
**Feasibility Study for an Integrated
Watershed Management Program for the
Kagera River Basin**

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Annex E: Institutional Analysis

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1. Introduction

The environmental situation in the Kagera basin is known to be worsening with time (Kagera Monograph, 2010). This is primarily the result of an increasing population in the region for the most part reliant on rain-fed subsistence agriculture, which inevitably results in mismanagement/over-competition of available land. This has resulted in environmental degradation manifested by increasing soil erosion and loss of biodiversity in agricultural, forestry, pasture and wetland systems, deforestation and loss of wetlands, overgrazing of pasture land, and reduction of fish wildlife stocks. Lack of basic facilities for sanitary and solid waste management in urban and peri-urban areas has also resulted in an increase of eutrophication of inland water bodies, increases in invasive aquatic species and declining water quality with the concomitant increase of waterborne diseases.

It is likely that environmental degradation would have proceeded at a faster rate if it were not for the fact that the basin contains a vast amount of wetlands and swamps, seasonally inundated grasslands and swamp forests, which are among the most productive ecosystems in the world providing essential buffering and regulation functions. These areas, which help maintain water quality by trapping sediment, filtering nutrients and regulating the volumes and energy of river flows despite strong seasonal variations in the rainfall patterns, are now under considerable threat due to population pressure and inappropriate land use. The degradation of land, water and biological resources resulting from human and natural processes affects the individual basin states as well as having transboundary effects.

The issue of overpopulation resulting in increased competition for available resources (overburdening) is primarily a direct result of poor planning, which in turn is directly related to ineffective policies and strategies for population growth, settlement and future development. This is a common problem in subsistence-based agricultural countries. However, what is rarely appreciated, until it is too late, is the devastation caused by environmental degradation that results from such poorly focused governmental actions, particularly on a transboundary level. To highlight this, Table 1 below provides a simple linkage between the cause and effect of ineffective population management and environmental degradation, the consequences of which are currently clearly observed in the Kagera Basin. These linkages apply to both the national and transboundary situation. Indeed, in the latter case, the need for such reliance on harmonized approaches will easily (and readily) be appreciated by governmental decision-makers in each of the Basin States.

Table 1: Simple cause and effect relationship between population mismanagement and environmental degradation

Basic Population issues	Environmental Consequences (Seen Today)
<p>Poor planning of issues related to population control, location, current and future livelihood activities; Significant refugee movements; Rural growth with ineffective provision of essential facilities.</p>	<p>Deforestation and unsustainable land use and management practices resulting in increased runoff, soil erosion, vulnerability to drought, sedimentation and pollution of water resources, loss and degradation of wetlands and greater flood risk.</p> <p>Loss of key habitats (e.g. wetlands and watersheds) and/or key ecosystem functions (e.g. retaining nutrients and water quality; pollination and predation) and/or unique and threatened animal, plant and microbial species.</p> <p>Ecological changes and loss of resilience of fragile and vulnerable ecosystems especially inland water bodies and steep-lands and marginal agro-pastoral systems.</p> <p>Loss of resilience and stability of human and natural land use systems to stresses and change for example those caused by pests and disease outbreaks, climatic vagaries such as drought periods, storms and floods and climatic change.</p> <p>Spread of exotic and invasive species that lead to impaired functions of ecosystems including water hyacinth and other aquatic weeds such as elephant grass and papyrus, that lead to blocked waterways, eutrophication and threatened fish and other species.</p> <p>Waterborne diseases due to increased breeding grounds and poor sanitation and hygiene such as malaria, diarrhoea, bilharzia which especially threaten infants and the elderly</p>

In order to solve such environmental issues within the Kagera basin it is required in relation to the current and projected future populations that national efforts (and transboundary cooperation) for sound land use and management practices are implemented immediately. Be it on a national or transboundary level, these actions must be complemented by improved environmental awareness (environmental education), knowledge and information sharing between and within Basin States, and most importantly, stakeholder involvement and capacity building at all levels.

In terms of land management, measures are required both to prevent land degradation and to restore already degraded resources. Specific measures are required to address the actual and current problems related to conflicts arising in ecosystems (agricultural, forest, pastoral, and wetlands) through actions of the resident population.

It may be the order of the day to state the following: 'to ensure the food and livelihood security and wellbeing of current and future generations, efforts need to focus on sustaining the diverse human activities that contribute to food and agricultural production and poverty alleviation' (TAMP 2005). However, in order to solve the problems associated with environmental degradation in the Kagera Basin we must assume that diversification of such human activities is not to be directly linked to subsistence agricultural production, which is a major cause of the environmental degradation. To put efforts into fine-tuning of 'relevant' policies and the creation and agreement of strategies with the current uncoordinated donor efforts can lead to a fragmented policy approach in some cases, translating to lack of coordination at the government level (ODI, 2011). Indeed this approach may act to exacerbate the environmental problems.

The identification of objectives and priority activities requires a thorough baseline analysis of basin-wide natural resources status, environmental and demographic trends, threats and development constraints and opportunities. The identification will contribute to selecting priority interventions and critical areas for further development, as outlined in Task 2 of this study.

In identifying priorities there is a need to understand the values of the ecosystems and resources and the wide-ranging benefits they generate. This includes direct values of production and consumption of goods, indirect values of ecological goods and services that support the land use activity, as well as option values for potential future uses and attributes and intrinsic values in terms of cultural, aesthetic and heritage value.

There is also a need to understand not only the direct threats, often attributed to population growth and poverty, but also the underlying or root causes that are often related to sectoral and macro-economic policies, institutional, governance, awareness and information issues. The design of effective remedial actions requires an understanding of the complex interactions between these factors and the environmental resources so as to include complementary technical, policy and institutional considerations.

In order to address poverty and to reduce vulnerability of the poor who depend on the natural resources, the challenge is to accelerate equitable income growth and promote access to necessary resources and technologies. Is this possible to achieve in the short to medium term (<5 years) when the majority of the population within the Basin are reliant for their very survival on rain-fed subsistence agriculture? Realistically, one would assume not.

In order to bring about a change from unsustainable practices into appropriate land management practices in the longer term (5-10 years), local communities need secure user/property rights, local governance, incentive measures, adequate institutions and harmonized sectoral policies, opportunities and empowerment. For the purpose of sustainability and up-scaling, all donor projects that are implemented in the environmental sector to provide either short or long-term remedies for the environmental problems facing the population in the Kagera Basin must be coordinated and work effectively within existing national institutional structures, in consideration of the current and future policies and laws.

Section 2 outlines the current policies, legal framework and institutions in each of the Kagera basin states for integrated natural resource and environmental management of watersheds and examines the official roles of organizations as stipulated at present. Section 3 provides an outline of the institutional set-up and arrangements for project implementation, including mechanisms to implement sub-projects nationally while maintaining a transboundary coordination and collaboration.

Policy and institutional issues related to integrated natural resource and environmental management of watersheds and associated climate change implications.

1.1 Burundi

1.1.1 National Environmental Strategy (2000)

The National Environment Strategy of Burundi is a response to resolve conflict between the objectives of development and those of protection of natural and environmental resources, proposing measures suitable to restore or safeguard a balance between interests of development and those of environment. It aims at organizing a coherent and cooperative set of complementary structures for better management of national and global environment. The specific objectives are: capacity building of the Ministry in charge of Environment (Ministry of Water, Environment, Territorial Administration and Urban Planning, MWETAUP), the improvement of intersectional coordination for better management of environment for sustainable development, the adoption of a participative approach and principles of good environmental management in the planning and implementation of actions, the emergence and operation of associations, NGOs and groups defending environment.

1.1.2 Environmental Code

This Code (Law No. 1/010 of June 30, 2000 on the Environmental Code in Burundi) sets the fundamental rules intended to enable the environmental management and protection against all forms of degradation so as to safeguard and promote the rational exploitation of natural resources, fight against pollution, and improve the population's living conditions in respect of the balance of ecosystems.

1.1.3 Poverty Reduction Strategy Paper (2006)

The PRSP outlines reforms and programs whose objective is to build a new society of hope in the future for the population of Burundi as a whole. *The vision of the strategy is medium- and long-term development of Burundi for the reduction of poverty. "The promotion of sustainable and equitable economic growth" is one of four strategic lines affecting the environment. The PRSP's most pertinent points are the re-launching of agriculture, livestock, fisheries, and fish farming and the improvement of environment protection. For the re-launching of agriculture, livestock, fisheries, and fish farming, the PRSP provides several useful guidelines for agro-biodiversity conservation. For the improvement and protection of the environment, the PRSP also calls for the involvement of the private sector and other non-State organisms in the management and exploitation of natural resources (ETOA, 2010).*

1.1.4 National Action Plan for Adaptation (2007)

The NAPA produced by the Ministère de l'Aménagement du Territoire, du Tourisme et de l'Environnement in 2007 outlined a list of urgent and immediate priority actions that contribute to adaptation efforts of the country to address the potential adverse effects predicted for future climate change. The NAPA integrates all actions into the country's development strategies, including human and institutional capacity building, which can be supported by concerned donors.

The plan identified important adaptation and mitigation strategies in line with the recommendations by Rosenzweig and Tubiello, 2007. The NAPA provides past and current practices for adaptation to climate change. These include: movement of populations to areas less affected by extreme events, a judicious rotation of crops according to the intensity of rainfall, an adaptation of the agricultural calendar to the changing cycle of seasons, the introduction and adoption of new crops, conservation of genetic resources in the form of seeds and by repetitive planting and propagation by cuttings, seasonal migration for livestock, among others.

1.1.5 Science Policy Dialogue on Climate Change

A science-policy dialogue on climate change was convened on 18-19 October 2010 in support of the project Understanding the findings of the IPCC fourth Assessment Report, Climate Change 2007: Integrating Climate change Adaptation and Mitigation in Development Planning (Kigeme et al, 2010).

The dialogue was organized and presided over by the Director General of IGEBU, focal point institution of the United Convention Framework on Climate Change in Burundi. The activity was supported by MWETAUP, the University of Dar Es Salaam, and START, in partnership with the WMO, IPCC, UNEP and the European Commission. Dialogue participants included government ministerial representatives, parliamentarians, members of the national media, researchers from the University of Burundi, and representatives of environmental NGOs (Kigeme et al, 2010).

The recommendations of the meeting, which are intended to provide a basis for developing a consultative framework for climate change in Burundi, were as follows (Kigeme et al, 2010):

- *Integrate the National Adaptation Plan of Action on climate change into development policies of Burundi;*
- *Create regional and national centres to promote a permanent framework for information exchange on climate change between scientists and decision makers;*
- *Promote cooperation and linkages with international universities to facilitate exchange of technical data and information on climate;*
- *Set up regional mechanisms for climate observation and develop an observation system at the national level by equipping meteorological stations as well as by building human capacity and better accessing technical resources;*
- *Promote activities that increase awareness of vulnerable communities on climate change adaptation processes, and undertake the actions laid out in the National Action Plan for Adaptation to climate change;*
- *Develop information sessions for local communities and political decision makers on the efficient and sustainable utilization of natural resources;*
- *Update and translate into local language all legal texts related to environment so it may be easily understood by the population;*
- *Enable the youth to better understand climate change mechanisms;*
- *Undertake activities formulated in the National Action Plan for integrated water resources management “PAGIRE” in Burundi;*
- *Develop a program for integrated land management with emphasis on specialization in crop production by region;*
- *Set up a commission of national experts to oversee climate change issues;*
- *Determine the indices to be used for monitoring climate change;*
- *Develop a national policy on transboundary water resources management;*
- *Promote adequate management of wetland areas;*

- *Restrict the expansion of Bujumbura to the highlands areas instead of the plain zones which are more suitable for agricultural production;*
- *Develop a sustainable program for catchment protection;*
- *Set up a mechanism for elected decision makers at different levels to evaluate threats to natural resources;*
- *Integrate climate change issues in national policy (e.g., Vision 2020-2025);*
- *Require that national development projects include environmental and social impact assessments in their feasibility studies.*
- *Enhance the capability of existing institutions to act.*

1.1.6 National Water Policy (2009)

The National Water Policy (NWP) gives the Government's vision for the water sector: "A State where water is available in quantity and quality sufficient to meet the needs of present and future generations and used as efficient and fair for sustainable socio-economic development without compromising environment." Water is now considered a motive of socio-economic development for the people of Burundi. The overall objective in this policy is to "Ensure sustainable water for all users by a harmonious development of the national water resources needs."

This policy also gives strategic directions for the proper management regarding good governance in water, water-related disaster management, and integrated water management, drinking water and basic sanitation, water for socio-economic development, and the environmental resources management sector. It also provides the cross-border dimension of Burundi resources management and capacity building in the field of water. It discusses some preparatory policy, organizational and institutional measures which must be taken in order for the policy to be implemented.

Observed gaps in the NWP have been highlighted previously by the NBI (<http://wrpmp.nilebasin.org/files/WaterPolicy/BaseLineNeedAssessment/html/Chapter3.htm>):

- *Policy on trans-boundary management highly summarized; there is a need to expand on the following: diversion and utilization of water resources; revision of existing accords and treaties related to international waters; protection of the environment surrounding the upstream basin; preservation of water quality for use downstream; questions on water sale; plans for data management and information communication including available decision support systems; an adequate framework of cooperation acceptable to all; cooperation principles in case of national disasters, inter-state conflicts, etc.*
- *The NWP does not handle issues concerned with water rights in water resources management; water rights are covered under the 26 November 1992 Decree related to institutions and organizations in the public domain; this document covers issues of regulation, protection, transfer and access to water, but the Decree is inoperative due to the lack of a text of application*

According to the World Bank study conducted in 2008, despite significant water resources, access to water in Burundi has been challenged: *the country experienced several droughts between 2004 and 2006; marshes and wetlands have been drained or used seasonally for agricultural production; and infrastructure for water delivery fell into serious disrepair or was destroyed during the conflicts in the 1990s and early 2000s. Urban water supply in Burundi dropped from over 70% coverage in 1993 to 60% coverage in 2008. In rural areas, 40% of the population has access to safe drinking water. In the study, 50% of respondents reported paying bribes to obtain access to safe drinking water. Between 66% and 78% of all reported illnesses are the result of lack of access to safe drinking water and sanitation (World Bank 2008).*

Water use in Burundi is shared between agriculture (77%), domestic (17%), and industry (6%). Irrigation is reported by the FAO to be limited to surface irrigation and is poorly developed (FAO 2005; FAO 2007).

With limited mechanisms for erosion control, rainwater is accelerating land degradation in Burundi. Sedimentation in waterways, wetlands and inland lakes, is causing loss of fish and wildlife habitat, filling channels and lakes, and spreading pollutants (USFS 2006).

According to the USAID Country Profile report¹, a number of institutions are involved in the management of water resources, resulting in overlapping responsibilities in some areas. Water and energy policy is formulated by the Directorate General for Water and Energy, which is under the responsibility of the Ministry of Water, Energy and Mines (MWEM). Also, under MWEM, REGIDESO (Régie de Production et de Distribution de l'Eau et de l'Electricité) the public utility for water and electricity has the responsibility for catchment management, which includes the treatment and distribution of drinking water in urban areas. In rural areas, the Directorate General of Rural Water and Electricity (DGHER) oversees and coordinates access to drinking water in association with communal water authorities. Water User Associations are responsible for maintaining local water points (UN-Habitat 2007).

The development and implementation of national policy in the combined fields of water, environment, forests and land management have been the responsibility of the Ministry of Water, Environment, Territorial Administration and Urban Planning (MWETAUP) since 2005. Within MWETAUP, a General Directorate of Water is currently being established (Beck et al., 2010). Also under MWETAUP are the Geographic Institute of Burundi (IGEBU) and the National Institute for the Environment and Nature Conservation (INECN) which both have some water-related functions. INECN is the institution responsible for Burundi's Ramsar commitments. The Institute for Waste Management is responsible for water supply and sanitation. Water for agriculture and aquaculture fall under the Ministry of Agriculture and Animal Resources.

Legal Framework

Burundi's water resources are governed by the 1992 Water Code, (Décret n° 1/41 du 26 novembre 1992 portant institution et organisation du domaine public hydraulique), which establishes rights of access to groundwater, lakes and watercourses, as well as the distribution of drinking water. The water Code is currently under revision (see below). The current Code includes provisions that were designed to ensure conservation of water and protection of aquatic ecosystems, whilst maintaining an adequate supply drinking water to the population free from pollution. The Code places emphasis on the development of water as an economic good and includes the water needs of all sectors of the national economy.

In 1968 REGIDESO were provided a monopoly for water catchment management and distribution networks by virtue of the Order in Council No. 1/196. Subsequently, the responsibilities for water distribution and management were delineated between the Directorate General of Rural Water and Electricity (DGHER) and REGIDESO under Decree No. 100/072 of 21 April 1997(ADF 2005).

However, in 2000, Burundi adopted Law No. 1/014, which set out a framework to support private sector engagement in the provision of drinking water and energy, which eliminated REGIDESO's monopoly over the provision of drinking water and energy. Law 1/014 issues that that REGIDESO and DGHER are delegated public service providers operating under a to-be-established regulatory body. Subsequent to law 1/014, the GoB has already transferred some functions relating to management and maintenance of water and sanitation infrastructure to the communes through Order in Council No. 1/011 of 8 April 1989 (ADF 2005).

Other laws governing Burundi's water resources include the following:

¹ This report can be found here : <http://usaidlandtenure.net/usaidltp/products/country-profiles/burundi>

- Issues of water resources management and conservation and the development and protection of watersheds and land are governed by the Environment Code (Law No. 1/010 of 30 June 2000), and
- Under the Public Health Code (Order in Council No. 1/16 of 17 May 1982), all projects relating to water catchment have the prior authorization of the Minister in charge of health (ADF 2005).

Water Code

This code sets the fundamental rules intended to ensure the rational and sustainable management of water resources, to allow the conservation and protection of this resource against all forms of degradation and pollution, and its rational use and exploitation according to different needs and priorities of the State, local communities, and the persons or entities operating on the territory of Burundi. This code has also gone through a consultation process and thematic studies were carried out, in water and agriculture as well as water and health, and adopted at regional workshops. This water code was recently adopted.

Fisheries Law

The law governing fishing dates from 1937, with the decree on Hunting and Fishing that established a broad framework under which specific regulations could be established. This was but was amended in 1947 with an Ordinance targeted at the prohibition of non-native species, and again in 1961 with a Ministerial declaration regulating fishing on Lake Tanganyika (outside of the Kagera Basin). In 1982, a Ministerial Order set new fees for fisheries (again focused at Lake Tanganyika fisheries), which has, according to the FAO caused industrial fishers to withdraw from fisheries and invest in other sectors of the economy (<http://www.fao.org/fi/oldsite/FCP/en/BDI/body.htm>).

1.1.7 National Strategy of Sustainable Land Use (2007)

The National Strategy of Sustainable Land Use provides strategic orientations for a coherent framework for future instruments of planning and sector actions. It also provides the basis of a legal framework of the strategy for an adequate and appropriate institutional restructuring, the necessary resources to implement the strategy, and an action plan detailing the tasks to be undertaken in the first three years of implementation.

Burundi has significant land degradation (soil erosion) resulting from a heavy population pressure, small farm sizes (average 0.5 ha) and intensive cultivation on steep slopes. In 2009 Theron estimated that all land in Burundi would be in use by 2020 (Theron 2009). As a consequence of the population pressure, using the figure for the annual rate of deforestation of 5.2% (World Bank 2009), it can be estimated that only between 4 and 5% of Burundi remains forested. The overwhelming majority of Burundi's cropland is rain-fed, with only <2% of all cropland irrigated. For the year 2000, 51% of Burundi's land area was in crops and 37% maintained in pasture (FAO 2007).

Much of the government support to combat soil erosion involves funding of soil conservation activities. There is also support from international organizations accompanied by some level of cost sharing by the local people. In most cases, the Department of Soil Protection and Swamp Management uses the following techniques:

- Using forest and agronomic trees on the fields,
- Using dredged channels around the mountain over the swamps areas,
- Using mixed plants (calliandra, grevillea, leucaena sp.) and grasses (Tripsacum, setaria sp.)

At policy level, meetings are organized bringing together administrators and personnel from the technical services. Generally, there is political will for soil conservation in Burundi. However, there is need for capacity building in the science and practice of sustainable land management.

Currently, several ministries compete for authority of land administration in Burundi, issuing documentation (titles or certificates) for the formalization of land rights. These include the following (ARD 2008):

- The Office of Titles and Registration located within the Ministry of Justice;
- The Office of Land Use Planning, Cadastre, and Urban Planning within the Ministry of Environment, Management, and Public Works (since 2008);
- The Ministry of Agriculture which is involved in land-use planning;
- Ministry of Home Affairs, which is responsible for local administration of state, public, and private land.
- The National Commission for Land and Other Properties (CNTB), which operates at the national, provincial, and communal levels.

The lack of coordination leads to a great deal of confusion over the legitimacy of documents in the event of transactions or disputes, and in the securing of credit (ARD 2008). However, local land disputes may also be handled by on village level using the system of dispute resolution known as the Bashingantahe (Theron 2009).

Legal Framework

The Post-Transition Interim Constitution of the Republic of Burundi, ratified by popular vote in 2005, guarantees every Burundian the right to property. Specific legislation and policy with regard to land, however, do not support this constitutional right. *The Constitution grants foreigners equal protections to person and property, without restrictions on foreign ownership of land* (USDOS 2009).

Leisz (1996) stated that *'the 1986 Land Code and the customary tenure system provide parallel structures for governing access to land. The goal of the Land Code was to encourage the country's development and increase agricultural production, while the customary system provides for local administration of lands. However, the Land Code recognizes customary rights to land, including fallow land. Under the customary, community-based system, land is held by individual heads of households. The Code, by contrast, requires that land held customarily be registered in order to be officially recognized. The registration process, however, is extremely complex and infrequently followed. The result is that community-based tenure systems have a quasi-legal status, but are not formally recognized'*.

A further population pressure took place in 2000 at the conclusion of the civil war, following the Arusha Agreement on Peace and Reconciliation in Burundi (2000), which called for revision of the 1986 Land Code to resolve unspecified land management problems, with a promise that returning refugees will be able to access their land or will receive adequate compensation (Kamungi et al. 2005).

According to USAID country profile (<http://usaidlandtenure.net>), the GoB made significant progress on three land-related fronts by 2008.

- Adoption of a of National Land Policy Letter, which identifies four government priorities:
 - Amendment of land legislation and modernization of land administration services;
 - Restructuring and modernization of administrative bodies responsible for land management;
 - Decentralization of land administration; and
 - Inventory of state lands.

- Revision of the Land Code with assistance from USAID and the European Union (EU). Issues addressed included:
 - Revocation of governors' authority to allocate state land (only the Ministry of Environment, or the Ministry of the Urban Planning, or the President has the authority to allocate land, and even the President needs the approval of the Land Commission);
 - Definition of the size of buffer zone for rivers and lakes;
 - Optimal organization and exploitation of space, the creation and development of urban areas, namely so as to: Improve quality of life; ensure the rational exploitation of natural resources in compliance with the Environment Code; protect ecologically sensitive areas; protect natural and cultural sites provided by the laws and regulations; ensure security and public health; ensure an appropriate distribution between urban and rural areas; ensure ecological balance, so as to ensure sustainable development and the citizen's right to a healthy environment
 - Ownership and management of marshlands; and rights to lands of 1972 refugees (but apparently not to lands of 1993 refugees).

- Adoption of a Five-Year Action Plan to Implement the Land Code, with implementation costs estimated at US \$17–20 million.

1.1.8 Forestry

As stated above, only 4-5 % of Burundi's total land is forest, only 86% of which is plantation forest. This has been expanding in the last decade in order to meet the needs of the population for fuel wood. Most of the country's remaining natural forest (14% of the total) is found along the Congo-Nile ridge (Athman et al. 2006).

The Integrated Regional Information Networks describes the situation in Burundi with respect to forestry and other natural resources as follows: *'Protected areas cover 4.5% of the total land and include national parks, reserves, and protected landscapes, which are forested tracts intermixed with agricultural land. The country's largest national park, Ruvubu, covers 50,800 hectares in the northeastern part of the country and includes tree savanna, open forests, gallery forests, and swamps. The mountainous Kibira National Park spans 40,000 hectares in northwestern Burundi and is the source of two-thirds of Burundi's water. The park's dam produces half of Burundi's hydroelectric energy. Together with Nyungwe National Park across the border in Rwanda, Kibira is the largest remaining tract of mountain forest in East Africa and considered the most wildlife-rich ecosystem in the Albertine Rift (a network of valleys in Burundi, Rwanda, Tanzania, Uganda, and the Democratic Republic of Congo). The Kibira National Park is home to 98 species of mammals, including rare owl-faced monkeys, 200 species of birds, and 644 plant species'* (IRIN 2002).

According to the World Bank, *'Burundi has had one of the world's highest rates of deforestation, since colonial times losing forests covering about 34% of total land area. The forests have provided wood for fuel, charcoal making, furniture and construction, and land for cultivation. Following the war, the return of refugees has resulted in small-scale clearing for fuel wood. Between 2000 and 2005, deforestation occurred at an annual rate of 5.2%'* (World Bank 2008).

Legal Framework

The primary legislative instrument governing the types, allocation, and use of forestry resources is embodied in the 1985 Forestry Code (Act No. 1/02) and its directives. The National Institute for the Environment and Nature Conservation in Burundi (INECN) was established by Decree No. 100/188 of 5 October 1989.

According to the FAO, *'Burundi's forest policy dates from 1999 and is contained in the Ministry of Land Planning and the Environment's sectoral policy. The policy framework calls for: revisions to the legal framework governing forests; development of agroforestry; strengthening of forest management; protection of natural ecosystems; development of information systems to monitor natural resources; and capacity-building for forest personnel. Most of the efforts to implement forest policy have related to the development of agroforestry and plantations for reforestation and to provide wood for energy'* (FAO 2010).

The United States Forest Services, which carries out support to Burundi note that *'under formal law, forestland and forest resources are owned by the state, communes (local authorities), or private individuals. The Forest Code governs all forests, regardless of ownership, and sets various restrictions on forest use. The Forest Code bans clearing in state forests and afforested areas and sets rules for clearing on communal and private forestland. Burning crop residues, grazing land, and other agricultural practices are restricted, and the forest service has authority to impose penalties for noncompliance. However, in most areas of the country, the Forest Code is not enforced: the population's dependence on forest resources for livelihoods is great, and the forest service lacks human and financial capacity to enforce the restrictions on access and use'* (USFS 2006).

Athman et al. 2006 also noted that *'state forests include natural forests, which are inalienable and within either national parks or protected forest reserves. State plantations are usually 10 or more hectares, while communal plantations, which are managed by local communal authorities, are less than 10 hectares. Protected landscapes are areas that have integrated state forestland (primarily plantations) with private agricultural and forestland in an effort to encourage local residents to protect the forests. Harvesting of plantation trees is by permit. Management of state and communal plantations and protected landscapes has been haphazard. The need for fuel wood, access to agricultural land, and timber for construction has resulted in the loss of many plantations'*.

Private forests are usually managed as micro-plantations devoted to agroforestry, which incorporate trees into other rural activities and raising of livestock (Koyo 2004).

Institutional Aspects

MWETAUP has responsibility for the country's forests. The ministry, which was reorganized and includes the former Ministry of Territory Management and Environment, includes the Department of Forestry, which has primary responsibility for plantation forests outside protected areas. The INECN has management responsibility for Burundi's natural forests, national forest reserves, and plantations within protected areas (G0B 2010).

Burundi has limited government capacity to manage its forests or undertake forest-related programs. In most areas, the country's national forests are subject to unrestricted illegal harvesting, clearing for agriculture, and collection of fuel wood. The government has engaged local communities in plantation projects, but results have been mixed, with economic pressures on the population often overwhelming the government's capacity to manage sustainable-use programs (Banderembako 2006).

Nzajibwami stated that *'the INECN has engaged local communities in forest management programs in Kibira National Park since the 1970s. The program has had various components over the years, including plantation development and ecotourism activities. Over the decades of its operations, the development of watchdog committees has proved to be the most sustainable. The committees identify local forest uses and work with park officials to develop plans for local use of forest resources in exchange for assistance preventing destructive practices, such as illegal harvesting of wood, setting fires, and clearing land for cultivation. INECN has called for more support from donors to improve technical knowledge of sustainable forest management and conduct forest inventories'* (Nzajibwami, 2003).

1.1.9 National Biodiversity Strategy and Plan (2000)

In Burundi, by virtue of the NBSAP, the national vision is to ensure that all populations are properly informed on values of biological diversity and the risks of its loss, involved and committed in its conservation and its sustainable use for the benefit of present and future generations (<http://www.cbd.int/countries/?country=bi>). NBSAP gives orientations on conservation of biodiversity, sustainable use of biological resources, equitable sharing of responsibilities, and benefits in the management of biodiversity, biotechnology, education and public awareness, training and research, studies of impacts and reducing harmful effects, cooperation, and information exchange. The strategy gives actions to be implemented in order to achieve the vision and states that the success will be related to involvement of all strata of population through adequate coordinated programs.

1.1.10 Energy Policy 2006

According to the EU Energy Initiative Partnership Dialogue Facility (EUEI PDF, 2009), only two per cent of Burundi's population has access to electricity, mostly in Bujumbura, the capital city. Furthermore, the EUEI PDF states the following *'since 1993, the country's energy infrastructure has been largely destroyed as a result of inter-ethnic conflict. Additionally, an embargo in 1996 and scarcity of foreign currency have meant that energy projects have received little investment. Burundi's electrical grid supplies 30.6 MW, of which most comes from the Rwegura and Mugere hydropower plants (generating 18 and 8 MW respectively). The extreme demand on these two plants makes the power supply highly unreliable. During the dry season the power supply deficit can increase from 13 to 23.5 MW, meaning that people increasingly turn to expensive, diesel-powered generators as an alternative source of energy. Furthermore, technical and commercial losses of 24.4 per cent have further reduced the availability of electricity. Burundi's energy environment also harms its natural resources: a high population growth and a reliance on traditional biomass for cooking have contributed to severe deforestation, exacerbating the damage caused during the political crises from 1993 to 2004'*.

Burundi's 2006 energy sector policy is currently being updating and amending, taking into account the country's domestic situation and integrating the regional energy strategy developed with the East African Community (EAC).

The recent Energy Strategy and Action Plan for Burundi has been recently initiated to support the Ministry of Energy and Mines in developing a new national energy policy. As summarized by the EUEI PDF, the Plan recommends:

- *The effective measurement of wood-fuel production and consumption is essential to achieving the sustainable use of Burundi's wood-fuel resources.*
- *In order to achieve a tenfold increase in generation capacity of 300 MW by 2020, private nickel and other metal extraction industry need to be established to help meet the country's growing electricity demand. Main capacity additions will come from hydropower and other renewable resources.*
- *Household energy needs could be met by carbonizing peat with agricultural waste in small, cost-efficient and widely distributed stoves.*
- *Improvement of instruments or governance that relate to energy tariffs, private sector involvement, regional cooperation and research and development.*

The final documents were submitted to the Ministry of Energy and Mines in March 2011. The government of Burundi is expected to adopt the energy policy – including the associated implementation strategy and investment plan – in 2011.

1.1.11 Mineral Resources

Burundi has commercial quantities of nickel (6% of known world reserves). Also, subsistence mining (artisanal) is commonly practiced for the production alluvial gold, niobium, phosphates, peat, tantalum and vanadium. Indeed, Burundi exported in excess of 2000 kilograms of gold in 2008, 50% of which was produced by artisanal miners (Yager 2009). The country also has deposits of carbonatites, cassiterite iron, limestone, titanium and uranium under varying exploration and production efforts. Mining in the Kagera River Basin takes place in the Kirundo province (Yager 2009).

Activity in the mining sector in Burundi is limited to small number of national companies, with an increasing number of foreign companies engaged in exploration. The privately owned company Comptoir Minier des Exploitations du Burundi SA (COMEBU) is mining gold, niobium, tantalum tin and tungsten. The State-owned Office National de la Tourbe (ONATOUR) produces peat (USGS, 2009). The government identifies the lack of sufficient, reliable energy as the biggest challenge to growth in the sector (Yager 2009; Backer and Binyingo 2008).

Biryabarema et al. 2009 noted that mining activities are the cause of extensive environmental damage in many areas within the Kagera Basin. Biryabarema et al. 2009 state that '*artisanal mining for tantalum (coltan) takes place in hundreds of sites in northern Burundi. The operations remove natural soil cover, exposing bare rock that can leech toxic and radioactive elements. The course tailing fill natural waterways and flow over fertile land in valleys. Brick quarries are often established on hillsides, along flood plains, on channel banks, and in wetlands. The quarries cause sedimentation and erosion, with serious loss of soil and soil productivity*'.

Legal framework

The primary Law governing mining activities and the use of mineral resources in Burundi is the Mining and Petroleum Act of 1976 (amended 1982). According to the USAID country profile, other laws related to the mining sector include Decree Law No. 1/41 of 26 November 1992 on the Organization of Public Hydraulics; regulations to the 1976 Mining and Petroleum Act; and Revision to the Investment Code of Burundi, 6 September 1967. The Mining Code, which some legal practitioners describe as investor-friendly but outdated, is being revised (USAID country profile provide a reference to Backer and Binyingo 2008 for the above information).

Government Administrations

The Ministry of Water, Energy and Mines is responsible for managing the allocation and exploitation of mineral resources.

Table 2 below provides a summary of the significant legislation, policies, and orders in Burundi relating to integrated natural resource and environmental management of watersheds and associated climate change implications. Table 3 highlights the current institutional structures involved in watershed management in Burundi. Table 4 shows the NGOs in Burundi involved in conservation and environment activities in the Kagera Basin.

Table 2: Summary of significant legislation, policies, and orders in Burundi relating to integrated natural resource and environmental management of watersheds and associated climate change implications

Document	Description
Environmental: General	
National Environmental Strategy (2000)	Provides for capacity building of the Ministry in charge of Environment (MWETAUP), the improvement of intersectional coordination for better management of environment for sustainable development, the adoption of a participative approach and principles of good environmental management in the planning.
Environmental Code (Law No. 1/010 of June 30, 2000 on the Environmental Code in Burundi)	This sets the fundamental rules intended to enable the environmental management and protection against all forms of degradation so as to safeguard and promote the rational exploitation of natural resources, fight against pollution, and improve the population's living conditions in respect of the balance of ecosystems.
Poverty Reduction Strategy 2006	The vision of the strategy is medium- and long-term development of Burundi for the reduction of poverty. The PRSP's most pertinent points are the re-launching of agriculture, livestock, fisheries, and fish farming and the improvement of environment protection
National Action Plan for Adaptation (2007)	The plan identified important adaptation needs and provides relevant solutions for adaptation
National Biodiversity Strategy and Plan (NBSAP) (2000)	Gives orientations on conservation of biodiversity, sustainable use of biological resources, equitable sharing of responsibilities, and benefits in the management of biodiversity, biotechnology, education and public awareness, training and research, studies of impacts and reducing harmful effects, cooperation, and information exchange
Land Management	
National Strategy of Sustainable Land Use (2007)	Provides strategic orientations for land use to serve as a coherent framework for future instruments of planning and sector actions based on the territory
National Land Policy Letter (2008)	Identifies four government priorities: (1) amendment of land legislation and modernization of land administration services; (2) restructuring and modernization of administrative bodies responsible for land management; (3) decentralization of land administration; and (4) inventory of state lands

Land Code (2011)	Aimed at the best optimal organization and exploitation of space, the creation and development of urban areas
Water Resources and Wetlands	
National Water Policy 2009	This policy also gives strategic directions for the proper management regarding good governance in water, water-related disaster management, and integrated water management, drinking water and basic sanitation, water for socio-economic development, and the environmental resources management sector
Fisheries law	Dates from 1937, but was amended in 1957 and 1960
Water Code, (Décret n° 1/41 du 26 novembre 1992 portant institution et organization du domain public hydraulique	Governs the country's water resources. Burundi's water is within the public domain, and the Water Code governs rights of access to groundwater, lakes and watercourses, as well as the distribution of drinking water
Decree No. 100/072 of 21 April 1997	Delineated responsibilities for water distribution and management between the DGHER and REGIDESO
Law No. 1/014	Sets out a framework to support private sector engagement in the provision of drinking water and energy
Public Health Code: Order in Council No. 1/16 of 17 May 1982	Requires that all projects relating to water catchment have the prior authorization of the Minister in charge of health
Ramsar Convention	Ratified by Burundi in 1997
Forestry	
Forestry Code (Act No. 1/02 of 25 March 1985)	Govern the types, allocation, and use of forestry resources
Decree No. 100/188 of 5 October 1989	Decree No. 100/47 of 3 March 1980 established INECN, taking its current name in 1989
Other	
Energy Policy 2006	Currently being updated based on the Energy Strategy and Action Plan
Mining and Petroleum Act of 1976 (amended 1982) Decree Law No. 1/41 of 26 November 1992 on the	The primary law governing allocation and use of mineral resources.
Decree Law No. 1/41 of 26 November 1992	Organization of Public Hydraulics; regulations to the 1976 Mining and Petroleum Act; and Revision to the Investment Code of Burundi, 6 September 1967

Table 3: Key Burundian Institutions and Departments/Autonomous Agencies with Links to Watershed Management

Institution	Roles in/links with Watershed Management
Ministry of Water, Environment, Territorial Administration and urban planning (MWETAUP)	The development and implementation of national policy in the fields of water, environment, forests and land management
The Ministry of Water, Energy and Mines (MWEM)	Leads water and energy policy formulation through the Directorate General for Water and Energy. Responsible for managing the allocation and exploitation of mineral resources
The Directorate General of Rural Water and Electricity (DGER)	Oversees and coordinates access to drinking water in rural areas
Régie de Production et de Distribution de l'Eau et de l'Electricité (REGIDESO)	Responsibility under MWEM for catchment, treatment and distribution of drinking water in urban and urbanizing centres
National Institute for the Environment and Nature Conservation (INECN)	Responsible for Burundi's Ramsar commitments.
Geographic Institute of Burundi (IGEBU)	Water and climate change related functions
National Commission for Land and Other Properties (CNTB)	Established in 2006 under the Office of the First Vice President. Operates at the national, provincial, and communal levels. The CNTB has the authority to resolve land disputes, assist vulnerable people to reclaim their land or obtain compensation, and update the inventory of state-owned lands
Department of Soil Protection and Swamp Management	Soil conservation and irrigation activities
Office of Titles and Registration	Within the Ministry of Justice. The Ministry of Agriculture is involved in land-use planning, and the Ministry of Home Affairs is responsible for local administration of state, public, and private land (ARD 2008).
Office of Land Use Planning, Cadastre, and Urban Planning	As of March 2008, the was within the Ministry of Environment, Management, and Public Works
The Ministry of Agriculture	Involved in land-use planning
Ministry of Home Affairs	Responsible for local administration of state, public, and private land
Department of Forestry	Under MWETAUP, has primary responsibility for plantation forests outside protected areas
INECN	Management responsibility for Burundi's natural forests, national forest reserves, and plantations within protected areas

Table 4: NGOs in Burundi Involved in Conservation and Environment Activities in the Kagera Basin. (to be updated)

NGO	Activity
International	
CARE International	Natural resource management, rural enterprise , agriculture
Africare	Natural resource management, rural enterprise , agriculture
Catholic Relief Services	Natural resource management, rural enterprise , agriculture
World Vision	Natural resource management, rural enterprise , agriculture
Local	
Association pour la Protection de l'Environnement et le Développement de la Population au Burundi, A.P.E.D.P.	Education and development
Centre pour la Protection de l'Environnement et de Lutte contre la Pauvreté, CPELP	Environmental conservation and poverty reduction
Association Libre des Volontaires d'Education Environnementale, ALVEE	Environmental education
Centre de Promotion Ecologique et Economique de la Foresterie, Forest-Eco	Forestry
Association Amis de la Nature, AAN	Environmental conservation
EPI (Environment Protection Initiative)	Environmental protection
Institution Non gouvernementale Ayant TRAIT D'ALDER (I.N.G.A.T.A)	Forestry
Solidarité pour la valorisation du bois et l'encadrement de la jeunesse	Climate change, environmental education,
Organisation de Défense de L'Environnement au Burundi	Environmental Protection
Réseau de l'Evaluation d'Impacts Environnementaux dans les Pays des Grands Lacs	Environmental Impact Assessments

1.2 Rwanda

1.2.1 National Policy Framework for Environmental Management

As stated in the USAID Environmental Treats and Opportunities Assessment (ETOA, 2003), *'Rwanda's policy framework for environmental management is grounded in four key documents: the National Environment Policy 2003, the Economic Development and Poverty Reduction Strategy (EDPRS), Vision 2020, and the Land Policy 2004'*. Based on these documents, the USAID report clearly states that for successful policy implementation *'there is an urgent need to build sufficient institutional and human resource capacities, with implementation mechanisms including economic incentives and disincentives and stricter enforcement'*.

Although it is evident that the agenda of environment in the overall national governance framework in Rwanda has become more prominent with successive institutional reforms, the USAID report highlights that frequent changes have also affected institutional growth as the portfolio moved from one institution to another. For example, *'in the ministerial review of March 28, 1997, the environment portfolio moved from MINETO (Ministry of Environment and Tourism) to MINAGRI (Ministry of Agriculture, Livestock, Environment and Rural Development); another reform two years later, on February 8, 1999, moved it to MINITERE (Ministry of Lands, Resettlement and Environment), where it has remained. The ministry later changed to Ministry of Lands, Environment, Forestry, Water and Mines (MINITERE) and at the end of 2007, it became the Ministry of Water, Energy, and Natural Resources (MINIRENA)'* (ETOA update, 2008).

The following sections 2.2.2 to 2.2.7 are provided as highlights of the main policy framework as quoted in the ETOA, 2008. Information that is directly quoted in the sections below from the ETOA is provided in italics.

1.2.2 Current National Environmental Strategy

The immediate objectives of this strategy are to:

- *Stop the degradation of lands and forests and enhance their regeneration through a sustainable, balanced ecological approach*
- *Fight against urban and other pollution and eliminate sources of illnesses caused by the environment*
- *Maintain sufficient resources to insure the food security of the population in both the short and the long term*
- *Regenerate, renew, and diversify domestic sources of energy*

To reach these objectives, this policy is guided by the following principles:

- *The importance of the environment as a whole*
- *The importance of taking into account the human and social environment*
- *The necessity of both a long-term vision and a proactive approach*
- *The obligation to establish practical priorities*

Given these, the strategy has the following objectives:

- *Assign responsibilities, mobilizing all partners*
- *Integrate environmental concerns into all decisions, particularly those related to resources and land*
- *Manage natural resources and land sustainably*
- *Restore and maintain a safe environment*

- *Promote environmental knowledge in general, with special attention to how it affects both people and nature, emphasizing the ecological, cultural, and economic roles of the environment*
- *Use environmental management approaches adapted to the particularities of different regions of Rwanda.*

1.2.3 Rwanda's Poverty Reduction Strategy (PRSP)

The first Poverty Reduction Strategy paper (PRSP), approved in 2001, was a comprehensive participatory bottom-up planning process from 1999 – 2001. The PRSP was expected to address environmental concerns through its six priorities for public action:

- *Rural development and agricultural transformation. Activities that directly affect the capacity of the poor to increase their incomes, those that affect agriculture and environment, land, non-agricultural development, loans, rural energy, and rural infrastructure, and rural public works that are highly labour-intensive.*
- *Human development. Activities that influence the quality of life of the poor in such areas as health, family planning, education, water, and habitat. Habitat is particularly important because it is so closely related with water provision.*
- *Economic infrastructure. Roads, energy, and communication to support economic development in both urban and rural areas.*
- *Governance. Security, constitutional reforms, judicial systems, decentralization, departmental strategies, responsibility and transparency, and public service reform.*
- *Private sector development. Promoting investment, reducing costs and business risks and promoting exports.*
- *Institutional capacity building. A priority that affects all sectors to which the concept of institutional structure applies and that promotes competitiveness in both public and private sectors.*

The strategy defines the fundamental programs for reducing poverty and protecting the environment. In particular the program promotes support to agriculture and animal husbandry and related environmental protection activities.

USAID conclude that *'the PRSP was implemented during 2002-2005 and the independent evaluation concluded that although environment was indicated as crosscutting, it did not receive sufficient attention. These lessons were instrumental in designing the second poverty reduction strategy, the Economic Development and Poverty Reduction Strategy (EDPRS)'*.

1.2.4 Economic Development and Poverty Reduction Strategy (EDPRS)

Rwanda's EDPRS covering 2007-2012 represents a rapid departure from the PRSP by giving greater emphasis on economic growth sectors, hence the name of the strategy. This strategy was implemented to address the problem of current and future sustainability of social sectors. *The EDPRS has three flagship programs, which provide strategic guidance to general and sectoral priority setting; resource mobilization and public expenditure allocations; and coordination of policy implementation. These include:*

- *Sustainable Growth for Jobs and Exports will be driven by an ambitious, high quality public investment program aimed at systematically reducing the operational costs of business, increase the capacity to innovate, and widen and deepen the financial sector. This means heavy investment in "hard infrastructure" by the GoR to create strong incentives for the private sector to increase its investment rate in subsequent years.*
- *Vision 2020 Umurenge – is essentially about decentralization and the main mechanism for delivering poverty reduction through integrated interventions. It will accelerate poverty reduction by promoting pro-poor actions at the grassroots*

especially in rural areas. Already, 30 sectors (the poorest sector in each of 30 districts) have been selected for piloting the Concept of Vision 2020 Umurenge, borrowing from the Millennium Villages concept. Planned integrated activities include labour-intensive public works, cooperatives development, provision of productive skills and enhancing access to productive skills, among others.

- *Participatory and democratic Governance will provide an anchor for pro-poor growth by building on Rwanda's reputation as a country with a low incidence of corruption and a regional comparative advantage in "soft infrastructure". This will help create efficiency and effectiveness in service delivery including securing property rights and reducing the cost of doing business, which will ultimately accelerate growth and stability.*

The implementation of the EDPRS strategy was planned to accelerate growth and poverty reduction by provide allocation of public expenditure in the social sectors of education, health and water/sanitation, whilst also supporting economic growth sectors, which includes agriculture (raising productivity and ensuring food security), energy (power stations), environmental protection, ICT (promoting science, technology and innovation), industry (scaling up manufacturing and services sectors' contribution to overall economic growth), urban and rural infrastructure development, and transport (roads).

1.2.5 Vision 2020 Umurenge

In Rwanda's Vision 2020 Umurenge, sustainable management of the natural resources (soils, water, energy and biodiversity) is a priority. Rwanda will expect reach the following goals by 2020:

- *Reduce the percentage of the population dependent on agriculture from 90 to 50 per cent*
- *Increase and update environmental protections adapted to sustainable management of natural resources*
- *Reduce by up to 60 per cent the rate of morbidity related to environmental degradation*
- *Decrease the number of fuel wood users from 50 to 24 per cent.*

To reach this objective, Vision 2020 states that Rwanda has to:

- *Integrate an environmental aspect into all official policies and decision-making processes, and into all education, public awareness, extension, and development programs*
- *Promote participation by members of local communities, especially women and youth, in environmental protection and management*
- *Use the principle of prevention to alleviate negative environmental effects of socioeconomic activities*
- *Diversify energy sources and make them more accessible to the population to alleviate the pressure on biomass*
- *Establish the principle that "polluter pays" for environmental damage, and strengthen punitive measures to insure compliance and environmental safety*
- *Assess the environmental impact of any proposed project or development program*
- *Plan for the development of industrial sites to better control their effects on the environment and the population*
- *Promote non-polluting technologies for transport, storage, and elimination of industrial products and waste*
- *Apply environment-related legislation to mining and mineral debris*

- *Rehabilitate old mining areas*
- *Reinforce the institutions concerned with local and imported product quality control and standards*
- *Build a statistical database on natural resources and the environment and a quick alert system to help mitigate natural disasters, and create a fund to support victims of natural disasters*
- *Institute and appropriately fund the Rwanda Environmental Management Authority (REMA)*
- *Cooperate with other nations and international institutions for environmental protection*
- *Ensure that public institutions, the private sector, civil society, donors, and local communities collaborate to more efficiently manage natural resources and protect the environment.*

1.2.6 National Environment Policy

The National Environment Policy was approved in 2003, and is the basis, alongside the Organic Law on Environment, for environmental protection and conservation activities in Rwanda. The specific objectives of the environmental policy are to:

- *Improve the health of the Rwandan people and promote their socioeconomic development through the sustainable management and utilization of natural resources and the environment*
- *Integrate environmental aspects into all policies, planning, and implementation activities carried out at the national, provincial, and local levels with total participation of the population*
- *Conserve and restore ecosystems and maintain dynamic ecology and systems health, especially national biological diversity*
- *Optimize sustainable use of natural resources*
- *Sensitize the population to environmental values and the relationships between the environment and development*
- *Ensure the participation of both individuals and communities in activities aimed at improving the environment, with particular attention to women and young people*
- *Ensure that the basic needs of Rwandans today and those of future generations are satisfied*

The principles on which the policy is based are that:

- *Each person is entitled to live in a safe environment and has a duty to maintain the environmental welfare of all.*
- *The economic development of Rwanda must be based on sustainable use of natural resources.*
- *The right to the land is a priority for sustainable management of natural resources.*
- *Long-term food security depends on sustainable management of natural resources and the environment.*
- *Use of non-renewable resources must be minimized and recycling used where possible.*
- *Technologies that are socially accepted and accessible must be disseminated if natural resources are to be used efficiently.*
- *The costs of environmental damage and degradation must be taken into consideration in planning for public and private investments and must be minimized wherever possible.*

- *Socioeconomic incentives and disincentives must go hand in hand with legislative measures to convince the people to invest in a sustainable environment.*
- *Legislation to promote capacity building must be a priority if natural resources and the environment are to be managed sustainably.*
- *Activities that favour incentives for the rational use and sustainable management of natural resources and environment must be given priority.*
- *Planning for environmental management must be integrated and multi-sectoral.*
- *A system must be created for environmental monitoring and evaluation and information obtained through this system must be disseminated to the public.*
- *Opportunities for communities and individuals to sustainably manage their resources must be facilitated.*
- *Women and young people must be encouraged to become active in formulating policy, planning programs, making decisions, and managing programs.*
- *Both government and public awareness and understanding of environmental issues must be promoted.*

In terms of institutional and judicial arrangements for implementing the environmental policy, it is in the document that:

- *The National Environmental Council acts as a political instrument for coordination*
- *The Environmental Authority acts as an implementing instrument – REMA was established in accordance with the provisions of article 67 of the Organic Law No. 4/2005.*
- *An Environmental Fund is established*
- *An Environmental Tribunal acts as an instrument of conflict resolution*
- *Environmental Committees from Provincial and District levels are formed down to sector and cell levels. These committees have recently been established, and REMA has organized training, sensitization and orientation activities for them.*

1.2.7 Land Policy

The National Land Policy, which was adopted in February 2004 placed emphasis on a land administration system as the key of land tenure security, acting to register and transfer land.

The Land Policy incorporates the following policy provisions:

- *All Rwandans enjoy the same rights of access to land (implying that there can be no ethnic or gender discrimination).*
- *Title to all land should be registered so that it can be traded, except where doing so would fragment the land into plots less than 1 ha in area.*
- *Land use should be optimal. Households will be encouraged to consolidate plots to ensure that each holding is not less than 1 ha. There will also be a maximum size of 50 hectares allowed for any individual landowner. Families will be required to hold land in common to avoid fragmenting the land into parcels that are too small.*
- *Land administration will be based on a reformed cadastral system*
- *The rights of occupants of urban land will be recognized on condition that they conform to established rules.*

According to the ETOA, 2008, 'Fifteen per cent of poor rural households in Rwanda do not own any land, approximately 60% of households have less than 0.5 ha and 25% have more or less 1 ha. Twenty per cent of rural people living below the poverty line have no land at all; the remaining 80% subsist on less than 0.5 ha. In 2000 there were in the order of 1,941,000 rural households in the country, of whom nearly 90% lived at subsistence level cultivating

over two million land parcels (further referenced as MINECOFIN, 2001). At any one time approximately 80% of all the land in these parcels is under cultivation and half the remainder is under pasture or fallow’.

The National Land Commission, with its Provincial and District branches, is the central administrative organization responsible for guiding the implementation of the Land Policy across Government, and integrating the experience of the private sector, civil society and the academic community. At district level the District Land commission supervises and guide implementation of the land policy, by the district authorities. The Land Commission is further supported by the Land Centre, which provides technical and administrative delivery of Land Policy objectives. MINITERE are responsible for land policy formulation and for the operational management of the Land Centre.

Agricultural Water Management

In Rwanda, the agricultural sector currently holds the main focus for rapid economic growth. Consequently, the National Agricultural Policy (NAP) provided a clear direction in terms of development in agricultural sector for years 2000-2020. To make the NAP operational, a Strategic Plan for Agriculture Transformation (SPAT) has been formulated comprising sub-sector strategies, subprogram of sustainable management of natural resources, soil and water conservation, action plans and relevant budgets (MINAGRI, 2004). According to the Association for Strengthening Agricultural Research in East and Central Africa (ASARECA, 2007), *‘all activities related to water use in agriculture such as marshland development, hillside irrigation, rainwater harvesting and ground water utilization have been developed and started. But there is still need to build capacity of communities, local authorities, development partners, research and extension systems to raise funds for irrigation infrastructures developments and reviewing legal framework and regulations in line with land and shelter issues’*.

The Irrigation Master Plan (IMP) is currently under development. The IMP supports decision making for the following: Identification of the most favourable areas to establish irrigation infrastructure; Estimation of irrigation water stock; Prioritization of irrigation water distribution; Recommendation of abstraction mechanisms; Identification of irrigation water conveyance mechanisms to the command areas; Establishment of irrigated agriculture in small, medium and large-scale projects on hillsides, marshlands and other topographically suitable areas; Identification of options for upgrading the agricultural value chain; Recommendations of options for water harvesting and storage; Production of district irrigation plan maps for the potential irrigation areas (that could be irrigated by the different kinds of water resources by agro-climatic zone or even province level; and Articulation of the national policy options concerning the distribution of irrigation water (ASARECA, 2007).

In so doing, the IMP targets Rwanda’s various practitioners and stakeholders in government, local and external support agencies and communities – to ensure sustainable production of food, cash, export and industrial crops

1.2.8 Climate Change Policy

Rwanda ratified the Kyoto Protocol in 2003 and within three years had finalised its National Adaptation Program of Action. In 2009, a Climate Change and International Obligations Unit was established within REMA, formed to overseeing its Designated National Authority and coordination of all market activities (Hugé, 2011). In order to reduce vulnerability to world energy markets, Rwanda is wisely moving towards the formation of low carbon economy (King et al., 2011). Being a least developed country, Rwanda is not required to cut its greenhouse gas (GHG) emissions and is currently even a net carbon sink (Hugé, 2011).

In Rwanda, degradation of environment and ecosystems is the product of both population pressure and climate change. According to the National Adaptation Programs of Action to Climate Change (GoR, 2006), Nyadawa and Co-authors reported that *'serious floods linked to "El Niño" in 1997-1998 destroyed a large number of agricultural plantations and swamps of Nyabarongo and Akanyaru river basins. From 1999 to 2000, a prolonged drought seriously affected Bugesera, Umutara, and Mayaga regions'* (Nyadawa, et al., 2010).

Rwanda's adaptation policy is mainly contained in its NAPA, drafted in 2006. Six priority options are selected in the NAPA (Hugé, 2011):

- *Integrated Water Resources Management*
- *Set up of hydro-agro-meteorological early warning systems*
- *Promotion of non-agricultural income-generating activities*
- *Promotion of intensive agriculture and animal husbandry*
- *Introduction of crop varieties resisting to environmental conditions*
- *Development of energy sources as alternatives to firewood*

Hugé (2011) states with regard to the climate change policy, *'implicitly recognizing the risks of institutional complexity and possible duplication, the NAPA explicitly states that coordination and inter-sector exchange need to be strengthened. Moreover, the NAPA priority options have been assessed with regard to their contribution to Rwanda's development objectives (as outlined in Vision 2020 and in the EDPRS) and with regard to the synergies with multilateral environmental agreements (MEAs) (NAPA, 2006 pg. 43). Rwanda has also been working towards the mainstreaming of the NAPA into the EDPRS, although this is not so visible in the EDPRS 2008-2012 (where the NAPA is mentioned only once). In the run up to the EDPRS revision, Rwanda's development partners could suggest a stronger link with climate policy'*.

A study on the economics of climate change in Rwanda concluded that despite the NAPA, the severe impacts of the 2007 flood in Rwanda highlighted that the country is not even adapted to existing climate risks let alone future risks (SEI, 2009).

Hugé (2011) believes that King and Co-authors (2011) who are responsible for the baseline Report for the National Strategy on Climate Change and Low Carbon Development have *'paved the way for a new development paradigm for Rwanda'* and might well become *'a guiding framework for the next revised EDPRS. Rwanda's development partners should definitely support this initiative'*. It has also ben pointed out that if countries such as Rwanda move to less pollution-intensive development pathways, then *'donor countries must recognize the political consequences of such economic changes and design aid programs to compensate firms, individuals and groups who suffer as a consequence of these environmental reforms'* (Hicks et. al., 2008)

The main challenge pointed out by Hugé (2011) is to avoid to “lock in’ Rwanda into a higher emission pathway”. This is in line with the statement of the SEI report (2009):

“The increases in emissions from the transport, agricultural and electricity sectors would occur at exactly the same time when there are likely to be greater economic opportunities for carbon credits and markets, particularly if national level mechanisms emerge. Following higher carbon pathways would therefore lead to an opportunity loss for Rwanda.”

King et al., (2011) identified that there are a number of interventions that can be implemented in the agricultural sector to reduce emissions in Rwanda, such as nutrient management and reduced or no tillage practices.

According to Hugé (2011), Rwanda’s climate policy is currently at a turning point. His report states that *‘the major interest in low-carbon development, coupled with the fact that the NAPA diagnostic and actions are to be embedded in overarching policy frameworks such as the EDPRS are hopeful signals for the future. The next test will be the actual integration of both the adaptation (NAPA) and mitigation (low-carbon development strategy) initiatives in the next EDPRS, which is to be drafted in 2012 to enter into force in 2013. This is a major opportunity for the GoR and for its development partners to build on synergies between adaptation and mitigation and to mainstream climate considerations at the highest level’.*

A recent project has been launched in Rwanda with the Smith School for Enterprise and the Environment in the UK to develop a Rwandan National Strategy on Climate Change and Low Carbon Development. (<http://www.smithschool.ox.ac.uk/research-centres/climate-and-development/rwandan-national-strategy/>)

The main points of the proposed project are to:

- *Develop and produce a National Strategy on Climate Change and Low Carbon Development for the Government of Rwanda.*
- *Feed climate change and low carbon strategy considerations into the national economic and development plans of Rwanda.*
- *Provide insights that will be utilized in the revision of the government’s overarching strategy document – Vision 2020 – to reflect the challenges and opportunities presented by a changing climate.*
- *Provide basis for a revised Economic Development and Poverty Reduction Strategy (EDPRS), which is the medium term national development strategy for the country.*

1.2.9 Water Resource Management

According to the Baseline and Needs Assessment of national Water Policies of the Nile Countries (NBI, 2006), in the case of Rwanda the policy process was as follows: *‘1994 the government undertook development of a single national policy on water management. The World Bank co-convened a seminar in 1997 to discuss and outline the major features of a new policy. The Ministry of Agriculture produced in 1998 an outline of major areas of policy and the overall organization of the sector. Completion of two documents was made possible in 2001 when the Hydrological and Water Resources Management Division was established within MINTRAP, allowing the integration of concepts of decentralization, community participation and private sector involvement in water management’.* The subsequent National Water Resources Management Policy (1998) does not mention new principles of water and transboundary water management and also describes it is necessary to balance water for basic needs of the poor and water priced reasonably for agricultural and industrial use (NBI, 2006).

In February 2004 the government held a workshop to examine policy options on different water management issues, bringing together donors, ministries, NGOs, private and public sectors, and representatives from the regions. The Policy was finally agreed by the Council of Ministers in October 2004 (NBI, 2006). Subsequent programs have been developed and prioritized within the Economic Development and Poverty Reduction Strategy, (EDPRS), and targets developed for the MDGs by 2015 (USAID, 2006).

The national water and sanitation policy (2004) is best illustrated in the government's dynamic new policy, whose objectives are i) to increase access to safe drinking water; ii) to extend access to sanitation services; iii) to manage the water resources in a sustainable and integrated manner and; iv) to reinforce human and institutional capacity (AfDB/OECD, 2007). Responsibilities will be delegated to communities and districts. Decision-making will be decentralized; restricting the focus of the central government to planning, regulation, promotion, monitoring and oversight. With active community participation at all stages of the project cycle, the government wants to ensure a demand-driven approach (AfDB/OECD, 2007).

1.2.10 Wetlands Management

According to the USAID ETOA for Rwanda the degradation of wetlands in is closely linked to development in urban centres countrywide, with the most outstanding threats of wetland stability regarded as industrial pollution, agriculture, drainage activities and over harvesting of wetland resources (ETOA, 2008).

A major cause of wetland degradation is regarded to be the result of inappropriate location of industries and inadequate solid waste disposal, which ultimately affect the functioning of wetlands as filtration systems for clean water. The discharge of untreated industrial effluents is also a serious threat to the biodiversity that are vital to the health of a wetland ecosystem. The impact on the national wetland resource has also caused the lowering ground water levels by the reduction of permanent streams and springs (ETOA, 2008).

In recent years there has been there has been a lack of coordination between the Ministry of Environment and urban planning authorities, which has led to the degradation of various wetlands in and around Kigali. To this effect, concerned authorities have now established clear linkages to enable smooth running of policies regarding wetland conservation in the country (<http://www.ambarwanda.ch/spip.php?article894>).

Although wetlands are among the most important natural resources for Rwanda, both in terms of productivity and ecological functioning, they have been severely degraded and according to the ETOA (2008) there is insufficient legal framework to protect them. The ETOA (2008) states that '*a draft wetlands policy developed in 2004 by MINITERE was shelved pending detailed inventory and categorization of wetlands for production and protection. A master plan for marshlands exploitation developed by MINAGRI is more exploitative and focuses mostly on production*'.

There is a Focal Point for the RAMSAR Convention in REMA who is in-charge of coordinating wetlands management issues according to the ETOA report (2008) it appeared that activities of the population in and around the majority of wetlands are not being monitored on a regular basis. The ETOA (2008) reported concerns that '*the MINAGRI seems to have a strong grip on wetlands management in the absence of a clear legal or institutional framework for wetlands management under the Ministry of natural resources or REMA, and that institutional coordination between important stakeholders notably MINIRENA, MINAGRI, ORTPN and districts, is weak, often leading to contradictions in policy formulation and implementation*'.

Forestry Policy

The first forest policy was enacted in 1988 (National Forestry Policy, MINITERE 2004), although this was not implemented because of the subsequent unrest. The current policy, which was formulated in 2004, came into effect after the country had lost two-thirds of the forest estate in 4 decades.

The vision of the Forestry policy, 2004 is to meet, on a sustainable basis, the population's needs for wood and other forest products and services. The main targets are forest cover to comprise at least 30% of the national territory; and to have at least 85% of farmland under agro-forestry by 2020. An interesting aspect of the present forest policy is the focus on promoting gender, fostering public-private partnerships and enhancing international cooperation in forest management. It also creates the national Forest Protection Service, which will deal with forest encroachment and extension.

A National Forestry Authority (NAFA) was established in 2007 as a semi-autonomous institution responsible for policy, planning, and promotion of forest activities. Under the present forest sector strategic plan, the National Forest Policy (2004) established Provincial Forest commissions to promote and oversee forestry activities in provinces. The Rwanda Agroforestry Network (RAFNET) was subsequently established to provide a much-needed forum to promote dialogue among national and province-level stakeholders around forestry activities of common interest (MINIRENA, 2009).

A National Land and Forest Research Centre (LFRC) was also created to undertake forest research alongside the Rwanda Institute of Agronomic Sciences (ISAR). The LFRC is tasked with the responsibility for inventories and statistics, research on wood technology and utilization, forest economics and forest products marketing. According to the ETOA (2008), *'the main concern for both the LFRC and RNRA is the lack of trained human resources, a situation that is further compounded by absence of a forestry training institute in country'*.

Carbon market and forestry in Rwanda

Under the Clean Development Mechanism of the Kyoto Protocol, afforestation and reforestation (A/R) projects may be eligible to issue carbon credits, known as Certified Emissions Reductions (CERs), which are regulated by the United Nations Framework Convention on Climate Change (UNFCCC). In Rwanda, there is much potential for reforestation projects. However, according to REMA in a recent communiqué on Carbon market and forestry in Rwanda, *'due to the complexities of the CDM with forestry and the low demand for credits from forestry CDM projects, most forestry projects in Rwanda have chosen to apply Voluntary Carbon Market standards'* (REMA, 2010). Another deterrent of CDM A/R projects for developers has been the temporary nature of the CERs issued, which had been the UNFCCC's strategy to deal with permanence (whereas voluntary standards have since adopted a buffer approach).

In order to complete forestry Clean Development Mechanism (CDM) projects, the host country must provide the CDM definition of a forest. In Rwanda, this has been defined by REMA (2010) as:

- *Minimum crown cover: 10%*
- *Minimum tree height: 3 meters*
- *Minimum forest area: 0.05 hectare*

The voluntary 'over the counter' carbon market allows companies, public bodies and individuals the opportunity to choose to purchase credits generated from projects that either prevent or reduce an amount of carbon entering the atmosphere, or that capture carbon from the atmosphere. This scheme differs from those who buy credits from CDM projects in order to comply with their Kyoto Protocol targets. The voluntary market is comprised of many different standards. Some of these, such as the Voluntary Carbon Standard, which establishes criteria for validating, measuring, and monitoring carbon offset projects, are general standards and allow many project types. Other voluntary standards are specialised in certain project types; Plan Vivo (<http://www.planvivo.org>) and Carbon Fix (<http://www.carbonfix.info>), among others, are specifically for small-scale community forestry and soil carbon projects (REMA, 2010).

According to REMA (2010), in Rwanda, there are currently a number of voluntary forest carbon projects planned. This includes: two projects in the Gishwati Forest, two projects in the Eastern Province, a project in the Volcanoes National Park and a project in the Nyungwe National Park.

There is also a mechanism for financing climate change mitigation is currently evolving at the UNFCCC Conferences of Parties (COP) negotiations. Its purpose is to compensate individuals, project proponents, Governments, etc. for Reducing Emissions from Deforestation and forest Degradation (REDD+), which includes sustainable management of forests, afforestation, poverty alleviation, biological conservation and improved forest governance. Although the UNFCCC parties have not yet agreed on a REDD+ infrastructure, this rapidly evolving area has kept moving forward with REDD+ Readiness initiatives from multilateral/bilateral donors, national governments, civil society and the private sector.

REMA (2010) stated that *'to date, there has been limited work on REDD+ in Rwanda. However, there is the potential that work will begin soon, under the funding of the Congo Basin Forest Fund (CBFF). Two Project Idea Notes (PIN) have made it to the second round to achieve funding under the CBFF. One project has been proposed by the Rwanda National Resources Authority (RNRA) and has the following objective: "Forest and tree cover in State and District forests (remnant natural and plantation forests) and private land increased, forest carbon assessment and monitoring system applied and livelihoods of forest/tree dependent communities improved". Another project has been proposed by the Woods Hole Research Centre (WHRC) for four Congo Basin countries including Rwanda; the project has the following objective: "to develop human capacity in forest policy and management using novel applied research as a vehicle for regional training and capacity building in advanced economic, social and remote sensing methods."* The WHRC project is not directly connected to REDD+ but will assist in overall awareness and improve institutional capacity'.

In Rwanda, all future REDD+ activities will be coordinated by the National Forestry Authority (RNRA), acting as the key focal point for interest in REDD+ projects, in collaboration with the Designated National Secretariat in REMA. The Ministry in Charge of Forest and Mines will also be kept involved in forestry related projects by RNRA/REMA. For projects in national parks, REMA (2010) suggest that it will also be crucial that the Rwanda Development Board (RDB) is involved as the management of national parks fall under the jurisdiction of RDB.

A preliminary national forest inventory was conducted in 2007 for forests with areas greater than 0.5 hectare. The inclusion of carbon biomass estimates in the inventory is recommended by REMA (2010), together with a National Forestry Inventory that can be made publicly available. REMA believe this will be an important tool to assist in the development of carbon market forestry projects.

1.2.11 Energy Policy

MININFRA (2008) states the following in regard to the past and present situation of national energy security: *'one of the important lessons from Rwanda's first generation Poverty Reduction Strategy Program (carried out over the period 2002-2005) is that a high rate of economic growth is a pre-requisite to effectively address poverty. The second program, the EDPRS, therefore sets out to improve the standard of living of the people of Rwanda and reduce poverty first and foremost through achieving high rates of economic growth. In recent years, the Rwanda economy has been growing at between 5.5% and 7% per annum. Provided infrastructure constraints and skills bottlenecks can be overcome, the country is poised to maintain these relatively high growth rates'*.

Furthermore, MININFRA indicate that *'shortages of energy, compounded by high prices, threaten to derail this strategy both in the period up to 2012 and beyond to the Vision 2020 horizon. In order to meet the country's development aspirations, a strong policy and institutional framework is needed to manage existing energy supplies and facilitate substantial investment in all forms of energy. In order to meet these demands, Rwanda's Ministry of Infrastructure has updated the 2004 Energy Policy statement, which reflected the emergency orientation in the energy sector at that time and thus had a somewhat short-term focus, by introducing a National Energy Policy and National Energy Strategy 2008-2012'* (MININFRA, 2008).

The updated 2008 strategy includes:

- Rwanda's long-term development plans and strategies;
- The need to pay particular attention to requirements for the progressive development of the electricity sector;
- The need for greater focus on household energy requirements and gender dimensions;
- The latest developments in methane and renewables and their environmental implications;
- A clear commitment to private sector participation and to regional cooperation in energy.

Table 5 below provides a summary of the significant legislation, policies, and orders in Rwanda relating to integrated natural resource and environmental management of watersheds and associated climate change implications. Table 6 highlights the current institutional structures involved in watershed management in Rwanda. Table 7 provides a list of the key Rwandan private and public organizations with links to environment. Table 8 shows the Rwandan NGOs Involved in conservation and environment activities in the Kagera Basin.

Table 5: Summary of significant legislation, policies, and orders in Rwanda relating to integrated natural resource and environmental management of watersheds and associated climate change implications

Document	Description
Environmental: General	
National Environment Policy (2003)	Stipulates the utilization of natural resources and the protection and rational management of ecosystems for sustainable and fair development
National Strategy and Action Plan for the Conservation of Biodiversity (2003)	Develops national strategies, plans or programs for the conservation and sustainable use of biological diversity; Integrates the conservation and sustainable use of biological diversity into relevant sectoral and cross-sectoral plans, programs and policies
Law No. 16/2006	Established REMA and delineated its organization, operation and responsibilities
National Policy of Decentralization (2006)	Recreated districts, sectors and cells to include environmental officers within the district organogram to help with planning and coordination of environmental activities in the districts. First time in Rwanda's history to have explicit environmental officers at subnational levels.
National Wildlife Policy (2007)	Provides for mechanisms to protect wildlife, including regulatory instruments for hunting and collection of specimens. Wildlife outside protected areas is not explicitly provided for
Land Management	
National Land Policy (2004)	Stipulates the appropriate land administration system as a key of land tenure security by providing the possibility of registering and transferring land and also the possibility of investment in land
National Agricultural Policy 2004	Contributes in a sustainable manner to poverty reduction through increased and diversified households' incomes, and to support Rwanda's economic growth while ensuring food security for the entire population
Organic Law N° 04/2005 on protection, conservation and promotion of the environment	Stipulates the modalities of protecting, safeguarding and promoting the environment
Organic Law N° 08/2005 on the use and management of land	Determines the use and management of land in Rwanda and institutes principles on land legal rights. Recognizes private ownership, both customary and legal, of most hillside areas. Previously, all land belonged to the State, making it illegal to buy and sell land and any required expropriation would result in users of land being compensated for assets lost at a fixed rate. As a result, there have been serious shortcomings in the national processes associated with land expropriation, resettlement and associated compensation payments.
Presidential Order N° 54/01 on land commissions (2006)	Determines the structure, responsibilities, functioning and composition of Land Commissions
Ministerial Order N° 01/2006 on land registers	Determines the structure of land registers, responsibilities and functioning of the District Land Bureau
Land Expropriation Law N° 18/2007	Determines the procedures relation to expropriation in the public interest
Guidelines and Procedure for	Developed to operationalize the provisions of the Organic Law to

Document	Description
Environmental Impact Assessment (EIA)	make EIA mandatory for all development projects
Law N° 14/2003	Stipulates quality control and commercialization of plant seeds
Water Resources and Wetlands	
National Water Resources Management Policy (1998)	Single national policy on water Management under the auspice of MINIAGRI. Does not mention new principles of water and transboundary water management. Regionally, policy only talks about 'international co-operation' (in larger river basins). Water described as an economic asset is sensitive; it is necessary to balance water for basic needs of the poor and water priced reasonably for agricultural and industrial use.
Sector-specific Environmental Impact Assessment (EIA) Guidelines (2008)	Developed to operationalize the provisions of the Organic Law for water resources and wetlands management; wastewater treatment; hydropower development; housing and roads infrastructure
National Policy on Water and Sanitation (2004)	Inventory and integrated management of water resources including watershed protection; expansion of water supply and sanitation infrastructure to increase access to potable water; water for livestock and agricultural production; water resources governance including decentralization, community participation and privatization; capacity building. Policy implementation has, however, been hampered by lack of a strong legal framework and weak institutional and human resource capacities.
Fisheries Law (2008)	Three types of fishing governed by law: fishing as a sport or leisure activity; commercial fishing, and scientific fishing, to study and advance the knowledge of fish and aquaculture resources.
Water and Wetlands Policy	Previous wetlands policy shelved pending detailed inventory and categorization of wetlands for production and protection
Forestry	
Instruction N° 01/2003	Ban of cutting trees before maturity. Requires the permit of the district mayor
Instruction N° 0001/2004	Ban of fuel wood use in making brick and tiles (not yet a formal law)
Instruction N° 001/2006	Authorizations required for cutting and transporting trees at maturity
National Forestry Policy	Established Provincial Forest Commission to promote and oversee forestry activities that meet, on a sustainable basis, the population's needs for wood and other forest products and services. The main targets are forest cover to comprise at least 30 per cent of the national territory and to have at least 85 per cent of farmland under agro-forestry by 2020. To replace current Forest Law, No. 47/88 of 1988
Energy	
National Energy Policy and National Energy Strategy 2008-2012	Update of the 2004 Energy Statement. Includes long term strategy with a greater focus on household requirements, renewables and gender.

Table 6: Key Rwanda Institutions and Departments/Autonomous Agencies with Links to Environment

Institution	Roles in/links with Watershed Management
1. MINIRENA (Ministry of Natural Resources: Land, Forests, Environment and Mining)	Responsible for environmental policy formulation and monitoring, as well as the sectors of water, mining, forestry and lands. The Directorate of Policy, Planning and Capacity Building coordinate all functional units.
- National Land Centre (NLC)	Provide technical and administrative support to the National Land Commission, as well as, archiving information on land conflicts and adjudication. Implements the National Land Policy, the Organic Laws on land and environment, and their subsidiary legislations (e.g. the Presidential Order No. 53/01 on the Registrar of Land Titles). Create land governance structures at decentralized levels – from district, sector and cell levels.
Rwanda Natural Resources Authority (RNRA)	Implements government forestry policy; promotes agroforestry; advises government on policies, strategies and legislation related to forestry management; advises on implementation of forestry related international conventions; advises on protection of land, water and forest biodiversity; advises on soil erosion and safeguarding forestry; assists districts to prepare their forest management plans.
- Rwanda Environmental Management Authority (REMA)	REMA as the overall agency responsible for overseeing the implementation of the Organic Law on Environment and related policies and laws. The REMA Director General is designated Coordinator of environmental projects and Focal Point for the Rio Multilateral Environmental Agreements (MEAs).
- Rwanda Geological and Mines Authority (OGMR)	Ensures environmentally sustainable mining by setting policy and standards for mining and provide technical guidance and oversight to prospecting of minerals.
2. MINAGRI (Ministry of Agriculture & Animal Resources)	Sets national policies on agriculture, livestock & fisheries. Provides guidelines and standards for land use management including terracing. Promotes marshlands reclamation for cereal growing and ensures safe importation and use of chemical fertilizers.
- Rwanda Agricultural Development Agency (RADA)	Took over responsibilities of the National Seed Certification Service and the agricultural extension services with respect to crop production. It's responsible for land improvement activities and soil conservation through the national terracing programs. Sets standards for terracing, improvement & multiplication of seed, and delivery of extension services.
- Rwanda Animal Resources Development Agency (RARDA)	Responsible for livestock development and management of rangelands, the 'one cow per poor household' program to increase availability of animal manure for organic fertilizer of soil and for biogas production.
- Rwanda Horticultural Development Agency (RHoDA)	Ensures safe use of agricultural chemicals and fertilizers as well as safety of workers in flowers & other horticultural projects.
3. MINIFRA (Ministry of Infrastructures)	Responsible for setting policies related to energy; urbanization and settlements; road and communication infrastructure; meteorology; and urban water supply.
- Settlements & Urbanization	Promotes grouped settlements and improving housing environment. Support to the re-settlement of people displaced from within 50-metres of the Lakes and Riverbanks, and in the construction of protection infrastructures on the banks of target rivers and streams.

Institution	Roles in/links with Watershed Management
- Energy	Promotes alternative energy sources and popularizing energy efficient technologies. Work with REMA on fuel wood saving stoves.
- Meteorological Services	Climatic data collection and dissemination, and monitoring of weather conditions (temperature, humidity, rainfall, etc.).
- Electrogaz	Public Company that provides access to safe water and sanitation in urban areas and electricity. Pumps and treats water from natural sources while protecting watersheds for sustainable generation of hydropower and supply of water to urban authorities.
4. MINICOM (Ministry of Commerce, Trade, Industry, Tourism & Cooperatives)	Sets policy for trade, tourism and cooperatives and industries, including small-scale artisans.
- Rwanda Office of Tourism & National Parks (ORTPN)	Responsible for National Parks management and conservation; promotion of tourism and cultural heritage; development and management of site and monuments; access to wildlife resources and revenue sharing between communities, local authorities and central treasury; monitoring illegal hunting/ poaching and protection of endangered species; and spatial information on planning, monitoring and management of ecosystems.
- Rwanda Bureau of Standards (RBS)	Assist REMA in regulating importation, manufacturing or dumping of environmentally hazardous materials.
5. MINALOC (Ministry of Local Government, Good Governance, Community Development & Social Affairs)	Promotes the wellbeing of the population by good governance, community development and social affairs.
- National Decentralization Implementation Secretariat (NDIS)	Supports the decentralization of sectoral functions including environmental management.
- Common Development Fund (CDF)	Finance local government development projects as a basket fund derived from national resources and donors. Its funding criteria have to ensure that local development projects funded by the CDF take into consideration environmental concerns.

Table 7: Key Rwanda Private and Public Organizations with Links to Environment

Institution/ Agency	Roles in/links with Watershed Management
National University of Rwanda	Trains and builds capacity of scientists and researchers in the natural sciences (agriculture, natural and applied sciences, conservation and environmental protection). Established the Environmental Research Coordination Unit to better coordinate environmental research and provide a better framework for multidisciplinary research. The GIS and Remote Sensing Centre established with USAID/PEARL assistance, serves as a clearing house for all Rwanda's geographical databases, mapping and remote sensing services of rural and urban areas to the private and public sectors in addition to providing training for university students and government departments.
Institute of Agronomic Sciences of Rwanda (ISAR)	Promotes the scientific and technical development of agriculture and livestock; carries out research and experimentation to improve agriculture and livestock; publishes and diffuses research results; manages research stations and centres of experimentation throughout the country.
Institute of Scientific Research and Technology (IRST)	Undertakes scientific and technological research directly related to Rwanda's socioeconomic development, with particular emphasis on the use of technologies that help preserve the environment. There are two research centres: The Energy Centre works on renewable energy technologies such as solar energy and biogas, and on wastewater management. The University Centre on Pharmacy and Traditional Medicine (CURPHAMETRA) is charged with exploiting the value of Rwanda's medicinal plants.
Kigali Institute of Science, Technology, and Management (KIST)	Undertakes scientific and technological research directly related to Rwanda's socioeconomic development, with particular emphasis on the use of technologies that help preserve the environment. There are two research centres: The Energy Centre works on renewable energy technologies such as solar energy and biogas, and on wastewater management.

Table 8: NGOs in Rwanda Involved in Conservation and Environment Activities in the Kagera Basin

NGO	Activity
International	
ACDI/VOCA	Agroforestry program in partnership with ICRAF
Help Age Rwanda	Agroforestry program
World Vision	Increasing agriculture production through terracing and marshland reclamation (drainage and irrigation)
CARE International	Environment conservation in the region: CARE in partnership with IGCP are implementing a transboundary project “Equity, Enterprise and Environment in the Great Lakes Region” in the Virunga-Bwindi Region funded by Buffet Foundation
Wildlife Conservation Society	Nyungwe NP conservation support: research and monitoring, community conservation and ecotourism
Local	
Association pour la Conservation de la Nature au Rwanda	Nature Conservation (biodiversity in general) and environmental education
Association Rwandaise des Ecologistes (ARECORWANDA NZIZA)	Environmental protection
Rwanda Environmental Conservation Organization	Conservation, agroforestry, eco-tourism and environmental education
SERUKA ASBL	Gender and environmental protection
ISUKU ASBL	Hygiene and environmental protection
Association Rwandaise pour le Développement Intégré	Development and environmental protection
Rwanda Rain Water Harvesting Association	Rain water harvesting
Rwanda Development Organization	Rural development and reforestation
Association Rwandaise pour l'Environnement et le Développement Intégré	Environmental protection integrated development
Rwandese Health Environment Project Initiative	Environmental health and protection
Duhararire Amajyambere y'Icyaro or Action pour le Développement Rural Intégré (DUHAMIC-ADRI)	Marshland reclamation to increase agriculture production by irrigation and drainage and in the reforestation program
COFORWA	
CSC UGAMA	
Protos	Working with local communities, water & sanitation

1.3 Tanzania

Tanzania's Constitution clearly commits the nation to a healthy environment and the wellbeing of the citizens of the country. Under Article 27 of the Constitution, every person is obliged to safeguard and protect the natural resources of the United Republic, State property and all property jointly owned by the people, and all persons shall by law be required to safeguard State and communal property, to combat all forms of misappropriation and wastage and to run the economy of the nation assiduously, with the attitude of people who are masters of the fate of their nation.

Environmental management in Tanzania falls under the Vice-President's Office, whose responsibility it is to formulate policies and strategies on poverty eradication, protection of environment and non-governmental organizations as well as co-ordinate all issues pertaining to the union of the Government of the United Republic of Tanzania.

The national policies related to the environment and watershed management in Tanzania are as follows:

- The National Poverty Eradication Strategy
- Development Vision 2025
- Poverty Reduction Strategy Paper
- National Strategy for Growth and Reduction of Poverty
- Agricultural Policy
- Agricultural Sector Development Strategy
- Agriculture and Livestock Policy
- Mineral Policy
- National Energy Policy
- National Environmental Policy
- National Fisheries Sector Policy and Strategy Statement
- National Forest Policy
- National Irrigation Policy
- National Land Policy
- National Water Policy
- Natural Resources Law
- Rural Development Strategy

Most of the policies stress the need for community participation and involvement in management of the environment and natural resources. In relation to watershed management, the water, forestry, environmental, agriculture, land and energy sector policies and relevant legislation are reviewed below.

1.3.1 Water Sector

Water sector performance targets in Tanzania have been derived from the MDGs and incorporated into the National Strategy for Growth and Reduction of Poverty. According to Doebling, 2005, the majority of the sector performance targets set by 2010 was not achieved:

- Increased proportion of rural population with access to clean water from 53% in 2003 to 65% by 2009/10,
- Increased urban population with access to clean water from 73% in 2003 to 90% by 2009/10,
- Increased access to improved sewerage facilities from 17% in 2003 to 30% by 2010 in respective urban areas,
- Reduced households living in slums without adequate basic essential utilities,
- 100% of schools to have adequate sanitary facilities by 2010,
- 95% of people with access to basic sanitation by 2010, and
- Reduced cholera out-breaks by half by 2010.

Water sector development in Tanzania is organized within a comprehensive policy, strategy, planning sequence, as shown in Figure 1. This framework was designed to ensure cross-sectoral consistency at all levels of intervention (Doehring. 2005).

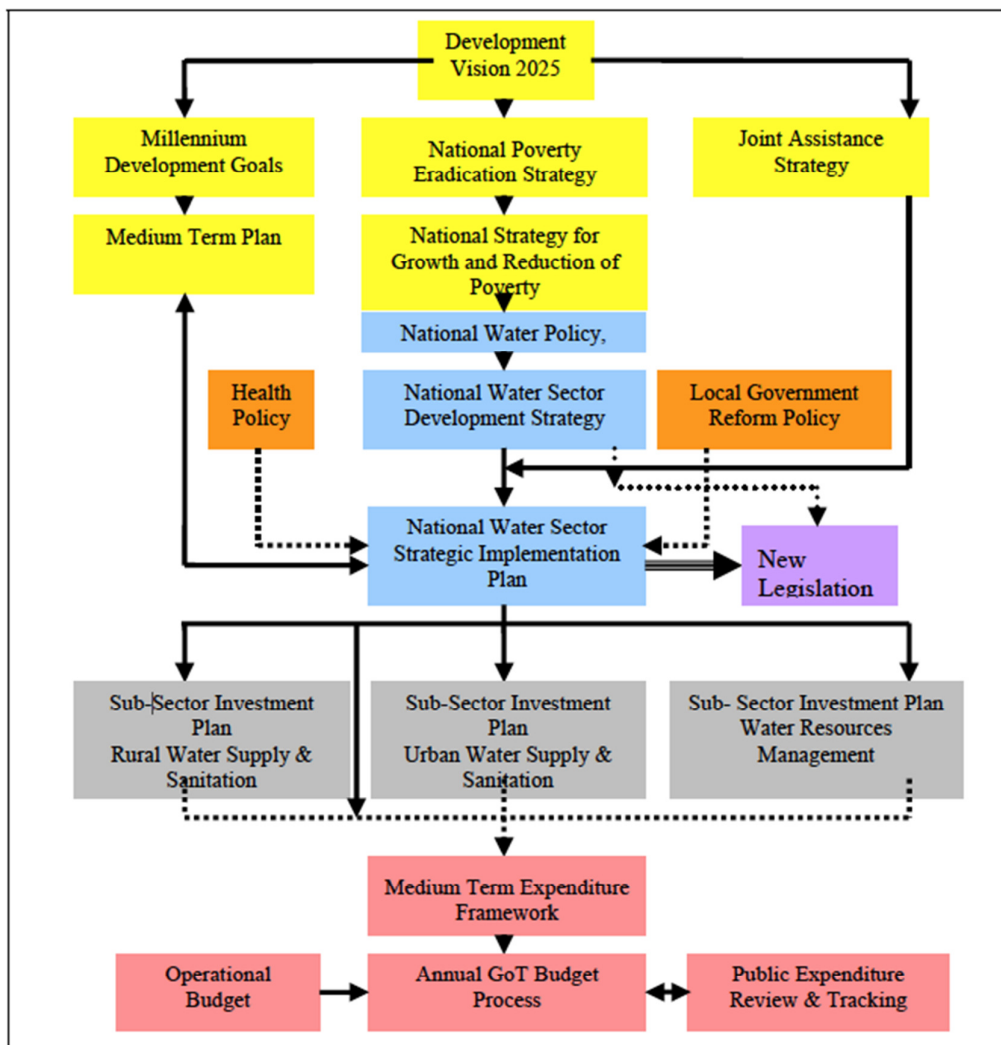


Figure 1: The Water Sector Development Framework in Tanzania (Doehring, 2005)

National Water Policy (2002)

The National Water Policy (NWP) was revised in 2002 under the Ministry of Water and Livestock Development (MoWLD). The main objective is to *'develop a comprehensive framework for sustainable development and management of the nation's water resources, in which an effective legal and institutional framework for its implementation will be put in place'*. The policy aims to *'ensure that beneficiaries participate fully in planning, construction, operation, maintenance and management of community based domestic water supply schemes.'* (MoWLD, 2002). This policy also seeks *'to address cross- sectoral interests in water, watershed management and integrated and participatory approaches for water resources planning, development and management. Also, the policy lays a foundation for sustainable development and management of water resources in the changing roles of the Government from service provider to that of coordination, policy and guidelines formulation, and regulation'* (MoWLD, 2002).

The revised NWP and subsequent reviews and reforms of existing laws, institutional framework and structures are aimed at meeting the objectives of the national Development Vision for 2025, namely, eradicating poverty, attaining water and food security, and sustaining biodiversity and sensitive ecosystems.

Tanzania's Poverty Reduction Strategy Paper (PRSP) recognizes the heavy dependence of the householder's reliance on environmental resources for income generation. Water is considered a key factor in the socio-economic development and the fight against poverty. Deliberate efforts are therefore needed in the management of this resource, which needs to include integrated planning, development and river basin management in support of food security and poverty reduction as well as environmental safeguards.

The national Water Policy document contains three sections addressing three sub-sector issues namely:

- Water Resources Management,
- Rural Water Supply, and
- Urban Water Supply and Sewerage.

The Water Resources Management section of the NWP provides *'a comprehensive framework for promoting optimal, sustainable and equitable development and use of water resources for the benefit of the present and the future generations. It takes into consideration the concerns of all water users. Whilst the intention of water resource management is also to promote good wetland management practices, the strategic frameworks for implementing this are not yet in place'* The Rural Water Supply section aims at improving health and alleviating poverty of the rural population through improved access to adequate and safe water. The Urban Water Supply and Sewerage section sets a framework for achieving an efficient development and management of the Urban Water Supply and Sewerage services'.

The NWP suggests the following instruments and measures to be instituted from time to time for implementation of the policy:

- *Technical instruments: These are technical measures, which are used to control water uses including gating of abstractions, flow metering, application of cleaner production technology.*
- *Economic instruments: Economic instruments include water pricing, charges, penalties and incentives to be used to stimulate marketing mechanism, and serve as an incentive to conserve water, and reduce pollution of water sources. This instrument will also facilitate water allocations.*
- *Administrative instruments: Administrative instruments include information management systems and monitoring, information products, water resources plans*

including water source protection plans, water resources models and decision support systems, various water resources guidelines.

- *Legal instruments: Legal instruments include restrictions and all prohibitions imposed by the regulatory body and the Government. These are individual licenses for abstractions and their revisions, guidelines, discharge permits, codes of conduct, guidelines, standards, Environment Impact Assessments, and agreements, treaties and protocols for trans-boundary water resources.*
- *Regulatory instruments: Regulatory instruments include appropriate management structures and procedures. These procedures and criteria to be adopted include applications for and granting of permits, a clearly defined water right system, appropriate standards and guidelines that control water abstractions from water bodies, controls on specific technologies aimed at reducing water use or waste loads, control of discharge of waste products into water sources (in terms of quantity, quality, timing and location of discharges), and standards for water provided for specific uses or for goods or materials which are potentially polluting.*
- *Participatory Instruments: These include sensitization, community education, consultations and discussions.*

Water Resources Management

Water resources management in Tanzania is governed by the Water Utilization (Control and Regulation) Act No. 42 of 1974 (and subsequent amendments). Control of pollution is provided for in Amendment Act No. 10 of 1981. However, according to the NWP document, *'the Water Utilization Act and other sub-sector water related laws are inadequate to meet the growing water resources management challenges facing the country today'*. In order to have an effective legal and regulatory framework the following will be done:

- *The existing Water Act and regulations will be reviewed and conflicting water related laws and regulations would be identified and harmonized. In the review the mandates of Basin Water Offices will be strengthened to enable these offices to (a) enforce and follow-up on existing legislation, regulations and operating rules governing water use and control of pollution; (b) become the legal authority to collect the various water use charges, (c) facilitate the establishment of lower level water management organizations which will bring together users and stakeholders of the same source, (d) become centres for conflict resolution in water allocation, water use and pollution.*
- *Relevant customary law and practice related to water management will be institutionalized into statutes.*

On the national level, water resource management is under the responsibility of the Ministry of Water and Livestock Development, which determines policy orientation, legislation, sectoral coordination/integration and planning, The Ministry of Water is also tasked with conducting national water assessments and planning, which includes data collection and dissemination, monitoring and evaluation, establishment and maintenance of water resources databases and information management systems, preparation and implementation of training programs, and preparation of Regulations. The NWP states that *'the structure and functions of present Central Water Board are reviewed and assigned new roles of integrated, multi-sectoral water resources planning and management, in addition to resolution of national level conflicts among sectors. In addition, the Ministry of Water is the custodian and implementer of the water law and will coordinate water use planning and preparation of Basin plans'*.

Since water resource management and development will be undertaken on the basis of river basins, this is the level for data collection, processing and analysis, water allocation, pollution control, preparation of water utilization plans, collection of the various fees and

charges, and resolution of various water related conflicts. The present system of managing through Basin Water Boards is being strengthened.

The large size of a River Basin makes water management difficult since Basin staff is distant from water users. In order to remedy this, catchment Water Committees and sub-catchment Water Committees will be established, and will be composed of representatives from the public and private sector, and from the Water User Associations within the respective Basin. The role of catchment Water Board includes preparation and implementation of catchment plans, and resolution of conflicts within the catchments.

District Councils are required under the National water Policy to participate fully in Basin Boards and Catchment Committees. The Districts are to become responsible for planning and development of water resources in accordance with Basin plans, protection and conservation of natural resources in the villages and wards, establishment of bye-laws on the management of water resources, conflict resolution in accordance with established laws and regulations. In addition the District Councils will be required to make assessment of water demands of their respective districts, and participate fully in the preparation of Basin plans.

National Water Sector Development Strategy (NWSDS)

The National Water Sector Development Strategy (2006-2015) formulated by the Ministry of Water and Irrigation sets out how the Ministry and other Stakeholders will implement the National Water Policy to achieve the national sector targets. This, in turn, guides the formulation of the Ministry's development and investment plans and the Medium Term Expenditure Framework.

The NWSDS describes the institutional and legislative changes necessary so that the specified actions contained in the strategy can be implemented. According to Doehring, 2005, *'the main objective of the NWSDS was to have a coherent, holistic and integrated strategy for the Water Sector in place in order to implement the National Water Policy. This will then allow the on-going subsectoral initiatives and projects to be set within the overall strategic and planning framework for the sector, supported through a sector-wide approach to planning. With the context of NWSDS, the water sector is considered as covering water resources management, including water resource development, control of pollution, water supply and sewerage services, and the provision of on-site sanitation for the disposal of human excreta and waste water'*.

On-going initiatives within the Ministry of Water and Irrigation include preparation of the National Rural Water Supply and Sanitation Program (RWSSP – now in Phase II), the National Strategy for Improvement of Urban Water Supply and Sewerage, and review of water resources, urban water supply and sewerage, and rural water supply legislation. According to the NWSDS this has resulted in a number of potential duplications or omissions, including *'the situation for small towns; clarification of regulation; clarification of the use of the term "sanitation" and the differing responsibilities of the Ministry of Water and Livestock Development and the Ministry of Health; and the development of the institutional and legal frameworks. A contributory factor has also been the apparent development of the National Water Policy and the management of the major sub-sector projects based on the responsibilities of existing technical divisions within the Ministry.* (NWSDS, 2006)

The NWSDS emphasizes the clear need for improved co-ordination of reform related activities, which should include coordination between the various divisions within the Ministry, other key ministries and development partners.

Water Supply and Sanitation Institutional Framework

The current institutional framework for the provision of water supply and sanitation services is based on a separation between urban water supply and sewerage services and rural

water supply services (Doehring, 2005). The ultimate responsibility for the provision of these services rests largely with the Ministry of Water and Livestock Development (MoWLD). However, according to Doehring (2005), *'a number of different central and local government departments or organizations have a mandate or legal requirement to be involved in various aspects of the provision of these services. In particular, local government, be it at the city, municipal, town, district, or township authority level, has varying levels of responsibility for providing water supply and sanitation services to the population in their areas. The Ministry of Health and Social Welfare on the other hand has an overall responsibility for protecting public health through ensuring the provision of adequate sanitation and hygiene education by the local authorities. MoWLD is also responsible for securing investment finance for rural water supply schemes where it is responsible, or where it has approved the establishment of Water User Associations'*.

The local government authorities are ultimately accountable to the President's Office, Regional Administration and Local Government (PORALG). The Local Government Act provides the respective National and Township Authorities the power to establish, maintain, operate and control public water supplies drainage and sewerage works.

Doehring (2005) identified that the current institutional framework, with its central focus in the MoWLD, is complex, both in law and in practice with a number of overlapping responsibilities, duplications and omissions, and with limited mechanisms for effective consultation and consensus building, and participation of stakeholders in the decision-making process.

The institutional framework for water supply and sanitation according to Doehring (2005) 'will have to be clarified and streamlined to meet the challenges of efficient and cost-effective provision of services, and the roles and responsibilities of the different stakeholders will need to be clearly defined so as to ensure the participation of stakeholders. The role of the government will change from that of a service provider to that of a co-ordination, policy and guideline formulation, and regulation. Consequently, the institutional framework will have to involve new organizations at different levels and restructure of existing organizations. The roles and responsibilities of regulatory organizations must be separated from responsibilities for the provision of water supply and sanitation services'.

1.3.2 National Forestry Policy

In 1998, the Tanzanian Government reviewed its 1953 Forest Policy and adopted the National Forestry Policy (NFP) with a focus on sustainable conservation of forest resources. The NFP has a policy goal of *"enhancing the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of natural resources for the benefit of present and future generations."* (Green,1995). This new policy requires a legal framework, which clearly spells out the mandates and responsibilities of named institutions be enacted to translate the goal into action.

NFP's objectives are to:

- Ensure sustainable supply of forest products and services by maintaining sufficient forest area efficient management;
- Increase employment and foreign exchange earnings through sustainable forest-based industrial development and trade;
- Ensure ecosystem stability through conservation of forest biodiversity, water catchments and soil fertility; and
- Enhance the national capacity to manage and develop the forest sector in collaboration with other stakeholders.

The NFP priority areas for legislation and implementation include forest land management, forest-based industries and products, ecosystem conservation and management, and institutional and human resources. Mniwasa, and Shauri, (2001) state that *'the NFP provides*

for mandates of main stakeholders in forest conservation and management. Specific mandates given to local governments and communities include: to manage local government forest reserves of conservation and biodiversity values; to regulate policy implementation; to conserve and manage village forest reserves and trees on farms; and to participate in joint management of conservation areas'.

Mniwasa, and Shauri, (2001) stated that the NFP introduces a decentralized system of forest management, which includes village forest reserves. Not until recently were district councils mandated to manage national forest reserves on behalf of the central government. Before 1998, the Regional Forest Officer collected licensing and revenues for the Central Government Forest Reserves with or without the attention of district authorities. Now, under the NFP, management responsibilities are delegated from the forest authorities to one or several executive agencies, which according to a Joint Appraisal Mission in 1999 was *'to ensure efficiency in forest management and conservation, the central government forest reserves will be managed by one or several specialized executive agencies or by the private sector'.*

Kamata (1999) argued that the policy, however, still recognizes the existence of local government forest reserves, which will continue to be managed by local authorities, specialized executive agencies or even by the private sector. *'Village forest reserves will be managed by the village governments or other entities designated by village governments for this purpose, such as NGOs, user groups, associations, religious institutions, etc. The reserves will be demarcated on the ground, management objectives defined, and multi-purpose forest management plans prepared covering all different uses of forests'.* Katama (2009) believes that this approach will allow villages to control the rate of environmental degradation despite various institutional constraints encountered. Katama (2009) states that *'granting appropriate user rights and security of tenure as incentives for sustainable forest management, local communities are likely to participate actively and effectively in the conservation and management of their forest resources'.*

Therefore, the FBD must designate forest reserve areas that will be managed as Joint Forest Management Areas. According to Mniwasa, and Shauri, (2001) the problem at the community level in some areas, is that there are no well-established community based organizations (e.g. CBOs/NGOs which are able to influence management of forestry activities). The NFP addresses this problem by stating, *"in order to improve forest conservation and management, and to ensure equitable sharing of benefits amongst all stakeholders, joint agreements between the central government, specialized executive agencies, private sector and local governments, as appropriate in each case, and organized local communities or other organizations of people living adjacent to the forest will be promoted."*

1.3.3 National Environmental Policy

The National Environment Policy (NEP), which was adopted in 1997, recognizes the indispensable role of local governments to create sustainable conditions in achieving its policy objectives. This is such an important recognition for tackling environmental degradation as local governments (rather than national government) are better placed to (i) receive local concerns, (ii) to construct, operate and maintain economic, social and environmental infrastructure, and establish local environmental policies and regulations, (iii) to educate, mobilize and respond to the local community, also, (iv) to enhance and implement environmental objectives.

The cabinet constitutes the apex coordination and policy committee at the national level, where all ministries present major environmental concerns. Environmental management in Tanzania is under the Vice President's Office, which implements the policy through relevant Ministries and specialized committees. According to Mniwasa, and Shauri, (2001), the policy has concentrated most of the powers and functions into VP office through the Division of Environment. Mandates flow from the VP office to the local governments but this is not

clearly expressed in the NEP. As stated by LEAT (1998), *'the VP's office is expected to assist Ministries, public bodies and private persons engaged in activities which are likely to have a significant impact on the environment. But the coordinating role of the VP's is not clearly evident at the local level.'*

The NEP advocates for the formation of environmental committees to coordinate natural resources management at the regional, district, ward and village levels. Kessey (1999) points out that paragraph 104 of the NEP states that environmental committees *'shall be responsible for coordination and advising on obstacles to the implementation of environmental policy and programs, promoting environmental awareness; information generation, assembly and dissemination on the environment relating to district, ward or village'*.

The regulation of environmental management in Tanzania has been initiated by the adoption of the National Environmental Management Act, No 19 of 1983. Although draft EIA guidelines and procedures were produced in 1997 and amended in 2003, the country lacked a coherent code of supporting legislation to enable effective environmental management. Following a study by the World Bank known as the Institutional and Legal Framework for Environmental Management Project. The Environmental Management Act (EMA) was revised in 2004.

The Division of the Environment (DoE)

The Division of Environment (DoE) has the following overall functions:

- Formulation of policy on environment
- Co-ordination and monitoring of environmental issues
- Environmental planning
- Policy-oriented environmental research.²

The DoE has been responsible for the formulation of a number of national plans and strategies:

- National Environmental Action Plan, 1994
- National Plan for Agenda 21, 1993
- National Action Program to Combat Desertification, 1999
- National Biodiversity Strategy and Action Plan, 2000
- National Action Plan on Climate Change, 1997.

Two of the important agencies under the DoE concerned with watershed management are the National Environment Management Council and the Directorate of Environmental Impact Assessment.

National Environment Management Council (NEMC)

NEMC was initially established in 1983 in terms of the National Environment Management Council Act, No 19 of 1983. Its composition, powers and functions have been provided for under the Environmental Management Act of 2004. The NEMC has the legal entity of corporate body under the Vice-President's Office, where its role is to provide advice on all matters pertaining to environmental conservation and management.

The mandate of the NEMC (<http://www.nemc.or.tz>) is as follows:

- *To enforce and ensure compliance of the national environmental quality standards;*
- *To review of Environmental Impact Statements (EIS) and conduct environmental monitoring and auditing of projects and facilities;*

- *To undertake and co-ordinate research, investigation and surveys in the field of environment and collect, and disseminate information;*
- *To carry-out research and surveys for the proper management and conservation of environment;*
- *To render advise and technical support to entities engaged in natural resources and environmental management;*
- *To initiate and evolve procedures and safeguards for the prevention of accidents which may cause environmental degradation;*
- *To enhance environmental education and public awareness; and establish and operate national environmental information system for sound environmental management;*
- *To publish and disseminate manuals, codes and guidelines relating to environmental management and prevention or abatement of environmental degradation;*
- *To issue restoration and recommend for easements orders, and save prohibition notice*

The Directorate of Environmental Impact Assessment (DEIA)

According to the NEMC website (<http://www.nemc.or.tz>) the DEIA focuses on ‘the review of environmental soundness of projects, plans, programs and plans and aids informed decision making towards achieving sustainable socio-economic development and ecological sustainability. The DEIA was established in order to ensure that environmental issues regarding developmental projects/activities, plans, programs and policies in all sectors of the economy are integrated and taken into account early in planning and designing phases with a view of minimizing negative impacts and achieving sustainable development’.

1.3.4 Agricultural Policy

The Agricultural and Livestock Policy was adopted in 1997 under the Ministry of Agriculture and Cooperatives. In relation to watershed management, the following policy objectives are identified:

- To assure basic food security to the nation and increase nutritional standards.
- Production growth rates of food crops and livestock products should be at least 4% and 5% per annum respectively.
- To improve standards of living in rural areas through increased income from Agriculture and livestock.
- To increase foreign exchange earnings for the nation by increased production and exportation of cash crops.
- To produce and supply raw materials to local Industries both from crops and livestock.
- To develop and introduce new technologies so as to increase the productivity and labour and land.
- To promote integrated and sustainable use and management of natural resources.
- To develop human resources within the sector in order to increase the productivity of labour.
- To provide support services to Agricultural Sector, which cannot be provided efficiently by the private sector.
- To promote specifically the access of women and Youth to land, credit, education and information.

Strategies for implementation of the Agricultural Policy include:

- The Agricultural Policy is guided with the following instruments to enable the nation to realize the objectives.
- Agricultural research, extension and training.
- Monitoring and evaluation of Agricultural development and identification of new opportunities (products), technologies, markets, and promotion of new production processes.
- Providing an adequate legal and regulatory framework
- Natural resource management
- Promotion of institutional structures in the agricultural sector
- Taxes and subsidies.

Irrigation Master Plan

Tanzania's National Irrigation Master Plan (NIMP, 2002) has the main objective to contribute to the achievement of increasing agricultural productivity and profitability by establishing a framework for sustainable development of irrigation. The NIMP is now proving to be a useful planning framework rather than an ultimate plan by itself by helping identify suitable areas for the expansion of new irrigation (ASARECA, 2007).

In relation to irrigation in Tanzania, the IMAWESA project (ASARECA, 2007) stated that 'Tanzania has no explicit irrigation policy or a strategy for the implementation of well-articulated irrigation investment given the sector wide approach to agriculture development and government decentralization. As a result, there is widespread confusion over roles and responsibilities of both water and irrigation institutions at local and national level. There is clearly a need for policies and strategies that will address an over-arching question regarding how to achieve the stated Agriculture Sector Development Strategy (and Plan) (ASDS/ASDP) irrigated land targets. The policy therefore ought to stipulate how the irrigation landscape (i.e. the structure of the irrigated sub-sector) should look like in the medium and long term and how it will get there. In addition, the irrigation policy and an accompanying strategy, also have to address several other key issues. For example, irrigation water use will be regulated, as any other water user, under the proposed Water Bill and all irrigated agriculture will have to be environmentally compliant under the provisions of the 2004 Environmental Management Act; the policy has to articulate such issues and other cross-sectoral ones e.g. crucial links to health and natural resources sub-sectors'.

The main elements of the institutional reform recommended for articulation in the National Policy and Strategy for Tanzania, as stated by ASARECA, 2007 include:

- *Vision 2025, which focuses on economic growth and diversification, poverty reduction and food security*
- *ASDS and ASDP, which articulate specific agricultural sector response to the national objectives, decentralized demand driven initiatives and assumes accelerated growth of the irrigation sub-sector.*
- *NIMP – the National Planning Framework for irrigation development which has identified the national potential for irrigation development*
- *Fourth Government Targets for Irrigation Development which calls for development of optimal irrigated area, and*
- *IWRM- a crosscutting water resources allocation paradigm.*

1.3.5 National Land Policy

The National Land Policy (NLP), originating from the Ministry of Lands and Human Settlements Development, was approved by Government in 1995. Further amendments to

the policy were introduced in 1999. The main objective of the NLP is to promote and ensure equitable distribution of land, ensure existing rights, prevent degradation and resolve conflicts. On the issues related to environmental management (i.e. to protect land resources from degradation for sustainable development), this policy is one of the major guiding principles to local authorities, which according to LEAT, 1998, '*are in dire need of decision-making mandates on land use and resources*'.

Land tenure issues are fundamental to the sustainable utilization of land resources, since the security of land tenure and resources influences the level of investment on land and conservation of land based natural resources. In other words, natural resource management depends on land tenure and the allocation of specific user rights.

As stated on the REDD Desk website², '*according to the policy, the President owns the land in trust for present and future generations. The Commissioner for Lands acts on behalf of the President to administer the land. The policy recognizes two main types of tenure -customary (deemed) land rights and granted right of occupancy. Since only these two types of tenure are recognized in the policy, forest resources in the unreserved or general land are open access resources due to unclear ownership, absence of security of tenure and formal user rights and have thus been under constant pressure for conversion to other competing land uses*'.

The Commissioner for Lands acts on behalf of the President and administers the land. The dual system of land tenure introduced by the colonial regime has been maintained by the NLP. Right of occupancy, which is the main form of tenure, can either be acquired through a grant by the Commissioner for Lands or through customs and tradition (LEAT, 1998). An important policy statement contained in the NLP is to guarantee women's access to land and security of tenure. Women are entitled through the NLP to acquire land in their own right not only through purchase but also through allocation.

LEAT (1998) highlighted that '*the NLP tries to protect the environment and natural resources*' The NLP directs that mechanisms for protecting sensitive areas will be created. Sensitive areas include water catchment areas, small islands, border areas, forests, national parks, river basins and banks and areas of biodiversity.

As stated on the Tanzanian government website (<http://www.tanzania.go.tz/lands.html>), '*the Land Act and the Village Land Act (both 1999) together provide the basic law in relation to the management and administration of land, settlement of disputes and related matters. Implementation of the Land laws will give rise to the need to inform all stakeholders about their rights and obligations, so that they can effectively participate in their implementation*'.

1.3.6 Energy Policy

The first National Energy Policy for Tanzania was formulated in April 1992. Since then, energy sub-sectors as well as the overall economy have gone through structural changes, where the role of the Government has changed, markets have been liberalized and private sector initiatives encouraged. Hence, the policy document has been revised taking into account structural changes in the economy and political transformations at national and international levels. The revision of 2003 formulated by the Ministry of Energy and Mines has a focus on market mechanisms and means to achieve an efficient energy sector with a balance between national and commercial interests.

An interactive and participatory process between Government, other stakeholders and relevant groups has been necessary as part of the formulation process in order to incorporate views of market actors and energy consumers to address the complex nature of the sector. The success of this participatory process can be borne out by the inclusion of a statement (No. 37) in the Energy policy document: '*to promote efficient biomass conversion*

² For more information, read here : http://www.theredddesk.org/policy/the_national_land_policy_tanzania

and end-use technologies in order to save resources, reduce rate of deforestation and land degradation and minimizing threat on climate change’.

Specifically, the revised energy policy takes into consideration the need to:

- Ensure affordable and reliable energy supplies in the whole country;
- Reform the market for energy services and establish an adequate institutional framework, which facilitates investment, expansion of services, efficient pricing mechanisms and other financial incentives;
- Enhance the development and utilization of indigenous and renewable energy sources and technologies;
- Adequately take into account environmental considerations for all energy activities;
- Increase energy efficiency and conservation in all sectors; and
- Increase energy education and build gender-balanced capacity in energy planning, implementation and monitoring.

Table 9 below provides a summary of the significant legislation, policies, and orders in Tanzania relating to integrated natural resource and environmental management of watersheds and associated climate change implications. Table 10 highlights the current institutional structures involved in watershed management in Tanzania. Table 11 shows the NGOs in Tanzania with links to Watershed Management in the Kagera Basin.

Table 9: Summary of significant legislation, policies, and orders in Tanzania relating to integrated natural resource and environmental management of watersheds and associated climate change implications

Document	Description
Environmental: General	
National Environmental Policy 1997	Provides coordination to the implementation of environmental policy and programs, promoting environmental awareness; information generation, assembly and dissemination on the environment relating to district, ward or village
National Environmental Management Act, No 19 of 1983, revised in 2004	Established NEMC. Provides a code of supporting legislation to enable effective environmental management.
Land Management	
Agricultural Policy 1996	Promotes integrated and sustainable use and management of natural resources
National Land Policy 1995, amended 1999	Promotes and ensure wise use of land, guide allocations, prevent degradation and resolve conflicts. On the issues related to environmental management
Local (District and Urban) Authorities Act, No. 7 of 1982	Local Authorities are empowered to make by-laws regarding the protection of soil, agriculture, water supplies and other natural resources. The Act contains provisions to protect human health and regulate pollution problems.)
Village Land Act, No 5 of 1999	The Act requires each village to identify and register all communal land, and obtains the approval of all members of the village for this identification and registration (Village Assembly, Section 13). A Register of Communal Land (Section 13(6)) is to be maintained by each Village Land Council, and land cannot be allocated to individuals, families, groups for private ownership (Section 12(1) a.
Land Act, No 4 of 1999	Private Group Property is given either through Granted Rights in General and Reserved Land (Land Act, Section 19) or through Customary Rights in Village Lands (Village Land Act, Section 22). Provision is also made for holding land by joint occupancy or occupancy in common (Land Act, Part XIII).
Town & Country Planning Ordinance, 1966, Cap. 378	The Ordinance was intended to establish a land-use planning scheme for designated areas. The National Land Use Planning Commission was established to advise Government on land conservation and development.
Water Resources and Wetlands	
National Water Policy 2002	Provides a comprehensive framework for sustainable development and management of the nation's water resources
National Water Sector Development Strategy (NWSDS)	Provides a coherent, holistic and integrated strategy for the Water Sector in place in order to implement the National Water Policy
Urban Water Supply Act, No. 7 of 1981	The Act gives the National Urban Water Authority powers to monitor and control surface water and groundwater pollution and specifies when such pollution is a punishable offence.

Document	Description
Public Health, Sewerage and Drainage Ordinance, Chapter 336.	The Ordinance prohibits the discharge of certain substances into sewers.
National Irrigation Policy	
Water Utilization (Control & Regulation) Act, No 42 of 1974 as amended in 1981 and 1997	The Act establishes temporary standards for receiving waters, as well as effluent discharge standards
Fisheries Act, No 22 of 2003	
National Fisheries Sector Policy and Strategy Statement, 1997	
Forestry	
Forestry Policy, 1998	The revised Policy continues to recognize the important role of forests in the maintenance of the environment, the provision of forestry products, and the protection of watersheds and biodiversity.
Forest Act, No 14 of 2002	
Other	
Natural Resources Ordinance	The Ordinance created the Natural Resources Board, which is charged with the responsibility of supervising the use and/or exploitation of natural resources.
Mining Act, No 5 of 1998 and Regulations of 1999	The Act sets out government policy on all forms of mining and is supported by various regulations covering claims, prospecting rights, mining rights and royalties. Mining license applicants are required to submit programs for environmental protection. Each industry is required to establish realistic resource recovery standards and to adhere to them. Mining plans are required to be presented before operations begin.
Energy Policy 1992, revised 2003	Ensures affordable and reliable energy supplies in the whole country; Reform the market for energy services; Enhance the development and utilization of indigenous and renewable energy sources and technologies; take into account environmental considerations for all energy activities; Increase energy education and build gender-balanced capacity in energy planning, implementation and monitoring

Table 10: Key Tanzanian Institutions and Departments/Autonomous Agencies with Links to Watershed Management in the Kagera Basin

Institution	Roles in/links with Watershed Management
President's Office, Regional Administration and Local Government (PMO-RALG)	Effectively manage the critical interfaces between it and other Ministries as well as development partners and Regional Secretariats and Local Government Authorities
The Division of the Environment (DoE)	Responsible for formulation of policy on environment; Co-ordination and monitoring of environmental issues; Environmental planning; Policy-oriented environmental research
National Environment Management Council (NEMC)	To support the DoE in enforcement and compliance of national standards, review EIS, undertake research and enhance environmental education
Directorate of Environmental Impact Assessment (DEIA)	Review of environmental soundness of projects, plans, programs and plans and aids informed decision making towards achieving sustainable socio-economic development and ecological sustainability
Ministry of Water and Irrigation (MoWI)	Policy orientation
Ministry of Water and Livestock Development (MoWLD)	Provides urban water supply and sewerage services and rural water supply services. Land management.
Ministry of Lands and Human Settlements Development (MoLHDS)	Responsible for implementation of the National Land Policy and relevant legislation.
Ministry of Natural Resources and Tourism: Forestry Division	Responsible for a Policy Implementation and Catchment Forest Management Planning
The Tanzania Forestry Research Institute (TAFORI)	Undertakes research to discover and disseminate scientific knowledge to stakeholders which would contribute to effective and sustainable management and development of the forest resources in the country
National Tree Seed Program (NTSP)	This program is operating as a unit under the Forestry Division and is responsible for collecting tree seeds of good quality in order to cater for the country's seed requirements and for export.
Ministry of Energy and Mineral (MoEM)	Responsible for setting policies, strategies and laws for sustainability of energy and minerals resources to enhance growth and development of the economy.

Table 11: Key Tanzanian NGOs with Links to Watershed Management in the Kagera Basin

Organization	Roles in/links with Watershed Management
Kagera Development and Credit Revolving Fund (KADETFU)	Conservation of the environment, facilitate promotion of social, economic, cultural development and thus empower the society to organize and fight for their needs through utilizing locally available resources.
Misenyi AIDS and Poverty Eradication Crusade (MAPEC)	Poverty eradication, Food Security and Income Generation
Evangelical Lutheran Church in Tanzania - North Western Diocese (ELCT/NWD)	Community Empowerment and natural resource management
Kassambya Gugumaji Group	Empowerment of women, gender issues, conservation of the environment, alternative livelihoods
CHEMA	Agriculture, natural resources management, environmental management
Swedish Cooperative centre (SCC-VI)	Targets small scale farmers and the main activities concentrate around Sustainable Land Use Systems, Agroforestry, Soil & Water Conservation, Food Security and Income Generation
Tanganyika Christian Refugee Service (TCRS)	Community Empowerment and natural resource management

1.4 Uganda

Uganda's Constitution (1995) states "the State shall protect important natural resources, including land, water, wetlands, minerals, oil, fauna and flora on behalf of the people of Uganda." Objective XXVII (i) obliges the State to promote sustainable development and public awareness of the need to manage land, air and water resources in a balanced and sustainable manner for the present and future generations. Article 39 enshrines the right of every Ugandan to a clean and healthy environment. Under Article 237 (2) of the Constitution, the government holds in trust for the people and is required to protect natural lakes, rivers, wetlands, forest reserves, game reserves, national parks and any land to be reserved for ecological or tourism purposes for the common good of all citizens.

According to the National Environment Management Authority (NEMA, 2005), the National Environment Management Policy for Uganda 1994 '*laid the foundation in which the subsequent policies, laws and strategies for sustainable development are anchored. Its overall goal is sustainable social and economic development which maintains or enhances environmental quality and resource productivity on a long-term basis that meets the needs of the present generations without compromising the ability of future generations to meet their own needs*'.

NEMA (2005) stated that '*the overall goal of National Environment Management Policy is to promote inter-generational equity and sustainable development that maintains and enhances environmental quality and resources periodically to meet the needs of the present generation without compromising the ability of future generations to meet their needs*'.

In a review of the existing poverty reduction policies, plan, programs and projects for their adequacy in addressing environmental concerns, NEMA (2005) highlighted the following issues:

- *Overall, the legal and policy framework for integrating environmental concerns in development is strong, and has actually become even stronger in the recent years. This has been shown in the case of the Constitution, National Environment Act and National Planning Authority Act. Further, whereas the policies and laws formulated in early 1990s broadly talk of socio-economic development, those in 2000s expressly specify the importance of poverty reduction and livelihoods. For example, one of the purposes of the National Forestry and Tree Planting Act 2003 is “to promote the improvement of livelihoods through strategies and actions that contribute to poverty eradication”.*
- *There are some few gaps or shortcomings with regard to the policy and legal framework for watershed management. The Local Government Act 1997 delegated a lot of functions to Local Governments. The relevant sector legislation predates the Local Government Act, and it makes Local Governments ill equipped to facilitate the implementation of decentralization principles.*
- *A weakness relates to the practice of integrated planning using a micro-meso-macro vertical step-wise approach. Whereas the concept of ‘bottom-up’ planning is enshrined in the Constitution and the National Planning Authority Act, no procedural guidelines have been put in place to that effect. From environmental perspective, lack of such guidelines leaves a lot of gaps.*
- *There is no screening system, based on criteria, to decide at which level, environmental problems are best handled in order to maximize impact, and to recognize availability of resources and capacities. It is therefore not by surprise that agencies like the National Environmental Management Authority (NEMA) get involved in tree planting even when it has no presence on the ground, and NGOs communities, and local governments do the same. The principle of bottom-up planning is therefore vulnerable to reversal. Also, it reduces economies of scale (e.g. for inter-district cooperation) in environmental management of shared resources like watersheds, riverbanks, and wetlands, to mention but a few.*
- *Since mid-1990s, government has improved the institutional framework for integrated planning. In this regard, it has established several autonomous institutions out of traditional civil service, a factor that gives them flexibility in planning, decision-making and use of resources. They include NEMA, Uganda Wildlife Authority (UWA), National Forestry Authority (NFA), and National Planning Authority (NPA) etc. Others are being planned like the National Fisheries Authority.*
- *Although one of the tasks of the NPA is to monitor and evaluate the effectiveness and impacts of development programs, no institution has the responsibility to ‘clear’ policies for their likely environmental impacts, and to monitor that policies remain benign to the environment during implementation.*

1.4.1 Climate Change Policy

Currently, Uganda does not have a climate change or climate change adaptation policy. The NAPA, which was developed in 2007 with funding from the UNDP GEF, is used as the guiding framework for climate change interventions (National Adaptation Plan of Action (NAPA), 2007). According to USAID (ETOA, 2011) the NAPA is ‘*the tool that is used for implementing action plans for climate change*’. ACCRA (2010) defines vulnerability to climate change in the context of natural resources, livelihoods, and socio-economic development.

The ETOA (2011) also states that ‘*the NAPA attempts to cover the major tenets of various protocols, treaties, agreements, and conventions related to climate change, it is not exhaustive enough; hence a national policy on climate change adaptation is needed. The activity descriptions of NAPA have been criticized for lacking specific target sites for Uganda, a clear mechanism for funding its activities, technical rigor in prioritization, and lack of detail on how budgets for the projects were calculated*’. Line ministries, moreover, appear to lack commitment to implement these activities (ACCRA, 2010; Hepworth and Goulden, 2008). The Coordinator of the Climate Change Unit expressed his optimism that a national climate change policy framework will be ready by 2012. However, it is not known when the Ugandan parliament may pass legislation that addresses changes in climate.

1.4.2 Water Sector

As outlined in the Ugandan National Water Development report of 2005 (WWAP, 2006), the key water sector objectives are designed to:

- *Promote coordinated, integrated and sustainable water resources management to ensure conservation of water resources and provision of water for all social and economic activities.*
- *Achieve sustainable safe water supply and sanitation facilities, based on management responsibility and ownership by the users, to 100% of both the rural and urban population in Uganda.*
- *Promote the development of water supply for agricultural production in order to modernize agriculture and mitigate effects of climatic variations on rain-fed agriculture.*

Furthermore, the national targets for water supply and sanitation in both urban and rural areas are:

- **Urban Areas:** *Achieve 100% safe water coverage and 100% sanitation coverage in urban areas by 2015, with an 80%-90% effective use and functionality of facilities.*
- **Rural Areas:** *Achieve 77% safe water coverage and 95% sanitation coverage in rural areas by 2015, with an 80%-90% effective use and functionality of facilities.*

National Water Policy

The National Water Policy (NWP), adopted in 1999, provides the overall policy framework for the water sector. The National Water Policy promotes the principles of integrated water resources management as a means to ensuring sustainable management and utilization of Uganda’s water (WWAP, 2006).

The NWP emphasizes the recognition of water as being both a social and economic good, whose allocation should give first priority to domestic use. The Policy is based on the principle of “some for all rather than all for some” adopted from the 1990 “New Delhi Statement: Global Consultation on Safe Water and Sanitation”. It anchors operation and maintenance as an important and integral part of all water and sanitation programs to ensure their sustainability. The policy also highlights the key role played by women in all water management and development activities.

According to the WWAP (2006), the National Water Policy adopts the guiding principles for water resources management emanating from the United Nations Conference on the Environment and Development (UNCED, Agenda 21, Chapter 18) as detailed below:

- *Freshwater is a finite and vulnerable resource, essential to sustain life, development and the environment.*
- *Management of water resources at the lowest appropriate level.*
- *The role of Government as an enabler in a participatory, demand-driven approach to development.*

- *Recognition of water as a social and economic good with a value reflecting its most valuable potential use.*
- *Integration of water and land use management*
- *Recognition of the central role played by women in the provision, management and safe - guarding of water*
- *The important role of the private sector in water management*

The National Water Policy also re-emphasizes the water resources management strategy as stipulated in the Water Action Plan (WAP) whose preparation in 1995 was based on the same objective and guiding principles. In relation to the WAP, the WWAP (2006) highlights that *'the key strategy elements are grouped into those supporting an enabling environment, those guiding institutional development and those supporting the upgrading of planning capacity and prioritization of water allocation and use'*. Furthermore, the WWAP (2006) states that *'the Water Action Plan provides the overall guidelines and strategies for the protection and development of Uganda's water resources and a structure for their management at national, district and local levels, and also provided important inputs to the new water legislation and to formulation of the National Water Policy'*.

Other relevant policies and regulations related to the water sector as highlighted by the WWAP (2006) include:

- *The National Environment Management Policy (1994)*
- *The National Policy for the Conservation and Management of Wetland Resources (1995)*
- *The Wetlands Sector Strategic Plan (2011), which has eight strategic objectives: increase knowledge about wetlands; raise awareness; construct decentralized institutions for wetland management; develop appropriate legal and policy instruments; manage wetlands sustainably, including transboundary wetlands; protect vital wetlands by functions and services; empower communities to manage resources through Community Based Wetland Management Plans; and win funding and resources at all management levels. A specific wetlands management law is (still) in preparation.*
- *The Land Act (1998) which provides that the government holds lands in trust for the people and protects environmentally sensitive areas such as wetlands and any other lands reserved for ecological or tourist purposes for the common good of the citizens of Uganda*
- *The National Gender Policy (1999), which recognizes women and children as the main carriers and users of water. It anchors the importance of gender responsiveness in terms of planning, implementation and management of water and sanitation initiatives*
- *The 1997 Poverty Eradication Plan, which shows that the water sector has long been recognized as a priority instrument in fighting poverty.*
- *The Health Policy (2000), which reiterates that sanitation lies within the mandate of the health ministry, and notes that the war against poor sanitation has to be intensified and maintained in order to consolidate and improve on the gains made in this area. Key priorities include support to local governments and authorities to improve sanitation and general hygiene*
- *The Forestry Policy (2001), which covers the rehabilitation and conservation of forests that protect the soils and water in the country's key watersheds and river systems.*

- *The National Environment Regulations 2000 (Wetlands, Riverbanks and Lakeshores Management). This relates to Central Government or Local Governments who shall hold in trust for the people and protect wetlands, riverbanks and lakeshores for the common good of the citizens of Uganda. The Regulations provide a list of regulated activities whose implementation in wetlands is subject to issuance of a Permit granted by NEMA in consultation with the Lead Agencies. These include brick making, recreation activities such as sport fishing, maintenance of green spaces, cultivation, drainage, commercial exploitation, sewerage filtration, fishing using fish gear and weirs, fish farming, and other aquaculture. Others are construction of transport and communication facilities such as roads, railways, telephone lines, burning and any other exploitative activity which is of a commercial or trade nature, such as harvesting of papyrus for commercial purposes. Every landowner, occupier, or user who is adjacent or contiguous with a wetland, riverbank and lakeshore has a duty to prevent the degradation or destruction of the wetland, and to maintain ecological and other functions of the wetland.*
- *The Environment Assessment regulations, S.I. NO 13/1998. According to these regulations, an EIA is to be conducted in accordance with terms of reference prepared by the developer in consultation with the Authority (NEMA). As per section 12, public participation in the EIA is a requirement.*

Being both a downstream and upstream country in the context of the Nile River, the Ugandan government has long been an enthusiastic proponent of IWRM to ensure sustainable water resource management and development. However, according to the Baseline Needs Assessment carried out by the NBI, analysis of the Ugandan Water Policy revealed the following issues (Table 12). (<http://wrpmp.nilebasin.org/files/WaterPolicy/BaseLineNeedAssessment/html/Chapter3.htm>):

Table 12: Key Content and Observed Gaps in the Ugandan Water Policy

Key Policy Content	Observations/Gaps
The overall objective under the Water Policy is to manage and develop the water resources of Uganda in an integrated and sustainable manner	The Policy recognizes the importance of transboundary issues including NBI issues, and accepts that the existing institutional and management framework in Uganda is not yet comprehensive enough to address the management of water resources in Uganda given the trans-boundary nature of Uganda's water resources and other factors
The Policy covers Water Resources Management dealing with policy objectives, principles and strategies for monitoring, assessment, allocation and protection of water resources as well as the institutional framework; and Water Development and Use, dealing with objectives, principles and strategies for the development and use of water for domestic supply, water for agricultural production and other uses including industry, hydropower, recreation and ecosystem needs.	The Water Policy did envisage the creation of such bodies to manage and regulate transboundary water resources issues posed by river/lake basins as follows: <ul style="list-style-type: none"> • <i>"In the present Uganda context, it has not been found necessary - and therefore it has not been elaborated on further in this policy document - to create authorities, catchments boards or similar bodies. The Government will take the necessary steps if in future the requirement will arise for the creation of a river or lake basin management agency within Uganda where there are specific problems that can only be solved through such management structures"</i>
The Policy covers Water Resources Management dealing with policy objectives, principles and strategies for monitoring, assessment, allocation and protection of water resources as well as the institutional framework; and Water Development and Use, dealing with objectives, principles and strategies for the development and use of water for domestic supply, water for agricultural production and other uses including industry, hydropower, recreation and ecosystem needs	

Key Policy Content	Observations/Gaps
<p>The Water Policy is guided by an agreed set of national policy objectives as follows:</p> <ul style="list-style-type: none"> • Separation of regulatory powers from user interests; integrated and sustainable development, management and use of the national water resources, with the full participation of all stakeholders • Regulated use of all water, whether public, private or ground water, other than for “domestic” use • Sustainable provision of clean and safe water within easy reach, and good hygienic sanitation practices and facilities, based on management responsibility and ownership by users • Development and efficient use of water in Agriculture in order to increase productivity and mitigate effects of adverse climatic variations on rain-fed agriculture, with full participation, ownership and management by users • Improvement of co-ordination and collaboration among sector stakeholders to achieve efficient and effective use of financial and human resources; following consistent planning and implementation approaches within the context of decentralization, and policies on private sector participation, the role of NGOs, civil society and beneficiary communities • Equitable access and use of the Nile waters through effective involvement of the Government in the Nile waters issues, to secure adequate water for Uganda’s current and future needs • Promoting awareness of water management and development issues, and the creation of capacity at different levels • Promoting rational, optimal and wise use of the resources for all Ugandans and sectors • Promoting measures to control pollution of water resources • Promoting the gathering and maintenance of reliable water resources information and databases • Promoting viable management options for resource management and provision of water supply and sanitation services at all levels 	<ul style="list-style-type: none"> • The Water Policy is thus flexible with respect to water resource management issues and does not preclude the establishment of agencies to handle management issues relating to river/lake basins in Uganda. • <i>“Uganda needs a coordinated strategy regarding international water resources issues in particular related to the utilization of the Nile waters and safeguarding of the water quality of the lakes. This is a national level function”</i> • The policy is weak in addressing lengthy and complex constitutional procedures for integrating international and regional principles, conventions, protocols and agreements into domestic law (to conform to principles of sovereignty of state) • The policy is weak in compelling compliance from staff from different sectors whose operations have an impact on management of water resources • The policy is weak in prioritizing water issues vis-à-vis other sectors; although the challenges of balancing economic and social benefits and balancing national and regional interests are well recognized, there is no pragmatic strategies to address this • With respect to water supply management the policy is inflexible and does not easily accommodate new management approaches (e.g. the shift from the old supply- driven approaches in some aspects of water supply management to a demand-responsive approach that has promoted meaningful participation of stakeholders and hence promoted sustainability of facilities and services)

Water Sector Legislation

The instruments that provide the enabling legal framework for the water resources management and development in Uganda are summarized below (WWAP, 2006):

- *The Constitution of the Republic of Uganda (1995). This provides the broad legal and policy framework within which all water sector legislation, policies and development plans are developed.*
- *The National Water Policy (1999). This provides the policy framework for water resources management and development in Uganda.*
- *The Water Statute (1995). This provides the legal framework for the use, protection and management of water resources and water supply.*
- *The National Water and Sewerage Corporation (NWSC) Statute of 1995 establishes the NWSC as a Water and Sewerage Authority and gives it the mandate to operate and provide water and sewerage services in areas entrusted to it on a sound commercial and viable basis. The Statute requires the Minister responsible for Water Affairs to enter into a performance contract with NWSC in relation to its operations in accordance with the provisions of the Water Statute. The Statute empowers the NWSC to own assets in its areas where it provides services without the need of compensation in respect of the transfer of such assets.*
- *The National Environment Statute (1995). This provides the framework for coordinated and sound management of the environment including environmental impact assessment of water resources related projects and setting water quality and effluent standards.*
- *The Water Resources Regulations and Waste Water Discharge Regulations (1998). This provides for the regulation of water abstraction and waste water discharge through the use of permits.*
- *The local Government Act, 1997 defines roles for different levels of government in provision and management of water and sanitation related activities. The Act stipulates that provision of water and maintenance of facilities is a role of Local Governments in liaison with the Ministry responsible for Water Affairs. The Act empowers the different levels of government to plan and implement development interventions according to identified local priorities.*
- *The Land Act 1998 vests all rights to water resources in the Government. It empowers the Minister responsible for water to regulate the management and utilization of such water. The Act allows for reasonable use by the occupier or owner of a piece of land, of water for domestic and small-scale agricultural purposes. The Act provides that the government or local government holds land in trust for the people and protects environmentally sensitive areas such as natural lakes, rivers, groundwater, natural ponds, natural streams, wetlands, forest reserves, national parks and any other land reserved for ecological and tourist purposes for a common good of the citizens of Uganda.*

The Water Statute

As detailed in the WWAP (2006), 'the Water Statute, enacted in 1995, is the principle law for the water sector, which incorporates legislation for both water resources management and water supply and sanitation. The Water Statute is a modern water law, in that it is flexible, deferring details to regulations that can more easily be changed as conditions change and provides for delegation of powers and broad exemptions from regulation'.

According to the WWAP (2006), the main objectives of the statute are:

- *To promote the rational management and use of the waters of Uganda through:*
 - *Progressive introduction and application of appropriate standards and techniques for the investigation, use, control, protection, management and administration of water resources,*
 - *Co-ordination of all public and private activities which may influence the quality, quantity, distribution, use or management of water resources, and*
 - *Co-ordination, allocation and delegation of responsibilities among Ministers and public authorities for the investigation, use, control, protection, management or administration of water resources*
- *To promote the provision of a clean, safe and sufficient supply of water for domestic purposes to all persons*
- *To allow for the orderly development and use of water resources for animals, irrigation, industrial, commercial and mining uses, energy, navigation, fisheries, preservation of flora and fauna and recreation in ways which minimize harmful effects to the environment; and*
- *To control pollution and to promote the safe storage treatment, discharge and disposal of waste which may pollute water or otherwise harm the environment and human health.*

To ensure the sustainability of the water supply and sanitation facilities the Water Statute also provides for local community level organizations in the form of Water and Sanitation Committees, Water User Groups, and Associations. In further support of improved coordination of their activities in the water sector, NGOs have formed a network called Uganda Water and Sanitation Network (UWASNET).

The roles of the different institutions involved in the water sector and watershed management activities are shown in Table 13.

The provisions of the Water Statute are enacted through four main regulations, namely: The Water Resources Regulations (1998), Waste Discharge Regulations (1998), Water Supply Regulations (1999) and the Sewerage Regulations (1999).

Coordination of water sector activities

The Directorate of Water Development (DWD) is the government lead agency responsible for the oversight and coordination of all water sector activities, with a mandate to promote the provision of clean and safe water to all persons, and to investigate, control, protect and manage water for any use in accordance with the provisions of the Water Statute, 1995 (WWAP, 2006). The DWD is supported by three technical Departments; Urban Water Supply Department, Rural Water Supply Department, and Water Resources Management Department. The following functions of each department are transcribed from the WWAP (2006).

Urban Water Supply Department: The functions of the Urban Water Supply Department include:

- *Supervision of Urban Water Authorities and provision of technical support to utility management through drafting of private operators' performance contracts and performance assessment of the contract holders;*
- *Planning, design, and development of urban water and sewage systems country wide; and*
- *Regulation of urban water supply and sanitation services development.*

Rural Water Supply Department: The functions of the Rural Water Supply Department include:

- *Strategic planning, regulation and quality assurance of rural water and sanitation interventions to ensure adherence to national policy, strategies, and development targets.*
- *Supervision and provision of technical support for implementation of water for production interventions (i.e. construction of valley dams and valley tanks).*

The water supply and sanitation sector is coordinated through a number of committees and working groups, as shown below:

- *Water Sector Working Group: Established by the Ministry of Finance as a mechanism to promote a more consultative and participatory approach in the management of public funds, and to increase transparency and accountability in the planning and utilization of resources in the water sector.*
- *District Water and Sanitation Committees: To improve co-ordination and management of RWSS programs at the local government level, including the interaction between the relevant departments and also with the private sector, NGOs and local communities.*
- *Inter-district Co-ordination Committees: To review progress of implementation of water supply and sanitation activities in neighbouring districts and share experiences.*

Water Resources Management Department: The main goal of the department is to promote sustainable management of Uganda's water resources to ensure availability of water of adequate quantity and quality for domestic water supply, agriculture, industry, fisheries and other uses for both present and future generations. The key functions of the department include:

- *Monitoring the quantity and quality of surface and ground water resources in the country;*
- *Storing, processing and disseminating water resources data and information to all users;*
- *Conducting water resources assessment studies and providing guidance to water development programs and to government based on study findings;*
- *Regulating water resources use through processing, issuing, monitoring and enforcing permits for water abstraction, waste water discharge, bore hole drilling and construction of hydraulic works;*
- *Formulating and reviewing national water resources management plans and frameworks.*
- *Providing advice to the Water Policy Committee (WPC) on transboundary water resources management issues to ensure their equitable use and adequate protection;*
- *Providing advice to the National Environmental Management Authority (NEMA) on standards for water quality and effluent discharge and through the review of environmental impact studies on water resources related projects and developments;*
- *Providing reference water quality analytical services.*

1.4.3 Agriculture Sector Development Strategy and Investment Plan (DSIP): 2010/11- 2014-15

This strategy and investment plan states that the sector faces a daunting set of output-level challenges that include declining soil fertility, over-exploitation of fish stocks; uncertain land rights, inadequate institutional coordination and linkages, negative consequences of climate change, and degradation of the natural resource base, among others. However, none of the development and immediate objectives of the DSIP address watershed management challenges. The objectives mostly focus on increasing rural incomes and livelihoods, household food and nutrition security, agricultural factor productivity, and developing markets and value chains for agricultural products, among others. The need for sustainable natural resource management and biodiversity conservation is acknowledged in the agriculture sector DSIP. However, no intentions are laid down, no actions are prescribed, and no budget is provided to address this need.

The National Agricultural Advisory Services (NAADS)

NAADS is responsible for guiding principles include market-oriented farming, intensifying productivity and profitability, and managing natural resource productivity. NAADS was formulated as basically a demand-driven agricultural extension framework but has practically transformed itself into a farm inputs delivery system. NAADS-supported enterprises are selected by farmers and in principle even natural resources and environment-related enterprises are eligible for support once selected but in practice these are hardly on the list of farmers preferences. Conclusively, sustainable natural resources management and biodiversity conservation are practically outside the scope of NAADS supported enterprises among farming communities.

Irrigation

In Uganda, the Water Statute (1995) is the main law governing the development and use of water. The water Resources Regulations are in place to operationalize the statute. The Water Statute is the fundamental code from which all aspects of water resources management derive: administration; water resources planning; role of water action plan; authorization of hydraulic works and use of water; waste discharge; water abstraction permits; variation and cancellation of water rights; financial provisions; powers and duties; as well as appeals and offences.

In addition, the following existing relevant laws and policies are in place and will be harmonized with other related regulations so as to enhance the implementation of strategies for water for agricultural production (ASARCA, 2007).

- *The National Environment Management Policy (1994) and Statute (1995)*
- *The National Water and Sewerage Corporation Statute (1995)*
- *The National Water Policy of 1999*
- *The National Wetland Policy 1995 and 2011*
- *The Local Governments Act, 1997*
- *The Lands Act 1998*

The Ugandan government is in the advanced stages of developing and promoting irrigation throughout the country in a bid to respond to droughts that have dented the country's food security. The National Irrigation Policy is still in draft form.

1.4.4 National Forestry Policy

The goal of the National Forest Policy (2001) is to have an integrated forest sector that achieves sustainable increases in economic, social, and environmental benefits from forests and trees for all Ugandans, but most especially the poor and vulnerable. The implementation of the policy was originally under of the Ministry of Water, Lands and Environment (now the Ministry of Water and Environment). Forestry management in practical terms is shared between the Forestry Inspection Division (a division in the Department of Environment Affairs, under the Directorate of Environment in the ministry of Water and Environment), the Forest Sector Support Department (FSSD) and the Rwanda National Resources Authority (NFA), which are both affiliated to the MWE. On a district level, management of local forest reserves (including forestry extension services) is the responsibility of the District Forest Services (DFS). Technically Forestry Extension is part of the National Agricultural Advisory Services extension (NAADS) under the Ministry of Agriculture Animal Industries and Fisheries (MAAIF). Practically forest extension is not supported by NAADS. Forestry extension is coordinated by the Forest Inspection Division.

The three pillars of forest sector development are given as poverty eradication, socioeconomic development, and sustainable forest resource management. The National Forest Plan, 2002 is the means through which the national forestry policy will be translated into action. It provides for the development of the forestry sector that safeguards the nation's forest biodiversity and environmental services through effective conservation strategies. One of the policy statements deals with conservation of forest biodiversity and management in support of local and national socioeconomic development and international obligations.

The National Forestry and Tree Planting Act was introduced in 2003 to provide the following:

- Sustainable management and development of forests for the benefit of the population as a whole,
- Declaration of forest reserves for purposes of protection and production of forests and forest produce;
- To provide for the sustainable use of forest resources and the enhancement of the productive capacity of forests;
- To provide for the promotion of tree planting;
- To consolidate the law relating to the forest sector and trade in forest produce;
- To establish a Rwanda National Resources Authority;
- To repeal the forests Act, Cap 246 and the Timber (Export) Act Cap 247

1.4.5 Energy Policy

The Energy Policy for Uganda, which was formulated by the Ministry of Energy and Mineral development, was approved by Cabinet and published in September 2002. This policy document laid down the Government's commitment to the development and utilization of renewable energy resources and technologies. With this in mind, the Government's policy vision for renewable energy is, according to the Renewable Energy Policy (GoU, 2007), '*to make modern renewable energy a substantial part of the national energy consumption*'.

Biomass, largely as firewood and crop residues, supplies over 90% of the country's energy requirements with imported petroleum products and the limited hydropower plants providing the balance of Uganda's energy requirements. The other resources that have remained largely untapped include small hydro, biomass, solar, wind and geothermal sources. The Renewable Energy Policy document approved in March 2007, contains five specific programs to designed to policy action into action (GoU, 2007):

- **Power Generation Program:** *This program will support public and private sector investments in renewable energy generation and consists of two approaches; one for large hydropower schemes and one for small power schemes.*
- **Rural and Urban-poor Electricity Access Program:** *Electricity access to rural populations and the urban poor require special packages to make connections and services affordable. The program will enhance the on-going procedures for community schemes, where the cost of connection to the community is subsidized. It will also support the development of independent grids supplied by micro and pico-hydros and biomass gasifiers to be managed by communities and solar PV systems in dispersed remote settlements. The program will prioritize supporting electrification for productive uses and key social services.*
- **Modern Energy Services Program:** *This program will support renewable energy technologies such as improved wood fuel and charcoal, stoves, solar PV and solar water heaters. It will also incorporate the dissemination of biogas, liquefied petroleum gas and kerosene for cooking as substitutes for wood energy.*
- **Biofuels Program:** *This program will support investments in the production and use of ethanol, biodiesel, methanol and biogas. Specifically, all dealers in petroleum products will be obligated to blend fossil fuels with biofuels up to 20%, as appropriate.*
- **Energy Efficiency Program:** *The program seeks to implement the Energy Efficiency Strategy. The Government will promote efficient utilization of renewable energy resources, through the activities described in the Energy Efficiency Strategy for Uganda.*

1.4.6 Mining Act 2003

In relation to environmental management, this Act requires every holder of an exploration license or mining lease to:

- Carry out an environmental impact assessment (EIA) of the mining operations in accordance with the provisions of the National Environment Act, Cap 153
- Secure a Certificate of Approval of EIA from NEMA.
- Carry out an annual environmental audit.
- Ensure the prevention and minimization of pollution of the environment.
- Submit an environment management plan and an environmental restoration plan to Geological Surveys and Mines Department and NEMA.

Table 13 below provides a summary of the significant legislation, policies, and orders in Uganda relating to integrated natural resource and environmental management of watersheds and associated climate change implications. Table 14 highlights the current institutional structures involved in watershed management in Uganda. Table 15 shows the NGOs in Uganda with Links to Watershed Management in the Kagera Basin.

Table 13: Summary of significant legislation, policies, and orders in Uganda relating to integrated natural resource and environmental management of watersheds and associated climate change implications

Document	Description
Environmental: General	
National Environment Management Policy 1994	Provides the foundation in which the subsequent policies, laws and strategies for sustainable development are anchored
The National Environment Statute (1995)	This provides the framework for coordinated and sound management of the environment including environmental impact assessment of water resources related projects and setting water quality and effluent standards
The National Environment Regulations 2000 (Wetlands, Riverbanks and Lakeshores Management).	This relates to Central Government or Local Governments who shall hold in trust for the people and protect wetlands, riverbanks and lakeshores for the common good of the citizens of Uganda.
Land Management	
The Land Act (1998)	Provides that the government holds lands in trust for the people and protects environmentally sensitive areas such as wetlands and any other lands reserved for ecological or tourist purposes for the common good of the citizens of Uganda
The Agriculture Sector Development Strategy and Investment Plan (DSIP): 2010/11- 2014-15	The objectives mostly focus on increasing rural incomes and livelihoods, household food and nutrition security, agricultural factor productivity, and developing markets and value chains for agricultural products, among others
Water Resources and Wetlands	
National Water Policy (NWP) 1999	Promotes the principles of integrated water resources management as a means to ensuring adopted in 1999, provides the overall policy framework for the water sector
The Water Statute (1995)	This provides the legal framework for the use, protection and management of water resources and water supply
The National Policy for the Conservation and Management of Wetland Resources (1995)	It aims to maintain the functions and values of wetlands, promoting the integration of wetlands into decision making processes and sectoral planning. Other goals include: establishing the principles under which wetlands can be optimally used and their productivity maintained in future, ending exploitive practices in wetlands and maintaining biodiversity in natural and semi-natural wetlands.
The Wetlands Sector Strategic Plan (2011)	Contains eight strategic objectives: increase knowledge about wetlands; raise awareness; construct decentralized institutions for wetland management; develop appropriate legal and policy instruments; manage wetlands sustainably, including transboundary wetlands; protect vital wetlands by functions and services; empower communities to manage resources through Community Based Wetland Management Plans; and win funding and resources at all management levels.
The National Water and Sewerage Corporation (NWSC) Statute of 1995.	This establishes the NWSC as a Water and Sewerage Authority and gives it the mandate to operate and provide water and sewerage services in areas entrusted to it on a sound commercial and viable basis
The Water Resources Regulations and Waste Water Discharge Regulations (1998).	This provides for the regulation of water abstraction and waste water discharge through the use of permits
The local Government Act (1997)	Defines roles for different levels of government in provision and management of water and sanitation related activities. The Act stipulates

Document	Description
	that provision of water and maintenance of facilities is a role of Local Governments in liaison with the Ministry responsible for Water Affairs.
Forestry	
The Forestry Policy (2001)	Covers the rehabilitation and conservation of forests that protect the soils and water in the country's key watersheds and river systems
The National Forestry And Tree Planting Act (2003)	An Act to provide for the conservation, sustainable management and development of forests for the benefit of the people of Uganda
Other	
The National Gender Policy (1999)	Recognizes women and children as the main carriers and users of water. It anchors the importance of gender responsiveness in terms of planning, implementation and management of water and sanitation initiatives
The 1997 Poverty Eradication Plan	Details the water sector as a priority instrument in fighting poverty
The Health Policy (2000)	Key priorities include support to local governments and authorities to improve sanitation and general hygiene.
The Energy Policy (2002)	Policy goal to meet the energy needs of Uganda's population for social and economic development in an environmentally sustainable manner.
Renewable Energy Policy (2007)	Implementable programs include: Power Generation (one for large hydropower schemes and one for small power schemes), Rural and Urban-poor electricity access, modern energy services, biofuels and energy efficiency
The Mining Act 2003	Under EIA compliance, this Act ensure the prevention and minimization of pollution of the environment

Table 14: Key Ugandan Institutions and Departments/Autonomous Agencies with Links to Watershed Management in the Kagera Basin

Institution	Roles in/links with Watershed Management
National Environmental Management Authority (NEMA)	The agency responsible for ensuring sound environmental management and biodiversity conservation within the whole country; the agency works in conjunction with respective E/NR sector lead agencies. NEMA is affiliated to the Ministry of Water and Environment (MWE)
Ministry of Water and Environment (MWE)	<p>The Ministry of Water and Environment (MWE) has the responsibility for setting national policies and standards, managing and regulating water resources and determining priorities for water development and management.</p> <p>MWE also monitors and evaluates sector development programs to keep track of their performance, efficiency and effectiveness in service delivery. MWE has three directorates: Directorate of Water Resources Management (DWRM), Directorate of Water Development (DWD) and the Directorate of Environmental Affairs (DEA).</p> <p>The mandate of the Ministry regarding sanitation and hygiene activities is stipulated in the Memorandum of Understanding that was signed by Ministry of Health, Ministry of Education Sports, and MWE. The role of MWE is limited to development of public sanitary facilities and promotion of good practices of hygiene and sanitation in small towns and rural growth centres. With respect to water for production, MWE is the lead agency for water for production and development off-farm.</p>
Water Policy Committee (WPC)	Multi-disciplinary team representing stakeholders and constituting advising the Minister and mandated to initiate revisions to legislations and regulations; coordinates sector ministries' plans and projects affecting water resources; key function is the formulation of an international water resources policy
Directorate of Water Development (DWD)	The Directorate of Water Development (DWD) is the government lead agency responsible for the oversight and coordination of all water sector activities. DWDs mandate is to promote the provision of clean and safe water to all persons, and to investigate, control, protect and manage water in Uganda for any use in accordance with the provisions of the Water Statute. 1995.
Water Resources Management Department (WRMD)	The agency responsible sustainable water resources management and regulation including coordinating watershed management activities in Uganda. WRMD is affiliated to the MWE.
Wetlands Management Department (WMD)	Under the Ministry of Water and Environment is the agency responsible for sustainable management and conservation of wetland resources in Uganda.
National Water and Sewerage Corporation (NWSC)	Autonomous entity responsible for the delivery of water supply and sewerage services in the major towns and large urban centres
Fisheries Department (FD)	Under the Ministry of Agriculture, Animal Industry and Fisheries is responsible for sustainable fisheries resources management in Uganda in conjunction with Local Governments and Beach Management Units.
Forest Sector Support Department (FSSD)	Under the Ministry of Water and Environment. The agency responsible for coordination, monitoring, and supervision of the forest sector and are one of the three entities created following restructuring of the former Uganda Forest Department.
Rwanda National Resources	A semi-autonomous agency affiliated to the MWE, and is the agency

Institution	Roles in/links with Watershed Management
Authority (NFA)	responsible for the management of Central Forest Reserves and is also one of the three entities created following restructuring of the former Uganda Forest Department. Both the NFA and the District Forest Services (DFS) are overseen and coordinated by the FSSD. The FSSD is the technical arm of the Ministry of Water and Environment that is responsible for formulation and oversight of appropriate policies, standards, and regulations for the forestry sector. It coordinates and supervises technical support and training of district forest staff; and inspects and monitors performance in the forest sector under NFA and local governments. It is also responsible for coordinating the National Forest Plan, cross-sectoral linkages, mobilizing funds for the forest sector, and promoting public information and advocacy for the sector.
District Forest Services (DFS)	This is the District Local Government Department responsible for management of local forest reserves (LFRs) and ensuring sustainable management and conservation of forest patches on privately and communally owned lands. DFS is affiliated to the Ministry of Local Government.
National Forest Resources Research Institute (NaFORRI)	The agency responsible for undertaking forest research in Uganda including aspects related to sustainable forest management and conservation of biological diversity. NaFORRI is affiliated to the National Agricultural Research Organization (NARO) of the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF).
Climate Change Unit (CCU)	Under the Ministry of Water and Environment, this unit is responsible for coordination climate change activities in Uganda.
Ministry of Local Government	Establish, develop and facilitate the management of efficient and effective decentralized government systems capable of delivering the required services to the local people.
Ministry of Agriculture, Animal Industries and Fisheries (MAAIF)	Planning, coordination and implementation of all agriculture development in the country including irrigation development, aquaculture, and livestock development.
Local Governments	Responsible for the provision and management of water and sanitation services in rural areas and urban areas outside the jurisdiction of NWSC, in liaison with DWD;
User Communities	Planning, implementation and operation and maintenance of the rural water and sanitation facilities. User communities are also obliged to pay for urban water and sanitation services provided by NWSC and other service providers
Ministry of Energy and Mineral Development	Responsible for implementation for the Energy Policy and renewable energy development. Also responsible for safe environmental management of mining activities.

Table 15: Key Ugandan NGOs with Links to Watershed Management in the Kagera Basin

Organization	Roles in/links with Watershed Management
Appropriate Revival Initiatives for Strategic Empowerment (ARISE)	Health, Education, Environmental Management
Community Development Initiative	Wetland management, Income generating activities
Green the Savannas	Tree planting in Schools, Village Banking, Income Generating projects, Social Research
Kabale Civil Society Forum	Capacity building for member organizations, Lobbying and advocacy, Influencing policy, Sensitization and rights awareness
Kakuuto Community Development Project (KACODEP)	Environmental management, Capacity Building, Agricultural promotion
Katooma Peer Group Cooperative (KAPCO)	Afforestation, Tree planting, Wetland Conservation
Lake Nyabihoko Community Wetland Women's Group	Environmental conservation, Water resource management, Wetland conservation, Tree planting
Mirama Hills Rural Development Scheme	Tree planting, rain water harvesting, Women empowerment, Environmental conservation, Poverty eradication
Nature Uganda	Research, Membership recruitment, Advocacy for conservation of nature
Ngoma Environment Protection Organization	Tree planting, construction of energy-saving stoves
Ntungamo Environmental Conservation Management (NECOM)	Sensitizing communities on environmental protection, Forming and supporting environmental clubs and committees at lower levels/grassroots, Planting of trees on bare lands
Centre For Participatory Research and Development (CEPARD)	Capacity building for member organizations, afforestation, lobbying and advocacy, Influencing policy, Sensitization and rights awareness
Uganda Forest Working Group	Forestry extension, management of private natural forests, forest policy dissemination, skills capacity building

1.5 Watershed Management in the Kagera Basin

1.5.1 Integrated Water Resource Management

Watershed management is the process of creating and implementing plans, programs, and projects to sustain and enhance watershed functions that affect the plant, animal, and human communities within a watershed boundary. Features of a watershed that agencies seek to manage include water supply, water quality, drainage, storm water runoff, water rights, and the overall planning and utilization of watersheds. Landowners, land use agencies, storm water management experts, environmental specialists, water use purveyors and communities all play an integral part in the management of a watershed (Wikipedia, 2011). Watershed management can equally be referred to as Integrated Water Resource Management (IWRM).

IWRM is defined in the forward by the Global Water Partnership (GWP, 2000) as *“A process that promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.”* GWP argues that IWRM is not an end in itself but rather a means of achieving three key strategic objectives:

- *Efficiency, since, given scarcity of resources (natural, financial and human), it is important to attempt to maximize the economic and social welfare derived not only from the water resources base but also from investments in water services provision.*
- *Equity in the allocation of scarce water resources and services across different economic and social groups is vital to reduce conflict and promote socially sustainable development.*
- *Environmental sustainability, as ultimately all attempts at water management reform will fail if the water resources base and associated ecosystems continue to be regarded as infinitely robust and we continue to put at risk ‘the water system that we depend on for our survival’ (World Water Commission 2000)*

In terms of IWRM, the Global Water Partnership provides clear guidance and examples in key areas:

Enabling Environment:

- Policies – setting goals for water use and conservation, which define clear objectives and situate them within the context of national policy goals. In the case of the Kagera Basin States this means assessing the current situation in terms of basin management and identifying feasible steps toward improvement.
- Legislative Framework – the rules to follow to achieve policy goals covering permits to use water, transferability of permits and customary entitlements.
- Financing and Incentive Structures – allocating financial resources to meet water needs which often require major capital intensive investment. One of the accepted maxims for water management is “water pays for water” which means adjusting tariffs for water service to meet this objective.

Institutional Roles:

- Creating an Organizational Framework – the forms and functions of which should interrelate with other national institutions and transboundary organizations, regulatory bodies and civil society. This is very much an activity within the context of this project and is outlined in this chapter.
- Institutional Capacity Building – developing human resources in the field of water management and regulation and also awareness in civil society.

Management Instruments:

- Water resources assessment – understanding resources and needs requires monitoring, collecting and disseminating hydrological, hydrogeological, demographic and socio-economic data. This is a complex process involving as a starting point natural availability of surface and groundwater but including aspects such as variability within seasons and from year to year. Assessing demands involves analysis of water use for domestic water supply, industry and agriculture but investigating components such as population growth and trends in per capita water consumption or agricultural development and alternative irrigation methods.
- Plans for IWRM – combining development options, resource use and human interaction in a comprehensively modelled management structure.
- Demand management – using water more efficiently can delay or obviate the need to develop new resources. To some extent this is related to the following sets of instruments which different mechanisms to encourage or impose reduction in waste water.
- Social change instruments – encouraging a water-oriented civil society through education and transparency. This is an area where public and stakeholder participation in basin management has a role to play.
- Regulatory instruments – allocation and water use limits are the key to ensuring service provision, water quality and resource protection. This applies to a range of regulations related to permitting the use of water, the discharge of water and measurement of quantity and quality.
- Economic Instruments – using value and prices for efficiency and equity and other market based measures that can complement regulatory instruments. This can be more than charging higher rates and can include block tariffs to enable everyone to get a supply of water to meet basin hygiene requirements but with higher water rates for additional water use.
- Information Management and Exchange – improving knowledge for better water management with efficient data sharing and openness. At one level this involves developing efficient and secure data management systems to enable water managers to function effectively but also in the sharing of data with civil society, NGOs, academia and the public.
- Conflict resolution – managing disputes on sharing of water has obvious application to transboundary resources but can also be important in a national context.

The regional (and national) institutional framework for watershed management will undoubtedly have to be streamlined to meet the future challenges of effective integrated water resources planning and management, and the roles and responsibilities of the different stakeholders will have to be clearly defined so as to ensure the participation of stakeholders.

It is recommended that provision be made within the national regulatory frameworks for water resources to allow for the integrated management of land and water within a river basin. Policy instruments are required such that control can be exercised also over land in recognition of hydrological impact. The capacity on the basin States for implementation of this approach is currently limited and there is an urgent need to develop the necessary management tools. It is evident from our studies on watershed characterization that the baseline represented by the 'natural' condition of the river basin is lacking in all Basin States.

The role of governments will need to change from that of a service provider to that of coordination, policy and guideline formulation, and regulation. Consequently, the institutional framework will have to involve organizations at different levels and promote financial sustainability and autonomy at the basin level. The framework will also need to broaden stakeholder participation at the different levels. In the future, in order to introduce an

integrated approach to water resources management, new lean institutions will need to be created alongside basin offices in the main catchments areas, in charge of issuing water rights and performing water resources monitoring.

The main watershed functions and responsibilities on a Basin level are:

- Preparation and supervision of national policies and strategies.
- Representation of cross-sectoral interests.
- Supervision of central laboratory units.
- Supervision of water resources, agriculture, land and forestry Institutes.
- Supervision of dam construction agencies and dam safety
- Sectoral co-ordination, monitoring and evaluation.
- Policy development and review, including legislation and financing.
- Formulation of technical standards and watershed management guidelines.
- Transboundary issues.
- Inter-sectoral planning.
- Resolution of inter-sectoral / inter-basin conflicts.
- Supervision and co-ordination of data collection and resource assessment.

The watershed functions and responsibilities on the Basin and Sub-Catchment (sub-watershed) levels would be as follows:

- Data collection, processing and analysis for WRM monitoring.
- Technical aspects of transboundary issues in the basin.
- Co-ordination and approval of basin planning /budgets.
- Approval, issuance and revocation of water rights and discharge permits.
- Enforcement of water rights and pollution control measures.
- Co-operation between sectors at the local level.
- Resolution of conflicts and co-ordination with stakeholders.

The current Institutional Framework for Water Watershed Management within the Kagera Basin states is inadequate in meeting the challenges of effective management of the resources and in providing an adequate mechanism for effective consultation and consensus building, and participation of stakeholders in the planning, design, operations, and management decision-making process.

A number of different government departments or agencies in each of the four basin states deal with various aspects of natural resources management according to their own mandates or needs, and also their own legislative provisions, with little integration towards holistic basin-wide planning and management. In addition to this multiplicity of organizations, effective integrated water resources management is further constrained by limitations in the technical, human and financial capacities in these national organizations.

1.5.2 Issues of Importance Related to Watershed Management in the Kagera

It is clear from the review of the institutions involved and the current legislation in each of the Basin States that (integrated) watershed management does not take place in a coordinated fashion, either on a national or regional scale. However, all Basin States appear active with regard to environmentally sustainable development issues. The legislative and policy framework for environment and natural resources management is fairly well developed in all

States, and, to a more or lesser degree, there are legal provisions for decentralized and local management of natural resources.

At all national levels, there is institutional recognition of the relationship between poverty and environment and water. However, in all cases, implementation of the policy and legal frameworks lag far behind with the resultant inevitable mismanagement of the natural resources sectors. Lack of financial resources and capacity are also major obstacles to the implementation of the policy and legal framework for sustainable management of natural resources.

The major issues causing the lag of implementation of policy and legal frameworks for watershed management are defined as follows:

Transboundary Level

- The existing institutional framework in each Basin State lacks strong river/lake basin management authorities, catchment boards or similar bodies to manage and regulate transboundary water resources. The Water Policies in the Basin States did not envisage the creation of such bodies to manage and regulate transboundary water resources issues posed by river/lake basins.
- National policies on transboundary management insufficient; there is a need to expand on the following: diversion and utilization of water resources; revision of existing accords and treaties related to international waters; protection of the environment surrounding the upstream basin; preservation of water quality for use downstream; questions on water sale; plans for data management and information communication including available decision support systems; an adequate framework of cooperation acceptable to all; cooperation principles in case of national disasters, inter-state conflicts.

National Level

- Water policies are weak in (i) compelling compliance from staff from different sectors whose operations have an impact on management of water resources, and (ii) in prioritizing water issues with other sectors, i.e. Need to balance concurrent demands (for domestic, agricultural, industrial, energy and environmental); sustainable management requires integrated decision-making taking account of the interdependence of these sector
- Competition between departments and overlapping control and regulatory responsibility; Little inter-sectoral collaboration; Better coordination required vertically and horizontally; Weak management capacity and need for staff training; Lack of coordination and competition between institutions; Lack of qualified personnel, basic financing and equipment; Lack of technical knowledge at higher levels; Training of experts, technicians and other professionals, as well as rehabilitation of data acquisition networks is required; Scattered information and data on the sector
- Confusion between management and resource exploitation roles generates 'competence conflict'

District Level and Below

- Insufficient consultation among partners in the sector
- Further the inclusion of the partners/institutions actively involved in the management of water resources in the country include NGOs (local & international), the private sector and other institutions

- Need to integrate some aspects of water and natural resource management within community initiatives and under village level administrative arrangements; where the case, communities are organized into user groups.
- Need to recognize that all interest groups including private sector organizations and NGOs will be engaged in partnership with the government at an operational level
- Currently, the private sector has only been used in contracted implementation roles

Local access to and sharing of benefits from natural resources are key issues for both poverty reduction and environmental protection. There is however very limited capacity in each of the Basin States at district, province and local levels to assume the responsibility of sustainable natural resources (watershed) management. The Local Government Reform processes entail a fairly far-reaching decentralization of planning and implementation to the Districts, Municipalities, Towns and Cities. However, at this level, in most cases, no specific provision has yet been made to stimulate a pro-active and sustainable management of natural resources.

Since the success of environmental (watershed) management depends on the involvement of local people, a situation where management of the watershed resources is primarily in the hands of policy makers, legislators and administrators, with minimal involvement of the local people at district level and below, will result in only one fact: continued degradation of the environment.

Future environmental programs (interventions) should ensure that local people benefit from such programs. In addition, they must be empowered to undertake environmental management tasks through participatory approaches at the local levels. Environmental programs should be tailored in a way that local people get immediate economic benefits by engaging themselves in conservation efforts. There is little evidence from this review that participatory approaches have been effectively implemented.

It is therefore recommended that the impetus of future local government reforms in each of the basin States should be geared towards effective devolution of powers, clarification of mandates and giving ownership and access to natural resources as pre-requisites for empowering local governments to manage the environment and natural resources. Local governments should be allowed to hire and fire their own staff, plan their conservation programs, control natural resources situated in their geographical boundaries and generate revenues from planned and sustainable utilization of natural resources in their areas.

The governments should also consider the need to involve and strengthen the participation of the private sector, NGOs and CBOs in the management of environment. The process of registration and regulation of NGOs and CBOs should also be devolved to the local level. By encouraging the formation of NGOs and CBOs, plus the participation of the private sector in conservation efforts, the role of local governments in conservation of natural resources and the environment will be achievable and highly successful. Table 16 a, b, c and d summarises the implications of the various laws and policies on the KIWMP in each of the countries.

Table 16a: Policy and legislation impacts on KIWMP in Burundi

Policy and Legislation in Burundi			
Document	Description	Impacts	Implied changes / actions
Environmental: General			
National Environmental Strategy (2000)	Provides for capacity building of the Ministry in charge of Environment (MWETAUP), the improvement of intersectional coordination for better management of environment for sustainable development, the adoption of a participative approach and principles of good environmental management in the planning.	Provides strong enabling framework for all projects	Projects will collaborate with ministry and exchange information, where possible projects will contribute to Strategy revisions
Environmental Code (Law No. 1/010 of June 30, 2000 on the Environmental Code in Burundi)	This sets the fundamental rules intended to enable the environmental management and protection against all forms of degradation so as to safeguard and promote the rational exploitation of natural resources, fight against pollution, and improve the population's living conditions in respect of the balance of ecosystems.	All projects should familiarize themselves with this legislation	Potential compliance issues may arise, these will need to be analysed and mitigated. Projects will establish best practices with respect to the legislation and work closely with relevant government departments
Poverty Reduction Strategy 2006	The vision of the strategy is medium- and long-term development of Burundi for the reduction of poverty. The PRSP's most pertinent points are the re-launching of agriculture, livestock, fisheries, and fish farming and the improvement of environment protection	Provides enabling framework for all projects. PRSP's most pertinent points are the re-launching of agriculture, livestock, fisheries, and fish farming and the improvement of environment protection.	Direct relevance to BW-02 & B-03.
National Action Plan for Adaptation (2007)	The plan identified important adaptation	Provides enabling framework	Relevant to all projects, hence projects should be

	needs and provides relevant solutions for adaptation		familiar with this plan
National Biodiversity Strategy and Plan (NBSAP) (2000)	Gives orientations on conservation of biodiversity, sustainable use of biological resources, equitable sharing of responsibilities, and benefits in the management of biodiversity, biotechnology, education and public awareness, training and research, studies of impacts and reducing harmful effects, cooperation, and information exchange	Direct relevance to most projects, specific attention is paid to conservation and impact in all projects. Awareness and training packages are provided.	Impact monitoring with respect to use of species are especially important in B-01 & B-02.
Land Management			
National Strategy of Sustainable Land Use (2007)	Provides strategic orientations for land use to serve as a coherent framework for future instruments of planning and sector actions based on the territory	As a non-binding instrument, projects will follow this guidance to the extent possible.	Project designs will align with this strategy and inform and support government in the event of binding instruments being developed.
National Land Policy Letter (2008)	Identifies four government priorities: (1) amendment of land legislation and modernization of land administration services; (2) restructuring and modernization of administrative bodies responsible for land management; (3) decentralization of land administration; and (4) inventory of state lands	Although non-binding this policy has significant positive impact on most projects as regards land tenure.	Projects will work alongside government to support this policy through data and information exchange.
Land Code (2011)	Aimed at the best optimal organization and exploitation of space, the creation and development of urban areas	This code will have significant impact upon land tenure issues	Projects will remain aware of developments in the land code especially regarding land tenure changes should it be enacted.
Water Resources and Wetlands			
National Water Policy 2009	This policy also gives strategic directions for the proper management regarding good governance in water, water-related disaster	Provides enabling framework and overall guidance.	It is likely that as pressure on resources increases, stress between users and sectors will be encountered. This may

	management, and integrated water management, drinking water and basic sanitation, water for socio-economic development, and the environmental resources management sector		test the policy and so projects should work alongside government to interpret and update the policy. Water licensing issues will be a specific consideration of BW-01.
Fisheries law	Dates from 1937, but was amended in 1957 and 1960	Relevant to BW-02	Project will ensure compliance with legislation
Water Code, (Décret n° 1/41 du 26 novembre 1992 portant institution et organisation du domaine public hydraulique)	Governs the country's water resources. Burundi's water is within the public domain, and the Water Code governs rights of access to groundwater, lakes and watercourses, as well as the distribution of drinking water	Direct relevance to BW-01, BW-02 & BW-03	Those projects will work closely with government to ensure compliance and also share information and knowledge outputs.
Decree No. 100/072 of 21 April 1997	Delineated responsibilities for water distribution and management between the DGHER and REGIDESO	Limited impact	
Law No. 1/014	Sets out a framework to support private sector engagement in the provision of drinking water and energy	Limited impact	
Public Health Code: Order in Council No. 1/16 of 17 May 1982	Requires that all projects relating to water catchment have the prior authorization of the Minister in charge of health	Basic compliance requirement	All projects will comply as appropriate
Ramsar Convention	Ratified by Burundi in 1997	Relevant to BW-01, BW-02 & BW-03	All projects are designed as RAMSAR compliant
Forestry			
Forestry Code (Act No. 1/02 of 25 March 1985)	Govern the types, allocation, and use of forestry resources	Limited impact, but B-01 and B-02 are designed to be compliant	B-01 and B-02 are to remain informed of this legislation especially where applicable with regard to use of species and protection of forest reserves.
Decree No. 100/188 of 5 October 1989	Decree No. 100/47 of 3 March 1980 established INECN, taking its current name in 1989	n/a	
Other			

Energy Policy 2006	Currently being updated based on the Energy Strategy and Action Plan	n/a	
Mining and Petroleum Act of 1976 (amended 1982) Decree Law No. 1/41 of 26 November 1992 on the	The primary law governing allocation and use of mineral resources.	n/a	
Decree Law No. 1/41 of 26 November 1992	Organization of Public Hydraulics; regulations to the 1976 Mining and Petroleum Act; and Revision to the Investment Code of Burundi, 6 September 1967	n/a	
Gender	<p>Gender Inequality Index 89 out of 146 countries, Constitution reserves 30% of National Assembly, Senate, and ministerial positions for women.</p> <p>Signatory to CEDAW and Protocol. Code of Person and Family modified in 1993. Men and women in Burundi have the same legal position in matters related to contracts and the administration of property. However, Customary laws provide that women cannot inherit land from their fathers or husbands. In 2005 women were receiving up to 35 per cent of loans from commercial banks</p>	Potential for gender balance in land ownership / tenure	Projects will address land tenure generically as necessary in ensuring sustainable management practices

Table 16b: Policy and legislation impacts on KIWMP in Rwanda

Policy and Legislation in Rwanda			
Document	Description	Impacts	Implied changes / actions
Environmental: General			
National Environment Policy (2003)	Stipulates the utilization of natural resources and the protection and rational management of ecosystems for sustainable and fair development	Provides guidance and framework for all projects	Projects will work with government to interpret and update the policy as necessary
National Strategy and Action Plan for the Conservation of Biodiversity (2003)	Develops national strategies, plans or programs for the conservation and sustainable use of biological diversity; Integrates the conservation and sustainable use of biological diversity into relevant sectoral and cross-sectoral plans, programs and policies	As a non-binding instrument, projects have been designed to be in line with policy.	Projects will collaborate with government in the event of policy revisions.
Law No. 16/2006	Established REMA and delineated its organization, operation and responsibilities	n/a	
National Policy of Decentralization (2006)	Recreated districts, sectors and cells to include environmental officers within the district organogram to help with planning and coordination of environmental activities in the districts. First time in Rwanda's history to have explicit environmental officers at subnational levels.	Projects designed in line with decentralization and this is linked to IWRM approach.	Projects will increasingly work through decentralized structures as appropriate.
National Wildlife Policy (2007)	Provides for mechanisms to protect wildlife, including regulatory instruments for hunting and collection of specimens. Wildlife outside protected areas is not explicitly provided for	Restricted application.	Ramsar basis for wetland project design addresses relevant issues
Land Management			
National Land Policy (2004)	Stipulates the appropriate land administration system as a key of land tenure security by providing the	Increases security and equality of tenure	As appropriate projects will follow policy.

Policy and Legislation in Rwanda			
Document	Description	Impacts	Implied changes / actions
	possibility of registering and transferring land and also the possibility of investment in land		
National Agricultural Policy 2004	Contributes in a sustainable manner to poverty reduction through increased and diversified households' incomes, and to support Rwanda's economic growth while ensuring food security for the entire population	Relevant to all projects	Project will maintain awareness of policy
Organic Law N° 04/2005 on protection, conservation and promotion of the environment	Stipulates the modalities of protecting, safeguarding and promoting the environment	Specific relevance to projects	Projects will maintain awareness and compliance with law
Organic Law N° 08/2005 on the use and management of land	Determines the use and management of land in Rwanda and institutes principles on land legal rights. Recognizes private ownership, both customary and legal, of most hillside areas. Previously, all land belonged to the State, making it illegal to buy and sell land and any required expropriation would result in users of land being compensated for assets lost at a fixed rate. As a result, there have been serious shortcomings in the national processes associated with land expropriation, resettlement and associated compensation payments.	Of critical importance to land owners in project areas	Projects will provide information as appropriate to land owners in collaboration with government
Presidential Order N° 54/01 on land commissions (2006)	Determines the structure, responsibilities, functioning and composition of Land Commissions	Not directly relevant	
Ministerial Order N° 01/2006 on land registers	Determines the structure of land registers, responsibilities and functioning of the District Land Bureau	Not directly relevant	
Land Expropriation Law N°	Determines the procedures relation to expropriation in the public interest	Not directly relevant	

Policy and Legislation in Rwanda			
Document	Description	Impacts	Implied changes / actions
18/2007			
Guidelines and Procedure for Environmental Impact Assessment (EIA)	Developed to operationalize the provisions of the Organic Law to make EIA mandatory for all development projects		ESMF and World Bank safeguards have been determined with respect to EIA requirements
Law N° 14/2003	Stipulates quality control and commercialization of plant seeds	Relevant to R-01	R-01 will ensure compliance
Water Resources and Wetlands			
National Water Resources Management Policy (1998)	Single national policy on water Management under the auspice of MINIAGRI. Does not mention new principles of water and transboundary water management. Regionally, policy only talks about 'international co-operation' (in larger river basins). Water described as an economic asset is sensitive; it is necessary to balance water for basic needs of the poor and water priced reasonably for agricultural and industrial use.	Short falls in policy may become apparent through work of projects	Potential to contribute to revision of policy
Sector-specific Environmental Impact Assessment (EIA) Guidelines (2008)	Developed to operationalize the provisions of the Organic Law for water resources and wetlands management; wastewater treatment; hydropower development; housing and roads infrastructure		ESMF and World Bank safeguards have been determined with respect to EIA requirements
National Policy on Water and Sanitation (2004)	Inventory and integrated management of water resources including watershed protection; expansion of water supply and sanitation infrastructure to increase access to potable water; water for livestock and agricultural production; water resources governance including decentralization, community participation and privatization; capacity building. Policy implementation has,	Projects – particularly RW-01 and RW-02 will make a direct contribution to implementation of this policy	Close collaboration with government will be maintained by projects

Policy and Legislation in Rwanda			
Document	Description	Impacts	Implied changes / actions
	however, been hampered by lack of a strong legal framework and weak institutional and human resource capacities.		
Fisheries Law (2008)	Three types of fishing governed by law: fishing as a sport or leisure activity; commercial fishing, and scientific fishing, to study and advance the knowledge of fish and aquaculture resources.	R-03 will make a direct contribution to compliance as applicable	R-03 will maintain an awareness of this law and ensure compliance
Water and Wetlands Policy	Previous wetlands policy shelved pending detailed inventory and categorization of wetlands for production and protection	Projects RW-01, RW-02 & RW-03 will make a direct contribute to the knowledge required to update this policy	Projects to maintain communication with government regarding policy update and exchange information.
Forestry			
Instruction N° 01/2003	Ban of cutting trees before maturity. Requires the permit of the district mayor	Projects will be compliant	
Instruction N° 0001/2004	Ban of fuel wood use in making brick and tiles (not yet a formal law)	Projects will be compliant	
Instruction N° 001/2006	Authorizations required for cutting and transporting trees at maturity	Projects will be compliant	
National Forestry Policy	Established Provincial Forest Commission to promote and oversee forestry activities that meet, on a sustainable basis, the population's needs for wood and other forest products and services. The main targets are forest cover to comprise at least 30 per cent of the national territory and to have at least 85 per cent of farmland under agro-forestry by 2020. To replace current Forest Law, No. 47/88 of 1988	R-01 and r-02 will make a direct contribution for following guidance of policy	Projects will maintain awareness of policy
Energy			
National Energy Policy and National Energy	Update of the 2004 Energy Statement. Includes long term strategy with a greater	n/a	

Policy and Legislation in Rwanda			
Document	Description	Impacts	Implied changes / actions
Strategy 2008-2012	focus on household requirements, renewables and gender.		
Poverty			
EDPRS 2007-2012	Represents a rapid departure from the PRSP, which focused on social sectors (health, education, water and sanitation), by giving greater priority to economic growth sectors, hence economic development and poverty reduction. The rationale for the shift was that focusing on social sectors was not sustainable without generating an economic growth to support them	Emphasis on economic growth sectors	Projects will remain alert to social conditions through application of the ESMF
Gender			
	<p>2011 Gender Inequality Index is 82nd out of 146 countries. In 2008, Rwanda became first country to have more female than male MP's Parliament (56 %). Rwanda signatory to CEDAW and Protocol. ratified in 1981, and the Optional Protocol in 2008 and was one of the first countries to ratify the Protocol to the African Charter on the Rights of Women in Africa</p> <p>1999 Inheritance Law established legal rights for the inheritance of land and other property, the 2005 Organic Land Law abolished customary law where it governed land rights. The 2005 Inheritance Law also encourages long tenure security through long-term (99 year) leases and land registration, and is actively encouraging joint titling of land.</p>	Improved security of land tenure and transfer	Projects will demonstrate active support for gender equality.

Table 16c: Policy and legislation impacts on KIWMP in Tanzania

Policy and Legislation in Tanzania			
Document	Description	Impacts	Implied Changes / Actions
Environmental: General			
National Environmental Policy 1997	Provides coordination to the implementation of environmental policy and programs, promoting environmental awareness; information generation, assembly and dissemination on the environment relating to district, ward or village	Provides enabling framework for all projects	Projects will maintain awareness of policy
National Environmental Management Act, No 19 of 1983, revised in 2004	Established NEMC. Provides a code of supporting legislation to enable effective environmental management.	Limited relevance	
Land Management			
Agricultural Policy 1996	Promotes integrated and sustainable use and management of natural resources	Specific relevance to t-01, T-03, TW-01 & TW-02	Projects will maintain awareness of policy and follow guidance
National Land Policy 1995, amended 1999	Promotes and ensure wise use of land, guide allocations, prevent degradation and resolve conflicts. On the issues related to environmental management	As above	As above
Local (District and Urban) Authorities Act, No. 7 of 1982	Local Authorities are empowered to make by-laws regarding the protection of soil, agriculture, water supplies and other natural resources. The Act contains provisions to protect human health and regulate pollution problems.)	As above	As above
Village Land Act, No 5 of 1999	The Act requires each village to identify and register all communal land, and obtains the approval of all members of the village for this identification and registration (Village Assembly, Section 13). A Register of Communal Land (Section 13(6)) is to be	Improved security of land tenure and transfer	Projects will demonstrate active support for gender equality.

Policy and Legislation in Tanzania			
Document	Description	Impacts	Implied Changes / Actions
	maintained by each Village Land Council, and land cannot be allocated to individuals, families, groups for private ownership (Section 12(1) a.		
Land Act, No 4 of 1999	Private Group Property is given either through Granted Rights in General and Reserved Land (Land Act, Section 19) or through Customary Rights in Village Lands (Village Land Act, Section 22). Provision is also made for holding land by joint occupancy or occupancy in common (Land Act, Part XIII).	Improved security of land tenure and transfer	Projects will demonstrate active support for gender equality.
Town & Country Planning Ordinance, 1966, Cap. 378	The Ordinance was intended to establish a land-use planning scheme for designated areas. The National Land Use Planning Commission was established to advise Government on land conservation and development.	As appropriate, project will collaborate	
Water Resources and Wetlands			
National Water Policy 2002	Provides a comprehensive framework for sustainable development and management of the nations' water resources	Provides enabling framework for all projects	Projects will maintain awareness of policy
National Water Sector Development Strategy (NWSDS)	Provides a coherent, holistic and integrated strategy for the Water Sector in place in order to implement the National Water Policy	Provides enabling framework for all projects	Projects will maintain awareness of strategy
Urban Water Supply Act, No. 7 of 1981	The Act gives the National Urban Water Authority powers to monitor and control surface water and groundwater pollution and specifies when such pollution is a punishable offence.	N/a	
Public Health, Sewerage and Drainage	The Ordinance prohibits the discharge of certain substances into sewers.	N/a	

Policy and Legislation in Tanzania			
Document	Description	Impacts	Implied Changes / Actions
Ordinance, Chapter 336. National Irrigation Policy			
Water Utilization (Control & Regulation) Act, No 42 of 1974 as amended in 1981 and 1997	The Act establishes temporary standards for receiving waters, as well as effluent discharge standards	Compliance is required	As appropriate projects will promote and inform on compliance
Fisheries Act, No 22 of 2003			
National Fisheries Sector Policy and Strategy Statement, 1997		Relevant to TW-03	TW-03 will maintain awareness of the statement
Forestry			
Forestry Policy, 1998	The revised Policy continues to recognize the important role of forests in the maintenance of the environment, the provision of forestry products, and the protection of watersheds and biodiversity.	Relevant to T-01 and TW-01	T-01 and TW-01 will maintain awareness of policy and follow guidance
Forest Act, No 14 of 2002		Relevant to T-01 and TW-01	Projects will pursue compliance as appropriate
Other			
Natural Resources Ordinance	The Ordinance created the Natural Resources Board, which is charged with the responsibility of supervising the use and/or exploitation of natural resources.	Limited impact	
Mining Act, No 5 of 1998 and Regulations of 1999	The Act sets out government policy on all forms of mining and is supported by various regulations covering claims, prospecting rights, mining rights and royalties. Mining license applicants are required to submit programs for environmental protection. Each industry is required to establish realistic resource recovery standards and to adhere to them. Mining plans are	n/a	

Policy and Legislation in Tanzania			
Document	Description	Impacts	Implied Changes / Actions
	required to be presented before operations begin.		
Energy Policy 1992, revised 2003	Ensures affordable and reliable energy supplies in the whole country; Reform the market for energy services; Enhance the development and utilization of indigenous and renewable energy sources and technologies; take into account environmental considerations for all energy activities; Increase energy education and build gender-balanced capacity in energy planning, implementation and monitoring	n/a	
NSGRP II or MKUKUTA II	MKUKUTA II emphasis is <i>inter alia</i> on projects and programmes in key priority growth and poverty reduction sectors; (ii) strengthening evidence based planning and resource allocation in the priority interventions; (iii) aligning strategic plans of Ministries, Departments and Agencies (MDAs) and Local Government Authorities (LGAs) to this strategy; (iv) strengthening government's and national implementation capacity; (v) scaling up the role and participation of the private sector in priority areas of growth and poverty reduction; (vi) improving human resources capacity, in terms of skills, knowledge, and efficient deployment; (vii) fostering changes in mind-set toward hard work, patriotism, and self-reliance; (viii) mainstreaming cross cutting issues in MDAs and LGAs processes; (ix) strengthening the monitoring and reporting systems; and (x) better implementation of core	Projects are aligned with strategic direction	Projects will maintain awareness of the policy and will collaborate and promote with relevant stakeholders

Policy and Legislation in Tanzania			
Document	Description	Impacts	Implied Changes / Actions
Gender	<p>reforms, including further improvement of public financial management systems.</p> <p>Gender Inequality Index 119th / 146 countries. Signatory to CEDAW and Protocol. 36% of Parliamentarians are female – 5th highest globally.</p> <p>TZ 1999 land and village land Act- The right of every woman to acquire, hold, use, and deal with land same as for men including representation, also applicable to customary law. Some conflict of law with Marriage Act where these rights are restricted.</p>	Improved security of land tenure and transfer	Projects will demonstrate active support for gender equality.

Table 16d: Policy and legislation impacts on KIWMP in Uganda

Policy and Legislation in Uganda			
Document	Description	Impacts	Implied Changes
Environmental: General			
National Environment Management Policy 1994	Provides the foundation in which the subsequent policies, laws and strategies for sustainable development are anchored	Provides enabling framework for all projects	Projects will maintain awareness of policy
The National Environment Statute (1995)	This provides the framework for coordinated and sound management of the environment including environmental impact assessment of water resources related projects and setting water quality and effluent standards		Projects will maintain awareness of statute and ensure compliance as appropriate
The National Environment Regulations 2000 (Wetlands, Riverbanks and Lakeshores Management).	This relates to Central Government or Local Governments who shall hold in trust for the people and protect wetlands, riverbanks and lakeshores for the common good of the citizens of Uganda.		Projects will maintain awareness of statute and ensure compliance as appropriate
Land Management			
The Land Act (1998)	Provides that the government holds lands in trust for the people and protects environmentally sensitive areas such as wetlands and any other lands reserved for ecological or tourist purposes for the common good of the citizens of Uganda		Projects shall maintain awareness of the Act
The Agriculture Sector Development Strategy and Investment Plan (DSIP): 2010/11-2014-15	The objectives mostly focus on increasing rural incomes and livelihoods, household food and nutrition security, agricultural factor productivity, and developing markets and value chains for agricultural products, among others	Relevant to all projects	Projects will maintain an awareness of the plan and follow its guidance

Policy and Legislation in Uganda			
Document	Description	Impacts	Implied Changes
Water Resources and Wetlands			
National Water Policy (NWP) 1999	Promotes the principles of integrated water resources management as a means to ensuring adopted in 1999, provides the overall policy framework for the water sector	Relevant to all projects	Projects will maintain an awareness of the policy plan and follow its guidance
The Water Statute (1995)	This provides the legal framework for the use, protection and management of water resources and water supply	Relevant to all projects	Projects will maintain an awareness of the Statute and pursue compliance as necessary
The National Policy for the Conservation and Management of Wetland Resources (1995)	It aims to maintain the functions and values of wetlands, promoting the integration of wetlands into decision making processes and sectoral planning. Other goals include: establishing the principles under which wetlands can be optimally used and their productivity maintained in future, ending exploitive practices in wetlands and maintaining biodiversity in natural and semi-natural wetlands.	Relevant to UW-01, UW-02 & UW-03	Projects will follow guidance of Policy
The Wetlands Sector Strategic Plan (2011)	Contains eight strategic objectives: increase knowledge about wetlands; raise awareness; construct decentralized institutions for wetland management; develop appropriate legal and policy instruments; manage wetlands sustainably, including transboundary wetlands; protect vital wetlands by functions and services; empower communities to manage resources through Community Based Wetland Management Plans; and win funding and resources at all management levels.	Relevant to UW-01, UW-02 & UW-03	Projects will follow guidance of plan
The National Water and Sewerage Corporation (NWSC)	This establishes the NWSC as a Water and Sewerage Authority and gives it the mandate to operate and provide water and sewerage	Limited application	

Policy and Legislation in Uganda			
Document	Description	Impacts	Implied Changes
Statute of 1995.	services in areas entrusted to it on a sound commercial and viable basis		
The Water Resources Regulations and Waste Water Discharge Regulations (1998).	This provides for the regulation of water abstraction and waste water discharge through the use of permits	Limited application	
The local Government Act (1997)	Defines roles for different levels of government in provision and management of water and sanitation related activities. The Act stipulates that provision of water and maintenance of facilities is a role of Local Governments in liaison with the Ministry responsible for Water Affairs.	Limited application	
Forestry			
The Forestry Policy (2001)	Covers the rehabilitation and conservation of forests that protect the soils and water in the country's key watersheds and river systems	Relevant to U-01, U02 & U-03	Projects will maintain awareness of policy and follow its guidance
The National Forestry And Tree Planting Act (2003)	An Act to provide for the conservation, sustainable management and development of forests for the benefit of the people of Uganda	Relevant to U-01, U02 & U-03	Projects will maintain awareness of act and pursue compliance as necessary
Other		Relevant to all projects	Projects will maintain awareness of plan and follow its guidance
The 1997 Poverty Eradication Plan	Details the water sector as a priority instrument in fighting poverty		
The Health Policy (2000)	Key priorities include support to local governments and authorities to improve sanitation and general hygiene.	Limited application	

Policy and Legislation in Uganda			
Document	Description	Impacts	Implied Changes
The Energy Policy (2002)	Policy goal to meet the energy needs of Uganda's population for social and economic development in an environmentally sustainable manner.	n/a	
Renewable Energy Policy (2007)	Implementable programs include: Power Generation (one for large hydropower schemes and one for small power schemes), Rural and Urban-poor electricity access, modern energy services, biofuels and energy efficiency	Limited application as regards bio-fuels	U-01, U02 & U-03 will maintain an awareness of the policy
The Mining Act 2003	Under EIA compliance, this Act ensure the prevention and minimization of pollution of the environment	Relevant to U-01	U-01 will collaborate and exchange information with government regarding its activities in rehabilitation
Gender			
	Gender Inequality Index 116th out of 146 countries. Signatory to CEDAW and Protocol The Land (Amendment) Act of 2004. To improves women's access to land and grants them the right to manage their property. 2006 elections, women were elected to a total of 102 seats, or nearly 30% of Parliament	Improved security of land tenure and transfer	Projects will demonstrate active support for gender equality.
The National Gender Policy (1999)	Recognizes women and children as the main carriers and users of water. It anchors the importance of gender responsiveness in terms of planning, implementation and management of water and sanitation initiatives	Relevant to all projects	Projects will maintain a gender equality aware approach

2. Outline of the institutional set-up and arrangements for project implementation

This section outlines the institutional set-up and arrangements for project implementation, including mechanisms to implement sub-projects nationally while maintaining a transboundary coordination and collaboration.

2.1 Regional (Transboundary) Institutional Set-Up and Arrangements for Watershed Management

The Nile Basin Initiative (NBI) is a transitional institutional arrangement set up in 1999 by the Nile basin countries to oversee the implementation of the Nile River Basin Action Plan pending establishment of a permanent legal and institutional framework for the Nile Basin. The NBI consists of a Nile Basin Council of Ministers responsible for water affairs (Nile COM), which is the top policy organ of the NBI; a Technical Advisory Committee (Nile TAC) comprising of two senior government technical officials to advise the Ministers; and a Nile Secretariat, which provides administrative support to the Nile COM and Nile TAC.

As fully highlighted in the recent KIRBMD strategy document (SWECO, 2010), the most recent draft Agreement on the Nile River Basin Cooperative Framework contains the following general principles to guide the protection, use, conservation and development within the four Basin States, which includes the waters of the Kagera Sub-Basin. These include the following:

- *Co-operation on the basis of sovereign equality, territorial integrity, mutual benefit and good faith;*
- *Sustainable development;*
- *Subsidiarity whereby development and protection of the River Nile Basin is planned and implemented at the lowest appropriate level;*
- *Equitable and reasonable utilization of waters of the Nile River System;*
- *The right of each Nile Basin State to use, within its territory, the waters of the Nile River Basin;*
- *Each state to take appropriate measures individually, and where appropriate jointly for the protection and conservation of the Nile River Basin and its ecosystem;*
- *Exchange of information on planned measures through the Nile Basin Commission;*
- *Regular and reciprocal exchange of relevant data and information; and*
- *Environmental impact assessment and audits.*

Rights and Obligations: Articles 4 – 14 of the Framework Agreement set out the rights and obligations of the Basin states. Each Basin state will have the following rights and obligations in relation to national projects utilizing the Basin waters:

- *The right to utilize water resources of the Nile River System and Basin in its territory in an equitable and reasonable manner;*
- *An obligation not to cause significant harm to other basin states;*
- *An obligation to take appropriate measures to protect, conserve and where necessary to rehabilitate the Nile River Basin and its eco systems;*
- *An obligation to exchange on a regular basis readily available and relevant data and information on existing measures and on the condition of water resources of the Basin;*
- *An obligation to exchange information on planned measures through the Nile Basin Commission;*

- An obligation to undertake environmental impact assessments for any planned measures that have significant adverse environmental impacts – applies to both national and transboundary projects;
- An obligation to allow affected stakeholders to participate in the planning and implementation of projects consistent with the basin – wide framework;
- An obligation to take all appropriate measures to prevent or mitigate conditions harmful to other basin states such as floods, invasive weeds, water-borne diseases, siltation, erosion, drought or desertification.

The countries of the Kagera River basin actually established a transboundary river basin organization in 1977. Unfortunately, after completing much good work in the form of numerous studies and comprehensive basin plans due complex circumstances in the region during the period, the organization was dissolved in 2004.

In the meantime, other regional institutional and legal frameworks were being created encouraging regional integration through entities linked either to the East African Community (EAC) or the Nile Basin Initiative (NBI). The Lake Victoria Basin Commission (LVBC) was created under the initiative of the EAC, and is now responsible for coordination of natural resources and environmental management, water resources management and water and sanitation. Under the NBI, the NELSAP was created to focus on the Lake Victoria basin sub-basin of the Nile River basin. NELSAP has a water resources management and development mission to facilitate the countries in joint implementation of projects in order to promote social economic development and reverse poverty.

The possible options for formalizing a stronger and more permanent cooperative institutional framework for watershed management in the Kagera River Basin have been previously analysed by BRL Ingenierie in the production of the Kagera Monograph (2008). The overall arrangement as proposed by BRL Ingenierie is depicted below in Figure 2 (Kagera Monograph, 2008).

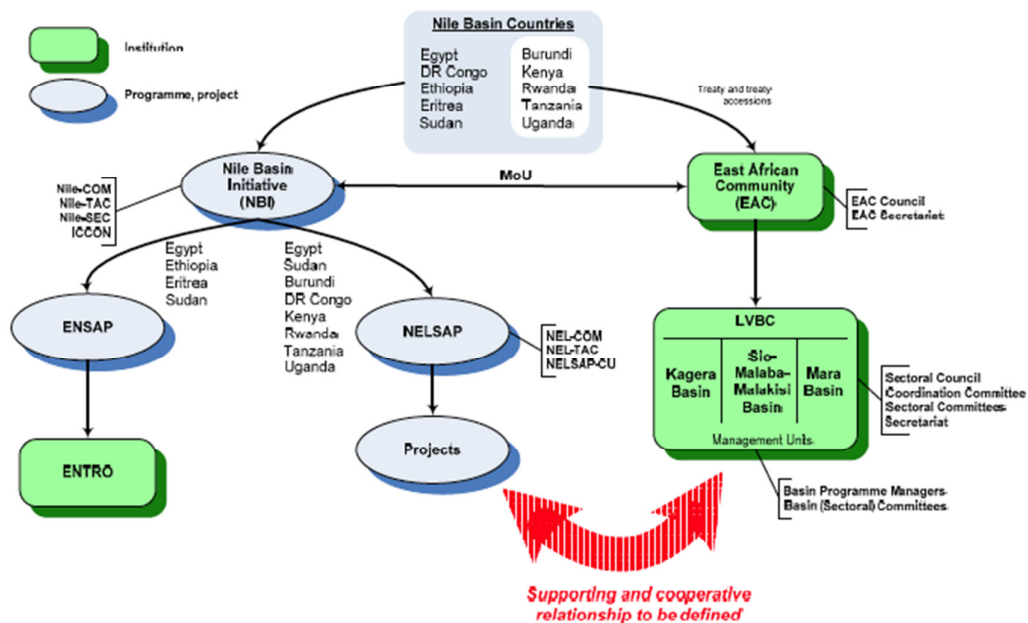


Figure 2: Regional Arrangements for Watershed Management (Kagera Monograph, 2010)

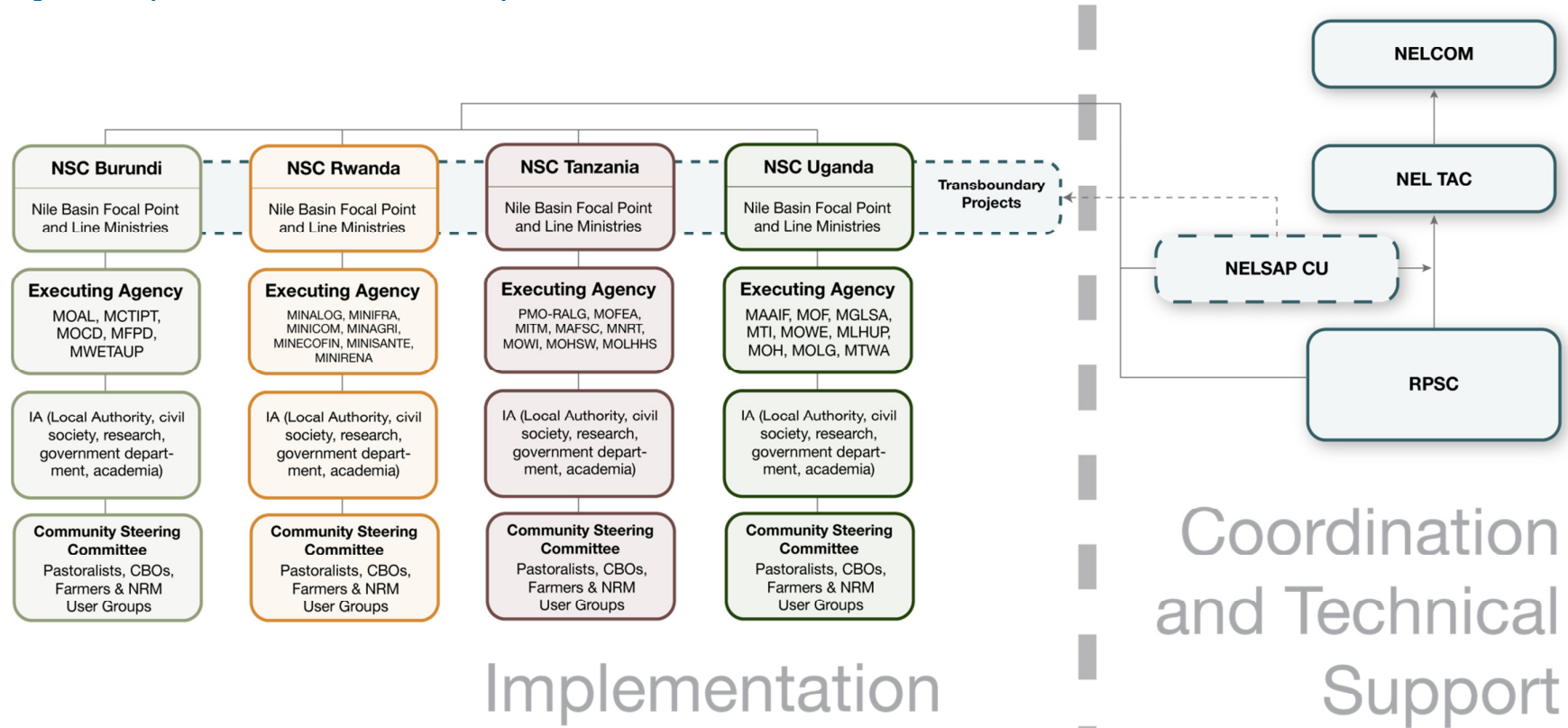
2.2 Proposed Institutional Set-Up for Project Implementation

The basis for the identification and function of watershed and wetland projects to be implemented to reduce environmental degradation in the Kagera Basin has taken the following issues into consideration:

- The projects align with NELSAP primary objectives of poverty reduction, reversal of environmental degradation and economic development.
- The projects meet the additional project selection criteria proposed by NELTAC (NELSAP, 2006): defined goals and anticipated measurable results, demonstrable benefits at a regional level, ability to be up scaled, demonstrable sustainable use of water resources, commitment to significant public consultation and stakeholder involvement, and economic and financial viability and sustainability.
- The projects complement or link with existing initiatives and programs in the Kagera basin in order to develop synergies and generate mutual beneficial outcomes.
- The projects contribute to the information base that informs management decision and provide best practice guidelines.
- The projects include awareness raising, capacity building and training initiatives - in environment generally and wetlands specifically - at all levels from national government to local community and schools.
- The projects contribute to the harmonisation of national policies, laws and institutional mandates.
- The projects have an appropriate strategy for dealing with ethical issues, such as the storage and use of stakeholders' personal information, and for ensuring that women and minority groups are represented and actively involved in project activities.

Based on (i) the outline for the regional institutional framework for watershed management in the Kagera River Basin, (ii) the proposed criteria for project function, and (iii) the need to address transboundary, national, district and community level issues, a general framework for project implementation is proposed below in Figure 3 below.

Figure 3: Proposed KIWMP Institutional Set-Up



The following functions of each body are outlined as follows:

NELSAP-CU will be the overall coordinator of the KIWMP of the watershed programme.

Their role will be:

- To mobilise resources for the implementation of the watershed programme
- To constitute/establish the Regional Steering Committee or the Kagera River Basin Management Unit. The latter was proposed in the Monograph but is yet to be established. In the event that NELSAP decides that its establishment is the way forward then it would replace the Regional Steering Committee or have the Regional Steering Committee reporting to it.
- To coordinate with LVBC who have similar mandates under the EAC in order to enhance complementarity and harmonisation of activities.
- To ensure regional coordination.
- Donor Reporting
- To facilitate lesson learning across the countries.

Regional Project Steering Committee will be directly responsible for:

- Ensuring that country programmes and the subprojects are aligned to regional policies (refer to section 9.1 and Annex E)
- Reviewing and approving all costs associated with the projects in various countries.
- Managing and resolving political and operational issues brought to their attention by the National Steering committees.
- Coordination with other projects and programs with these efforts (together with NELSAP).
- Obtaining the support and cooperation of all stakeholders in transboundary projects.
- Developing mechanisms that will deliver the transboundary projects
- Monitoring transboundary projects

National Project Steering Committee: This will be comprised of technical ministry representatives involved in the implementation of sub-projects and the NELSAP Focal Point. They will be responsible for:

- Ensuring that all project activities are aligned with national policy and legislation.
- Reviewing and approving all planned national activities planned
- Assisting in the identification of the relevant Executing Agencies.
- Obtaining the support and cooperation of all national governmental and non-governmental stakeholders in transboundary projects
- Communicating status and needs to all stakeholder agencies
- Providing information to the Regional project Steering Committee on project progress as measured against selected indicators.
- Integrate national (and district) level technical issues, advice and assessments in relation to project implementation.

Executing Agency (EA): This will be the government ministry through which donors of various projects will channel their funding. The ministry will be in charge of:

- Establishing a PMU which will coordinate all the country's sub-projects
- Contracting the implementing agencies (IAs) for the sub-projects
- Reviewing and approving sub-project work plans
- Holding regular progress meetings with the IAs

- Monitoring expenditure
- Ensuring stakeholder involvement from community level to national level
- Coordinating IAs
- Ensuring lesson learning across different sub-projects

Implementing Agency: The IA can be a government department or institution, a research institution, civil society or local authority which will be contracted by the EA, to deliver various sub-projects. They will be responsible for:

- Developing the project implementation plan
- Developing M&E systems for the sub-projects following the guidance given by the M&E framework in each sub-project fiche
- Developing participatory tools for community-level monitoring and evaluation
- Contracting service providers for the sub-projects e.g. EIA specialists where the need arises, staff, etc.
- Establishing local authority/community steering committees
- Sensitisation and mobilisation of communities and other beneficiaries
- Reporting progress to the EA on a quarterly basis
- Ensuring that district level policies and procedures and systematic communication measures are in place to obtain broad-based community inputs.
- Identifying problem areas of project implementation
- Developing a communication strategy
- Communicating status and needs to all stakeholder agencies/groups using the stakeholder engagement guide

Community Steering committee will include (CBOs, farmers, pastoralists, natural resource management user groups e.g. water user committees, community forest associations): Responsibilities will include:

- Representation of the interests of community groups in monthly progress report meetings with the IA
- Directly mobilizing resources for project implementation when required.
- Advocating the needs of marginalized communities
- Where households are involved selection of households through community based targeting.
- Involvement in the M&E of project outputs
- Giving suggestions that will enhance implementation to the IA
- Conflict management
- Capacity building and creation of awareness amongst community members
- Monitoring progress at household/community level.

Table 17: Stakeholder engagement during the implementation stage and expected outcomes

TYPE OF STAKEHOLDER	TIMING OF INVOLVEMENT	TYPE OF PARTICIPATION REQUIRED	TOOLS FOR PARTICIPATION AND COMMUNICATION	OUTCOME OF INVOLVEMENT	COMMENTS
Communities, Community based organizations, community opinion leaders.	Sub project inception, implementation and M&E	Interactive participation, functional participation, participation for material incentives and self- mobilization and active participation active role in decision making and management of watershed and wetland projects under selected CBOs.	Community meetings, focus group discussions, Exchange visits to the other riparian countries for lesson learning for lesson learning and exchange of best practice	Resource mobilization and development of community structures for project implementation and M&E phases, ownership of sub-projects	Integration of gender, vulnerable segments of the community, conflict, HIV/AIDs and other cross cutting themes will need to be factored into project design and implementation.
Umbrella civil society organisations (Nile Basin Discourse)	Biannual basis	Participation by information giving, by consultation and interactive participation with the project team	Formal meetings and representation in Kagera project national and multi-stakeholder meetings, email, social networking.	Exchange of best practice across sub projects and countries, enhanced accountability of their members	This should be done at national, transboundary and regional levels.
Private Sector Associations including water utility companies and parastatals	Quarterly, biannual or annual meetings depending on whether they are primary, secondary stakeholders	Interactive participation	Project advisory multi-stakeholder committees, Exchange visits to the other riparian countries for lesson learning and exchange of best practice	Fulfilment of private sector objectives in economic development in the various projects they support or implement	This should be done at national, transboundary and regional levels.
Local Government	Quarterly meetings	Interactive participation, functional participation, participation for material incentives and self-mobilization and active participation	Formal meetings, sub-project monitoring visits and focus group discussions with communities. Exchange visits to the other riparian countries for lesson learning and exchange of best practice	Enhanced ownership and sustainability of sub- project outcomes	Best practices in IWRM will need to be identified in the various countries so that the exchange visits are focused.
Technical Ministries	Biannual	Advisory and consensus building	Formal meetings e.g. RPSC, water sector meetings,	Contribution towards the attainment of sector plans in	It is envisaged that the sub-projects will be part

TYPE OF STAKEHOLDER	TIMING OF INVOLVEMENT	TYPE OF PARTICIPATION REQUIRED	TOOLS FOR PARTICIPATION AND COMMUNICATION	OUTCOME OF INVOLVEMENT	COMMENTS
			exchange visits to the other riparian countries for lesson learning and exchange of best practice	IWRM due to sub project activities.	of the sectoral plans of the four governments.
NATIONAL GOVERNMENT AND GOVERNMENT INSTITUTIONS	Annual		Formal meetings	Contribution towards attainment of government environment and economic development goals	It is envisaged that the IWRM Investment Plan will be part of National government plans in the four countries
REGIONAL PROJECTS	Biannual	Information exchange of best practices and lessons learnt	Formal meetings lesson learning workshops	Commitment to collaboration on similar projects or activities in the Nile Basin. Contribution towards regional environment and economic development goals	It is envisaged that the IWRM Investment Plan will be in harmony with other investment plans for the region.
REGIONAL BODIES (EAC, NBI)	Annual	Information exchange of best practices and lessons learnt	Formal meetings and lesson learning workshops	Commitment to harmonization of similar activities and donor coordination in the Nile Basin. Contribution towards regional environment and economic development goals	It is envisaged that the IWRM Investment Plan will be contribute to the goals of regional bodies.
DONORS OF KAGERA PROJECT AND OTHER DEVELOPMENT PARTNERS	Annual	Information exchange and updates of sub projects	Formal meetings	Commitment to continuation of funding for sub projects within the Kagera basin and the wider Nile basin as a whole	Donor funding for the Kagera Basin is factored into national budgets.

2.3 National Institutions Involved in Project Implementation

National Ministries and line Agencies that will be involved in project implementation, with representation on the National and Regional Steering Committees) are shown in Table 16. The list of projects types shown in Table 16 is currently generic, formed from the Kagera Monograph in 2008 and the Kagera Integrated River Basin Management and Development (KIRBMD) Strategy finalised in 2010.

Table 18: National Ministries/Agencies Required for Implementation of projects to reduce Environmental Degradation in the Kagera Basin

Project Type	Burundi	Rwanda	Tanzania	Uganda
Potable Water and sanitation	Ministry of Water, Environment, Terrestrial Administration and Urban Planning MWETAUP; The Directorate General of Rural Water and Electricity (DGHER); Régie de Production et de Distribution de l'Eau et de l'Electricité (REGIDESO)	MINIFRA (Ministry of Infrastructures); MINIRENA (Ministry of Natural Resources: Land, Forests, Environment and Mining)	Ministry of Water and Irrigation (MoWI); Directorate of Environmental Impact Assessment (DEIA)	Ministry of Water and Environment (MWE); Ministry of Health; Directorate of Water Development (DWD); National Water and Sewerage Corporation (NWSC); Water Resources Management Department (WRMD)
Soil and Water Conservation		MINIRENA (Ministry of Natural Resources: Land, Forests, Environment and Mining)	Ministry of Water and Irrigation (MoWI); Ministry of Agriculture Food Security and Cooperatives (MAFSC), Directorate of Environmental Impact Assessment (DEIA)	Water Resources Management Department (WRMD)
Irrigation and Drainage		MINIRENA (Ministry of Natural Resources: Land, Forests, Environment and Mining); MINAGRI (Ministry of Agriculture & Animal Resources)	Ministry of Water and Irrigation (MoWI); Directorate of Environmental Impact Assessment (DEIA), MASFC	Ministry of Agriculture, Animal Industries and Fisheries (MAAIF); Water Resources Management Department (WRMD)
Wetlands	Ministry of Water, Environment, Terrestrial Administration and Urban Planning, MWETAUP; Department of Soil Protection and Swamp Management; Ministry of Agriculture	MINIRENA (Ministry of Natural Resources: Land, Forests, Environment and Mining); Rwanda Environmental Management Authority (REMA)	MoWI, MAFSC.	National Environmental Management Authority (NEMA); Wetlands Management Department (WMD)
Support to Agricultural Activities		MINAGRI (Ministry of Agriculture & Animal Resources); National Land Centre (NLC); Rwanda Agricultural Development Agency (RADA); Rwanda Animal Resources Development Agency (RARDA); Rwanda Horticultural	MoWI, MAFSC.	Ministry of Agriculture, Animal Industries and Fisheries (MAAIF); Water Resources Management Department (WRMD)

Project Type	Burundi	Rwanda	Tanzania	Uganda
Forestry	MWETAUP, INECN	Development Agency (RHoDA) Ministry of Natural Resources: Land, Forests, Environment and Mining MINIRENA, National Land Centre (NLC); National Forestry Authority (RNRA)	Ministry of Natural Resources and Tourism: Forestry Division; The Tanzania Forestry Research Institute (TAFORI); National Tree Seed Program (NTSP)	Rwanda National Resources Authority (NFA); District Forest Services (DFS); National Forest Resources Research Institute (NaFORRI)
Energy and Hydropower	The Ministry of Energy and Mines (MEM), MWETAUP	MINIFRA (Ministry of Infrastructures);	Ministry of Energy and Minerals (MEM); Ministry of Water and Irrigation (MoWI)	Ministry of Energy; Ministry of Water and Environment (MWE)
Fisheries and Aquaculture	Ministry of Water, Environment, Territorial administration and urban planning, MWETAUP	MINIRENA Ministry of Natural Resources: Land, Forests, Environment and Mining	The Ministry of Livestock Development and Fisheries, MAFSC	Ministry of Agriculture, Animal Industries and Fisheries (MAAIF); Fisheries Department (FD)
Environmental resources	Ministry of Water, Environment, Territorial Administration and Urban planning, MWETAUP	MINIRENA (Ministry of Natural Resources: Land, Forests, Environment and Mining); Rwanda Environmental Management Authority (REMA)	The Division of the Environment (DoE); National Environment Management Council (NEMC)	National Environmental Management Authority (NEMA); Ministry of Water and Environment (MWE); Directorate of Environmental Affairs (DEA)
Mining	The Ministry of Energy and Mines (MEM)	Rwanda Geological and Mines Authority (OGMR); MINIRENA (Ministry of Natural Resources: Land, Forests, Environment and Mining);	Ministry of Energy and Minerals (MEM)	National Environmental Management Authority (NEMA)
Kagera Basin Organisational Activities	Ministry of Water, Environment, Territorial Administration and Urban planning, MWETAUP	MINIRENA (Ministry of Natural Resources: Land, Forests, Environment and Mining); Rwanda Environmental Management Authority (REMA); MINALOC (Ministry of Local Government, Good Governance, Community Development & Social Affairs)	The Division of the Environment (DoE); National Environment Management Council (NEMC)	National Environmental Management Authority (NEMA); Ministry of Water and Environment (MWE)

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