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Document Sheet

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1. ABOUT UGANDA

Uganda is a landlocked East African country with a land area of 241,248 km², nearly all of which (99.5%) lies within the Nile Basin. The country is neighboured by South Sudan to the North, Kenya to the East, Tanzania to the south, Rwanda to the Southwest and DR Congo to the West. The country has a diverse landscape that features Mt. Elgon to the east, snow-capped Mt. Rwenzori to the west, and a generally flat plateau in the centre. The average elevation of the country is 1100 m above sea level.

Uganda straddles the equator, has a warm tropical climate and experiences two rain seasons (March - May and September - November) and two dry seasons (December – February and June – August). Average precipitation is 1180 mm/annum. The country has many large rivers (including the Victoria Nile, Albert Nile, Mpologoma, Rwizi, Achwa and Kafu) and large lakes (including the Victoria, Albert, Kyoga, Edward and George), all of which are part of the Upper Nile River system. About three quarters of the country is covered by savannah vegetation.

The country has an estimated population of 44.3 million (Worldometer, 2018) that is largely young (48.47% of the population is below 15 years) and expanding rapidly at an annual growth rate of 3.28%. A large proportion (82.9%) of the population resides in rural areas and is dependent on small scale rain fed agriculture for subsistence. Average population density is 222 inhabitants per km². Close to one fifth (19.7%) of the population is living below the national poverty level.

Agriculture is the most important sector of the economy and employs a significant proportion of the work force. Major agricultural products include coffee, tea, cotton, tobacco, cassava, potatoes, pulses, oil seeds, cut flowers, beef, poultry and fish. The country has a small industrial sector that is mainly focused on sugar processing, brewing and soft drinks, tobacco processing, cotton textiles manufacture and cement and steel production.

2. WETLANDS OF UGANDA

2.1 National wetlands

Wetlands may be simply defined as areas where land and water meet and intermingle. The term encompasses a wide range of environments including areas of open water, such as lakes and rivers; vegetation areas that are permanently or seasonally inundated, such as swamps and riverine floodplains; and areas of water saturation such as bogs and mires. The water within wetlands may be fresh, brackish or salty, and may be static or flowing.

Wetlands cover an estimated 20,290 km² of land in Uganda (8.4% of the total land area) making the country one of those on the Africa continent with a large area of wetlands relative to the country size. Uganda's wetlands are as varied as they are extensive, ranging from vast tropical papyrus swamps to swamp forests, seasonal flood plains and high altitude peat bogs in the glaciated valleys of the Rwenzori Mountains.

Wetlands in Uganda have traditionally been utilized as a source of materials for construction, crafts, furniture, and food (hunting and fishing). In addition, seasonal wetlands and margins of permanent wetlands have been used for grazing livestock, growing crops and as a source for domestic water and agricultural irrigation. Wetlands also provide a habitat for wildlife including threatened species like the Papyrus gonolek (*Laniarius mufumbiri*).



Photo 1: The near-threatened papyrus gonolek (Photo: Birding Uganda)

Hydrologically, the wetlands of Uganda fall under 10 river and lake drainage basins. They are:

1. *Lake Victoria Basin*: This area drains into Lake Victoria and has extensive riverine wetlands such as those that cover the course of the Katonga, Kagera and Rwizi/Bukora River systems; lakeshore wetlands such as those found in the bays and inlets of Lake Victoria and fringes of its satellite lakes like Nabugabo, Mburo, Nakivali, Kijanibarora and Wamala; and valley wetlands that cover broad valleys with poor drainage.



Photo 2: Bridge over the Katonga River and Katonga wetland on the Kampala-Masaka Road (Photo: Base Media)

2. *Lake Kyoga Basin:*

This area drains into Lake Kyoga, which is a drowned river valley. The basin has massive riverine and lake fringe wetlands covering the courses of the major rivers that drain into the lake such as the Mpologoma, Lumbuye, Okok/Okere/Akokorio/Awoja and Obalang Rivers; and wetland systems fringing the many satellite lakes of the basin such as Lakes Kwania, Kojweri, Kawi, Bisina, Opeta, Lemwa, Nakuwa, Nyaguo, Adais and Nawampasa.



Photo 3: A fisherman on the Awoja River in Eastern Uganda (Photo: Samite Mulondo)

3. *Lake Rudolf Basin:*

This basin is mostly situated in Kenya and drains into Lake Rudolf/Lake Turkana – a rift valley lake. In Uganda, the basin is a thin strip of land running along the Kenya-Uganda border from the Sebei to Karamoja regions. The area is semi-arid and has no significant wetlands.

4. *Victoria Nile Basin:*

This basin delineates the area draining into the section of the Nile River between Lakes Kyoga and Albert. The terrain in this basin is generally flat, and the course of the Nile as it traverses the area is fringed by massive wetlands in many parts. In addition, there are many river systems whose courses are covered by extensive areas of permanent and floodplain wetlands that drain into the Nile in this section, such as the Kafu and its tributaries (Mpongo, Mayanja and Lugogo), Arocha, Okole and Tochi rivers. The major wetland systems of this basin are the Kafu-Mpongo-Mayanja-Lugogo wetlands, Arocha wetlands, Kole-Apac-Okole wetlands and Gulu-Oyama-Tochi wetlands.



Photo 4: The Victoria Nile as it travels through Murchison Falls National Park (Photo: Azza)

5. *Lake Albert Basin:*

This basin comprises of the land immediately surrounding, and draining into, Lake Albert. Main rivers draining the basin include the Semliki, Muzizi, Nkusi, Waki, Waisoke and Waiga. Some of the rivers (especially the Semliki, Muzizi and Waiga) have large areas of permanent and seasonal wetlands along the courses of the river and at their deltas. The area around Ntoroko on the floor of the rift valley has a large expanse of permanent wetlands.

6. *Lake Edward Basin:*

This basin comprises of land that drains into the Lakes George and Albert. Its wetlands comprise of highland bogs and marshes in the Rwenzori Mountains as well as low land riverine wetland systems covering the courses of the Mobuku, Mpanga, Kazinga Channel, Ishasha, Nyamwamba and western section of the Katonga Rivers. There are also wetlands fringing the Lakes Gorge and Edward plus numerous crater lakes such as Lake Bunyonyi, Kitagata, Ndali-Kasenda, Nkugute and Kyaniga.

7. *Albert Nile Basin:*

This is an area located in the West Nile Region that drains directly into the Albert Nile. Its wetlands mainly comprise of riverine wetlands fringing the course of the Albert Nile and its tributaries such as the Nyarwodo, Ora, Anyau and Kochi Rivers. The largest expanses of wetlands in this hydrological basin are found along the Nile River.



Photo 5: The Albert Nile at Laropi. The banks of the river are fringed by large wetlands (photo: Azza)

8. *River Achwa Basin:*

This basin, which is drained by the Achwa River and its tributaries (Moroto, Awer, Pager, Agogo Rivers) is located in northern Uganda and extends into South Sudan. Considerable areas of wetlands fringe and cover the Agogo River, which passes close to the town of Pader. There are also large areas of wetlands along the Nyimur River, which crosses the Uganda-South Sudan border to discharge into the White Nile in South Sudan.

9. *White Nile Basin:*

This is a small strip of land along the Uganda-South Sudan border in the districts of Koboko, Yumbe and Moyo, which drains into the White Nile through South Sudan. It has not significant wetlands.

10. *Kidepo Basin:*

This hydrological basin extends through the districts of Lamwo, Kitgum and Kaabong and drains into the White Nile in South Sudan through the Kidepo and Narus Rivers. The area is semi-arid but there are some seasonal wetlands along the Lamwo-Kitgum district border and in Kaabong District in the upper reaches of the Kidepo River.



Photo 6: Map showing the hydrological drainage basins and Ramsar sites in Uganda (Source: Uganda Wetlands Atlas) (better map needed)

2.2 Transboundary wetlands of Uganda

2.2.1 The main transboundary wetlands systems

There are three main wetland systems of transboundary nature in Uganda. These are:

- *Sio-Malaba-Malakisi Wetlands:*

This wetland system is located in the Kenya-Uganda border area and comprises of riverine wetlands belonging to two river systems shared by Kenya and Uganda. These are the Lwakhakha-Malakisi-Malaba and Sio River systems, both of which are part of the Upper Nile Water System. The Sio River originates from marshes to the south-west of Bungoma town from where it flows westwards to form the common border between Kenya and Uganda before eventually discharging into Lake Victoria. The Lwakhakha and Malakisi Rivers both originate in Mt. Elgon and join near the town of Malaba to form the Malaba River that discharges into Lake Kyoga through the Mpologoma River. The two river systems have a combined catchment area of 5,352 km² and a population of 4 million persons. The banks and valleys of the two rivers are covered in many parts by massive tropical wetlands dominated

by papyrus, phragmites and other plants. These wetlands are an Important Bird Area (IBA) being home to over 300 bird species including the globally threatened Papyrus Gonolek as well as other aquatic fauna and flora (206 plant, 29 fish, 25 mammal, and 8 reptile species). Other values of the wetlands include storing and releasing water slowly to the rivers, purifying silt-laden water from adjacent farmlands, and serving as a source of drinking water and source of food, especially fish. The two wetland systems are facing multiple threats, mainly resulting from intensification of land use and conversion of wetlands into agricultural land and human settlements; poor agricultural practices leading to heavy siltation of the wetlands; and over extraction of wetland resources such as sand and water.



Photo 7: Sio-Siteko Transboundary Wetland (photo: www.talkafrica.co.ke)



Photo 8: NBI staff carrying out participatory assessment of the Sio Wetland (photo: NBI)



Photo 9: A stretch of the Malaba river showing fringe wetland vegetation (photo: <https://sgp.undp.org>)

- *Kagera River wetlands:*

The Kagera River is the largest of the 23 rivers that drain into Lake Victoria and provides about 34% of river inflow to the lake. The Kagera River Basin covers an area of 60,500 km² spread across the territories of four countries: Burundi, Rwanda, Tanzania and Uganda. The basin is among the most densely populated regions of East Africa, and has a population of over 15 million people. The basin is characterized by severe land degradation, land cover depletion, widespread soil erosion and loss of soil fertility as a result of poor farming methods.

In Uganda, the Kagera River forms the southwestern border separating Uganda from Rwanda and Tanzania. The river turns southwards near the village of Kibwera to flow through the Kagera Region in Tanzania before re-entering Uganda 30 km west of Mutukula border post and discharging shortly after into Lake Victoria at Kasensero. The terrain that the river flows before discharging into the lake (the western part of the Victoria system) is very flat and features a massive meandering river network and inland delta with extensive papyrus dominated wetlands. The wetlands are a habitat for aquatic fauna and flora, and help to reduce the silt loads into the lake.



Photo 10: The meandering Kagera River and associated massive wetland system in Rakai District, southern Uganda (Photo: NBI)

- *Semliki River wetlands:*

The Semliki River is the main river draining the Rwenzori Mountain ranges. The river originates in Lake Edward and flows northwards for a distance of 230 km before discharging into Lake Albert. The river forms the international border between Uganda and DR Congo for about one third of its length and flows over the flat floor of the western arm of the African rift valley before emptying into Lake Albert through a large delta covered by dense growths of ambatch or pith tree (*Aeschynomene elaphroxylon*) and papyrus.

The lands drained by the river are among those with the highest floral and faunal diversity in Africa, with bird species being especially diverse. The river flows through the Parc National des Virunga in DR Congo, and borders the Semliki National Park in Uganda and is home to a wide range of wildlife, including elephants, hippopotamuses, crocodiles, and various kinds of antelopes. Due to the hilly nature of some of the land drained by the river, intense seasonal rains and increasing human activity on the mountain slopes, the loads of silt in the Semliki river are increasing leading to frequent course changes and hence shifts in the international border with potential for conflict between DR Congo and Uganda.



Photo 11: The brick coloured Semliki River as it flows on the floor of the western arm of the Rift Valley on its journey to Lake Albert. (Photo: www.fortuneofafrica.com)



Photo 12: A section of the Semliki River (Photo: Uganda Wetland Atlas Vol. II)

2.2.2 Ecosystem services by transboundary wetlands

The transboundary wetlands are of immense value to the sustenance of local communities and the development of the country as a whole. The key goods and services they provide include the following:

- (a) *Provisioning services*: the Sio-Malaba-Malakisi transboundary wetlands provide communities of Kenya and Uganda with a wide range of products such as building materials including poles, reeds, grass thatch, sand, clay and bricks; craft materials like papyrus; fish, fish bait, game meat and crop products such as yams, rice, vegetables and sugarcane. The Kagera wetlands mainly provide fish and game meat to neighbouring communities. Among other things, the wetlands are an important source of food security for surrounding communities.
- (b) *Regulating services*: Before their alteration and destruction, the Sio-Malaba-Malakisi wetlands had been performing a number of ecological regulatory services such as flood control, erosion control, ground water re-charge and water purification. The Kagera and Semliki wetlands in Uganda still perform these functions.
- (c) *Cultural values*: All the three transboundary wetlands are used for cultural and spiritual purposes. In the Kagera wetland, there are cultural rituals that are regularly performed like baptizing of people by dipping in swamp water so as to get blessings. Also, community members perform cleansing rituals like bathing in the wetland to remove bad luck.
- (d) *Supporting services*: The Kagera and Semliki wetland systems, and the Sio-Malaba-Malakisi Wetlands before their significant alteration, have provided supporting services such as pollination, primary production, soil formation and habitat function to aquatic flora and fauna.

The national wetlands perform similar functions, and have similar values, as the transboundary wetlands.

3. POLICY AND LEGAL FRAMEWORK

3.1 Policy Framework

A number of policies guide the conservation and management of wetlands in Uganda. The main ones are listed below.

3.3.1 The National Environment Management Policy (1994)

This policy notes that wetlands are critical ecosystems that provide ecological values and functions that contribute to the health and socio-economic development of the country. The policy presents six (6) guiding principles and nine (9) strategies for wetland management and conservation. The strategies include:

- Strengthening the policy, legal, regulatory and institutional frameworks for wetlands management;
- Strengthening the mapping, demarcation and gazettement of wetlands;
- Preparing and implementing wetland management plans;
- Developing and implementing guidelines to promote the conservation and wise use of wetland resources;
- Promoting transboundary co-operation for the sustainable management of cross-border wetlands; and
- Undertaking economic valuation of wetlands resources to aid decision making.

3.3.2 National policy for the conservation and management of wetland resources (1995)

At the time of introduction of this policy, Uganda was one of only two countries (the other being Canada) that had a policy specifically focusing on wetland management. The policy set out to arrest the rampant loss of wetlands, ensure the sustainable utilization of wetland resources, provide for equitable distribution of wetland benefits, support the maintenance of wetland biodiversity and ecosystem functions, and promote the mainstreaming of wetland concerns in planning and decision making. The policy, which is the basis for wetland clauses in the constitution and the National Environment Act, provides a definition for wetlands, outlines their benefits, and lists wetlands management principles.

Specific provisions of the policy include the following:

- Permits non-destructive activities within wetlands;
- Prohibits wetland drainage exception under exceptional conditions;
- Requires that wetland use should not compromise traditional benefits provided by the wetland;
- Proposes that any modifications or developments in wetlands that have a size of 0.5 hectares or larger should be subject to an EIA;
- Provides for establishment of protected wetland areas (such as where a wetland system is an important source of municipal water supply, is a recipient of municipal effluent, or acts as a flood buffer);

- Provides for integration of wetland conservation in national land use plans/other national policies such as on poverty reduction; and
- Promotes the restoration of degraded wetlands that are of important value or provide vital services to society.

3.3.3 The Uganda Vision 2040 (2013)

The Uganda Vision 2040 provides development paths and strategies for Uganda in its endeavour to transform from a predominantly peasant and low income country to a competitive upper middle income country (NPA, 2010). The implementation of the Vision emphasizes sustainable development through preservation of natural resources such as forests and wetlands. Articles 295 and 296 of the Vision 2040 outline the efforts necessary to restore ecosystems such as wetlands and other fragile ecosystems through implementation of catchment-based systems, gazettement of vital wetlands for increased protection and use, and monitoring and inspecting restored ecosystems.

3.3.4 The Second National Development Plan (NDP, 2015)

Objective 3 of the Second National Development Plan 2015/16 – 2019/20 (NDP, 2015) seeks to increase wetland coverage and reduce wetland degradation. The proposed measures to achieve this include:

- (a) Demarcation, restoration and gazettement of wetland ecosystems country wide;
- (b) Development of wetland management plans for equitable utilization of wetland resources country wide;
- (c) Expansion of the knowledge base of ecological and socioeconomic value of wetlands among stakeholders;
- (d) Development of markets for wetland products and services;
- (e) Building the institutional and technical capacity for wetlands management at central to local government levels; and
- (f) Development and implementation of legal and governance mechanisms for sustainable wetlands management.

3.2 Legal Framework

3.2.1 The National Constitution of Uganda (1995)

This is the supreme law of the land. It lists wetlands among the natural resources that the state shall hold in trust for the people of Uganda, and places obligation on the state to protect and conserve the wetlands on the people's behalf. It makes sound environment management a key objective of government and provides for the national parliament to introduce measures necessary to protect and preserve the environment (including wetlands) from abuse, pollution and degradation.

3.2.2 The National Environment Act (1995)

This law provides protection to wetlands under its clauses 37 and 38. The Act prohibits the activities listed below in wetlands, making it an offence to carry out such activities without

permission from the National Environment Management Authority (NEMA). In permitting such activities, NEMA reaches a decision after consulting with the Lead Agency (the Wetlands Management Department in the Ministry of Water and Environment) and other stakeholders including local government authorities. The prohibited activities are:

- (a) reclaiming land or draining wetlands;
- (b) erecting, constructing, placing, altering, extending, removing or demolishing any structure that is fixed in, on, under or over any wetland;
- (c) disturbing any wetland by drilling or tunnelling in a manner that has or is likely to have an adverse effect on the wetland;
- (d) depositing in, on, or under any wetland any substance in a manner that has or is likely to have an adverse effect on the wetland;
- (e) destroying, damaging or disturbing any wetland in a manner that has or is likely to have an adverse effect on any plant or animal in a wetland; and
- (f) introducing or planting any exotic or introduced plant or animal in a wetland.

The Act provides for the establishment of District Environment Committees as well as Local Environment Committees to oversee environment management activities at district and local levels. The Act further provides for the performance of Environmental Impact Assessment (EIA) on all projects to be located in wetlands, and gives the National Environment Management Authority (NEMA) the authority, in conjunction with District Environment Committees, to declare any wetland as a protected wetland thereby excluding or limiting human activities in the wetland.

3.2.3 The Water Act (1995)

This Act provides for, among other things, the use, protection and management of water resources. It defines water to include swamps and marshes thereby extending protection to wetland systems. The Act provides for the issuance of a Water Permit for extraction of water from a natural source, including wetlands, and issuance of a Waste Water Permit for discharge of waste water or trade waste into any water body, including wetlands. The law requires the Director of Water to consult with Lead Agencies and other public authorities like NEMA in the issuance of water and waste water permits. The Law Provides for the Minister to declare any part of Uganda to be a controlled area, and establish a comprehensive and integrated plan for managing land, water and other natural resources (including wetlands) within such area. The Act makes it an offence for any person to cause pollution of water (which is defined to include pollution of swamps and marshes) and prescribes fines and penalties for persons convicted of such offence.

3.2.4 The Local Government Act (1997)

This Act amends, consolidates and streamlines the existing law on local governments in line with the Constitution to give effect to the decentralisation and devolution of functions, powers and services. It also provides for decentralisation at all levels of local governments to ensure good governance and democratic participation in, and control of, decision making by

the people. The Act devolves the management of wetlands to Local Governments to ensure country-wide demarcation, restoration and management planning of wetlands.

3.2.5 The Land Act 1998

This Act provides for the tenure, ownership and management of land, and amends and consolidates the previous law relating to tenure, ownership and management of land in Uganda. While the Act establishes rights and responsibilities of land owners – especially use in accordance with the law – it prohibits Government or local government from lease out or otherwise alienating wetlands except as provided for under the law.

3.2.6 Statutory Instrument No. 3 [National Environment Wetlands, River Banks and Lakeshores Management Regulations (2000)]

This statute aims to promote the conservation and wise use of wetlands and wetland resources, and gives effect to clause 2 of Article 237 of the Constitution of Uganda. Part II of the statute addresses wetlands management and establishes a National Technical Committee on Biodiversity Conservation that will be responsible for advising NEMA on matters concerning wetlands management. It also outlines functions of District and Local Environment Committees with respect to wetlands resources management. The statute provides for the Minister to declare any wetland to be a protected wetland and provides guidance on the criteria and process to be followed in declaring a wetland to be a protected wetland. The statute lists traditional activities in wetlands that may be carried out without a permit, and prohibits all other activities except under a permit issued by NEMA in consultation with the Lead Agency and District and Local Environment Committees. It outlines procedures to be followed in application for a wetlands permit, and considerations to be made in issuing a permit. It states that any person found guilty of an offence of illegal use of wetlands shall be liable on conviction to imprisonment of not less than three months or a fine not exceeding three million or both. In addition to the above sentence, persons found guilty of above offences may be required to carry out community work that promotes the conservation of wetlands.

4. INSTITUTIONAL FRAMEWORK

4.1 Wetlands Management Department

The Wetlands Management Department (WMD), which is a department of the Ministry of Water and Environment, is the Lead Agency for wetlands management in Uganda. The Department was established in 2007 and has delegated responsibility and authority to uphold the wetland related clauses in the Constitution (1995) and implement the National Wetlands Policy (1995). Its goal is to sustain the biophysical and socio-economic values of the wetlands in Uganda for present and future generations while its mission is “*to ensure the conservation, wise use and protection of wetlands in Uganda through increased appreciation and effective management, as a means to achieving sustainable development throughout the country*”.

The Wetlands Management Department comprises of two divisions namely: Policy and Enforcement Division and Assessment, Information and Management Division. Key functions of WMD include

- (a) supervision and coordination of wetland activities across the country;
- (b) initiating and facilitating processes for formulation and review of national policies, strategies and laws to protect and conserve wetlands;
- (c) overseeing implementation and enforcement of wetland related laws and regulations;
- (d) preparing and implementing short, medium and long-term wetland management plans, programs and projects;
- (e) mobilizing support and resources for implementation of wetlands management activities across the country;
- (f) setting standards and developing and disseminating guidelines for wetland management;
- (g) collecting, processing, storing and disseminating wetland information and knowledge and developing and maintaining a National Wetland Information System (NWIS);
- (h) facilitating capacity development at central and local government levels;
- (i) providing technical guidance, carrying out monitoring and support supervision, and coordinating and harmonizing wetland management activities carried out by the various levels of local government to ensure compliance with national policies, standards and plans;
- (j) serving as the administrative authority and national focal point coordinating the implementation of the Ramsar Convention on wetlands and other international and regional agreements and protocols on wetlands; and
- (k) providing administrative and technical support to the National Wetlands Advisory Group and the National Ramsar Committee.

To discharge the above functions, the Wetlands Management Department uses a multipronged approach that includes participatory tools, networking, training, awareness raising and dissemination programmes, resource assessments, research and development, policy guidance and enforcement. The Department implements its mandate in collaboration

with the National Environment Management Authority (NEMA) and other line ministries, parastatals, development partners and civil society organizations.

4.2 The National Environment Management Authority (NEMA)

The National Environment Management Authority (NEMA), which is an autonomous body under the Ministry of Water and Environment, is the principal agency in Uganda for the management of the environment, and has responsibility for monitoring, coordinating, supervising and regulating all activities related to the environment. NEMA advises the Government of Uganda on environmental matters, spearheads the development and oversees the implementation of environmental policies, regulations, laws, guidelines and standards. NEMA's oversight on the environment extends to wetlands. In this regard, it manages in conjunction with the Lead Agency, and with District and Local Environment Committees, processes of Environmental Impact Assessment (EIA) and Environmental Audit (EA) for projects located in or near wetlands. It also issues pollution licences for polluting activities within wetlands in consultation with the Lead Agency (WMD), and with District and Local Environment Committees.

Other parastatal bodies that WMD partners with include the Uganda Wildlife Authority (UWA) and National Forest Authority (NFA).

4.3 Districts and Lower Local Governments

Districts and lower local governments are responsible for management of wetlands (with the exception of centrally gazetted reserves) within their jurisdiction. District governments have gazetted wetland reserves and charged district organs with their management using their delegated authority. Districts commonly act in collaboration with other wetland stakeholders. Wetland management activities in the district are implemented by the District Environment Officers or District Wetland Officers (where they exist) coordinated by the District Environment Committee.

Under the lower local governments, Local Environment Communities (LECs) including Resource User Groups and Community Based Wetland Management Committees, are specifically created to ensure mobilization, planning, implementation and monitoring and reporting of offenders. Furthermore, in a bid to bring the Centre closer to the local governments, four Regional Technical Support Units (RTSUs) have been established to coordinate wetland management at regional level. Inter-District Wetland Management Committees have also been set up along various wetland systems to deal with and ensure amicable management of cross boundary wetland systems.

A community management approach has been promoted and has proved to be successful for managing wetlands at district and lower levels. This approach entails the involvement of communities living adjacent to and dependent directly or indirectly on wetlands, in the management of the wetlands. Activities that the communities are responsible for, or in which they participate, include the preparation of wetlands management plans, policing and apprehension and offenders, and conservation and restoration measures. When properly

planned and executed, a community management approach saves the government the high costs that would be incurred in policing and enforcement.

4.4 Private sector and civil society

The role of the private sector is largely limited to implementation of sustainable wetlands management plans for wetlands located on land that they own. A number of civil society organisations are involved in advocacy activities and the promotion of wetlands management and conservation, and in information dissemination and awareness raising. Local and international NGOs that the WMD partners with include Nature Uganda, Tree Talk, Environmental Alert, National Association of Professional Environmentalists (NAPE), Tropical Biology Association, Wetlands International, World Wide Fund for Nature (WWF), The British America Tobacco Biodiversity Partnership, Wildlife Conservation Society (WCS), Birdlife International and International Union for Conservation of Nature (IUCN). A loose network of CSOs active in the environment and wetland sectors has been created led by IUCN to monitor and report on sector activities.

4.5 Multi-stakeholder platforms

Each year the Ministry of Water and Environment holds Joint Technical Reviews and Joint Sector Reviews. These reviews bring together all key sector players (Ministries, Departments and Agencies), Development Partners, Private Sector and Civil Society and provides them with an opportunity for joint accountability, peer review, mutual learning and strategizing on the sector, which includes the wetlands sub-sector.

A second multi-stakeholder platform is in the form of a Wetlands Advisory Group (WAG) that brings together all stakeholders with a mandate related to wetland management, including line ministries, civil society organisations and private sector. The WAG meets quarterly and provides a forum for harmonizing policies and programmes with potential to impact wetlands.

5. WETLANDS-RELATED INTERNATIONAL TREATIES TO WHICH THE COUNTRY IS A SIGNATORY

5.1 The Ramsar Convention

5.1.1 Uganda's Participation in the Ramsar Convention

The Ramsar Convention on Wetlands of International Importance, Especially as Waterfowl Habitat, was signed in 1971 and came into effect in 1975. This treaty has provided the foundation for wetlands management in Uganda, which became a signatory to the Convention in 1988. The awareness created by the process of the country becoming a signatory to the Convention resulted in the recognition of wetlands as a public property in the 1995 Constitution of Uganda, and to subsequent legislation related to wetlands management. In 1995, Uganda became the first African Country to develop a Wetlands Policy. This too was influenced by the Ramsar Convention.

A total of 12 wetlands sites with a total surface area of 454,303 hectares have been designated as Ramsar sites in Uganda. The sites are listed below. In an ongoing effort to promote the conservation of wetlands, locally gazetted wetland reserves are being added to the International Ramsar Sites.

International Ramsar Sites in Uganda

1. Lake Bisina
2. Lake George
3. Lake Mburo–Nakivali
4. Lake Nabugabo
5. Lake Nakuwa
6. Lake Opeta
7. Lutembe Bay
8. Mabamba Bay
9. Murchison Falls–Albert Delta
10. Nabajjuzi
11. Rwenzori Mountains
12. Sango Bay–Musambwa Island

The Ministry of Water and Environment is the Focal Point for the Ramsar Convention in Uganda and is represented by the Director of Environment Affairs, who serves as the Administrative Authority for the Convention. The Director is assisted by a National Focal Point, 2 Communication, Education and Participation (CEPA) Focal Points (representing government and civil society), and a Scientific Technical Review Panel Focal Point.

The Conference of Contracting Parties (COP) is the governing body of the Ramsar Convention and consists of all governments that have ratified the treaty. Uganda has

participated fully in the Conference of Parties since becoming a signatory in 1988. The country also sits on the Convention's Scientific and Technical Review Panel (STRP) that is responsible for ensuring compliance to the Convention provisions. In November 2005, Uganda hosted the 9th Conference of Parties event in Kampala, becoming the first African country to host the COP.

5.1.2 Ramsar Centre for Eastern Africa

Uganda hosts one of four Regional Ramsar Centres in the world. The Centre in Uganda – the Ramsar Centre for Eastern Africa (RAMCEA) based in Kampala – serves as a platform and centre of excellence for capacity building, networking and information sharing with regard to wise use approaches for wetland management. RAMCEA coordinates Ramsar Convention activities in five countries in the Eastern Africa Sub-region but may offer services to neighbouring states outside of East Africa.

5.2 Other International agreements

Other international agreements that Uganda is a signatory to that are related to wetlands management are the following:

1. African Convention on Conservation of Nature and Natural Resources (revised) signed in Maputo in 2003;
2. Agreement on the Conservation of African-Eurasian Migratory Waterbirds, or African-Eurasian Waterbird Agreement (AEWA) which became effective in November, 1999;
3. Convention on Biological Diversity (CBD), which became effective in December 1993;
4. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which became effective in July 1975;
5. Paris Climate Agreement, which became effective in November, 2016; and
6. United Nations Framework Convention on Climate Change (UNFCCC), which became effective in March, 1994.

6. MAIN CHALLENGES AND OPPORTUNITIES

6.1 Main challenges

6.1.1 Destruction of wetlands

The main challenge for wetlands management in Uganda is the high and rapidly rising rate of encroachment, drainage, conversion and destruction of wetlands leading to rapid decline in the area covered by wetlands. Increasing pressure from rapid population growth with associated increase in demand for food and drinking water, land for human settlement, land for industrial parks, raw materials for the construction industry, transport infrastructure development as well as solid and liquid waste accumulation and many other development-related pressures have led to widespread drainage, conversion, degradation, pollution and destruction of wetlands. Upstream water overuse has led to many wetlands drying up. Projections by the Ministry of Water and Environment predict that by 2040 the area under wetlands will fall to around 3,600 km² from over 36,000 km² in the early 1990s (i.e. a 90% decline over 50 years) unless drastic measures are taken to rectify the situation. The destruction of wetlands affects national and transboundary wetlands alike. The majority of interventions in the country are aimed at addressing this singular threat to wetlands.

6.1.2 Overexploitation

Related to the above challenge, studies have shown significant reduction in the provisioning and supporting services of many wetlands, including transboundary wetlands such as the Sio-Malaba-Malakisi wetlands, as a result of over exploitation. Over the past two decades, as stated above, the wetlands have been increasingly encroached upon for settlement, reclamation for agriculture and construction of industries thereby effectively destroying them and reducing the available area for crop production and other provisioning services. Products like papyrus and fish have been overharvested to near depletion in a number of wetlands. Similarly, wild game is almost extinct in many wetlands, including the Kagera wetlands, due to over harvesting. Small water ponds created by water accumulation in areas where materials like clay and sand have been extraction have changed sections of the impacted wetlands into mosquito-breeding grounds and malaria reservoirs.

6.1.3 Erosion of cultural values

The degradation of wetlands has not only impaired their provisioning and supporting functions, but also diminished their cultural functions and aesthetic values. There has also been a significant reduction in usage of wetlands for recreational, inspirational and educational purposes; mainly due to their degradation. Most of the wetlands do not have recreational areas and are unfit for study tours.

6.1.4 Other challenges

Other important challenges for wetlands management include the following:

- (a) The vast area of wetlands that needs to be protected and conserved, which overwhelms the national management effort.

- (b) Weak enforcement of existing policies and legislation, partially as a result of the magnitude of work involved, which has the effect of encouraging disregard of the law.
- (c) Unclear and complex land ownership and tenure issues.
- (d) Lack of a wetland-specific law to combat rampant degradation and support effective conservation efforts.
- (e) Silent and open resistance to wetland management from the public.
- (f) Political intervention and interference in enforcement activities.
- (g) Continued issuance of various types of permits, licenses and certificates (such as land titles, development plans, EIA Certificates, Wetland Use Permits, etc.) by different regulatory authorities, some of which have provisions that are contradictory to wetlands management objectives.
- (h) Contradictions between various sectoral policies.
- (i) Lack of tested economically viable wetland wise-use options.
- (j) The prohibitive cost of restoration of degraded wetlands, which makes it difficult to carry out restoration at a significant scale.
- (k) The many groups of individuals and organisations that have a stake in wetlands management and utilisation. Involving the large number of stakeholders is costly and time consuming.

6.2 Root causes

The key root causes of the wetlands challenges are the following:

1. Widespread poverty.
2. Rapidly rising population leading to expansion in agriculture and other anthropogenic activities that degrade the environment.
3. High rates of rural-urban migration and unplanned expansion of urban areas into wetlands and other marginal lands.
4. Expansion of industrial activities – industries are commonly located in wetlands.
5. Low development status of the country, which translates into low budgetary support for wetland management activities at central and local government levels.
6. Weak capacity from central to local levels for wetlands management.
7. Limited scientific and local knowledgebase on wetlands management, which constrains wetland management efforts.

6.3 Potential measures for addressing the challenges

Measures that could be implemented to tackle the above challenges include the following:

1. Carrying out wetland boundary demarcation to help in preventing encroachment.
2. Increasing monitoring and compliance enforcement activities, including arrests and prosecution of offenders.
3. Enforcing effluent discharge standards, especially on toxic industrial effluents.
4. Strengthening the enforcement of EIA regulations on new development projects.
5. Cancelling land titles for land located within wetlands.

6. Preparation of wetlands management plans to prioritize and guide wetland intervention measures.
7. Building capacity and empowering local government officials to carry out wetland management activities within their administrative areas.
8. Training local government officials and wetland resource user groups in wetlands wise use approaches.
9. Involving local communities in wetlands management.
10. Developing guidelines and training resource user groups on sustainable harvesting of various wetland resources.
11. Embarking on widespread public awareness raising and education on importance of wetlands.
12. Sensitizing and raising awareness amongst national and local political leaders so as to obtain their support for wetland protection and conservation initiatives.
13. Introducing land use zoning and spatial planning through which destructive economic activities can be prohibited from wetland areas.
14. Strengthening urban planning.
15. Improving solid and liquid waste management, especially in urban areas.
16. Carrying out regular inspection and inventory of wetlands.
17. Carrying out wetland valuation studies to demonstrate goods and services to society that would be lost through wetland destruction.
18. Carrying out watershed management, including soil and water conservation and afforestation to reduce sediment exports to wetlands.
19. Strengthening cross-sectoral coordination at policy and technical levels to reduce on contradictory actions on wetlands from other sectors.

6.4 Opportunities for addressing challenges

Existing opportunities for addressing the above challenges include the following:

1. Aspects of wetland protection and conservation are included in over 10 legislation, which facilitates and helps to harmonise interventions across sectors.
2. Availability of the Wetlands Sector Strategic Plan to guide wetland management.
3. High level of awareness on wetlands in political and public agenda, schools' curriculum and media.
4. Financial contributions of Government of Uganda to the sector at a level of about 2 billion shilling (US \$ 550,000) per year.
5. Well-developed public structures and presence of staff at all levels of governance.

7. KEY WETLAND MANAGEMENT ACTIVITIES AND ACHIEVEMENTS

7.1 Overview

The Wetlands Management Department has over the year been implementing a wide range of actions to address key challenges concerning wetlands protection and conservation. Most of the activities have been implemented with funding from the government through the WMD vote under the Ministry of Water and Environment, and the Environment and Natural Resources (ENR) District Conditional Grant. Development Partners have also supported programs of the Department, as explained in the next section. The key activities and achievements of WMD are outlined below.

7.2 Carrying out biodiversity assessment and total economic valuation

Biodiversity Assessment and Total Economic Valuation (TEV) has been carried out in five wetland systems namely Nakivubo, Nyaruzinga, Kyazanga, Nabugabo and Sango Bay. The preparation of Conservation Investment Plans (CIPs) is underway for these wetlands.

7.3 Preparing and operating and maintaining a National Wetlands Information System

A National Wetlands Information System (NWIS) has been developed and continuously operated over the years. The NWIS is intended to be a one-stop centre for data and information on wetland management, and consists of two components: an MS Access-based database and a mapping (ArcGIS) application linked through a common user interface. Data in the system was collected through two main mapping exercises conducted in 1994 and 2008 and is occasionally updated with data collected under wetlands resources assessment studies. Data from the system is provided to the public upon request.

7.4 Information dissemination and awareness raising on wetlands

For many years the government has been carrying out awareness raising, stakeholder outreach and dissemination of the knowledge collected through wetland assessments using annual events such as the World Wetlands Day (February 2), World Water Day (March 23), International Day for Biological Diversity (May 22), World Migratory Bird Day (second Saturday in May) and World Environment Day (June 5) to send out wetland conservation messages. This has resulted in a high level (80%) of awareness on wetlands among the population. It has also led to incorporation of wetlands management issues in political and public agenda, schools' curriculum and media programs.

7.5 Demarcating wetland boundaries

Boundary demarcation using pillars, beacons and live markers has been carried out for critical wetlands to control encroachment and maintain the integrity of wetlands. A total length of 1011.5 km of wetland boundaries had been demarcated by December 2016 in over 20 districts including Kampala, Jinja, Mbale, Gulu, Lira, Masaka, Bushenyi, Isingiro, Rakai, Kaliro, Bulambuli, Masindi, Arua, Mukono, Wakiso, Iganga, Dokolo, Hoima, Kisoro, Pallisa and Luwero. Many of the demarcated wetlands are systems that serve as water sources for

urban water supply systems, and others that serve as a recipient for municipal waste water and storm water discharge from the municipalities and towns.



Photo 13: The demarcation of the boundaries of a wetland in Bushenyi District (Photo: WMD, 2016)

7.6 Carrying out wetland restoration

The government has been carrying out restoration of selected critical wetlands to secure and maintain their hydrological, ecological and biodiversity functions. By December 2016, 40.98 km² of degraded wetlands had been restored in the districts of Kampala, Jinja, Mbale, Gulu, Lira, Masaka, Bushenyi, Isingiro, Rakai, Kaliro, Bulambuli, Masindi, Arua, Mukono, Wakiso, Iganga, Pallisa, Dokolo, Hoima, Kisoro and Luwero. Restoration activities include stakeholder sensitization, mobilisation, issuing of improvement notices and restoration orders, formation of task forces and restoration through enforcement or project activities.

7.7 Preparing wetland management plans

By December 2016, a total of five (5) Framework Management Plans, 62 District Wetland Action Plans and 91 Community-Based Wetland Management Plans had been completed. The Framework Plans are inter-district plans for cooperative management of wetland systems that traverse the boundaries of two or more districts. The Framework Plans help to foster a sense of shared responsibility and are used by the stakeholders in rationalizing the use of wetland resource amongst riparian districts. The five wetland systems for which Framework Plans have been prepared are Sezibwa, Awoja, Namatala-Doho, Rwizi and Okole.

District Wetland Action Plans are planning tools prepared by the districts that become an integral part of the District Development Plan. They are used to promote sustainable development and ensure adequate funding for wetland management activities at district and lower local government levels.

The other type of plan – the Community-Based Wetland Management Plans – is used to monitor and regulate access to wetland resources and ensure social and economic equity in the wetland user community. Its preparation requires a protracted process of sensitization of Community Resource Users, formulation of technical and local planning structures and guiding the structures in the preparation and implementation of the plan. Alongside the effort to prepare the plans have been efforts to form Community-Based Wetlands Associations and Resources User Groups to implement the community wetland plans.

7.8 Creation of an Environment Protection Force

As a response to widespread and rising degradation of environment, the government in 2011 created a 150-member special force – The Environment Protection Police Unit (EPPU) – within the Uganda Policy Force to back up the enforcement of laws, regulations and standards relating to the environment, which includes wetlands. A contingent of 25 men and women of the EPPU have been assigned to the Wetlands Management Department to support it in enforcement of wetland policy and regulations. Responsibilities of the unit include 24-hours environmental surveillance, detection and investigation of environmental crimes, and arrests and prosecution of persons alleged to have committed crimes.

7.9 Compliance monitoring and enforcement

The government has stepped up compliance monitoring and enforcement of wetlands-related regulations using technical officers from the Wetland Management Department and Local Government Authorities backed by law enforcement offices, especially the EPPU. Non-compliant wetland users are first given compliance assistance, and issued with improvement notices if misuse of the wetland persists despite the compliance assistance. When disregard of the law continues, offenders are issued with restoration orders and eventually arrested and prosecuted.



Photo 14: Persons arrested by WMD technical officers backed by EPPU officers for carrying out illegal activities in Matuga wetland. (Photo: WMD, 2016)

8. PAST AND ONGOING WETLAND PROGRAMS AND PROJECTS

8.1 The Nile Transboundary Environmental Action Plan (NTEAP)

The Nile Transboundary Environmental Action Plan (NTEAP) was a 7 years (2003 – 2009) US \$ 43.6 million Nile Basin Initiative project funded by GEF with additional funding and technical support from UNDP and the World Bank. The project was implemented in nine NBI member countries. In 2009 the project brought together wetland resources users and other stakeholders from Kenya and Uganda to jointly prepare a Community Based Wetlands Management Plan for the wise use of the transboundary Sio-Siteko wetland ecosystem.

8.2 Extending Wetlands Protected Areas through Community Based Conservation Initiatives.

This was a five years (2008-2013) US \$ 3.86 million project implemented in four districts in Uganda (Katakwi, Ngora, Isingiro and Rakai) with funding from GEF/UNDP and the government of Uganda. The project pursued an approach of encouraging communities living in the neighbourhood of Ramsar Sites to designate local wetland reserves as Community Conservation Areas (CCAs) and add these to the Ramsar Sites. This approach to increase the area of protected areas was implemented in the Lake Nakivale, Kacheera I, Kacheera II, Magoro, Kapir and Mukura Community Conservation Areas.

8.3 Preparation of the Uganda Wetlands Atlas

The Uganda Wetlands Atlas (2015), which has been produced in two volumes, is an important awareness and sensitization tool on wetlands. Preparation of the Atlas was funded by the Government of Uganda with technical and financial support from the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP). The project also received support from the United States Geological Surveys/Earth Resources Observation and Science (USGS/EROS), which provided satellite imagery used in the assessment of trends in wetland coverage. Volume 1 of the Uganda Wetlands Atlas focuses on Kampala City, and the neighbouring districts of Wakiso and Mukono, and provides visual evidence of the extent and severity of the degradation and destruction of wetlands occurring within urban and peri-urban areas mostly occasioned by rapid urban expansion and unregulated activities.

The volume documents dramatic trends that have occurred, such as the disappearance of complete wetland systems, drainage diversion and increasing algal bloom in the inner bays of Lake Victoria. The second volume (Vol. 2) describes the wetland systems in the country, going drainage basin by drainage basin. For each basin, the report describes the areal coverage of wetlands, their values and uses, key threats and challenges, impacts of the threats and recommended measures for addressing the threats.

8.4 National Wetlands Management Project

This project had a 5 years (2012-2016) duration and was launched to provide a model of conservation and wise use of wetlands in Uganda with geographical focus on two wetlands

systems in Eastern Uganda, namely (a) Namatala-Doho Wetland System; and (b) Awoja Wetland System. The project was funded to the tune of US \$ 3.75 million by the Government of Japan through the Japanese International Cooperation Agency (JICA) and the Government of Uganda, and had eight key intervention areas namely:

- (a) upgrade and operationalisation of the National Wetlands Information System;
- (b) conducting detailed resource assessment studies in the two wetlands systems (Awoja and Namatala-Doho) – the scope of these assessments covered ecosystem assessment; wetland use and livelihood assessment; assessment of flood control function; preliminary assessment of soil erosion and sediment yield; sedimentation monitoring; water quality assessment and rural biomass energy assessment;
- (c) supporting the preparation of framework plans for the Awoja (shared by 12 districts) and Doha-Namatala (shared by 8 districts) wetland systems;
- (d) supporting the preparation of sub-country and district Wetland Action Plans to implement the framework plans;
- (e) supporting the preparation of Community Based Wetland Management Plans;
- (f) implementing pilot activities in selected communities- these included sustainable fish production, wetlands demarcation, papyrus restoration, watershed management and strengthening enforcement ;
- (g) building capacity at central and local government levels for wetlands management; and
- (h) preparing guidelines for upscaling of project results. The project closed in December 2016.



Photo 15: Men laying basket traps for fish in Awoja Wetland (Photo: Uganda Wetlands Atlas, Vol, II)

9. EXPERIENCE CONCERNING GOOD WETLAND MANAGEMENT PRACTICES

9.1 Areas of experience

Good wetland management practices that Uganda has experience with (as outlined in the preceding sections) are the following:

1. Ramsar site designation and management
2. Preparation of Framework Wetland Management Plans (inter-district plans for management of shared wetlands)
3. Preparation of Sub-country and District and Wetland Action Plans
4. Preparation of Community Based Wetland Management Plans
5. Establishment of Community Conservation Areas
6. Carrying out wetland resources assessment studies
7. Carrying out wetland valuation studies
8. Carrying out wetland demarcation
9. Carrying out wetlands restoration
10. Enforcement of wetland regulations with a special police force
11. Establishment and operation and maintenance of a national wetlands information system
12. Carrying out general awareness raising and public education on wetlands



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