and water quality needed to maintain or restore the ecological sustainability of wetlands will be provided through the implementation of water management plans.
- Wetlands of international, national, state and regional significance will be identified and conserved.
- Land use and management practices will maintain or rehabilitate wetland habitats, processes and cultural values.
- Degraded wetlands and their habitats will be rehabilitated and their ecological processes restored as far as is practicable.
- The potential impacts of climate change will be considered in long term strategies for water resources and land use.
- Continued research into wetland ecology will be encouraged to better support water and land use planning and management.
- Natural wetlands should not be destroyed or degraded. When social or economic imperatives in the public interest result in a wetland being degraded or destroyed, the rehabilitation or construction of a compensatory wetland that supports similar biodiversity and ecological functions will be required.
- Purpose-built wetlands will not be constructed on the site of viable natural wetlands.
- Cooperation and incentives among land managers, government authorities, catchment management authorities, non-government organizations and the general community is essential for effective wetland management, and will be encouraged.

International and regional policies on wetlands

Little has been done in formulating regional policies, but internationally various conventions related to conservation of biological diversity have helped in providing policy guidelines for wetland conservation.

Other international agreements and conventions related to wetlands

Six international conventions that focus on biodiversity issues including wetland conservation have been put in place. They include;

- Convention on Biological Diversity (CBD)
- Convention on Conservation of Migratory Species (CMS)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- International Treaty on Plant Genetic Resources for Food and Agriculture
- Ramsar Convention on Wetlands
- World Heritage Convention (WHC)

Each of the above conventions and agreements works to implement actions at the national, regional and international level in order to reach shared goals of conservation and sustainable use. In meeting their objectives, the conventions have developed a number of complementary approaches (site, species, genetic resources and/or ecosystem-based) and operational tools (e.g., programmes of work, trade permits and certificates, multilateral system for access and benefit-sharing, regional agreements, site listings and funds).

CBD

The objectives of the Convention on Biological Diversity (CBD) are the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising from commercial and other utilization of genetic resources. The agreement covers all ecosystems, species, and genetic resources including wetland resources.

CITES

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival. Through its three appendices, the Convention accords varying degrees of protection to more than 30,000 plant and animal species, including those that inhabit wetlands.

CMS

The Convention on the Conservation of Migratory Species of Wild Animals (CMS, or the Bonn Convention) aims to conserve terrestrial, marine and avian migratory species throughout their range. Parties to the CMS work together to conserve migratory species and their habitats by providing strict protection for the most endangered migratory species, by concluding regional multilateral agreements for the conservation and management of specific species or categories of species, and by undertaking co-operative research and conservation activities.

International Treaty on Plant Genetic Resources for Food and Agriculture

The objectives of the Treaty are the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security. The Treaty covers all plant genetic resources for food and agriculture, while its Multilateral System of Access and Benefit-sharing covers a specific list of 64 crops and forages. The Treaty also includes provisions on Farmers' Rights.

Ramsar

The Convention on Wetlands (popularly known as the Ramsar Convention) provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. The convention covers all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities.

WHC

The primary mission of the World Heritage Convention (WHC) is to identify and conserve the world's cultural and natural heritage, by drawing up a list of sites whose outstanding values should be preserved for all humanity and to ensure their protection through a closer co-operation among nations. Wetlands are also regarded as heritage and cultural sites.

While each convention stands on its own and with specific objectives and commitments, inter-linkages between the issues each addresses, and potential complementarities in their monitoring and implementation processes, provide a basis for cooperation.

Wetland institutional arrangements and the Ramsar convention

It has become apparent in recent years that, the prospects of success of any treaty, which has the protection of the environment as its principal objective, will depend to a considerable extent upon the effectiveness of the institutional mechanisms, which it incorporates. The Convention itself actually made provision for the creation of only one new institution - *the Conference of the Contracting Parties*. To be strictly accurate, Article 6(1) merely provided that:

'The Contracting Parties shall, as the necessity arises, convene Conferences on the Conservation of Wetlands and Waterfowl.'

It is to be noticed that these events were not in fact labeled Conferences of the Contracting Parties as such. The first Wetlands Conference following the Convention's entry into force was duly held at Cagliari, Italy, in November 1980. The second meeting, held at Groningen in the Netherlands in May 1984, was referred to as a Conference of the Contracting Parties and all the later meetings have been similarly titled.

The 1987 amendments to Article 6(1) do in fact expressly now refer to these meetings as Conferences of the Contracting Parties, as well as regularizing their occurrence by providing that ordinary meetings shall no longer be convened 'as the necessity arises', but rather 'at intervals of not more than three years, unless the Conference decides otherwise'. Such meetings have been duly held in accordance with this timetable ever since Groningen. The functions of ordinary meetings of the Conference have already been described in the context of implementation mechanisms. Provision is also made in the amended Article 6 for the holding of extraordinary meetings at the written request of at least one third of the Contracting Parties.

The principal reason for convening an extraordinary meeting would be for the adoption of amendments to the Convention in accordance with Article 10 but there would seem to be no reason why such meetings could not be convened for other purposes also.

The only reference in the text of the Convention to the question of participation in meetings of the Conference is to be found in Article 7(1), which states that:

'*The representatives of the Contracting Parties at such Conferences should include persons who are experts on wetlands or waterfowl by reason of knowledge and experience gained in scientific, administrative or other appropriate capacities.'*

It is apparent that this provision expressly neither authorizes nor excludes the presence of other participants, but, given the substantial role of NGOs in the Convention's formative stages, it would have been surprising had they been denied participation in the implementation phase. Given, furthermore, that the original text spoke only of Conferences on the Conservation of Wetlands and Waterfowl, there was no obvious reason to exclude them.

Conservation of wetlands and of their flora and fauna, whether national or international, governmental or non-governmental, is also to be admitted unless the Parties decide otherwise, though national non-governmental agencies must first secure the approval of their government for this purpose. Once admitted, observers are entitled to participate but not to vote. They may even submit proposals for deliberation if they secure the sponsorship of a delegation, and there appear to be some examples of this having occurred.

The only other form of institutional arrangement to which express reference is made in the text of the Convention concerns the performance of Bureau duties, such as the convening and organization of Conferences, the maintenance of the List and the receipt of information concerning changes in the ecological character of designated sites, and the transmission to the parties of such details, together with any recommendations of the Conference adopted in response.

It has been pointed out that these functions are relatively limited, certainly when judged by the standards of later environmental treaties, and it is significant that no new entity was initially to be created for this purpose.

'The International Union for the Conservation of Nature and Natural Resources shall perform the continuing bureau duties under this Convention until such time as another organization or government is appointed by a majority of two-thirds of all Contracting Parties.'

National Wetland Policies and Institutions

A significant proportion of the activities undertaken within the Ramsar system has been directed towards the establishment of a clear policy framework for the conservation and wise use of wetlands, and a crucial indicator of the success achieved by the Convention concerns the extent to which such principles have been embraced at the national level.

The adoption and implementation of a national wetland policy has emerged as one of the highest Ramsar priorities, and recently approved guidelines are intended to assist in that regard. While in 1993 only two parties (Canada and Uganda) had formally adopted such policies but by 1999 the number had expanded to 22. A further 31 indicated that such policies were currently under development, while 24 others advised that such instruments were planned for the near future.

Uganda is the only country in the Nile basin region known to have made a national wetlands policy. Other countries such as Kenya are in the process of making one.

Examples of National Wetland Policies include**;**

- **Canada:** The Canadian Federal Government Policy on Wetland Conservation**, 1991**
- **Australia:** The Wetlands Policy of the Commonwealth Government of Australia**, 1997**
- **Ghana:** A National Wetlands Conservation Strategy**, 1999**
- **Greece:** National Strategy for Wetland Resources**, 1999**
- **New Zealand:** New Zealand Wetlands Management Policy**, 1986**
- **Trinidad and Tobago:** National Policy and Programs for Wetlands**, 2002**
- **Turkey:** 2003-2008 National Wetlands Strategy for Turkey**, 2002**
- **Uganda:** National Policy for the Conservation and Management of Wetland Resources, Uganda**, 1995**

Unit Activity 3:

Before you read further, identify any national, regional or local policies that your country has put in place in response to the Ramsar convention

African Eurasian Waterbird Agreement (AEWA)

The Agreement on the Conservation of African-Eurasian Migratory Water birds (AEWA) is the largest of its kind developed so far under CMS. It was concluded on 16 June 1995 in Hague, Netherlands and entered into force on 1 November 1999 after the required number of at least fourteen Range States, comprising seven from Africa and seven from Eurasia had ratified.

The African Eurasian Water bird Agreement works on the protection of the migratory birds in the region. Most countries along this route signed the agreement. Wetlands International is actively involved in the meetings of this agreement in order to induce the right decisions. The countries that signed the African Eurasian Water bird Agreement (AEWA) meet regular to discuss the state and to take decisions about the protection of the migratory birds following the route from West and North Asia, Europe to Africa. Wetlands International plays a very active role in providing the data about water birds and to propose the right measures to protect the birds and their sites.

Objectives and approach

Parties to the Agreement are called upon to engage in a wide range of conservation actions that are described in a comprehensive Action Plan (2003-2005). This detailed plan addresses such key issues as species and habitat conservation, management of human activities, research and monitoring, education and information, and implementation.

Work areas: The Agreement has an ambitious programme of work. With the productive outcome of 20 adopted resolutions, the Third Meeting of the Parties to AEWA (23 – 27 October

2005 in Dakar, Senegal) paved the way for a host of activities to be implemented within the next three years. An important issue was the adoption of the Communication Strategy, which is expected to bring major improvements in internal and external communication, capacity building and public awareness.

Parties to AEWA (Africa)

A number of countries in the Nile basin region are parties to the African Eurasian Water bird agreement (AEWA), including Egypt, Kenya, Sudan, Tanzania and Uganda.

Wetland laws and regulations

As a policy maker/implementer, it is important that you articulate the role of wetland laws and regulation in the conservation of wetlands so that the decisions you make and the actions of other stake holders are in harmony with the wise use concept and sustainable development.

Wetlands have been identified as one of the key life support system on this planet in concert with agricultural lands and forests. This has been key theme in evolving global support and political commitment for sustainable development and environmental conservation of wetlands. Wetland laws and regulations are a key feature in the implementation of the wise use concept of the Ramsar convention. However developing and implementing wetland laws and regulations that promotes wetland conservation and management remains an elusive goal for many countries.

Wetland laws and regulations involve strategies and programs of action; they reflect goals objectives and aims which have been directed by policy. Implementing agencies/lead agencies are the ones usually tasked with the overall enforcement of the laws and regulation governing the conservation of wetlands. Implementing agencies/ Lead agencies usually have a broad mandate for natural resources management to orchestrate coordination and communication about wetlands.

The implementing agencies require assistance and training to understand what the wetlands laws and regulations say and mean, who is in charge, what expertise is available and where, how roles and responsibilities are distributed, and many related questions. The wetlands laws and regulations must be useful to stakeholders and wetland resource users. Thus they targeted at the

managers of wetlands: this could be government agencies, local communities, public or private landowners, and other stakeholders.

In Uganda the wetland laws and regulation mostly cover; wetland drainage, sound environmental management, sustainable use, conservation, water supply and treatment, land use and ownership, restoration of sites, environmental impact assessment and monitoring, public awareness, research and inventory, capacity building, international actions, legislation and institutional arrangements.

Depending on the country, conservation and wise use measures may be contained in national and sub national laws and regulations on environmental protection, nature conservation, protected areas, environmental impact assessment and audits, land-use planning, coastal management, water resource management or pollution control. At the local level, customary laws and community-based institutions may be relevant.

Wise use cannot be effectively promoted without appropriate legal and institutional frameworks at local and national level. Statutory and customary laws establish principles and rules for personal and corporate conduct and determine ownership and user rights for land, water and natural resources and applicable taxation. Legislation can be used to require assessment and control of activities and development which may adversely affect wetlands, in accordance with the principle of prevention; to set standards to minimize impairment of land, water and air resources; to monitor compliance; and to punish illegal practices.

Law makes it possible to confer special status on wetlands or catchments, to require cross-sectoral planning on wetland issues and to safeguard the rights of indigenous and local communities to information and participation in wetland management. A legal basis is necessary for most non-regulatory measures such as financial incentives for stewardship by individuals or communities.

Legislation defines the rights and duties of public authorities and agencies with regard to wetland conservation and wise use, including in relation to other States, and lays down the conditions under which financial support may be provided for specific activities. It can authorize the use of

judicial review of actions undertaken by public agencies which damage wetlands and can permit civil law proceedings to be brought against natural or legal persons where wetlands have been harmed. It may provide for remedies such as payment of damages and/or mandatory restitution or compensation.

Law thus establishes the framework in which scientists, planners, managers and environmental economists make strategic and operational choices and in which communities and other stakeholders exploit wetland resources.

ACTIVITY

- Discuss the various laws and regulations for the management of wetlands in your community.
- Which factors have tended to block the implementation of the management and conservation of wetlands in your country?

Wetlands Management and institutional frameworks

Wetland management is based on aims and guiding principles, which are normally drawn from the broad aims and broad and objectives of this undertaking.

The overall aim for promoting the conservation of wetlands is to sustain their ecological and socio – economic functions for the present and future well being of the people. In support of this aim, governments in the region should strive to achieve the following goals;

- Establish principles by which wetland resources can be optimally used, and ensure that their productivity is maintained,
- End existing unsustainable exploitative practices,
- Maintain a biological diversity either in the natural community of plants and animals or in the diverse agricultural activities.

- Promote the integration of wetland functions in economic development programs such as forestry, agriculture, fisheries, wildlife and aim at sound environment management

To achieve the above goals, three guiding principles are advised to individual governments:

a) The conservation of wetlands must consider the overall development strategies and activities.
b) Wetland conservation must adopt a coordinated and cooperative approach involving all the concerned people and organizations in the country, including the local communities.
c) The present attitudes and perceptions of the people in the Nile Basin regarding wetland needs to be change.

Management Approaches

A brief overview on the common wetland management approaches are outlined below.

1. **Drainage of wetlands**

   In instances where drainage has occurred on a large scale due to pumping, excavation of water channels and perhaps combined with excessive growing of trees and or building dams upstream of a wetland, such modifications should be avoided. Government requires that some wetlands which have already been drained should be allowed to regenerate.

2. **Environmental sound management**.

   Sometimes, the management of a natural resource may be debatable in line with whether its use causes adverse effects on the environment or not. A typical example is the production of bricks from clay soils. This may lead to deforestation around the brick – making kilns (areas) since they may cut the trees to burn the brick. However, the smoking of fish using papyrus (which could sustainably be harvested) may be environmentally sound and can reduce the exploitation of fuel wood supplies in the area. In such scenarios, since most users of wetland resources do not take into account other aspects of the environment, only those uses that have been proved to be non – destructive to wetlands and their surroundings are encouraged. These include water supply, fisheries, wetland edge gardens and grazing.

3. **Sustainable use of wetlands.**

   Sustainable use of wetland is understood as utilization which ensures that the products or services derived from that use are available at some foreseeable future. For example, yields from fishing or harvesting of papyrus, should be set at a level that can be maintained for the foreseeable future. To achieve that, wetlands need to be utilized in such a way that they do not lose traditional benefits and one's decision to use wetlands must consider the requirements of all other users in the community.

4. **Conservation of wetlands**

   Wetlands are important habitats for a variety of biological resources, some of which depend entirely on wetlands for their survival. Their conservation would preserve indigenous species of plants and an animal is essential for the future biodiversity. Many attributes of wetlands remain to be discovered earning them ecological importance. For many of the Nile basin countries, internationally recognized wetlands have been established. Other important wetlands outside those that are internationally recognized also need to be protected. For that to happen, fully "protected wet land areas" of important biological diversity, should be established. Also, some wetlands may be for partially exploited and used for research. Protected wetlands should be left in their natural state without any disturbance from humans.

5. **Water supply and effluent treatment**

   Any wetland serving as a source of water supply or receiving effluent as part of a designated service to any human settlement should be declared a fully protected wetland from encroachment, drainage or modification.

6. **Tenure and use**

   Many wetlands in the Nile basin region belong to the public but contrary to what might be expected from this ownership status, some of them have been leased. Government consequently loses control of any protective or conservatory requirements. All wetlands

therefore should be taken as public resources and should not be leased to individuals or organization except under certain circumstances.

Communal use should be permitted only once the environmental conservation and sustainable principles and strategies are adhered to. The communal use may be terminated by the government if it is found that the laws governing the use of wetlands are violated. All future land tenure documents including maps and layouts should indicate whether the area contains a wetland and accordingly exclude these wetlands from tenure. The layout should be advertised in the local authority where land is to be given out for a specified period.

7. Environmental impact assessment (EIA) and monitoring

Development activities in general tend to impact upon natural resources and environment in various ways. Assessment and evaluation of such impacts helps to minimize the economic and social costs preventing damage before occurrence as compared to restoring a degraded wetland. In view of this, all planned new wetland development will be subjected to an EIA process to determine the required environmental controls and be monitored regularly there after to asses their impact.

8. Developing public awareness

Very often wetlands are degraded because the public is does not appreciate the diversity of values and functions of wetlands. Public awareness is therefore essential in creating a commitment and positive attitude towards conservation and sustainable utilization of wetland resources. Public awareness campaigns on wetlands resources in co – operation with other natural resources sectors should be carried out at local and national levels. Such media as leaflets, posters, radio, and television could be employed and all should give guidelines for wetlands developers.

Guidelines for proper conservation of wetlands

The wise-use principles of the Convention on Wetlands (Ramsar 1971 encourages wetland use that does not endanger the vital wetland functions and the overall integrity of the wetland ecosystem. The guidelines for proper conservation of wetlands are based on four basic principles aimed at maintaining or enhancing wetland functions.

The hydrological and ecological integrity of the wetland ecosystem must be maintained

Sustainable use of wetlands means using selected portions of wetlands for a variety of multi-purpose activities. Original conditions of the wetland will be expected to change, the extent of change depends on the kind of use the wetland is subjected. However, not the main hydrological and ecological processes must be maintained.

Wetland conservation guided by larger ecosystem management objectives

Wise use of wetlands has to be considered also in the context of sustainable use of the ecosystem as a whole. Proposed wetland management options must, therefore, support wider ecosystem management objectives and options should be guided by information from EIA.

Wetland conservation options must be supportive of the socio-economic objectives and aspirations of the people

Wetland conservation is expected to contribute to local livelihoods and poverty alleviation by acting as a stimulus foe economic development through continued or expanded sustainable wetland. Wetland conservation is also expected to create new opportunities from consumptive and non-consumptive wetland uses.

Management of trans-boundary wetlands

Many natural wetlands are trans-boundary, the establishment of cross border cooperation on wetland management required. While management of wetlands on a national scale has challenges, the management of trans-boundary wetlands is more complex because of wetland connectivity across the borders which call for shared responsibility. Trans-boundary wetland management needs to take into consideration the role wetlands play at restoring the natural discharge and recharge patterns of the water system of the overall catchment. In addition, trans-

boundary wetland management needs to acknowledge the role wetlands play to purify water and to trap sediments.

Trans-boundary areas could be politically fragmented or transitional wetland areas. These wetlands do not have more moral pressure in their management than strict obligations. It calls for harmonization of legal frame works (e.g. ownership), access to information, encouraging coordinated management and positive cooperation. Creating awareness, fostering a sense of shared responsibility, cooperation, and opening common and a broader view on management is vital for the survival of trans-boundary wetlands.

Trans-boundary cooperation

Many challenges have to be surmounted before being able to successfully establish trans-boundary co-operation. These challenges are due to a number of factors such as;

- Differences in legislation
- Differences in policy goals
- Political differences
- Differences in governing structures
- Lack of knowledge of each others language
- Lack of financial resources
- Social and cultural differences
- Lack of structural agreements on the implementation of trans-boundary co-operation

In most cases, cooperation begins informally, with private contacts between wetland managers on both sides of the border, based on a common interest in the sustainable management and/or protection of the area concerned.

However, to formalize a trans-boundary cooperation agreement, governmental level support is required. Due to the difficulties mentioned above, this can be a time consuming and sometimes frustrating process, which may include set backs in what has been achieved. Managers, scientists and planners concerned with trans-boundary wetlands must be encouraged to cooperate directly

with their colleagues across the border as a bottom-up approach appears to be the best guarantee for successful trans-boundary cooperation. International workshops, exchange programmes, conferences and training courses provide excellent opportunities for initiating cooperation.

Financing trans-boundary wetland management

Trans-boundary cooperation is not only important because of the protection of biodiversity values, but is also required to establish political stability. However, financial mechanisms support projects aiming to enhance trans-boundary wetland management may be a challenge.

Cooperation on the development and implementation of joint projects on integrated trans-boundary wetland management, including the establishment of a trans-boundary wetland monitoring network would be a good gesture.

The Nile is the longest river in the world, combining the Blue Nile that rises in the highlands of Ethiopia, and the White Nile, which rises in the Equatorial Great Lakes region of East and Central Africa. The 3.2 million sq kilometers of the river basin contains all or part of the territory of ten countries - Burundi, Democratic Republic of Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda, totaling at least 140 million people. Countries upstream are well watered while many of those downstream remain arid and heavily dependent on the Nile, a situation which has led to conflict over centuries. Accords signed by Britain and Italy in 1929 and 1959, respectively, awarded control of the Nile Waters to Egypt alone, creating conflict with countries which insist on being involved in the management of the waters of the Nile. In 1992, the Council of Ministers from the Nile Basin countries began an initiative to promote co-operation and development.

The **Nile Basin Initiative** was established in February 1999 to bring together governments of the ten riparian states in order to prepare coordinated development projects to benefit the poor, involving water, energy and agriculture. IUCN, WWF and World Bank hosted a workshop to investigate the establishment of an International Discourse on the Nile, held at the IUCN Headquarters in Gland, Switzerland. The idea was to involve civil society in planning and

development in order to ensure that the developments coincide with the wishes of the Nile Basin peoples. Subsequent meetings underscored the need for the international discourse to continue for several years.

International discourse on the Nile River Basin is designed to promote broad based dialogue, and sharing of views on development in the Nile River Basin. This occurs mainly through the Nile Basin Initiative with a wide ranged of national, regional and international levels. The discourse covers a broad range of themes including poverty alleviation, conflict resolution, the environment and development.

Unit Summary

In this unit, we have examined the Ramsar convention and wetlands of international importance. The Ramsar convention adopted in1971, is an intergovernmental treaty that aims at ensuring conservation and wise use of wetlands. Several countries have responded to the convention by becoming parties to it and at least designating one site as a wetland of international importance.

International laws and policies are also in place and at national level; some countries have already formulated wetland policies while others are yet to do so. Several international agreements and conventions related to wetlands such as CBD, CMS, WHC, CITES and AEWA are in place. We have also examined several examples of national wetland laws and policies with Uganda in the Nile basin region the only country with a wetland policy. Lastly we looked at Wetland management strategies and institutions including the management of transboundary wetlands.

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UNIT 4: ENGAGING POLITICAL WILL AND COMMITMENT

Introduction

In this module, you will examine strategies for engaging political will and commitment towards wetland conservation and management. You will look at advocacy and lobbying strategies at various levels, integration of wetlands into the national budgetary frameworks, the decision making process and cross-sectional linkages to strengthen wetland management.

As a key stakeholder in the conservation and management of wetlands, it is important for you to as a policy maker to provide practical advice on how best to lobby and advocate for conservation and management strategies among politicians. As you proceed with this module, have the following questions in mind:

QUESTIONS

1. Why is effective advocacy on wetlands a key aspect of wetland management?
2. What important considerations do you need to take into account for effective lobbying and advocacy of wetland issues?
3. Who are the different influential political groups that you should lobby on wetland issues in your locality/country?
4. What are the best strategies to use when lobbying the different groups such as:
    - Members of parliament?
    - Local administrative leaders?
5. What is the importance of networks among policy makers in wetland management?

Learning Outcomes

By the end of this Unit, you should be able to;-

(i) Give a rationale for advocacy and lobbying on wetland issues.

(ii) Explain the factors which determine the effectiveness of specific advocacy and lobbying strategies

(iii) Design the most effective strategies for advocacy and lobbying among different political leaders

(iv) Give the importance of networking among policy makers in the management of wetlands

Lobbying and advocacy

Lobbying on wetland matters may be defined as a concerted effort designed to influence government authorities, politicians, and other stakeholders on matters pertaining to wetland conservation and management. A closely related word is advocacy. Wetland advocacy may be defined as the act of arguing or attempting to persuade others to support or carry out wetland conservation and management.

Lobbying

Wetland issues in the Nile Basin region have not been well understood, even by our policy makers. It is therefore necessary to lobby them using a variety of techniques such as:

- Writing E-mails: Excellent but not every one has access to computers, particularly in the developing countries

- Letter writing: This is probably the most effective lobbying technique, particularly for policy makers as it is able to explain new or difficult wetland issues. It also suffers from the fact that some stakeholders may not be able to read and write.

- Phone calls: This is best when the issue is simple. It is often limited by time and can be expensive.

- Meetings: These can be organized on a particular wetland issue. However, mobilizing people can be difficult. It is even equally difficult to ensure that the people we are lobbying will attend the meetings. All in all, it is best to use a combination of techniques for most effective results.

During lobbying sessions, it is important to ensure that the message being conveyed is true as per scientific facts, and that one does not coerce or threaten people. The focus is to persuade other people to see your point of view. Be objective and recognize your biases. Often people resist other peoples' views because of lack of adequate information and the poor approaches used in disseminating messages.

Advocacy:

1. **During advocacy it is important for you to assess the problem or issues at hand**. For example, establish what you want to change, who is affected by the problem, what compromises need to be made towards the resolution of the problem. Set your goals and search for the best outcome.

As mentioned above, be objective and avoid too much bias. Identify potential obstacles to getting the resolution that you are looking for. Weigh or evaluate them against your strengths. Identify your allies and those not on your side. Determine the advocacy technique to use such as print or electronic media

1. **Form an advocacy team based on the common cause**. Establish who shares with you wetland values and develop a common goal. Troubleshoot on potential conflicts in interest within the group and how to deal with them. Develop a structure for meetings and the decision-making process. Use talented people in the different aspects to bring about group synergy. Here, it is particularly important to maintain the group together.

2. **Gather sufficient information about the issue**. You may need to interview professional in the area of wetland conservation, visit libraries and TV documentaries. Examine what has been done before and understand the view points of the opponents of conservation.

3. **Choose your strategies**. Litigation and media scandals can be embarrassing and expensive. Seek compromises when these are best. Determine the best strategy to use such as legal action, dispute resolution, organized community action etc.

4. **Evaluate your strategies and prioritize your actions** to see if your advocacy goals and objectives were achieved. If not, establish the reasons and go back to the drawing table and re-plan.

Lobbying and advocacy: Packaging of wetland messages

Effective lobbying and dissemination of wetland information for purposes of advocacy among political and other groups should be carefully done by carrying out the following:-

(i) **Identification of the target audience:** In particular, the identification of the political group is important. For example, you can have parliamentarians, the parliamentary committees such as those on social services and the local elected leaders. You should prepare your presentation according to the characteristics of the different groups since this will influence the formulation, packaging and delivery of the information.

(ii) **Selection and packaging of the message**: The message must be carefully selected for a particular audience and packaged so that it is attractive to them. For example, parliamentarians are more receptive to messages with statistics, while the local leaders may require a slightly different package. You should aim at ensuring informed decision making by providing adequate, current and reliable information on various aspects of wetlands management.

(iii) **Selection of the medium or mode of delivery**: As we stated above, it is important to select an appropriate medium for dissemination to a particular audience. This should take into consideration the coverage. For example using television may only result in reaching fewer people than the radio. The use of modern ICT facilities in the Nile basin countries is still largely restricted and may be confined t only some people in urban areas.

ACTIVITY

- What other factors should be taken into consideration before wetland information is disseminated to:
  (i) Parliamentarians?
  (ii) Local political leaders?
  (iii) Ministers?
- How should the information be packaged for engaging political will to the maximum?
- Think for a moment of other ways in which lobbying can be made more effective to local political leaders. Write these down and share them with others.

Lobbying and advocacy: The media and communication tools

There are several media and communication tools available for advocacy and lobbying on wetland issues to various political groups. These include:

(i) Awards

Awards to excelling politicians in recognition to contributions to conserve wetlands

(ii) Electronic Media

- Radio broadcasts
- TV coverage and talk shows
- Documentaries
- Project video films
- Internet services

(iii) Print media

- Newsletters
- Booklets
- Brochures
- Posters

- Calendars
- Newspaper pullout
- Workshop reports

(iv). Dance and drama

Drama/plays shown to politicians based on particular wetland themes

(v) Events

- Field excursions
- Expositions/ exhibitions
- Workshops , seminars and conferences
- National or regional campaigns

(vi). Promotional items

- T-shirts
- Caps
- Stickers
- Banners

ACTIVITY

- In groups, discuss the challenges of using various media and communication tools to effectively lobby wetland conservation and management issues to political leaders

REMEMBER

- A good lobbying and advocacy strategy answers the questions
  - (i) What actions should be taken
  - (ii) Which issues should be addressed
  - (iii) What is the role of various stakeholders
  - (iv) How and where will the issues be addressed

Publicize wetland concerns at regional and national levels through participation in activities like the World Wetlands Day, and establish partnerships with agencies that have well developed communication infrastructure with the view to making use of their resources for communicating wetland information. It is also important to participate in radio programmes like talk shows and debates, and to develop annual work plans and activities

At the local level, it is important to build capacity among individuals, groups or agencies involved in lobbying and advocacy, and to push for the political leaders to integrate wetland activities in their work plans and budgets.

Benefits of effective wetland lobbying and advocacy

Effective communication of wetland issues to the different stakeholders could have the following benefits:

- Improved awareness and levels of participation of the different political leaders in wetlands conservation and management
- Promotes ownership of wetland resources, particularly among our political leaders. In this way, they would be obliged to pass policies that ensure their conservation since they would realize their benefits to them.
- Strong decision-making and quick problem solving: The local political leaders will be encouraged to act quickly on wetland issues that they have to address

Cross-sectoral linkages for wetland management

There are many institutions, organizations or agencies involved either directly or indirectly in wetland management and conservation. It is important to establish linkages so that synergy can be obtained. It also avoids repetition of work already done by other institutions. Basically, linkage here refers to creating a system of sharing information between various sectors working in the area of wetlands conservation and management. Inter-sectoral linkages have the following advantages:

- It facilitates sharing of information on various aspects of wetlands. In particular, key activities, research findings or other information can be shared between the different sectors.

- It reinforces the desire to conserve and effectively manage wetlands. Examples of successful management strategies in one sector can stimulate the desire among other sectors to also replicate the success.
- Inter-sectoral linkages can influence policies and laws pertaining to wetlands
- Inter-sectoral linkages also help to build capacity among the different sectors to perform various activities related to wetland conservation and management.

ACTIVITY

- Name some existing sectors in wetlands and biodiversity conservation:
  (i) In the Nile basin countries
  (ii) In your country
- What are the goals of the various sectors and what has promoted and hindered their activities?
- In groups draw a plan of how you would strengthen inter-sectoral linkages in your country.

Unit Summary

In this Unit, you have examined the rationale for effective lobbying and advocacy on wetland issues. You have also examined some of the factors that determine effectiveness of the various lobbying and advocacy strategies. Furthermore you have looked at various lobbying and advocacy techniques. Lastly, you looked at the importance of inter-sectoral collaboration on wetland and biodiversity conservation and management.

Important points to remember

- Advocacy and lobbying are essential in ensuring that the decisions affecting wetland management and conservation at political level do not adversely affect the integrity of wetland ecosystems.
- Effective dissemination occurs when the desired response is elicited in the learner

- There are many factors that affect the effectiveness of the various strategies used during lobbying and advocacy on wetland issues among the different political leaders
- Effective communication of wetland information could result in improvements in the levels of wetland conservation and management.
- Inter-sectoral collaboration is essential in strengthening the management and conservation of wetlands.

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GLOSSARY OF COMMON TERMS

Communication: Sending of information or messages and receiving an appropriate response

Communication strategy: A detailed communication plan for achieving set goals by sharing information for the common good

Network: Part of a large group of individuals or agencies that work together by sharing information for the common good

Wetland: An area which is temporarily or permanently flooded with water and, which has peculiar plants and animals that are adapted to the conditions in this area

Wetland degradation: The action of rendering the roles and functions of a wetland less effective, for example, draining for farmland and infilling

Wetland conservation: Activities that ensure wise use of wetland resources in such a way as to ensure that the balance between harvest and renewal is observed and the integrity of the wetland is maintained.

Seasonal wetland: These are wetlands that are flooded during the wet season (seasonally).

Stakeholder in wetland management: Person or agency that is responsible or participates in the conservation and management of wetlands.

Permanent wetland: These are wetlands that are always flooded regardless of the season

Wise use: Using a resource in such a way that even those generations to come will benefit from it.