

WASHWATCH UGANDA

Volume 2, October, 2011



A WaterAid in Uganda publication on
Water, sanitation and hygiene



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Who we are

WaterAid is an international charitable NGO with headquarters in UK, started in 1981, dedicated exclusively to the provision of safe water, effective sanitation and hygiene education to the world's poorest people. WaterAid has been working in Uganda since 1983, and is currently involved in 26 other countries in both Africa, Asia and Pacific supporting water and sanitation initiatives.

Vision

A world where everyone has access to safe water and sanitation.

Mission

WaterAid transforms lives by improving access to safe water, hygiene and sanitation in the world's poorest communities. We work with partners and influence decision-makers to maximize our impact

Our values

- Inclusive
- Always learning
- Collaborative
- Accountable
- Inspiring
- Courageous



Photo: WaterAid/Caroline Irby



Foreword from the Country Representative

I am delighted to share with you this edition of WaterAid in Uganda WASH Watch. This publication gives insights on how to respond to the Water, Sanitation and Hygiene (WASH) sector challenges, in order to deliver services that reach the poor and marginalized communities in a sustainable manner.

Addressing the WASH challenges that inhibit the delivery of services to the poor and excluded communities requires a holistic approach that integrates service delivery, advocacy and influencing policy decisions at all levels of governance. We strongly believe that progress in tackling the sanitation and water crisis would also drive progress across all development sectors, by empowering women, the single most important catalyst for change and development, improving child survival, increasing girls' education, strengthening economic growth and reducing poverty.

In the new country strategy (2011- 2016) as part of our programme implementation,

WAU is focusing on enhancing good governance, improving functionality of WASH services, increased sector performance monitoring, water resource management, mainstreaming equity and inclusion and promotion of a rights based approach to WASH service delivery.

We therefore hope that the issues discussed in this publication and recommendations given will contribute significantly to shaping water, sanitation and hygiene service delivery agenda in Uganda and beyond.

WAU believes, with concerted efforts, we can go a long way to address the root causes of WASH poverty and transform lives by improving access to safe water, hygiene and sanitation in some of Uganda's poorest communities.

Thank for your continued support and have a nice read.

Alice Anukur
Country Representative
WaterAid in Uganda

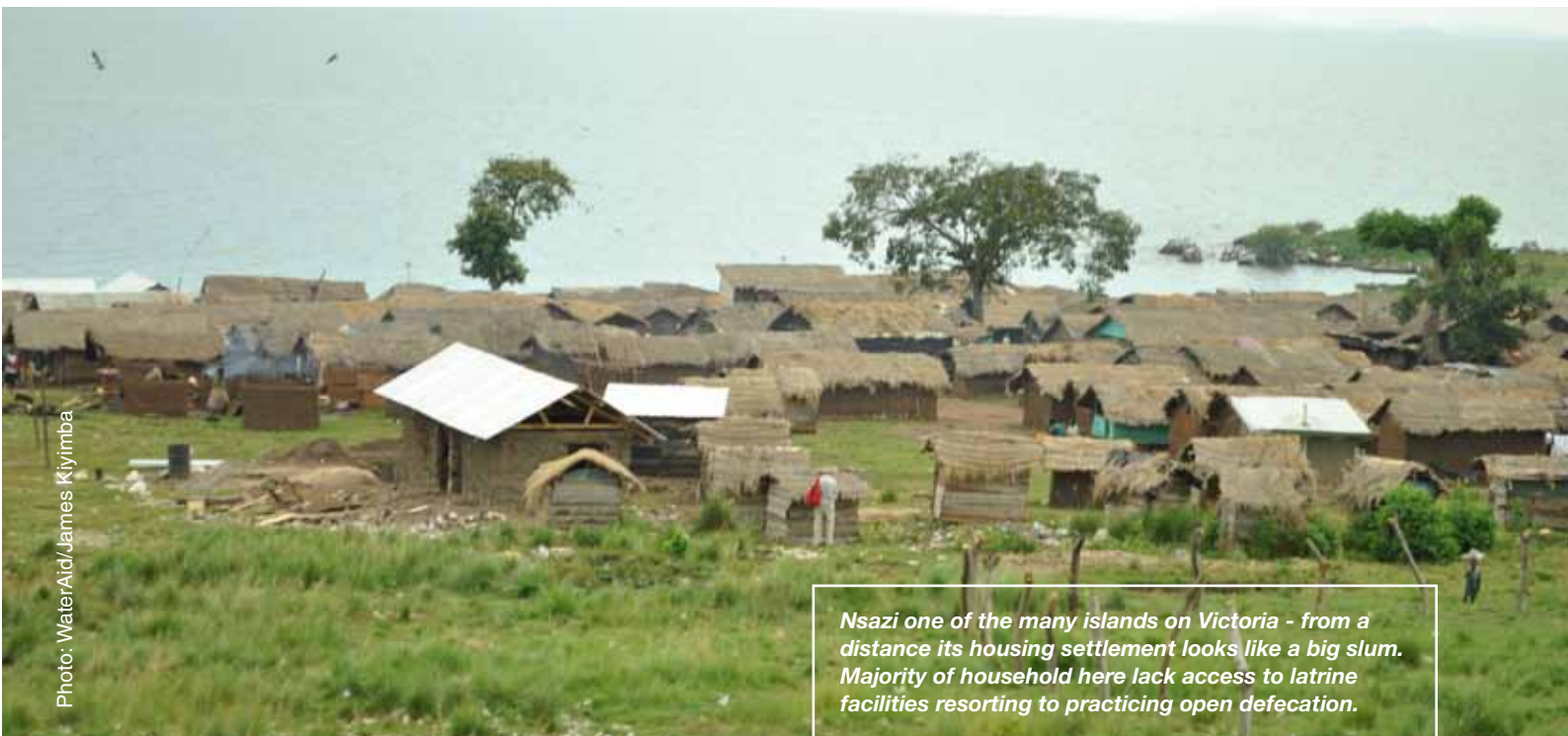


Photo: WaterAid/James Kiyimba

Nsazi one of the many islands on Victoria - from a distance its housing settlement looks like a big slum. Majority of household here lack access to latrine facilities resorting to practicing open defecation.

Understanding the water, sanitation and hygiene challenges on the islands of Lake Victoria

By Juliet Abaliwano and James Kiyimba

Access to safe water and adequate sanitation is a basic human right and an essential first step to protect human health. However this is only an imagination for many of the people settled on the islands and shores of Lake Victoria.

The Lake's landing sites and islands are such places which are increasingly faced with a challenge of accessing clean and safe water as a result of the rapidly growing population coupled with limited government support in the delivery of WASH services on the islands. The East African Sustainability Watch (SusWatch) highlights that population in the fishing communities is increasing at a rate of about 7% annually. This coupled with inadequate infrastructure and poor sanitation services leads to an increased

pressure on the environment since much of the waste generated by the fishing community silts in the lake contaminating the water which they in turn use for their household chores.

Grellier (2004) and Geheb et al (2008) note that fishing is the major source of livelihoods for rural and peri-urban communities in Uganda situated around Lake Victoria and other smaller lakes. In Uganda, over one million people are engaged in the fishing sector many on an informal basis (Bahigwa et al, 2003). However, the majority of the fishing communities on Lake Victoria are isolated geographically and also hard to reach even when it comes to basic service provision by government and other development partners.

In light of the foregoing, a study by SIDA (2007) revealed that the 'fisher folk' constitute a major category of disempowered communities in the Lake Victoria region as a result of environmental degradation (including inadequate water and sanitation) combined with socio-economic challenges that continuously limit chances to lift these communities out of poverty yet without sanitation and safe water for all, there can be no sustainable development in health, education and livelihoods.

The presence of a multiplicity of cultures and the low levels of education coupled with high poverty rates has made the practice of open defecation on the shores of the lake rampant and yet the lake is usually their main and only source of water supply for both domestic and other uses.

WaterAid in Uganda is trying to highlight the challenges and complexities faced by these marginalized fishing communities, in partnership with the Ministry of Health

From Kasenyi Landing site, the island is accessed by a boat ride which takes about 1 hour and 20 minutes when the lake is calm but can take up to three to four hours on turbulent waters. According to a study by the Uganda Virus Research Institute, the Island has an average population of 5000 inhabitants; however this can soar to beyond 7000 during the fishing season, clustered in a very small area.

Water and sanitation condition

The lake is the only source of water for general home consumption. A baseline study conducted with support from WaterAid on the island revealed that 85% of the residents distrust the quality of the lake water they are using, 90% of the respondents boil their water as the only form of treatment before consumption.

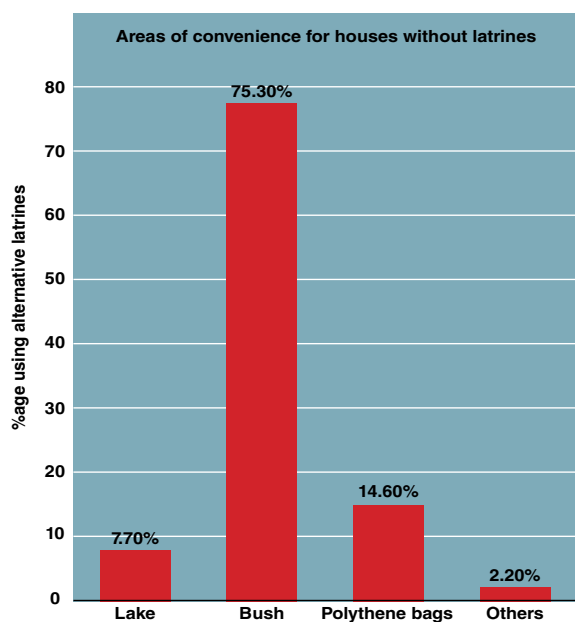
The three main categories of waste water usually generated on the island are laundry water (49%), water from the kitchen (36%) and 15% of waste water is from fish processing among others. Most respondents (83%) pour the waste water at the point it is generated. Fish processing is mainly done at the shoreline hence the waste water is generated from within the lake itself that is the fish are washed directly from the lake.



under the National Sanitation Working Group to assess the water and sanitation situation on one such Island on Lake Victoria called Nsazi.

WASH situation on Nsazi Island

Nsazi is a small, densely populated Island on Lake Victoria found in Mukono district.



Source: Baseline study 2011

Areas of convenience on Nsazi Island

From observations made during the baseline study, the island had only 16 household latrines; it is not a surprise that 76% of respondents admitted to having no toilet. The biggest percentage (75%) of the population does not have latrine facilities and their alternative available option is using the bush, 15% use polythene bags (buvera) while 7.7% said that they make use of the lake and 2.2% use any other available option. The reasons for low latrine coverage ranged from high cost of constructing the facility, presence of collapsing sandy soils and hard rocks, a transient population that does not value the incentive of such a facility and also a culture that has widely accepted the practice of open defecation.

To majority of the island residents, using the surrounding bushes ('Ntwatwa' as commonly known) as an alternative to latrines is an acceptable norm in the community. The danger with 'Ntwatwa' is that whenever it rains, human waste always drains into the lake yet it is the only source of water for the community thereby contaminating the water with faecal matter.

Although malaria prevalence is high, diarrhoea and dysentery combined contribute 48% of common ailments. 45% of respondents have experienced diarrhoea bouts in their households within the last six months. The clinic attendant at the only Government Health centre on the Island mentioned that diseases related to poor sanitation were rampant especially during the rainy season. He attributed this to high level contamination of the lake which is their main water source for both human beings and animals.

Challenges

The Island faces a number of challenges that impede the improvement of access to safe water and sanitation. Being an island,

Nsazi is hard to reach and the cost of ferrying materials such as bricks, cement and iron sheets for the construction of sanitation facilities is twice as expensive compared to the price on the main land.

The island is also characterized by collapsing sandy soils and hard rocks which are not convenient for the construction of a pit latrine. The latrines previously constructed could only go a few metres deep and also had the danger of collapsing leading to poor sustainability as pit latrines could fill up in just a few months. Therefore innovation in the construction of sustainable and appropriate technologies is a key requirement for any proposed interventions.

The awareness of the island community on the dangers of open defecation is also minimal with acceptance of the practice by majority of the residents. This is also caused by massive poverty levels of the Island residents leading to inability to have household sanitary facilities in place.

Recommendations

WaterAid's experience on this Island brought to light the challenges faced by the fishing communities in Uganda and emphasized the importance of the provision of sustainable safe water, sanitation and hygiene on the Island communities of Lake Victoria as key ingredients in tackling poverty and diseases.

Affirmative action: Judging from the above challenges, the government and other development partners should therefore pay special attention in targeting and responding to the plight of the hard to reach fishing communities on lake Victoria that have for so long been marginalized in regard to basic service provision. It is through targeting that residents on these islands will ensure the attainment of their right to safe water and adequate sanitation.

Need for awareness raising on the importance of water and sanitation for development: The general acceptance of the practice of open defecation on majority of islands on Lake Victoria leads one to believe that awareness levels about the dangers of open defecation is minimal. There is need for massive and continuous community sensitization on WASH good practices such as using latrines, boiling drinking water, hand washing with soap among others – the communication should be geared towards behaviour change.

Emphasis on knowledge transfer and provision of coping mechanisms: There is need to make use of and widely support existing local level initiatives that can address the sanitation and hygiene problems at landing sites and in the islands with in-depth research on appropriate solutions. For example the promotion of ECOSAN toilet models, appropriate water harvesting methods and technologies to ease the problem of water scarcity during the dry seasons, provision of water testing kits to enable local government staff monitor water quality. There is need to have in place demonstration centres at community levels and schools so that they can be used by community members and pupils for capacity building.

Improving coordination among stakeholders: There is need for improved and strengthened coordination of efforts among the various stakeholders implementing WASH projects on the Lake Victoria guided by the right based approach. There is need to have a joint Lake wide sanitation and hygiene sector planning and review process to secure improvement of sanitation and hygiene amongst the fast growing landing sites and island communities and to incorporate water resource management actions plans for the protection of the lake.

Joint reviews would then form the starting point of informing WASH related processes on islands including harmonization of policies and legislation related to pollution, housing and water quality surveillance.

Reference

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Photo: WaterAid/James Kiyimba

Hon. Minister of State for Health (General Duties) Dr. Richard Nduhura playing the World Toilet Game in Kigali during the AfricaSan conference to score the goals of safe drinking water, sanitation and hygiene for all.

Drive 2015: Kicking the sanitation and hygiene crisis out of Uganda

By James Kiyimba and Milly Akwi

July 19 -21, 2011, the Third African Sanitation and Hygiene Conference was held in Rwanda’s capital Kigali with firm commitments and resolutions to place sanitation and hygiene at the top of the development agenda in Africa. The conference was hosted by the Government of the Republic of Rwanda, a country with the best track record in improving sanitation and hygiene on the continent; and the African Minister’s Council on Water (AMCOW), who have appointed a special Sanitation Task Force to promote, track and support improvements in sanitation. The meeting represents a further consolidation and growth of the AfricaSan movement, initiated in 2002 by African Ministers and supported by partner agencies.

This high-level conference brought together many sanitation practitioners on the continent including; African

government ministers responsible for sanitation-related portfolios; sector professionals from both the public and private sectors, civil society and development agencies among others to find solutions of overcoming bottlenecks to large scale sanitation and hygiene programmes, strengthen the evidence base for scaling up sanitation and hygiene programmes in Africa, and kick-start the drive to get Africa back on track to meet the sanitation millennium development goals (MDG) and achieve sustainable universal coverage.

At the conference it was recognized that the scale of the challenge facing sanitation and hygiene remains formidable. The impact of this “hidden scandal” is devastating to health and quality of life, in particular to the lives of women and girls. Lack of sanitation was equated

to mass-destruction. The conference learned of the scale of impact from poor sanitation on education, economic growth, productivity, tourism, the environment and the management of infrastructure.

Uganda: Country status at a glance

The e-Thekwini Traffic Light Report; *Sanitation and Hygiene in Africa at a Glance (2011)* (which gives a glance at sanitation and hygiene in Africa and tracks progress towards the commitments) shows that Uganda has made visible progress on some fronts, however these have not been able to get the country on track to meeting the 77% sanitation MDG target for rural and 100% for urban areas. The main reason that accounts for being off track is that sanitation still faces the challenge of minimal resources and political will to address the crisis.

According to the Uganda Water and Environment Sector Performance Report 2011, access to improved sanitation in the rural households is 70%, while in the urban areas it has increased to 81% from 77% as of last year. However, the pupil to latrine stance ratio in primary schools has declined from 54:1 to 66:1. Despite the above figures, there is wide disparity between regions for example districts mainly in Karamoja region have sanitation coverage of less than 30%.

Uganda strengths

Since the last sanitation conference held in 2008 in Durban, South Africa, Uganda has been able to put some structures and policies in place towards sanitation emancipation. These include, a Ten-Year Integrated Financing Strategy for Improved Sanitation and Hygiene (ISH) in rural and Small Towns, the sanitation Global Fund. Sanitation is also integrated in the National Development Plan and Environmental Health Policy (2005).

There is improved coordination at national and district levels demonstrated by the presence of the effective National Sanitation Working Group and District Water and Sanitation Committees. Despite this however, more work is still needed with in the Sector Wide Approach (SWAp) to address challenges including weak monitoring and evaluation systems and poor coordination and integration within the SWAp.

Responding to the challenges

Putting Uganda back on track to attain the sanitation MDG targets by 2015 requires prioritization of sanitation and hygiene at all levels, availability of funds for the already existing sanitation budget line, revision of the national sanitation guidelines backed, 0.5% GDP allocation to sanitation and strengthen the monitoring and evaluation system/ frame works for sanitation. There is need to review the Memorandum of Understanding (MoU) among the three line ministries [Ministries of Health, Education and Water & Environment] in order to have a clear understanding of roles of each ministry. A clear institutional home for sanitation will improve its planning, financing, coordination and performance monitoring.

Sanitation financing:

Lack of adequate funding is the single biggest challenge affecting sanitation and hygiene for all. Despite the presence of a sanitation budget line in Uganda, there has been little progress towards the agreed target of allocating 0.5% of GDP to sanitation. To get sanitation back on track, there is need to bridge the financing gap with concrete financial commitments from the government. This means, all the three line ministries [Health, Education & Sports and Water & Environment] in charge of promoting sanitation in the country should adequately finance their dedicated sanitation budget lines. However, better sanitation financing should go hand in

hand with smart utilisation of available resources.

Political priority is needed

In the drive to 2015 campaign, the Uganda government should demonstrate strong political leadership through publically championing sanitation as fundamental to development, and driving forward national and local sanitation plans. The time left should be for action, the governments should fulfil all the prior sanitation commitments from previous sanitation conferences and implement sanitation programmes which benefit the poorest and most marginalised.

Increased focus on equity and inclusion

In addition, the Uganda government and other development partners should prioritize sanitation for all through designing and delivering programmes which reach marginalised communities and individuals such as those in hard to reach areas, urban slums, people with disabilities, the elderly and those affected by diseases including HIV/AIDS. As a first step, there is need to establish equity and inclusion monitoring indicators and tools at both national and local levels to guide planning, resource allocation and performance measurement.

To achieve equity there is need to target the available resources to the poorest and most marginalized communities; such initiatives should target districts like those in Karamoja region which have less than 30% sanitation coverage. As a way of affirmative action, districts and communities with low coverage should therefore attract more resources than their counter parts with better sanitation coverage.

Stronger focus on coordination and capacity building

In Uganda sanitation falls in the ambit of a number of ministries and in the drive to 2015, there is need for better coordination

in all the line ministries. This therefore calls for the for reviewing of the sanitation memoranda of understanding between all line ministries and the establishment of sanitation specific performance contracts in all the line ministries and district local governments.

In addition, there is also need for inter-sectoral coordination between national and local ministries, and with civil society, to enhance optimal outcome, accountability and avoid duplication of efforts. In addition, there is need to improve coordination and information management between SWAs, development partners and organizations with a cross cutting portfolio to should be give opportunities to participate in sanitation decision-making processes.

Scale up supply and demand for sanitation and hygiene

Government should take lead in scaling up implementation of the best operational practices and approaches to sanitation such as; Community Led Total Sanitation (CLTS), PHAST, cluster system, sanitation marketing and Community Health Clubs. In addition, there is need to harmonize the different sanitation approaches to keep away from fragmented implementation. In rural areas for example, the development of CLTS and the cluster system at scale presents a major opportunity.

In summary, putting Uganda back on track to meet the sanitation MDG targets requires decision makers at different levels including national and district local government to significantly commit on delivering sanitation for all services by targeting the most vulnerable, poor and marginalize people in the community. More resource allocation to the sanitation budget line, revision of the MOU between the line ministries, scaling up supply and demand for sanitation services and enforcement of sanitation policies and strategies at all levels.

Meeting the sanitation and hygiene Millennium Development Goals: Lessons from Rwanda

Engineer Nshuti Rugerinyange, WaterAid in Rwanda Team Leader speaks to WASH Watch Uganda on how Rwanda has managed to keep track of attaining the country's sanitation MDG targets by 2015.



Rwanda has made tremendous progress in attaining the sanitation and hygiene Millennium Development Goals (MDG) targets to become an example on the continent that other African countries can emulate. The country is among the four sub-Saharan African countries that are likely to meet the MDG target for sanitation in 2015; the other countries include Angola, Botswana, and South Africa.

What has Rwanda done that other African countries have failed to do in order to keep on track of sanitation and hygiene MDG targets?

The success of Rwanda is mainly due to political will and commitment. Rwanda as a country is good at enforcing and monitoring of policies relating to sanitation. I would not say that there is no political will in other countries because there has been progress since the previous AfricaSan meeting held in 2008. The only

difference is that such commitments in Rwanda have been translated into action as compared to many other sub-Saharan countries.

What exactly has the Rwanda government done at community level to keep track of the sanitation and hygiene MDG targets?

In Rwanda we have concluded a one-year program on improving hygiene and sanitation through improved access to clean water, good hygiene practices and increasing latrine coverage and usage. This is implemented by the Ministry of Health, civil society organizations and effective community health workers operating at grassroots level in group settlements (imidugudu). In addition, a day is put aside every month for communal cleaning as a reminder that achieving total sanitation is every body's responsibility.

In July 2011, Rwanda hosted the Third AfricaSan Conference; in your opinion what is the significance of the conference in elevating the status of sanitation on the continent?

The conference provided a platform for political leaders, policy makers and practitioners to account for what they have been doing in addressing the sanitation challenge since the previous AfricaSan conference. For sure in many Africa countries, sanitation issues are lagging behind. The conference therefore re-energised efforts to attain the MDGs and the eThekweni commitments. Some of these commitments have been shelved, so the conference was a reminder that the 'game' is not yet over, more needs to

be done to attain the sanitation MDG targets by 2015.

Every plan relating to sanitation improvement in your country seems to be moving on smoothly. How beneficial was the conference to Rwanda?

In 2008, some 32 African countries signed the eThekweni Declaration in which they pledged to take action to ensure that the MDG sanitation target would be met. Much as the country is on track in attaining the MDG targets by 2015, in the conference, Rwanda made new commitments to keep the momentum of achieving the sanitation targets in the remaining four years as well as focus on the country's 2020 vision. We have targets for 2015 but the 2020 targets are more ambitious than the MDGs. The government hopes to realise full coverage through a total sanitation campaign and community-based approaches by 2020.

I understand that WaterAid was on the local organising committee for AfricaSan conference. How was this beneficial to the organisation in general and WaterAid in Rwanda in particular?

In Rwanda, WaterAid is relatively new but well known in the sector. Being part of the organisation committee added to our visibility in the country and continent, for example we managed to organise field visits for the conference delegates to see the impact of our programme interventions at community level.

Being on the organising committee also enhanced the WaterAid's influence at continental level. We had a big representation from different WaterAid country programmes attending different sessions where they reminded governments about their commitments from previous AfricaSan conferences and implementation of sanitation programmes which benefit the poorest and most marginalised

people in Africa and the integration of WASH in the health and education sectors.

WaterAid used this opportunity to effectively contribute to the civil society messaging and statement which among other things emphasised the need to increase focus on equity and inclusion, better transparency, improved WASH sector planning and monitoring, coordination and capacity building.

Did you speak to any of your ministerial delegates attending the conference?

I had an opportunity to interact with Hon. Coletha Ruhamya, the State Minister of Energy and Water, I requested her to chair the Equity and Inclusion workshop which we are organising in the near future and she was very positive. In addition, this was also an opportunity to network with other key actors in the promotion of sanitation.

What recommendation do you have for other African countries?

I urge all countries to keep going, not to lose focus, because more is yet to be done to ensure sustainable sanitation and hygiene for all on the continent. MDGs are not an end in themselves new targets can be set, even if a country fails to attain the sanitation targets by 2015, the most important thing is to look back and address the root causes of failure.

To attain the sanitation and hygiene MDG targets, I urge all decision makers in the political, economic, social and cultural spheres in African countries to make sanitation and hygiene their political and financial priority. There is need for better targeting focusing on the poor, underserved and hard to reach communities. In addition, putting sanitation and hygiene infrastructures in place that cater for all categories of people in the community such as the physically challenged, elderly, the girl child and those affected by HIV/AIDS just to mention but a few.



Improving governance in the WASH sector through working with Parliament: A Call for the formation of a Parliamentary Forum on WASH

Extract from a Study by WaterAid in Uganda on Working with Parliament towards Improving WASH Governance in Uganda

The Parliament has a crucial role to play in various national development processes – including Water, Sanitation and Hygiene (WASH). Parliamentarians being representatives of people are also mandated to speak on behalf of the poor and other vulnerable groups, to ensure that development plans are informed by the real priorities of the people.

In practice, they are expected to adopt requisite legislation, approve budget

allocations, and exercise oversight over expenditures. Mapping the roles of parliaments onto the elements of good governance indicates the contribution which parliaments can make to the delivery of WASH services through National Governance Systems. Parliament works through committees which have been largely non-partisan, discussions are highly technical and involve a great deal of interface with government and non-governmental technical experts.

During the 8th Ugandan Parliament, a number of issues were raised by the different committees and pertinent observations on WASH for example the Social Services Committee noted that the Ministry of Water and Environment as well as other government departments do not have a comprehensive approach towards sanitation, recommending the development of a strategy towards sanitation in all government departments. This lack of prioritization of sanitation was also noted by the Natural Resources Committee, this limited priority also explains the lack of sanitation funding at different levels.

The constant budget cuts to the Ministry of Water and Environment have also been noted by the Natural Resources Committee and yet water is life and sanitation is dignity. Parliament thus needs to build the case for ensuring balance in the allocation of financial and technical resources to optimally respond to the increasing competing and vital pressures for water for production and water for domestic and sanitation uses. This however cannot be effectively achieved in isolation, there is need to work with other development partners to ensure adequate representation of issues and promotion of transparency and accountability.

Both the Social Services Committee and the Natural Resource Committee are mandated to oversee aspects of sanitation and water in the line Ministries of Health, Education and sports and Water and Environment. However, sanitation and hygiene issues do not compete favourably on the list of priorities under discussion by the committees for Education and Health.

This is in a way similar to the challenges currently faced countrywide on the lack of prioritization of sanitation and the low level of funding and unclear implementation framework under the three line ministries responsible for sanitation i.e. Ministry of Health, Education, and Water and

Environment with support from the Office of the Prime Minister. Water and sanitation continue to be discussed under different fora with sanitation and hygiene issues facing less prioritization during such discussions.

According to the chair of the Natural Resources Committee, a move towards closer collaboration on WASH issues in this 9th Parliament might be better achieved through informal forums rather than formal parliamentary structures like committees of the House. One of such forums is the Parliamentary Forum. *Parliamentary fora* are informal groups recognized by parliament through which members freely interact on pertinent issues of their interest.

Through such fora, Members of Parliament (MPs) have greater opportunities to link with civil society and other development partners. CSOs working with local NGOs have been responsible for some of the most cost-effective initiatives to improve and extend provision of WASH services mainly to the poor households. CSOs have also contributed to functionality of water supplies as one of their core focus for both existing and new water sources and have extensive knowledge on the challenges faced in the sector through their experience.

Drawing from their experience, CSOs can therefore play a vital role in increasing the effectiveness of parliament on WASH issues through the provision of high quality and timely research on WASH, presentation of petitions and policy briefs on issues of WASH and increased interaction to support parliament in planning, budgeting and monitoring to ensure improved WASH service delivery through these parliamentary forums.

Development partners and donors also share some responsibility for efficient parliamentary performance. The focus of donor interventions in support of good

governance has however tended to focus on the executive. Whilst there is clear value in donors working closely with the executive, an overly-exclusive focus on this branch of government does risk marginalizing Parliaments.

For this reason, WaterAid therefore advocates for the formation of a Parliamentary Forum on WASH which should include MPs including those on the natural Resources and Social Services Committee, the civil society and development partners. This forum will enable the establishment of a platform through which politicians, technocrats, civil society and the private sector can exchange information, knowledge and expertise on how to effectively address WASH related issues in Uganda.

Among the expected outcomes of this platform will include; commitment for the prioritization of sanitation and hygiene through the enhancement of operational structures and frameworks for delivery of sanitation services with a significant increase in budget allocation for sanitation and hygiene activities. In addition, the forum should be instrumental in championing the recognition of the right to safe water and sanitation for all and the provision of an enabling environment through which this right can be achieved.

Reference:

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The 8th Parliament Notes, 2010



Lake Victoria the main source of water chokes under the water hyacinth

Delivering safe water: Challenges faced by National Water and Sewerage Corporation (NWSC) Kampala

By Susan Namalwa - Senior Quality Analyst, National Water and Sewerage Corporation

Over the past three decades, Lake Victoria has come under increasing and considerable pressure from a variety of interlinked human activities in its catchment such as industrial and municipal waste pollution, wetlands degradation and deforestation. In addition, with the populations of the riparian communities growing at rates among the highest in the world, the multiple activities in the lake basin have increasingly come into conflict. Consequently, this has contributed to rendering the lake environmentally unstable.

Scientific studies have demonstrated that among the most significant impacts to the lake is the increase in nutrient input, hence wide spread eutrophication with massive algal blooms coupled with poor

quality for potable water supply. The point source load per day from Kampala was estimated at about 4.1 tonnes of organic matter (BOD), 1.12 tonnes of total nitrogen and 0.746 tonnes of total phosphorus (Tom O. Okurut, 2002). A high biochemical oxygen demand (BOD) reduces dissolved oxygen in water as the organic matter decays. As organic loading continues, bacterial degradation of waste creates anaerobic conditions in the water leading to the production of hydrogen sulphide that imparts an offensive smell in water thus degrading the odour.

Loading of total nitrogen and total phosphorus increase the nutrient pool in the lake, hence enhancing the growth conditions for algae over other aquatic plants. The phytoplankton community

has become increasingly dominated by the well adapted blue-green algae with a potential of producing cyanotoxins. The most dominant genera within the blue green algae are *Agmenellum*, *Anacystis* and *Anabaena* according to results obtained from NWSC monthly monitoring programme. Eutrophic conditions of the water associated with algal blooms interfere with drinking water treatment by clogging of filters, production of odour and release of toxins.

Increase in urban population comes along with consumption demands of which potable water supply is critical. With the current trends of dwindling water quantity and deteriorating quality linked to widespread environmental degradation and climate change, access to safe potable water is a remarkable challenge. In Uganda, the inner Murchison Bay (part of Lake Victoria) forms the abstraction reservoir for NWSC hence a major source of potable water supply for Kampala city. However, this essential service to the riparian population and more so Kampala city has, over the past decades, been constrained by the massive deterioration of water quality within the lake.

Algal blooms are known to change the pH, dissolved oxygen, colour, turbidity and the organic matter content of water. Consequently, the quality of the raw water abstracted at NWSC Gaba Water Treatment complex has changed significantly over a period of 18 years. Colour has increased from an average of 25 PTU to 175 PTU, and turbidity has increased from an average of 2 NTU to 20 NTU. A similar trend has been observed for total suspended Solids and pH changing from an average of 4 mg/l to 19 mg/l and 7.2 to 8.5 for total suspended Solids and pH respectively. Because of the high total suspended solids in water, chemical coagulation by addition of a coagulant

combined with mechanical flocculation are applied at the treatment plant to allow suspended solids to clump together and be removed from the water. The processes impart costs in terms of chemicals and energy use at the treatment plant.

As a result, it has become extremely expensive for NWSC to meet the water supply quality and quantity demands to the riparian urban population. The costs for water production have increased significantly and chemical treatment alone owing to changing raw water quality has increased over eight times from a cost of 10 Uganda shillings per m³ spent in 1992.

Recommendation

Protecting and reversing the water quality trends of the water source requires interventions that focus on urban pollution control. Key management strategies include; Improvement of garbage collection in Kampala especially in the Nakivubo channel and Kinawataka catchments, performance improvement of the existing municipal wastewater treatment plants to meet the effluent discharge standards and improving the coverage of on-site sanitation facilities for all industrial operations.



Photo: WaterAid/James Kyimba

Woman drawing water for her household needs from Lake Victoria –health authorities say water from the lake is not safe for human consumption because of contamination.

Catchment Based Water Resources Management: Uganda’s Journey to taking the IWRM concept to the grass root

By Sowed Sewagudde -Ag Principal Water Officer in charge of International Water Resources, Directorate of Water Resources Management

Introduction

Water is vital for sustaining life, promoting development and maintaining the environment. Provision of safe water supply and sanitation facilities are necessary conditions for improved health, socio-economic development and vital for the welfare of society. The world’s freshwater resources are under increasing pressure and yet many still lack access to adequate water supply for basic needs. Growth in population, increased economic activity and improved standards of living lead to increased competition for, and conflicts over, the limited freshwater resource. There is now global consensus that there is need for a paradigm shift towards *Integrated*

Water Resources Management (IWRM)

if the threats to the resource are to be overcome.

Although the concept of IWRM is well accepted, its implementation presents a lot of challenge to many developing countries. There is no methodology for implementing IWRM that can be applied uniformly from one country to another given the fact that countries have peculiar differences ranging from different institutional setup or governance structures, legal framework, and the level of development. The main objective of this paper is to highlight Uganda’s experience in implementing the concept of IWRM with particular emphasis

on operationalizing one of its key principals which stipulates that water resources are best managed at a catchment unit.

Understanding the concept of Integrated Water Resources Management

The Global Water Partnership defines IWRM as “a process which 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”.

The basis of IWRM is that the many different uses of water resources are interdependent. For example high irrigation demands and polluted drainage flows from agriculture mean less freshwater for drinking or industrial use; contaminated municipal and industrial wastewater pollutes rivers and threatens ecosystems; if water has to be left in a river to protect fisheries and ecosystems, less can be diverted to grow crops.

Setting the IWRM ball rolling

Figure 1: Map of Uganda showing water management zones



Uganda has since the early 1990s adopted the principle of Integrated Water Resource Management (IWRM) based on the guiding principles from the international conferences on water and environmental issues in Dublin and Rio de Janeiro during 1992. As part of this process Uganda embarked on preparation of a Water Action Plan (WAP) in 1993-94. The WAP is a comprehensive set of documents that details the activities associated with water resources development and management. The overall National Water Policy Objective for Uganda as derived from the WAP process is “to manage and develop the water resources of Uganda in an integrated and sustainable manner, so as to secure and provide water of adequate quantity and quality for all social and economic needs of the present and future generations with the full participation of the stakeholders”.

The Water resources management sub-sector reform study (2003-2005)'s long-term objective was to establish an effective framework for water resources management in Uganda to ensure that water resources are managed in an integrated and sustainable manner. The study majorly recommended a paradigm shift in water resources management from centralised to catchment based water resources management. This would be done through four management zones (Victoria, Kyoga, Albert, and Upper Nile Water Management Zones) as shown in the figure. The study has culminated into a reform strategy with specific recommendations some of which require feasibility studies and piloting before they are officially adopted.

Piloting IWRM in Rwizi Catchment

The core team from the Directorate of Water Resources Management (DWRM) drew a selection criterion for a catchment to prepare and test in a participatory

way an integrated water resources management plan and four Candidate catchments were identified for piloting IWRM. These were – Mubuku, Simu, Rwizi and Manafwa catchments. Rwizi Catchment was selected for piloting.

Rwizi Catchment

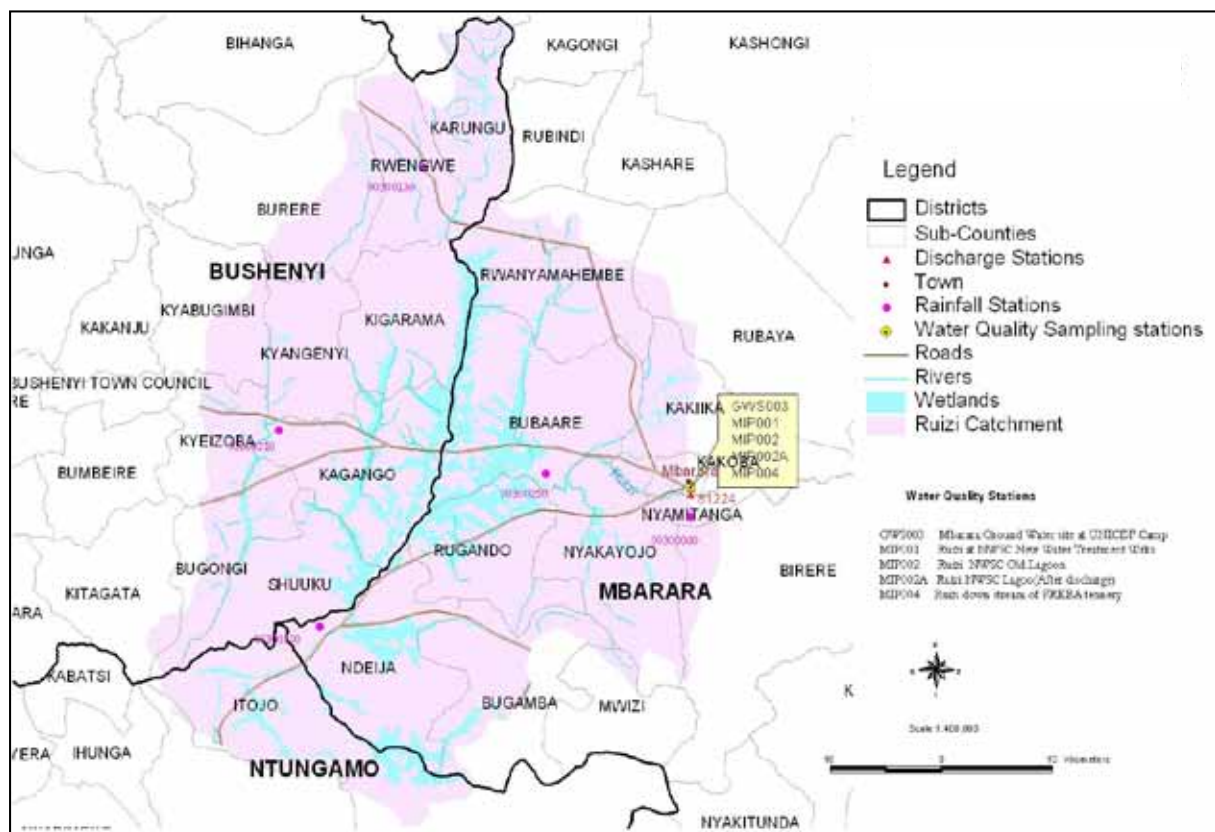
River Rwizi catchment is located in south-western Uganda traversing the districts of Kibingo, Ntungamo, Mbarara, Isingiro and Kiruhura. The river originates in Buhweju hills in Bushenyi District and recharges inland water bodies in Rwizi-Nakivale wetland system. It serves two *Ramsar* sites of Lake Mburo/Nakivale wetland system and Sango Bay Wetland Forests. The catchment is heavily degraded because of poor agricultural practices, urbanisation, wetland degradation and deforestation. Water quality is a problem because of high turbidity as a result of soil erosion due to poor cultivation methods and overgrazing. The Rwizi is the main source of water for

Mbarara Municipal Council and other urban centres along its stretch.

Water resources situation Analysis

A Water resources situation analysis was conducted and examined the policy, legal and institutional framework for WRM in Uganda, socio-economic conditions and stakeholder views and priorities, followed by an analysis of water availability, water demand, and water quality in the Rwizi catchment. Sector and location-specific impacts on water resources in the Rwizi catchment were identified. During the pilot the legal framework was reviewed to establish the enabling factors and constraints in existing legislation, strategies and policies. It was established that unlike water supply functions, the role of water resources management cannot be fully decentralized however; water resources functions can be decongested from the centre.

Figure 2: Rwizi catchment area



Interim Institutional Framework Established

Six scenarios of alternative institutional arrangements for catchment management were made; the best scenario was selected through discussions involving stakeholders. Some of the structures in the framework were established. Key of these is the Rwizi Catchment Management Committee (CMC) comprising of 21 members who are mainly policy makers, technocrats and private sector representatives. The functions of the CMC included; Lobbying district Councils and central Government to prioritize catchment issues in development Plans/financial budgets, initiation of policy/Legislation formation, harmonize of work plans/ activities for catchment management activities, public awareness on the management of natural resources in the catchment, promote environmental restoration activities and enforcement of laws/regulation and monitoring compliance.

Achievements in the catchments

key achievement were; Identification of threatened wetland systems in the catchment, Integration of catchment management issues in district development plans/work plans, Promotion of participatory community wetland management plan, afforestation programme, dissemination of weather outlook/forecasts, Promotion of use of underground/ hydrology maps in some districts, promotion of 50' x 100' red zone catchment protection of ground water points. Others were formation of Inter-District wetland technical committee, operationalization of Local environment Committees, designation of Sub county Focal Person for wetland/environment and environmental/Social Screening of water provision infrastructures.

Challenges and constraints

Challenges included, heavy donor dependence in environmental management which is unsustainable, limited funding by Local governments to sustain established initiatives, political interventions constrain law enforcement, limited awareness on linkage between environmental/water resources management and economic development, limited attention on protection of catchments, unharmonized sector plans with NGOs and other development partners and lastly limited staff to champion environmental concerns.

Lessons learnt during pilot decentralization of WRM in Rwizi

One of the key lessons learnt during piloting was that IWRM is better embraced in an area that is experiencing serious water resources problems. Also considering that the process requires involvement of multiple stakeholders for its success, it involves a great deal of consultations and therefore substantial amounts of funds are needed for IWRM interventions. A significant amount of these resources can be mobilised through partnerships with other organisations.

It was observed that catchment management structures consisting of political, administrative and technical representatives from participating local authorities, is a viable element in decentralized IWRM. The need for continuous testing of the proposed institutional framework for IWRM is necessary before conclusions are drawn about its effectiveness was noted.

Rolling out catchment based water resources management to the rest of the country

Drawing on the lessons learned during piloting of IWRM an institutional assessment study recommended three

levels of deconcentrating water resources management functions, namely, Water Management Zone (WMZ) Level, Catchment level and District level. The study identified the roles and linkages among the key actors and at the Joint Sector Review (JSR) in 2009 a related Undertaking No. 4 was agreed as follows: Catchment based IWRM is operationalised (2009/10) and funds mobilised for the establishment of all Water Management Zones by 2010/11 while building synergies with other regionally based or decentralised sector support structures. A study was carried out to assist DWRM to translate this undertaking into action. The study refined the framework for operationalising catchment-based water resources management a costed implementation plan of about UGX 61 billion in capital costs spread over a period of five years and a recurrent and operational budget of about UGX 13.5 billion per annum.

Immediate plans

Water management Zone teams have been constituted for each of the four zones and deployed to zones effective July 2011. The teams will hold awareness workshops in their respective zones to raise awareness and inform stakeholders of the new move. Prepare operational procedures and guidelines for deconcentration of water resources management including coordination, reporting and financial management arrangements.

Opportunities for involvement of partners/stakeholders in IWRM

Stakeholders are people, groups or institutions, which are likely to be affected by an intervention, or those which can affect the outcome of the intervention. Examples are water and environment Sector agencies, district authorities, water supply companies, water users, NGOs, CBOs, private sector, livestock owners.

The rationale for involving stakeholders is to capture local knowledge about water and environment, increase awareness and advocacy for water and environment and to let them take responsibility for decisions and resource use.

Expected roles of stakeholders in operationalizing IWRM at the grassroots

Regional level stakeholders (WMZ, TSUs, WSDFs, UWSs, WMD) will be involved in regional water resources assessments and planning, assessment of applications for abstraction and easement permits and recommendation to centre on policies and legislation. At the district level (Council, Environment Committee, DWSCC) will be engaged in District level water resources planning & assessment, contribute to facilitating Catchment Management Organisation (CMO) activities and enacting of bye-laws and ordinances to support relevant plans and/or activities at the local level. Lower Governments – (Local councils, Local Environment committees) will provide extension services; prepare local environment work plans as well as supporting community activities.

NGOs and CBO could contribute to the process in terms of advocacy, public education and sensitization campaigns on relevant laws and regulations and contribute and support development of Local Environment Committee guidelines. Communities will participate in monitoring, decision making and implementation of mitigation, mediate in cases of conflicts of interest and provide local knowledge about water and environmental problems. Community awareness and collaboration for data collection and community education and sensitisation are cross cutting activities which could be performed by all actors.



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For more information contact:
WaterAid in Uganda,
Plot 90, Luthuli Avenue, Bugolobi,
P.O. Box 11759, Kampala,
Tel: +256- 414 -505795/7,
Email: wauganda@wateraid.org,

Website: www.wateraid.org/uganda