

Basin Report:

Questionnaire + Addendum

To review case study basins

with regard to their water governance regime, context and
performance

Lake Kyoga Basin(upper white Nile River)

Case Study Review Workshop for the WETwin project

Loskop Dam, South Africa, 14 – 15.04.2010

About this questionnaire

This questionnaire was developed within the scope of the Twin2Go project. It serves to record case study data about a river basin's water governance regime, its context and its performance. An explanation of the indicators, pre-defined scores and potential data sources is provided in the guidance on this questionnaire. (Twin2Go, Guidance on the Questionnaire of the Twin2Go - Case Study Review Workshops. 13/03/10).

Scores to each of the indicators are assigned according the suggested score scheme proposed in the guidance. In the case of numerical indicators like indices, the numerical values are added in brackets after the score, e.g. "B (0.178)" or "C (12,534)". For a better understanding of the recorded issue, additional information is added in the "comments" column.

- ❖ If not specified differently, the indicators refer to the national part of the basin of interest. The report only considers the national part of the basin.
- ❖ In general, you should check the GWP toolbox for papers, reports, etc. as data sources of your region, especially with regard to the water governance regime.

The questionnaire was completed by Twin2Go staff in collaboration with local stakeholders representing the civil society and private sector. Filling of the questionnaire was prepared by experts individually, these scores have subsequently been evaluated during a Twin2Go Review Workshop which too place in South Africa 14-15/04/10. This workshop was jointly organised by Twin2Go and WETwin, doubling as a twinning workshop with the theme 'Evaluation of Management Options in wetlands and river basin management'.

Finally some questions have been double checked in Uganda after the workshop by the participating experts.

Based on the preliminary synthesis results and discussion during the Twin2Go synthesis workshop (Stockholm, 01-02/09/10) an addendum was made with some additional parameters. This addendum has been filled by the same experts.

The resulting data will be post-processed and added to the Twin2Go database. Should you feel these scores do not reflect the situation of the basin accurately, or want to contest any of the information included, you may contact the project organisers. Contact information as well as additional information regarding the project and the results can be found on www.twin2go.eu.

Names of participating experts have been removed for confidentiality purposes.

Table of Contents

A) Water governance regime	4
I) Characteristics of environmental governance regimes.....	4
a) Water policy, institutional & legal framework (formal and informal)	4
b) Formalisation of IWRM principles & Millennium Development Goals	7
c) Decision making regarding uncertainties	8
II) Actor networks with emphasis on the role and interactions of state and non-state actors and power relationships	9
a) Cooperation and coordination structures	9
b) Information sharing via formal rules, dependency relationships etc.	10
III) Multi-level interactions across administrative boundaries and vertical integration across levels and horizontal integration across sectors.....	10
a) Centralisation	10
B) Context	12
I) Societal dimension.....	12
II) Good Governance Principles at the national level – legal basis at the national level	12
III) Environmental dimension.....	14
C) Performance	16
I) Progress towards stated Goals.....	16
II) Good governance principles as indicators for the process dimension.....	17
III) Stakeholder participation	17
IV) Response to climate change	17
Addendum - Context.....	19
I) Basin Characteristics	19
Addendum - Performance	20
I) Environmental sustainability	20
a) State of the water resources and the environment.....	20
b) Management practices	20

A) Water governance regime

No.	Indicator	Score	Comments
I) Characteristics of environmental governance regimes			
a) Water policy, institutional & legal framework (formal and informal)			
1.	Domestic water legislation (laws, by-laws, etc.) in place?	A	<p>Uganda's National Water Policy (1999) specifically encourages decentralisation of those WRM functions that can best be performed at the district or community level; and The Local Government Act (1997) provides for creation of multi-district administrative instruments where clusters of districts cooperate administratively</p> <p>Despite the existence of these robust policies and guidelines, enforcement and implementation is not adequate. Poor dissemination and capacity of stakeholders at the different levels greatly affect policy implementation. There are emerging gaps as the sector develops exist in the policies .</p> <p>Other policies like the Water policy needs to be updated to include Transboundary and bulk water supply, climate change issues and decentralized management of water resources. Water release policies need also to be developed for hydropower projects for sustainable use of water resources. Outcomes of the reform studies not yet included in the policies and legislation (check sip)</p>
2.	Domestic Water Law: Public character of water and legal status of water use rights	A	Water is recognised in the Domestic Water Law as being a public good; adequate provisions are foreseen to protect private water use rights; the law allows for the exercise of these provisions to be generally regulated as needed for ecological and social sustainability, and in the public interest
3.	Domestic Water Law: Explicit recognition of traditional and indigenous water uses	A	Provisions are foreseen to protect traditional and indigenous water uses, while maintaining the possibility of imposing appropriate regulations. The sector recognizes self supply as one of the indigenous water uses

No.	Indicator	Score	Comments
4.	Domestic Water Law: On flow availability, third party rights and ecological requirements	B	
5.	Integration of domestic water legislation	A	The Water policy, 1995 and accompanying regulations guide the users. exists to coordinate/integrate the water-related framework
6.	Multilevel structure of domestic water legislation and subsidiarity	A	The institutional framework for the sector comprises a number of institutions that participate directly in the provision of water and sanitation services at national, district and community levels. Responsibilities are clear at the three levels, community, Intermediate level – District and National levels
7.	Existence of formal domestic administrative structure for water governance	A	Local Governments (Districts, towns, Sub-Counties) are empowered by the Local Governments Act (1997) to provide safe water and sanitation. Local government authorities have a dedicated team of WSS staff, including a District Water Officer (DWO), an Assistant DWO and county water officers and Borehole Technician. The DWO works as a technical officer under the general team in the district headed by the Chief Administrative Officer (CAO).
8.	National basin organisation or comparable arrangement	C	The Directorate of Water Resources Management under the MWE is currentlt leading the decentralization of water resources management in Uganda. Decentralization of water resources management in Uganda according to four Water Management Zones (WMZs)- NBO is still to be formally formed, its currently in the planning stage
9.	Formalised transboundary coordination organisation	D	There is no transboundary coordination at the moment for lake Kyoga Basin
10.	Formal institution (legislation) that prescribes the basin management principle	B	Ministry of Water and Environment

No.	Indicator	Score	Comments
11.	Water (basin) strategies, programmes and plans	C	<ul style="list-style-type: none"> ❖ General Water strategies exist, but are poorly implemented, However, basin plans. Strategies and programmes are being developed for the 4 WMZs. COWI commissioned to conduct follow up study based on the final report of the institutional assessment for catchment-based WRM ❖ Overall objective is to conduct assessments leading to the preparation of detailed strategies, workplans and budgets for operationalisation and establishment of 4 WMZs in synergy with other MWE regionally based/decentralised structures ❖ Study commenced March 2010 and Final Report expected end of June 2010 ❖ JICA is assisting in development of plans for lake Kyoga Basin BY June 2010
12.	Financing mechanisms: Degree of investment from private sector/ public/ other sources (e.g. international)	B	International NGOs, DPs together with MWE are supporting pilots in setting up WMZs
13.	Economic instruments Is water for irrigation priced?	B	Irrigation is becoming critical these days. A price is currently charged for abstraction (check list of permits). However, full cost recovery may not be realised and compliance is poor.
14.	Economic instruments Is water for households priced in urban areas?	B	<p>A Price is charged in all urban areas (small towns and rural growth centres- 1500 and 5000 population), however, since the price is subsidised as a means of achieving a critical mass of connections in all the areas, many times it cannot sustain the system when they break down. On the other hand the big towns served by NWSC have prices which can be used to maintain the systems</p> <p>Tariffs are formulated in accordance with the Water Act Cap. 152; Section 94 and the involvement of the stakeholders, especially the local authorities</p>
15.	Economic instruments Is water for industry priced?	B	A different price (higher tarriff in many case) is charged for industries however this cannot allow for full cost recovery
16.	Tradable permits related to water abstraction/use	C	There are no tradable permits

No.	Indicator	Score	Comments
17.	Polluter pays principle (related to water)	C	PPP is discussed/debated but not yet applied coz of poor monitoring. Guidelines are not yet developed
18.	Environmental subsidies (related to water)	C	No environmental subsidies in place
19.	Payment for ecosystem services (related to water)	C	No pricing of ecosystems services although the laws for protection are clear
20.	Tradable permits (related to water quality, maximum, allowable loads etc.)	C	No tradable permits
21.	Environmental tax (related to water)	C	There are no environmental taxes
22.	Presence of substituting informal institutions for management of water	B	Informal institutions exist traditionally but do not dominate
23.	Presence of complementary informal institutions for water management	B	Complementary informal institutions exist but do not dominate
23.a	Case-specific indicator(s)...		
b) Formalisation of IWRM principles & Millennium Development Goals			
24.	Formalised IWRM principles	B	Most IWRM principles are incorporated in the water policy, but not in operation planning
25.	State of implementation of IWRM principles	B	IWRM principles have been implemented in some pilot catchments including Lake Kyoga Basin. After these pilots stakeholders agreed to immediately set up 4 WMZ and building capacity in the course of implementation.

No.	Indicator	Score	Comments
26.	Capacity to implement IWRM	B	In order to scale up IWRM activities in Uganda, the Directorate of Water resources management intends to involve more stakeholders and engage the private sector and/or NGOs in implementation of some activities. Currently Capacity Building assessment is taking place in all 4 WMZ. Training in IWRM and having advisors at a regional level is being sought.
27.	Is universal and non-discriminatory access to safe drinking water and sanitation a goal?	A	The WASH sector goal of 77% water and 100% in sector policies and is more ambitious than the MDG goals
28.	Integration of wetlands in IWRM and IRBM*	B	Last year the WASH sector was merged with Environment to form the Water and Environment sector. In the current study there is a recommendation to stakeholders to support the framework aimed at integrated management and development of water and environment resources, following WMZ/catchments, so as to have a common water and environment face. The Wetlands Inspection Department is under the MWE
28.a	<i>Case-specific indicator(s)...</i>		
c) Decision making regarding uncertainties			
29.	General practices for dealing with uncertainties	B	Warning systems for floods by met department, groundwater situation, water quality for some flood prone areas. Ministry of Disaster and natural preparedness
30.	Dealing with uncertainties: Reversible and flexible options	B	It depends on the situation, legislation process is slow and political blockage.
31.	Dealing with uncertainties: Safety margins	B	Sometimes they can be adopted especially where lives are lost. Ministry for Disaster Preparedness works with the MWE on such uncertainties
32.	Are scenarios used for decision making?	B	Scenarios are used (thought with no competent facts) but have little impact on decision-making
33.	Climate risks: Climate variability and change	A	Climate change unit formed in 2008 has started planning at National level. NAPA integrated in Implementation is not yet there.
33.a	<i>Case-specific indicator(s)...</i>		

No.	Indicator	Score	Comments
II) Actor networks with emphasis on the role and interactions of state and non-state actors and power relationships			
a) Cooperation and coordination structures			
34.	Vertical coordination (governmental)	C	Overlapping is a major problem where the Ministry controls the lower levels especially where capacities are low, approval of designs, procurement of bulk supplies etc. Even at District Level staff roles overlap with extension workers from different sectors
35.	Horizontal coordination (governmental)	C	<p>At the National level coordination exists in form of working groups, JSR, monitoring performance however, ministries like Agricultural tasks overlap with those of water especially Water for Production. Sanitation is marginalised since responsibilities are fragmented between the different ministries</p> <p>At the local government level, there is a <i>District Water and Sanitation Coordination Committee (DWSCC)</i> comprised of administrative and political leaders, technocrats and NGO/CBO representatives at district level. The role of the DWSCC is to oversee the implementation of water supply and sanitation programmes, strengthen collaboration and co-ordination between sectors and other players in the provision of hygiene and sanitation services. Unfortunately, although these are functional in all the LGs of the basin. IWRM issues are rarely discussed. The DWSCCs have potential of becoming effective multi-stakeholder learning platforms to influence positive practice and policy at the local level. This has been demonstrated by IRC/NETWAS/SNV funded initiatives in the West Nile and Rwenzori regions where also IWRM was piloted in River Mpage basin</p>

No.	Indicator	Score	Comments
36.	Role of local governments	C	<ul style="list-style-type: none"> ❖ Role of local governments ❖ They receive grant funding and may mobilise local resources for implementing rural WSS programmes and to support small town WSS. ❖ Local Governments, in consultation with DWD/MWE also appoint and manage private operators for urban schemes outside the jurisdiction of NWSC. ❖ District Governments are being encouraged to set up District Water and Sanitation technical Committees (DWSC) to oversee and provide effective coordination of water sector activities in the respective Local
36.a	<i>Case-specific indicator(s)...</i>		
b) Information sharing via formal rules, dependency relationships etc.			
37.	Kinds of knowledge included => Role of experts/ science, local/traditional knowledge	A	Both scientific expert knowledge and local/traditional knowledge are taken into account to a small extent for example self help initiatives in provision of . However, the DWSCCs have not been effective learning and generation of knowledge platforms; They are only focused on review of district progress and not on effectiveness and lessons of new approaches from various stakeholders. Underlying all this is the absence of a performance based culture across the public service in Uganda. No meaningful incentives or rewards attached nor penalties.
38.	Access to information => about expert knowledge and management plans	C	Access to information act exists, however, challenges exist in sharing this information NGOs like Water Aid, NETWAS, URWA and UWASNET have come up to form the Sanitation and Water alliance aimed at improving access to information and knowledge through documentation centre, learning forums, leaning journeys and
38.a	<i>Case-specific indicator(s)...</i>		
III) Multi-level interactions across administrative boundaries and vertical integration across levels and horizontal integration across sectors			
a) Centralisation			
39.	One level one actor?	A	There are many actors and sectors at administrative level with full decision power, planning, implementation and management of water sources.

No.	Indicator	Score	Comments
40.	Degree of centralisation	B	Policy development is centralized, The Ministry of Water and Environment (MWE) has overall responsibility for initiating the national policies and for setting national standards and priorities for water development and management., but implementation is decentralized to District Local Governments
41.	Technical capacity and economies of scale	A	Available technical capacity at different levels. The 2009 organisational and institutional assessment was aimed at further developing the current framework and ensuring synergy with other de-concentrated/decentralised structures within MWE that offer technical capacity to DLG (i.e. Regional Wetlands Support units. Technical Support Units, Water and Sanitation Development Facility, Umbrella of Water and Sanitation etc) and other actors such as national Environment Management Authority, National Forestry Authority, Uganda Wildlife Authority in the context of the four proposed WMZs
42.	Legal obligations and responsibility	B	These need to be established at Basin level
<i>42.a</i>	<i>Case-specific indicator(s)...</i>		

B) Context

No.	Indicator	Score	Comments
I) Societal dimension			
43.	Proportion of the population living in rural areas	80%	Over 80% of Uganda's population lives in Rural areas. Total population is 31,656,865. <i>In Lake Kyoga Basin, there are 9.3 million people (2008) need to disaggregate the data</i>
44.	State of societal development	C- 0.514	This is a medium Human Development Index (HDI). The country has progressively improved in this indicator from 0.392 in 1990 to 0.514 in 2007.
45.	Social sustainability (Gini Index)	C-0.42	Measures the extent to which the distribution of income (or consumption) among individuals or Households within a country deviate from a perfectly equal distribution.
46.	Economic sustainability (e.g. GDP)	E-991	Very low
47.	Effectiveness of formal institutions	E- 2.6	In 2008, Uganda scored 2.6 out of a possible score of 10 on the Corruption Perception Index (CPI) of TI (and was ranked 133 out of 180 countries surveyed), which is an indication of the perceived presence of rampant corruption. Respondents in the Water Integrity Baseline of 2009 estimated that nearly 10% of government funding to the sector over the past 5 years has been lost to corruption (MoWE et al, 2009c). As a result, people still have to walk long distances in search of safe water and pay higher costs for the service. On the other hand, the National Integrity Survey 2008 recognized NWSC as the least corrupt public institution.
48.	Trustworthiness of economic institutional setting - degree of risk for foreign direct investment	C- B- to BBB+	Uganda as a country is quite stable in terms of wars apart from Northern Uganda which is getting peaceful. There are many investors now and the country still gets loans and grants from donors
49.	Presence of avenues of dissent – press freedom, freedom of speech	B	High press freedom exists, radio, community forums exist, corruption is now discussed at all levels. Recently government set up barazas where communities and their political and technical leaders can discuss developmental issues.
49.a	<i>Case-specific indicator(s)...</i>		
II) Good Governance Principles at the national level – legal basis at the national level			

No.	Indicator	Score	Comments
50.	Participatory regarding decision making in the water sector	A	<p>Sufficient policy and institutional mechanism exist to promote good governance and accountability in the sector. Structures and responsibilities are defined. Participation in decision making is provided. Inadequate policy implementation and weak enforcement has made transparency and corruption a growing concern in the sector and the country as a whole.</p> <p>Improvements have been recorded in participation of women in decision making right from the facility level; 71% of the key positions on rural WSCs and 30% on the small town water boards are held by women. However, there is still limited involvement in the water for production and water resources management sub sectors. Despite these improvements, it is still difficult to ascertain the effectiveness and impact of this due to overall limited influence in rural society;</p>
51.	Transparency regarding water allocation	B	<p>Access to information act exists in theory but not</p> <p>Equity in distribution of rural water has also continued to improve especially at the district level where the allocation formula is used. However, 45% of the districts still have access below the national average (MoWE, 2009d). In Kyoga Basin, Bugiri, Kotido and Kabong have less than 40% access.</p> <p>Allocation Formulae used to allocate new water sources in a subcountry</p>
52.	Effectiveness and efficiency regarding decision making in the water sector	B	<p>Good policies but regulation and control is weak</p>
53.	Equitable and inclusive	B	<p>The poor currently pays more per unit volume of water because of lack of easy access and charges levied by middlemen (kiosk/yard tap owners and vendors). Service for the poor are critically addressed through a combination of the following initiatives: location of service points within the community of the poor, use of pre-paid meters, national procurement of common inputs to support pro-poor initiatives, improved mechanism for accountability on services to the poor, control of price at yard taps or stand posts.</p>

No.	Indicator	Score	Comments
54.	Predictability – with regard to IWRM and climate change	B	Water policy needs to be updated to include Transboundary and bulk water supply, climate change issues and decentralized management of water resources.
54.a	<i>Case-specific indicator(s)...</i>		
III) Environmental dimension			
55.	Köppen-Geiger climate classification (river basin)	Af	Main climate type is equatorial (ranging from fully humid in the central part to monsoon and steppe in the North and South
56.	Climate Moisture Index	SA	Many parts of the basin are semi arid, just like the rest of Uganda. The lake regions are however humid to subhumid
57.	Climate Moisture Index Coefficient of Variation	A	Low variability
58.	Per Capita Equivalent of TARWA	D	2 470 m ³ /year
59.	Average water availability at the river basin level (1995)	E	1 to 5mm/year- little water is available within the basin
60.	Annual renewable water supply per person by river basin (1995)	A- >10,000 m ³ /person/yr	Above 4000 m ³ /person/yr
61.	Projected annual renewable water supply per person by river basin (2025)	B- 1700 – 4000 m ³ /person/yr	
62.	Relative Water Stress Index	0 – 0.2	Low: RWSI < 0.2
63.	Climate Vulnerability Index	D- 44- 51.9	Medium High
64.	Degree to which water quality status restricts usability of users' types	B	Water quality monitoring is low, urban areas have some restriction in use when water quality is poor
65.	Extent of flow and channel modification	B	Town water supply systems are common in the basin. Karuma dam is being planned which is big and will modify river flows.
66.	Impact of land-use changes on hydrological processes	B	

No.	Indicator	Score	Comments
67.	Uncertainty associated to climate change predictions regarding precipitation for the basin		Heavier rains, basin is flood prone however wetlands store a lot
<i>67.a</i>	<i>Case-specific indicator(s)...</i>		

C) Performance

No.	Indicator	Score	Comments
I) Progress towards stated Goals			
68.	Progress towards sustainable access to safe drinking water (MDG drinking water target)	D	UN statistics on MDG, puts figures at 64%
69.	Proportion of population with access to improved drinking water	D	Population with access within 1 kilometre of an improved water source in the rural areas has increased from 21% to 66% ¹ in 2008 and currently stands at 66% in urban areas (sector performance report, 2009). On the other hand, with a population growth rate of 3.1% per annum, the government is barely able to meet the needs of the growing population in both the rural and urban areas. Analysis indicates that at this rate of population growth; Uganda will not be able to achieve its water development targets of achieving access to 77% of the population in rural areas by 2015 and 90% of the urban areas unless there is a massive increase in investment and change in approach.
70.	Proportion of rural population with access to improved drinking water	D	Population with access within 1 kilometre of an improved water source in the rural areas has increased from 21% to 66% ² in 2009. In Kyoga basin, only 57% of the population has access to safe clean water.
71.	Progress towards sustainable access to basic sanitation (MDG sanitation target)	B	33% Poor sanitation undermines all development efforts and progress against other MDGs on poverty, health, gender and education.
72.	Proportion of population with access to improved sanitation facilities	E	In Uganda today nearly two thirds of the population has access to improved sanitation. In the rural areas, latrine coverage as of 2009 was at 68% of the households. Despite these improvements, it is still highly unlikely that the sector targets of achieving 77% access in rural areas and 100% in the urban areas will be met. In the urban areas, connection to sewerage lines is very low at only 6.4%. This has been attributed to the limited sewerage network, high costs of connection and failure of people to give up their on-site sanitation facilities amongst other reasons

¹ 63% is the national safe water coverage as of June 30th 2008.

² 63% is the national safe water coverage as of June 30th 2008.

No.	Indicator	Score	Comments
73.	Proportion of rural population with access to improved sanitation facilities	E	It is estimated that ecological sanitation (EcoSan) initiatives account for only 0.5-1% of improved sanitation. The major form constructed is the Urine Diversion Dry Toilets
73.a	<i>Case-specific indicator(s)...</i>		
II) Good governance principles as indicators for the process dimension			
74.	Participatory regarding decision making in the water sector	C	Consulting is done for both men and women but without binding consequences; strategy
75.	Transparency regarding water allocation	B	An allocation formula is clear, indicative budgets displayed for each Districts /less served area. Baseline data may not be accurate
76.	Effectiveness and efficiency regarding decision making in the water sector	B	Some goals are not achievable
77.	Equitable and inclusive	B	Having equity distribution for all men and women within 1km distance and sustainable management of water having women in key decision making
78.	Predictability – with regard to IWRM and climate change	B	Some gaps in the policies exist in addressing climate issues. Bulk water supply between basins
78.a	<i>Case-specific indicator(s)...</i>		
III) Stakeholder participation			
79.	Deliberative engagement opportunities	B	District level- multi stakeholder platforms ; LAKIMO not active
80.	Inclusiveness of stakeholder participation	B	Poor- pro poor strategy Youth, women, disabled (technologies). AT Basin level its at planning stage
80.a	<i>Case-specific indicator(s)...</i>		
IV) Response to climate change			
81.	Strategy for adaptation to climate change in the water sector	B	NAPA is in place

No.	Indicator	Score	Comments
82.	Availability of specific knowledge enabling adaptation	B	OPTIONS are being developed
83.	Awareness of water managers regarding adaptation to climate change	C	At National level the awareness is high
84.	Coordinated implementation process regarding adaptation to climate change: Program / Plan of activities and measures	A	NAPA in place, being navigated by DWRM
85.	Operational activities (measures)	C	MORE ACTIVITIES AT District level, other than Basin level
86.	Ways to deal with climate variability (floods and droughts)	B	More reactive than anticipative
<i>86.a</i>	<i>Case-specific indicator(s)...</i>		

Addendum - Context

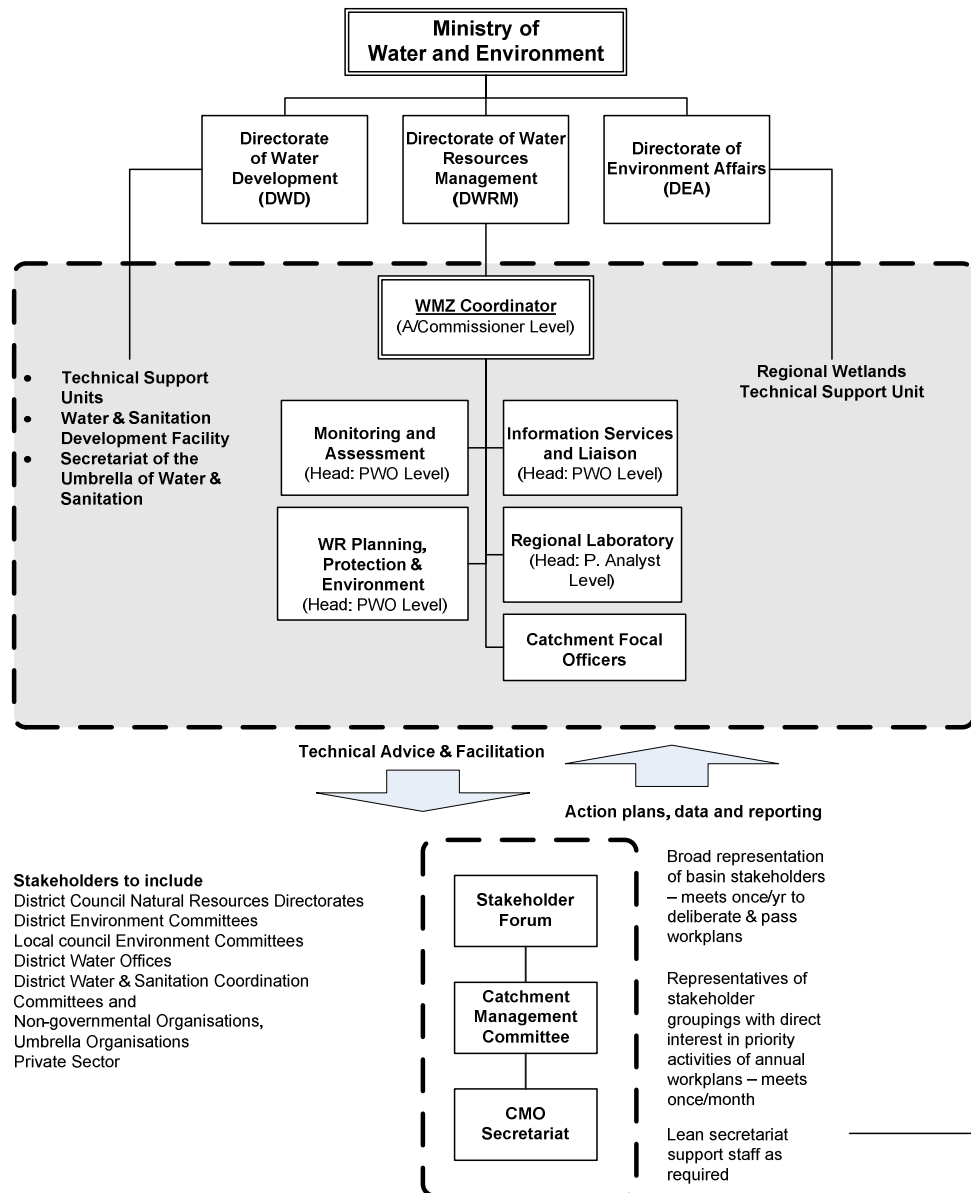
No.	Indicator	Score	Comments
I) Basin Characteristics			
67a	Sub-Basin Size	59,680 km ²	
67b	Transboundary	yes	97.9% of the catchment is in Uganda's side while 4.1 % of the total catchment area is situated in Kenya

Addendum - Performance

No.	Indicator	Score	Comments
I) Environmental sustainability			
a) State of the water resources and the environment			
87	Aquatic biodiversity	B	46 species of fish have been recorded in Lake Kyoga, and crocodiles are numerous
88	Invasive exotic species	C	The Nile Perch proliferation led to the almost complete elimination of many domestic fish species
89	Surface and groundwater quality	C	The lake is dotted with large islands of papyrus and water hyacinth mats (sudds). As a result of poor agronomic practices in the catchment area and siltation caused by the Victoria Nile, the sudds became habitable to fishermen around 1997-1998, thus continuously reducing the quality of the lake.
90	Groundwater use	B	At least some areas approaching or near limits. Groundwater is mainly for households through sinking boreholes.
91	Water Exploitation Index (WEI)	NO DATA	
b) Management practices			
92	Water allocated for aquatic ecosystem	C	Rarely for a few or never. Water allocation hasn't taken root as yet in Uganda.
93	Water pollution incidents	C	Rarely or never. There is limited monitoring of pollution in the basin
94	Water quality monitoring	B	Some parameters monitored in some places and times by Directorate of Water Resources Management Department
95	Hydrometeorological monitoring – levels	C	Currently existing hydrometeorological networks do not allow for adequate characterisation of the hydrological Regime. This is related to the number of networks and the capacity of staff to interpret the data
96	Level of understanding of groundwater resources	B	Intermediate – still important gaps and uncertainties in knowledge needed for effective management. Knowledge on withdraws is available in some cases but recharge is not known

Additional information:

- ❖ Proposed WMZ Organisational Structure (from Oct 2009 Institutional Assessment Study) **source MWE**



Water and Resource Management Functions:

Central MWE/Directorate Functions:

- Overall quality assurance and oversight
- National consolidated database and information management and dissemination systems
- National Reference WQ Laboratory and standards
- Hydro-met network planning and development
- National and international water resources assessment and planning
- Formulation and review of legislation, policies, standards and procedures
- Allocation and development of sustainable resource utilisation strategies
- Liaison with other relevant ministries and agencies
- Technical assistance and facilitation to the WMZs
- Leadership and coordination of implementing agencies
- Secretariat services to the Water Policy Committee
- Contribution to keeping water-related legislation and regulations up-to-date

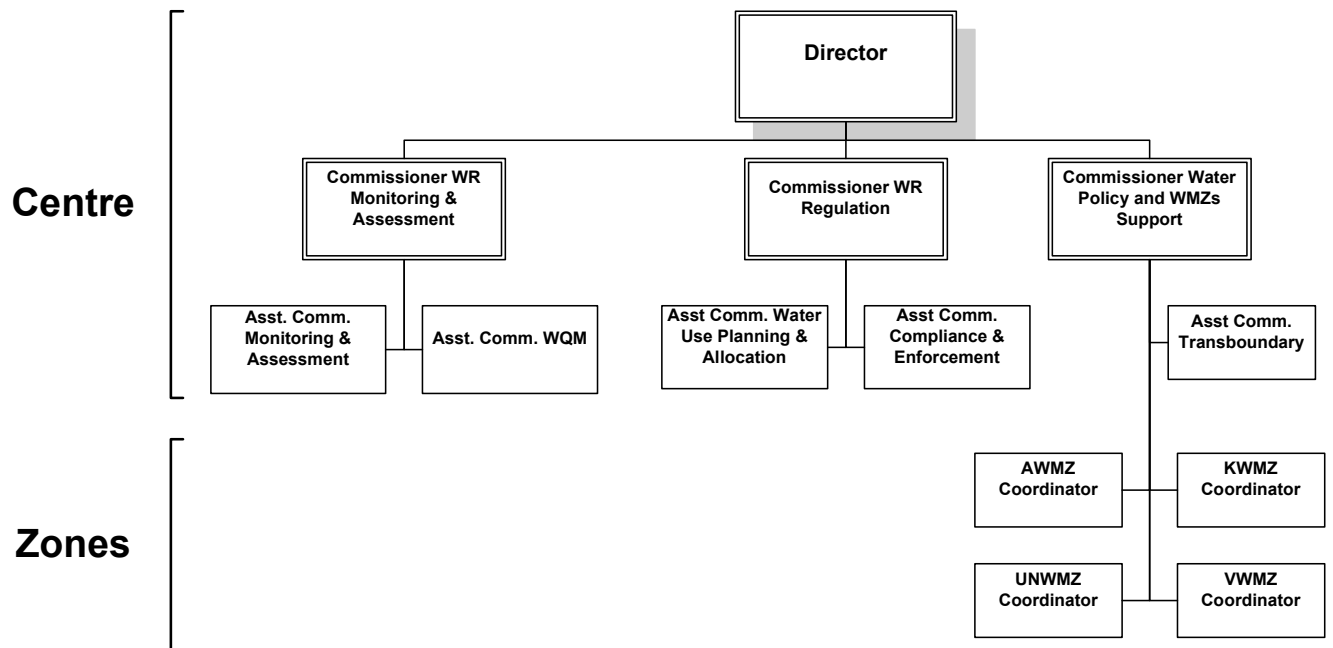
WMZ Team (WRM, WMD, TSUs, WSDF, UWSs) Functions:

- Zonal hydro-met data collection, storage and transfer to centre, and information dissemination
- Zonal water resources assessment and planning
- Contribution to national and international assessments and planning
- Permits applications assessment
- Compliance monitoring
- Technical assistance and facilitation to relevant stakeholders
- Contribute to national planning and coordination

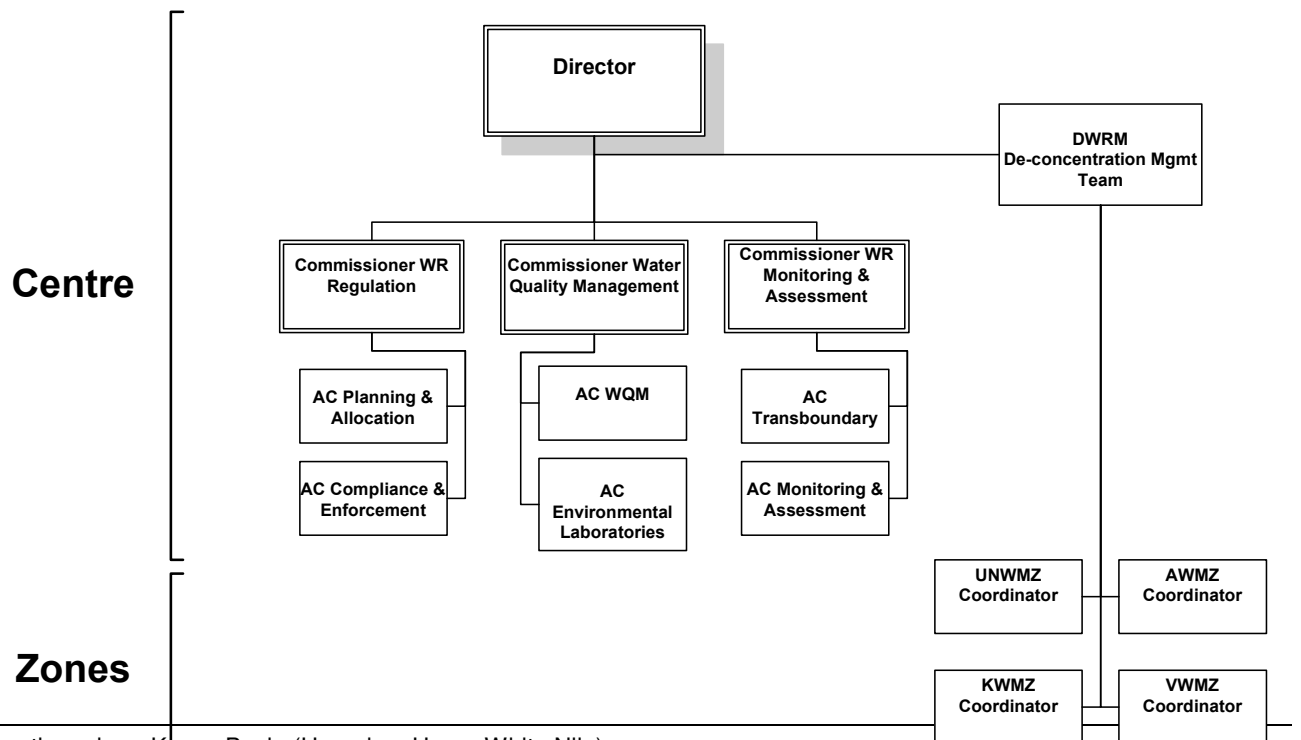
CMO Functions vis-à-vis WRM:

- Stakeholder-driven catchment-based water resources assessment and planning**
- Coordinate activities for community awareness; and information management & dissemination
- Development and coordination of community education and sensitisation campaigns on relevant laws and regulations; allocation procedures; and benefits of compliance
- Coordinate hydro-met stations observation and management
- Forum for stakeholders, and coordination of implementation activities & agencies
- Advocacy and contribution of stakeholder perspectives to policy/ legal formulation and review processes
- Coordinating harmonisation of local bye-laws and ordinances

Ultimate Management Level Structure



Transitional Management Level Structure, pending full Structural Review



Questionnaire – Kyoga Basin (Uganda – Upper White Nile)