FRESHWATER CONSERVATION AND WASH INTEGRATION COMMUNITY OF PRACTICE MEETING

February 25, 2020
Nairobi, Kenya
Freshwater Conservation and WASH Integration Community of Practice Meeting


Program Title: Africa Biodiversity Collaborative Group
USAID Technical Office: Bureau for Africa /Office of Sustainable Development
Author: Samson Gituku K.
COVER PHOTO: Participants to the February 2020 ABCG Community of Practice meeting at Four Points by Sheraton, Nairobi, Kenya. February 2020.

PHOTO CREDIT: Peter Chira, AWF

This report was made possible by the support of the American people through the United States Agency for International Development (USAID) under the terms of Cooperative Agreement No. AID-OAA-A-15-00060 - WCS. The contents of this report are the sole responsibility of the Africa Biodiversity Collaborative Group (ABCG) and do not necessarily reflect the views of USAID or the United States Government. This publication was produced by Wildlife Conservation Society on behalf of ABCG.
I. TABLE OF CONTENTS

I. TABLE OF CONTENTS................................................................. II
II. ACRONYMS ........................................................................ II
   1. INTRODUCTION .................................................................. 1
   2. BACKGROUND .................................................................. 2
   3. RATIONALE AND OBJECTIVE OF THE COMMUNITY OF PRACTICE ...................................................... 3
   4. MEETING PROCEEDINGS AND HIGHLIGHTS OF DISCUSSIONS ................................................................. 4
      4.1 INTRODUCTIONS AND OVERVIEW OF STATE OF FW-WASH .......................................................... 4
      4.2 OPENING REMARKS AND FW-WASH CoP GOALS ....................................................................... 4
      4.3 AN OVERVIEW OF RAPID URBANIZATION AND INFRASTRUCTURE DEVELOPMENT AND IMPACT ON WASH AND CATCHMENT CONSERVATION.......................................................... 5
      4.4 PANEL I: OUTLOOK OF WATER SERVICES, WATER RESOURCES MANAGEMENT, SANITATION AND HYGIENE IN THE WAKE OF RAPID URBANIZATION AND INFRASTRUCTURAL DEVELOPMENT ................................................. 6
      4.5 PANEL II: ROLE OF GOVERNANCE AND URBAN PLANNING IN MEDIATING URBAN WATER DEMAND AND SUPPLY AND ENVIRONMENTAL PROTECTION .................................................. 8
      4.6 PANEL III: THE COST OF MEETING FW-WASH CHALLENGES IN THE FACE OF RAPID URBANIZATION ............ 11
      4.7 HOW TO HARMONIZE EFFORTS FOR SUSTAINABLE WATER AND LAND MANAGEMENT IN THE FACE OF URBANIZATION .................................................................................. 14
   5. CONCLUSIONS ................................................................... 16
   6. ANNEXES .......................................................................... 17
      6.1 WORKSHOP AGENDA .......................................................... 17
      6.2 POWER POINT PRESENTATIONS .......................................................... 18
      6.3 EVENT PHOTOS .................................................................. 18
      6.4 LIST OF PARTICIPANTS .......................................................... 19

II. ACRONYMS

ABCG Africa Biodiversity Collaborative Group
AWF African Wildlife Foundation
AWWDA Athi Water Works Development Agency
CoP Community of Practice
FW-WASH Freshwater Conservation and Water, Sanitation, and Hygiene
KEWASNET Kenya Water and Sanitation Civil Society Network
USAID United States Agency for International Development
WASH Water, Sanitation, and Hygiene
WSUP Water & Sanitation for the Urban Poor
I. INTRODUCTION

The overall aim of the Freshwater Conservation and Water, Sanitation, and Hygiene (FW-WASH) community of practice (CoP) is to establish integrated learning and knowledge sharing between FW-WASH practitioners in a supportive and collaborative environment. The CoP is an initiative of the Africa Biodiversity Collaborative Group’s (ABCG) Freshwater Conservation and Water, Sanitation, and Hygiene (FW-WASH) task group. The main goal of ABCG’s FW-WASH component is to bring together health, development and conservation practitioners working in sub-Saharan Africa on projects and policies looking to improve biodiversity conservation and human health. The CoP aims to generate knowledge on the impacts of infrastructure developments on watersheds in sub-Saharan Africa, as well as the impacts of freshwater conservation in meeting WASH goals. By linking FW and WASH, ABCG members and CoP participants expect reduced watershed degradation and pollution, and improved health of freshwater ecosystems.

The CoP provides a neutral overarching platform that links existing learning, networks, working groups and practitioners in FW-WASH together. The intention is for the initiative to be sector owned where practitioners come together in a neutral space to share and learn from each other. The CoP convenes a series of thematic learning and engagement platforms for FW-WASH practitioners and professionals. Each CoP activity is designed to promote in-depth dialogue and honest debate, sharing problems and solutions and identifying best practices in a way that will benefit practitioners. The Kenya Water and Sanitation Civil Society Network (KEWASNET) and ABCG are the conveners of the CoP meetings in Nairobi.

About the Conveners

KEWASNET

KEWASNET is the National Network of Water Civil Society Organizations in Kenya. The Network was established in August 2007 and registered as a society in August 2010. KEWASNET envisions a society with sustainable universal access to safe water, sanitation, and hygiene. The Networks mission, therefore, is to work towards promoting good governance in the water, sanitation and hygiene sector as well as in Water Resources Management.

KEWASNET provides a linkage between Water, Sanitation and Hygiene (WASH) and Water Resources Management utilities and users by facilitating partnerships between policymakers and stakeholders, and encouraging equitable participation by all parties in governance and decision-making mechanisms.

ABCG

ABCG is a voluntary coalition of seven international conservation non-governmental organizations (NGOs) with field-based programming in sub-Saharan Africa: African Wildlife Foundation (AWF), Conservation International (CI), the Jane Goodall Institute (JGI), The Nature Conservancy (TNC), Wildlife Conservation Society (WCS), World Resources Institute (WRI), and World Wildlife Fund (WWF). Together with their African partners, these organizations collaborate to advance understanding of critical conservation challenges and their solutions in sub-Saharan Africa. ABCG creates innovative conservation
solutions by fostering collaborative and adaptive learning opportunities that help practitioners improve, scale, and replicate, while generating valuable user-driven knowledge that can be disseminated globally. ABCG members share their knowledge, and co-create practical tools to address conservation challenges, inform policy, and integrate biodiversity conservation into international development agendas.

2. BACKGROUND

Improving water security is important for sustainable growth and development. As urban populations increase, and climate change places more stress on water availability, finding ways to increase the available supply of fresh water for urban residents has never been a more important challenge to address. The current rapid economic development in sub-Saharan Africa has spurred a lot of infrastructure development and second scramble for Africa by China and the traditional economic big brothers. This is predicted to continue in the coming years. Massive infrastructure development, rapid population increase and expanding urbanization are some of the changes being experienced in the region. The UN-Habitat estimates that by 2030, the urban population in Africa will double. Amidst this, there is a challenge in the provision of basic water in many urban cities in developing countries.

Catchments in many parts of sub-Saharan Africa are facing serious degradation due to land use changes, poorly planned infrastructure, urbanization, population growth, among others. The biggest challenge is that rapid urbanization is happening in the cities that are least able to cope, where infrastructure and systems are already buckling under the strain. These cities are not operating sustainably, damaging their ecosystem and making it even harder for them to cope as they expand. The growth in economic development and rise in urbanization has not been met by the required investment in the protection of water catchment areas necessary to ensure total and indeed urban water security. In addition, many developing countries also lack adequate water and sewerage infrastructure to supply clean water to these rising populations and ensure proper sanitation.

Transforming water-scarce urban settlements into water-secure settlements requires improved water management. However, urban areas do not exist in isolation from the surrounding environment. Availability of clean water in an urban setting depends on proper water management in the surrounding areas. Within an urban environment itself, water is used for a range of activities, including household use, in industry, sewerage and again for farming. Much of this usage, if inadequately managed, can reduce the amount of safe water available for residents to consume. As a result, many countries are grappling with meeting the water demands for this growing urban population.

The 2018 United Nations World Water Development Report, focused on the importance of nature-based solutions: “an essential step to ensuring the long-term sustainability of water resources and of the multitude of benefits that water provides; from food and energy security to human health and sustainable socio-economic development.” The report poses an intriguing question on the urban settlements where water channels are disrupted by development. The question is not whether most of these will be impacted but when?
Urbanization does bring positive global change, as it facilitates growth of hubs for innovation, creativity and growth and accounts for 85% of global Gross Domestic Product. Therefore, getting urban infrastructure development right is essential to the sustainability and future global prospects. Freshwater conservation and ensuring the availability of clean water and sanitation plays a vital role in the development of successful urban centers. There are a lot of players in this field.

Under these circumstances, there is a growing need for stakeholders to come together to share learning and experiences on the effects of rapid infrastructure development and urbanization on water resource management and propose sustainable solutions to this challenge in a Community of Practice (CoP).

3. RATIONALE AND OBJECTIVE OF THE COMMUNITY OF PRACTICE

The CoP provides a neutral overarching platform that links existing learning, networks, working groups and practitioners in Freshwater Conservation and water, sanitation and hygiene (FW-WASH) together. The intention is for the initiative to be sector owned where practitioners come together in a neutral space to share and learn from each other.

The CoP discussed opportunities and potential challenges of infrastructure development on water security and how integrated FW-WASH strategies can be harnessed to ensure provision of clean water while at the same time ensuring the protection of catchment amidst the growing urbanization challenges.

The mission of the FW-WASH CoP is to establish an integrated learning and knowledge-sharing platform between FW-WASH practitioners in a supportive and collaborative environment. The main goal of the CoP is to bring together WASH and conservation practitioners to reduce water catchment degradation and pollution, and improved health of freshwater ecosystems and people.

The CoP seeks to convene a series of thematic learning and engagement platforms for FW-WASH practitioners and professionals. Working with strategic partners, the CoP will convene face-to-face meetings focused on water issues in Kenya and online forums for broader knowledge sharing.

These activities may take place within other sector events such as conferences/fora or using existing infrastructure (discussion boards/webinars/social networks). Each CoP activity will be designed to promote in-depth dialogue and honest debate, sharing problems and solutions and identifying best practices in a way that will benefit practitioners. The Kenya Water and Sanitation Civil Society Network (KEWASNET) and ABCG are the conveners of the CoP meetings in Nairobi.
4. MEETING PROCEEDINGS AND HIGHLIGHTS OF DISCUSSIONS

4.1 Introductions and Overview of State of FW-WASH

Evelyn Namvua, ABCG’s Communications and Engagement Specialist moderated the session. She invited participants to introduce themselves and respond to one of the three questions below:

Questions:

1. The obstacles to improving access to water supply and sanitation services are political, financial, cultural and technical, in that order of priority? TRUE or FALSE? True

2. Kenya has put in place sufficient measures to ensure adequate water resource management for the enabling of Kenya’s big four agenda (Food security, Affordable housing, Affordable healthcare and manufacturing).

3. The ecosystem provides us with the following services, which one resonates most with you and why?
   - Provisioning services – Food, fuel, fiber, timber
   - Regulating services – climate change, food control, pollination
   - Supporting – soil formation, nutrient cycling, biodiversity
   - Cultural – spiritual, education, recreation, aesthetic

29 participants responded to the three questions.

Eight of them agreed that the obstacles to improving access to water supply and sanitation services are political, financial, cultural and technical, in that order of priority? One of them found it not true.

An equal number of participants thought that it is true or false to say Kenya has put in place sufficient measures to ensure adequate water resource management for the enabling of Kenya’s big four agenda (food security, affordable housing, affordable healthcare and manufacturing). Six participants found it true and another six found it false. One participant wasn’t sure about the statement.

The third question attracted the least feedback – only seven associated themselves with it. Majority of these agreed that the ecosystem provides humanity with provisioning of services which include food, fuel, fiber and timber.

4.2 Opening Remarks and FW-WASH CoP goals

The narrative of harmonization of work being done by FW-WASH institutions has been going on for long but without tangible results. Institutions should now focus on integrating their activities. “Harmonization may mean breaking all the silos and forming one. This may not work. We might go somewhere with integration”, says Vincent Ouma, Head of Programs, KEWASNET.
The CoP was established in 2016 under the support of ABCG working with KEWASNET. It’s important to have the CoP gather more regularly starting with two times every year and eventually every quarter. Different professionals need to integrate their efforts in the “land-to-sea” approach. “In between there are different people who may be don’t work with each other as much” Vincent noted.

Institutions in the FW-WASH sectors ought to resolve the challenges that exist in creating awareness and mobilizing opinion in support of the concept of conservation of water resources.

4.3 An Overview of Rapid Urbanization and Infrastructure Development and Impact on WASH and Catchment Conservation by Doris Kaberia Millennium Water Alliance and Wangai Ndirangu, BeAssociates

A couple of water concerns raised:

a) Where are Kenyans getting the water they are using? Most engineers are getting the water from underground or collecting via dams.

b) Who is recharging the aquifers when water is taken out? Who is retaining the water when it rains? Who is reusing the water?

c) Most golf courses use safe water to irrigate the carpet grass. Do they need to use the safe water for grass?

The Kenyan population is a youthful one with over 39 percent below the age of 15 years. Based on Census 2019, 75.1 percent of the population is below the age of 35 years. At least 32 percent of the population resides in urban centers, a rise from 24.1 percent in 2009. This translates to half a million annual growth in urban population, becoming the highest rate in the East African region.

There is a significant decline in the number of people living in rural areas. Urbanization is a major phenomenon and we need to start changing our orientation. With the growing urban population,
governments are called to strategize on how to invest in water resources. “Should we be investing in rural areas or where the population is?” Posed Wangai Ndirangu.

Other key highlights

- As per 2019 census, now there are two urban centers with more than one million residents: Nairobi and Mombasa.
- The bigger problem is in the peri-urban areas. For instance, Syokimau in Machakos County. These are areas that now need water and sewer systems unlike they did a decade ago.
- Water and Sanitation in 2009 had most of the urban centers with less than 25 percent accessing improved sewer systems.
- Informal settlements that are non-tenured require more attention in provision of FW-WASH services.

Suggestions to address the gaps

- Decentralize large, interconnected and complex sewer systems
- Create enabling environment for investment in smaller systems
- Build capacity among local communities to maintain the smaller systems
- The promise of “water for all” must turn from being a vision to reality
- Re-use/recycle waste water
- Enhance planning for changing trends in population needs and residence

### 4.4 Panel I: Outlook of Water Services, Water Resources Management, Sanitation and Hygiene in The Wake of Rapid Urbanization and Infrastructural Development

The growth of urban areas in Kenya has been on the rise in recent decades. This growth has on several occasions been hampered by non-commensurate service delivery. While responsible bodies have been tasked with the role of responding to growing demands, there exist gaps in planning. The panel focused on understanding the state of affairs while seeking ways to surmount the challenges of information access to planners.

Panel I, left to right: Gertrude Salano (WSUP), Francis M. Nkaka (WWF), and George Ndiritu (Karatina University) sharing their views. Photo credit: Peter Chira, AWF.
Panelists Presentations

Sub-theme I: National and county level FW-WASH priorities and policies and how these are driving development or the lack of it by Gertrude Salano, Programme Monitoring and Evaluation, Water and Sanitation for the Urban Poor (WSUP).

WSUP has been facing challenges to implement its programs due to inadequacy of resources. The following are key intervention areas to improve water access in poor cities:

Cost of water: Poor communities pay up to 250 shillings (2.4 USD) per cubic meter of water through 20 liter Jerry cans. The price is higher than for piped households. Business cartels are guilty of puncturing water pipes and selling the same water to poor communities.

Water economic inequality: There is a bias towards the wealthy. Water companies would rather sell water to wealthy estates because they will buy in volumes and pay, and so the poor have no access to water.

Water bureaucracy: To gain water and sanitation systems connection, residents have to go through rigorous documentation. This favors tenants who own the land. Residents in informal settlements and low-income areas are disadvantaged as they lack several documentation including land titles.

Sub-theme II: The economic, social, and environmental benefits of our freshwater ecosystems by Francis M. Nkako - National Coordinator, Community Based Natural Resources, WWF.

The challenges in the FW-WASH sectors can be attributed to historical mistakes of a country that has not been keen on conservation of natural resources. Successive Kenyan governments and its officers have failed to appreciate the value of water conservation and instead pursuing what’s commercial.

The country is keen on investing in physical water infrastructure like dams and piping, instead of conserving the ecosystem. Conserving the ecosystem ought to be granted priority as it is what supplies the water. Selfish interests by government officials are partly to blame for the investment in infrastructure, an avenue used by many corrupt individuals to yield kickbacks in multi-million government tenders.

The commercialization of water as a commodity has disadvantaged many poor communities with the essential product now more expensive than products like petrol; yet water is naturally occurring.

Sub-theme III: Nairobi water quality and systems of accountability (the role of data and science) by George Ndiritu, Head of Department and lecturer at the Department of Environmental Studies, Karatina University.

The key root-causes of water concerns are: population pressure, poverty and inequality, bad governance, financial constraints and inadequate knowledge/awareness among the public.

95% of water in Nairobi comes from upper Tana River Watershed the rest is sourced from boreholes.
The quality of water in Nairobi is defined by two main challenges: sedimentation and pollution. The Nairobi City water and sewer system has been outstretched. A system that was initially built for a population of 700,000 is now required to serve more than 4.3 million residents.

**Role of science and data in addressing the challenges**

Science and data is critical in guiding among other decisions the water quality both in the watershed and the Nairobi City. Data should be deployed in water allocations among different competing users to reduce water conflicts experienced in Nairobi.

**Key Plenary Concerns**

- A lot of resources have been invested in water distribution to customers but there’s no commensurate investment in waste management. The sewer system is in dire need of expansion and repair.
- Quality of water is diminishing due to deforestation. FW-WASH players should explore possibilities of the private sector investing in sewer systems management.
- To improve water inequalities in the low-income and informal settlements, utility firms have been instructed to as part of their performance indicators, deliver services to the communities.
- To promote the water connectivity, a social connection policy has been adopted to enable poor communities connect to the water and sewer system but pay for it gradually.
- Data collection in Kenya on areas of FW-WASH is fragmented. Industries had data specific to their needs and rarely shared with other institution in the same or similar line of operation.
- With disjointed built environment being highlighted as straining water resources, Environmental Impact Assessment reports have been emphasized as a requirement to development approvals. The challenge however is in implementing the reports to the letter. There lacks proper framework to monitor accountability and faithfulness to plans.

**4.5 Panel II: Role of Governance and Urban Planning in Mediating Urban Water Demand and Supply and Environmental Protection**

Understanding the needs of an urban area is only part of the elaborate planning required in enabling communities access FW-WASH services. FW-WASH players thus need sufficient knowledge on how the governance structure in urban areas is designed. Kenya’s democracy is multi-layered with two levels of governance. It is therefore critical for players to appreciate the value of water as a resource while distinguishing it from commercial commodities. The panel focused on appreciating water as a human right and sought ways of ensuring it is sustainably shared amongst users.
Panelists Presentations

Sub-theme I: What are the hybrid forms of governance that are largely observed in urban settings including informal settlements and their contributions or lack of it to freshwater conservation and WASH? by Francis Oremo from the Institute for Law and Environmental Governance.

Governance in the water sector had until the current century been largely centralized. That was until decentralization and commercialization were found worthy ideas. Three main forms of governance in water are: market, hierarchical and networked. In Kenya all three modes are operating, with the market model being dominant in urban centers.

Since devolution of power and resources in 2013, the water sector has been decentralized to the County Governments. With market approach dominant, players in the water sector have been given responsibility to provide water where licensed. With main focus being profits, most utility providers have been observed to concentrate their work in formal settlements. The informal settlements have been neglected.

To cure the inequality, the state should take up a role in water service provision. The profit-focus is so high that water service providers are not contributing anything to water resources conservation.

Sub-theme II: The value of water resources in Kenya and how this value affects sustainable or the unsuitable use of this resources by Jackson Otieno, Strategy and Performance Management Manager at Athi Water Works Development Agency (AWWDA).

Kenya experiences water scarcity. As of 2020, Kenya has 617 cubic meters of water per capita against the UN expected goals of 1,000 cubic meters per capita. The water demand in Nairobi is 800,000 cubic meters a day. The Nairobi Water Company however is only able to supply estimated 640,000 cubic meters a day.
Water inequality is a major concern for the city of Nairobi. Wealthy residential estates are more likely to have constant supply of water than poorer neighborhoods. The pricing of water however has been exorbitant.

Even though water users are required to pay certain statutory fees including a charge to the Water Resources Authority, a lot of money is lost to pilferage in the name of commercial losses.

Sub-theme III: What can development actors do to support sustainable development that ensures the integrity of freshwater resources and adequate WASH? by Martin Mulongo, Senior Program Management Specialist, WASH, USAID.

Water is a finite resource and therefore all stakeholders need to take part in shaping the utilization and conservation of water.

Development actors can utilize a participatory approach to the management of water resources. Behavioral change is required to ensure inclusivity of management of the catchment areas, storage of water and equitable distribution of the same to users of different cadre.

Since water is an economic good amidst cultural differences, women need to be incorporated in decision making. There is need to improve on governance at the institutional level and encourage people to deliver on services.

Sub-theme IV: The role of physical planning in water resource management, urbanization and infrastructure development by Ruth Muroki, Director – Urban Planning Sector, Nairobi City County Government.

Nairobi County is currently running a special plan enacted in the year 2014 to run until 2030. The aim is to reduce the supremacy of the central business district.

The plan seeks to resolve the pressure of uncontrolled development. City roads have been undergoing expansion to address traffic congestion. Nairobi is investing in alternative transport means including light rail systems and Bus Rapid Transit systems.

There’s necessity for FW-WASH partners to share data on development for more harmonized development of the city.

Key Plenary Concerns

Inter-County water conflicts had been noted between Murang’a and Nairobi counties, Kwale and Mombasa counties. Murang’a and Kwale are sources of water supplied in Nairobi and Mombasa respectively. The source counties had wanted monetary compensation for “exporting” their water which is sold in the recipient counties.

Water as a natural resource is vested in the state. No County therefore can claim compensation from another. It was felt that water beneficiaries could be tasked to pay a levy for conservation efforts on voluntary basis. This would help in conserving the catchment areas and thus posterity in enjoyment of the natural resource.
Jackson Otieno observed that the amount of water available has been going down because of exogenous factors and climate change. The search for water will move from high productive water sources into protected areas. Sources of water are being diversified to Mt. Kenya. The physical water will reduce with time due to climate change.

It was observed that water is highly polluted in the traditional places like rivers and streams that majority of the population relied on previously. Despite this reality, water wastage had been high.

To reconcile the competing interests in the water market, it was highlighted that water price indexing was underway. This would be useful in assessing the total economic value of water and therefore guide the pricing for domestic, industrial and commercial use. For integrity of payments for water utilities, it was reported that an overhaul of the metering system was at an advanced stage. That smart meters were being installed.

It was observed that Nairobi river is highly polluted despite perennial efforts to clean it. A call was made to investors and industrialists to cease discharging raw effluent to the river.

While drilling of boreholes has continued with the expansion of Nairobi City and growing population, it was observed that little effort was going to recharging the ground water resources. To conserve the water resources, it was recommended that at least ten percent of land for development be left for soft spaces and greenery. This would allow water to percolate and recharge the ground.

County governments should invest in water resources, allocate resources that would help the FW-WASH agenda. Conflicts around water should be resolved between counties and internationally.

### 4.6 Panel III: The Cost of Meeting FW-WASH Challenges in The Face of Rapid Urbanization

With the place of FW-WASH in urban centers already tackled and the role of governance understood, the cost of putting up the necessary infrastructure appears critical. Weighing the cost against the benefit of investing in proper FW-WASH systems is necessary to mobilize the necessary resources. This panel discussed the dynamics of financing projects within rapidly growing urban areas. Spatial planning is an important component for areas that are coming up with the possibility of increased population in future that would stretch the resources.

**Panelists Presentations**

**Sub-theme I: The role of partnerships and cooperation in ensuring negative externalities related to freshwater and catchment conservation are minimized**, by John Owino, Programme Officer, International Union for Conservation of Nature (ESARO).

As a result of pollution since 1970 the Kenyan ecosystem has lost 80% of freshwater species.
Stakeholders within the CoP should jointly pursue solutions and implement them. Values of transparency, networking, sharing information and airing issues on strategy should guide the collaboration. The CoP as a matter of responsibility ought to commit to solving problems. To be results-oriented and focused on the action to do as agreed. Complementarity needs to be embraced as a key to building on diversity in boosting local capacity. Equal power relations are important for mutual respect in working together in a bid to avoid foreseeable challenges.

**Sub-theme II: Impact of lack of proper sanitation and hygiene in the economy and possible measures to alleviate negative impacts by Jackson Otieno, Strategy and Performance Management manager, Athi Water Works Development Agency.**

Sewer coverage in Nairobi is the highest in Kenya at 50 percent. Mombasa follows at has 34 percent coverage. Slightly over 25 billion shillings worth of losses are attributed to issues of sanitation. Open defecation causes losses amounting to 2.6 billion shillings to the economy. These costs are attributed to cost of looking for privacy for open defecation and consequential costs of health challenges and medication.

19,500 people die every year in Kenya. 17,000 of them are young children and die because of sanitation or lack of it. School time is lost due to absenteeism of disadvantaged children.

Socio-economic inequality is also manifested in the area of sanitation. The cost of sanitation badly hits the poor. Their earnings are mainly utilized on purchasing basic necessities such food healthcare.

**Proposed Solutions**

Investment in sanitation has not been commensurate to the problem. Although there has been sanitation programmes funding projects, there is need to prioritize these to provide sanitation facilities for the poor.

Main challenge with sewer infrastructure is the cost of land. Land is becoming more expensive than the infrastructure.

AWWDA are pursuing alternative infrastructure (Omni processor). It uses smaller space and is able to serve a considerable population.

**Sub-theme III: Physical and spatial planning and the future impacts of urbanization on FW-WASH by David Zinny, Principal Consultant & Director, Zenith Spatial Planning Agency Ltd.**

Physical planning is the process of organizing space. In Spatial planning physical space is involved which entails land management. “Urbanization is a reality. You may plan to manage it or prepare to deal with consequences,” says David. The role of physical and spatial planning is to protect public interest and enable use of physical land. Physical planning within water resources entails mapping out all
environmentally sensitive areas. It helps come up with development standards in managing cities that are coming up. It helps protect ecologically volatile areas. They are the first casualties of urbanization.

Urbanization is supposed to be a positive concept in any society. However, in Kenya’s case it’s been noted to be negative for the environment. If physical planning happened from the start it would be a positive issue as rural-urban migration would be smooth.

**Plenary Concerns**

Most development plans in the republic lack a land information system. There is no real data on specific land use plans from a database. In the absence of physical planning you find pollution, encroachment into water systems and destruction of clean water.

Q. How best can we manage urbanization for effective management of water resources?

- Planning is political. There’s need to strictly adhere to planning and environmental laws.
- In the process of development control, these laws are superseded by other factors outside physical planning.
- Forward planning: most plans post devolution have not had national thought. Currently most physical planning at counties is discretionary instead of being based on law.
- Reduction of urban poverty: a percentage of residents are in informal settlements. They have very little regard for conservation efforts. Their main concern is daily food.
- While development plans exist the main challenge is that they are never faithfully implemented. The cost of implementation is high and counties are yet to adequately fund it.
- Planning for a town is not just about planning for spaces of physical infrastructure (offices), WASH is critical and must be appreciated.

**Summary**

- Physical and spatial planning in Kenya is political and discretionary more than is legal and guided.
- Approval on development are given without strict adherence to the provisions of planning and environmental law. Developers have found a way to wallow in impunity. The biggest challenge that leads to encroachment of public and riparian land is lack of correct data.
- Any development should be subjected to Environmental Impacts Assessment before commencement of development on site.
Integration of urban planning and water sources should be enhanced so that we define planning as multidisciplinary.

Most urban areas have challenges with water sources. Most of the areas have been polluted and therefore the only source of safe water is from outside.

In the water sector there are various agencies doing different things. Informal settlements face the most challenges with one of the solutions suggested being how to construct sanitation facilities that don’t require so much land (e.g. Omni Processors).

The politics of land allocation in Nairobi: Not much can be done to chase “illegal” tenants away since they have gone to the extent of putting up permanent structures.

CoP is a good idea to meet and share what different sectors are doing. It’ll help avoid duplication of roles and initiatives.

To protect catchment areas from destruction you must provide people living around the catchment areas with an incentive to conserve the catchment area.

To reduce inter-county water conflicts especially in cross-county water projects, committees will be set up to run the water projects put up.

4.7 How to Harmonize Efforts for Sustainable Water and Land Management in The Face of Urbanization

Participants were split into different groups and asked to come up with action points and key concerns around the following areas:

Institutional Capacity

There are not clear mandates for different institutions. E.g. AWWDA is putting up water infrastructure, Nairobi Water is doing connections. Who takes care of sanitation? The technical know-how is seen to be missing in water utilities firms.

Retention and motivation: the young people never aspire to come and do the simple things. They come to institutions and realize it’s not appealing to them thus you can’t retain them.

Weak co-ordination among institutions: Sanitation has been at the ministry of health. Ministry of water has now taken up the role. Of concern is whether there is communication and coordination between the ministries.

With water and sanitation now a devolved function/service, where is the line?

Proposals:

- Coordination has to be operationalized at all levels.
- Capacity development for Human Resources.
- The young professionals should be more patient in their career progression as it pays to have retention at work places. This will help build capacity within institutions over time.
- Harmonization of mandates and roles needed to achieve the goals and conserve them.
Data Management

Data is more about information. Across the sector there’s a lot of data but not coordinated. Right to information has not been implemented as a right enshrined in the Kenyan Constitution.

Proposals:

- There’s need to have a centralized data point nationally. A point where you can access the data from all sectors.
- The data should be cleaned and authenticated to ensure there are no disparities. It should be referenced adequately.
- Data should be up to date.
- If FW-WASH CoP is able to speak in one language, it will be possible to achieve big four agenda.

Public-Private Partnerships

- Organizations need to embrace Corporate Social Responsibility for wetland conservation.
- Complete policy formulation and implementation needs to be enhanced since inclusion is seen at formulation but at implementation there are gaps.
- Benchmarking: The CoP should map with other countries and learn.
- Documentation: private sector is concerned with visibility and seeing where money is going. The public is concerned with knowledge base. Both public and private sectors need to integrate their visions.
- Co-creation: the two entities can come on board. Communities of practice can bring in ideas and inputs to address the challenges being faced.
- Training is needed and coordination on public-private-partnerships.

Cultural and Culture Issues

- Empower communities on waste management, teaching them on the importance and how to do it.
- Invest in latrines and waste disposal mechanisms.
- Treating water as an economic good. Communities should be made to understand what’s an economic good.
- Training community members on importance of reusing and recycling water.
- Fight the culture of corruption. Land grabbers have historically been putting up structures that end up polluting the environment and jeopardizing the quality of water resources. Communities ought to rise up and raise the alarm for action to be taken.
- Women have accumulated knowledge in water resource management. This should be harnessed by incorporating women in decision making at community level.
- Indigenous knowledge should be tapped to aid the conservation efforts of catchment areas.
Politics

- There needs to be a structural revolution to have correct policies into the design of water and development projects.
- Political goodwill is needed for an enabling environment.
- There are many good policies that need to transition to implementation.
- Strengthening of oversight bodies is long overdue for accountability.

Governance: Policies and Regulation

- Sensitize communities on the importance of taking part in decision making.
- Lack of implementation of policies: stakeholders to help in implementation and follow up.
- Devolved government may be operating at cross-purposes with national government there’s need to link up the policies.
- Public participation: Engage the public more into decision making.
- Policy making has been left to legislative bodies: CoP members need to collaborate with legislators.
- Sensitize government to prioritize waste water management beyond water distribution
- Policy tracking: FW-WASH actors need to monitor the performance and whether the policies are solving the problem.

5. CONCLUSIONS

The Community of Practice discussed several critical issues in the integration of roles and functions of institutions operating in the areas of FW-WASH. Each of the presentations and participant contributions pointed to several gaps in information sharing, unity of vision and purpose. What also came out is a wide array of opportunities that should the Community of practice embark into, more in-depth collaboration would help the sectors.

While scarcity of resources continues to be a challenge for many players, the CoP offers a chance for the said organizations to pool resources and especially on ideas and plans. With the population growth on the rise, demand for services continues to rise. The quality of water services is deficient and as the demand rises, the supply must also rise if stability is to be achieved.

The meeting generally agreed to widen the focus into enhancing the quality of water reaching consumers and especially those in low-income settlements, create water-equality or at the very least reduce the inequality therein. This the meeting underscored requires deliberate investment into the conservation of water resources. As more urban areas come up and demand water resources, the traditional sources of water require conservation.

The participants and organizations represented are to locally harness their strengths but more closely work with others to unlock opportunities buried in bureaucracy and silo-mentality in management of community interests.
6. ANNEXES

6.1 Workshop Agenda

08:30 – 09:00 AM  Arrival and registration of participants
09:00 – 09:15 AM  Introductions
09:15 – 09:30 AM  Opening remarks and FW-WASH CoP goals
09:30 – 10:00 AM  An overview of rapid urbanization and infrastructure development and impact on WASH and catchment conservation
10:00 – 11:00 AM  Outlook of water services, water resources management, sanitation and hygiene in the wake of rapid urbanization and infrastructural development (8 minutes each followed by the panel discussion)
11:00 – 11:30 AM  Tea/Coffee Break
11:30 – 12:30 PM  The role of water governance and urban planning in mediating urban water demand and supply, and environmental protection (8 minutes each)
12:30 – 1:00 PM  Inter-active audience discussion and future actions
1:00 – 2:00 PM  Lunch Break
2:00 – 3:00 PM  The cost of meeting FW-WASH challenges in the face of rapid urbanization (8 minutes each)
3:00 – 3:30 PM  Inter-active audience discussion and future actions
3:30 – 4:00 PM  How to harmonize efforts for sustainable water and land management in the face of urbanization
4:00 – 4:30 PM  Way forward on the community of practice
4:30 – 5:30 PM  Tea/Coffee Break, Networking and Departure
6.2 Power Point Presentations

1. Nairobi water resources and systems of accountability: the role of data and science by George Gatere Ndiritu - Department of Environmental Studies, Karatina University
2. Rapid urbanization, infrastructure development and impact on wash and catchment conservation by Wangai Ndirangu & Doris Kaberia
3. Physical and Spatial Planning and the future impacts of urbanization on FW-WASH by David W. Zinny

6.3 Event Photos

Click here for the event photos: Rapid Urbanization, Infrastructure Development, and Water Conservation in Kenya FW-WASH COP event photos
### 6.4 List of Participants

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Institution</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Francis Oremo</td>
<td>Institute for Law and Environmental Governance</td>
<td><a href="mailto:f.oremo@ilegkenya.org">f.oremo@ilegkenya.org</a></td>
</tr>
<tr>
<td>2</td>
<td>Gertrude Salano</td>
<td>Water &amp; Sanitation for the Urban Poor (WSUP)</td>
<td><a href="mailto:gsalano@wsup.com">gsalano@wsup.com</a></td>
</tr>
<tr>
<td>3</td>
<td>Moses Lengewa</td>
<td>AMREF</td>
<td><a href="mailto:moses.lengewa@amref.org">moses.lengewa@amref.org</a></td>
</tr>
<tr>
<td>4</td>
<td>Peter Chira</td>
<td>African Wildlife Foundation</td>
<td><a href="mailto:Pchira@awf.org">Pchira@awf.org</a></td>
</tr>
<tr>
<td>5</td>
<td>Ashah Shaaban</td>
<td>CESPAD</td>
<td><a href="mailto:ashahshaban@cespad.co.ke">ashahshaban@cespad.co.ke</a></td>
</tr>
<tr>
<td>6</td>
<td>Robert Sunya</td>
<td>Ecogreen Kenya</td>
<td><a href="mailto:robertsunya@yahoo.com">robertsunya@yahoo.com</a></td>
</tr>
<tr>
<td>7</td>
<td>Doris Kaberia</td>
<td>Millennium Water Alliance</td>
<td><a href="mailto:doris.kaberia@mwawater.org">doris.kaberia@mwawater.org</a></td>
</tr>
<tr>
<td>8</td>
<td>David Ochieng</td>
<td>Millennium Water Alliance</td>
<td><a href="mailto:davidjos94@gmail.com">davidjos94@gmail.com</a></td>
</tr>
<tr>
<td>9</td>
<td>Evelyn Namvua</td>
<td>Africa Biodiversity Collaborative Group</td>
<td><a href="mailto:enamvua@abcg.org">enamvua@abcg.org</a></td>
</tr>
<tr>
<td>10</td>
<td>Benazir O. Douglas</td>
<td>UMANDE TRUST</td>
<td><a href="mailto:benazir.o@umande.org">benazir.o@umande.org</a></td>
</tr>
<tr>
<td>11</td>
<td>Kelvin Ocholla</td>
<td>KWFG</td>
<td><a href="mailto:kevinocholla07@gmail.com">kevinocholla07@gmail.com</a></td>
</tr>
<tr>
<td>12</td>
<td>Rogers Katua</td>
<td>African Wildlife Foundation</td>
<td><a href="mailto:rkatua@awf.org">rkatua@awf.org</a></td>
</tr>
<tr>
<td>13</td>
<td>Patrick Mutinda</td>
<td>Living Water Service Centre</td>
<td><a href="mailto:pmutinda@water.cc">pmutinda@water.cc</a></td>
</tr>
<tr>
<td>14</td>
<td>Brian Omala</td>
<td>Hakijamii</td>
<td><a href="mailto:brian@hakijamii.com">brian@hakijamii.com</a></td>
</tr>
<tr>
<td>15</td>
<td>Sharize Odongo</td>
<td>African Wildlife Foundation</td>
<td><a href="mailto:SOdongo@awf.org">SOdongo@awf.org</a></td>
</tr>
<tr>
<td>16</td>
<td>Ouma Derrick Odhiambo</td>
<td>University of Nairobi</td>
<td><a href="mailto:derickouma77@gmail.com">derickouma77@gmail.com</a></td>
</tr>
<tr>
<td>17</td>
<td>Kigundu Wangari</td>
<td>UON,CEAC, EAWLS</td>
<td><a href="mailto:wangarikigundu@gmail.com">wangarikigundu@gmail.com</a></td>
</tr>
<tr>
<td>18</td>
<td>Resia Lein</td>
<td>UMANDE TRUST</td>
<td><a href="mailto:leinresia@gmail.com">leinresia@gmail.com</a></td>
</tr>
<tr>
<td>19</td>
<td>Allan Imbogo</td>
<td>CABDA</td>
<td><a href="mailto:musongsallano94@gmail.com">musongsallano94@gmail.com</a></td>
</tr>
<tr>
<td>20</td>
<td>Enos Omondi</td>
<td>African Wildlife Foundation</td>
<td><a href="mailto:eomondi@awf.org">eomondi@awf.org</a></td>
</tr>
<tr>
<td>21</td>
<td>Khaduyu Michael</td>
<td>KYCN</td>
<td><a href="mailto:mkhaduyu@gmail.com">mkhaduyu@gmail.com</a></td>
</tr>
<tr>
<td>22</td>
<td>John Owino</td>
<td>International Union for Conservation of Nature ESARO</td>
<td><a href="mailto:John.owino@iucn.org">John.owino@iucn.org</a></td>
</tr>
<tr>
<td>23</td>
<td>Gimase Chahcha</td>
<td>University of Nairobi</td>
<td><a href="mailto:chachagimase6897@gmail.com">chachagimase6897@gmail.com</a></td>
</tr>
<tr>
<td>24</td>
<td>Felix Brian</td>
<td>Kenya Water for Health Organization (KWAHO)</td>
<td><a href="mailto:felix.brian@kwaho.org">felix.brian@kwaho.org</a></td>
</tr>
<tr>
<td></td>
<td>Name</td>
<td>Organization</td>
<td>Email</td>
</tr>
<tr>
<td>---</td>
<td>---------------</td>
<td>---------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>25</td>
<td>Ann Murithi</td>
<td>Kenya Water for Health Organization (KWAHO)</td>
<td><a href="mailto:wachukaann20@gmail.com">wachukaann20@gmail.com</a></td>
</tr>
<tr>
<td>26</td>
<td>Fibanda Brotry</td>
<td>KFWG</td>
<td><a href="mailto:vincentbrotryf@gmail.com">vincentbrotryf@gmail.com</a></td>
</tr>
<tr>
<td>27</td>
<td>Brian Otiende</td>
<td>USAID</td>
<td><a href="mailto:botiende@usaid.gov">botiende@usaid.gov</a></td>
</tr>
<tr>
<td>28</td>
<td>George Wakesho</td>
<td>African Wildlife Foundation</td>
<td><a href="mailto:gwakesho@awf.org">gwakesho@awf.org</a></td>
</tr>
<tr>
<td>29</td>
<td>Sam Gituku</td>
<td>Citizen TV, Kenya</td>
<td><a href="mailto:sam.gituku6@gmail.com">sam.gituku6@gmail.com</a></td>
</tr>
<tr>
<td>30</td>
<td>Vincent Ouma</td>
<td>Kenya Water and Sanitation Civil Society Network</td>
<td><a href="mailto:v.ouma@kewasnet.co.ke">v.ouma@kewasnet.co.ke</a></td>
</tr>
<tr>
<td>31</td>
<td>Wangai Ndirangu</td>
<td>Millennium Water Alliance</td>
<td><a href="mailto:wangai@beassociates.co.ke">wangai@beassociates.co.ke</a></td>
</tr>
<tr>
<td>32</td>
<td>Jackson Otieno</td>
<td>Athi Water Works Development Agency</td>
<td><a href="mailto:jotieno@awwda.go.ke">jotieno@awwda.go.ke</a></td>
</tr>
<tr>
<td>33</td>
<td>Alphonce Guzha</td>
<td>African Wildlife Foundation</td>
<td><a href="mailto:aguzha@awf.org">aguzha@awf.org</a></td>
</tr>
<tr>
<td>34</td>
<td>Per Karlsson</td>
<td>African Wildlife Foundation</td>
<td><a href="mailto:perkarlsson@awf.org">perkarlsson@awf.org</a></td>
</tr>
<tr>
<td>35</td>
<td>David Wanjohi</td>
<td>LAICONAR</td>
<td><a href="mailto:laiconarnetwork@gmail.com">laiconarnetwork@gmail.com</a></td>
</tr>
<tr>
<td>36</td>
<td>Ruth Muroki</td>
<td>NCCG</td>
<td><a href="mailto:rwaruguru@yahoo.com">rwaruguru@yahoo.com</a></td>
</tr>
<tr>
<td>37</td>
<td>Joel Siele</td>
<td>Nature Kenya</td>
<td><a href="mailto:conservation@naturekenya.org">conservation@naturekenya.org</a></td>
</tr>
<tr>
<td>38</td>
<td>Maria Letitoya</td>
<td>IIN</td>
<td><a href="mailto:mariatoyas@gmail.com">mariatoyas@gmail.com</a></td>
</tr>
<tr>
<td>39</td>
<td>Austin Omutto</td>
<td>African Wildlife Foundation</td>
<td><a href="mailto:austinomutto90@gmail.com">austinomutto90@gmail.com</a></td>
</tr>
<tr>
<td>40</td>
<td>Jacob A. Baraza</td>
<td>CESPAD</td>
<td><a href="mailto:jacobbaraza@yahoo.com">jacobbaraza@yahoo.com</a></td>
</tr>
<tr>
<td>41</td>
<td>Francis Nkako</td>
<td>WWF</td>
<td><a href="mailto:molenkako@gmail.com">molenkako@gmail.com</a></td>
</tr>
<tr>
<td>42</td>
<td>Gilbert Kosgei</td>
<td>National Museums of Kenya</td>
<td><a href="mailto:2kipscham@gmail.com">2kipscham@gmail.com</a></td>
</tr>
<tr>
<td>43</td>
<td>Guyo Adhi</td>
<td>African Wildlife Foundation</td>
<td><a href="mailto:gadhi@awf.org">gadhi@awf.org</a></td>
</tr>
<tr>
<td>44</td>
<td>Martin Mulongo</td>
<td>USAID</td>
<td><a href="mailto:mmulonga@usaid.gov">mmulonga@usaid.gov</a></td>
</tr>
<tr>
<td>45</td>
<td>George G. Ndiritu</td>
<td>Karatina University</td>
<td><a href="mailto:gatereg@yahoo.com">gatereg@yahoo.com</a></td>
</tr>
<tr>
<td>46</td>
<td>Michael Maina</td>
<td>African Wildlife Foundation</td>
<td><a href="mailto:mmaina@awf.org">mmaina@awf.org</a></td>
</tr>
<tr>
<td>47</td>
<td>Nicholas Ndegwa</td>
<td>USIU</td>
<td><a href="mailto:nicholaskimani2011@gmail.com">nicholaskimani2011@gmail.com</a></td>
</tr>
<tr>
<td>48</td>
<td>Jacqueline Kalekye</td>
<td>African Wildlife Foundation</td>
<td><a href="mailto:JKalekye@awf.org">JKalekye@awf.org</a></td>
</tr>
<tr>
<td>49</td>
<td>Jane Kioko</td>
<td>IMARISHA NVS</td>
<td><a href="mailto:kiokojane8@gmail.com">kiokojane8@gmail.com</a></td>
</tr>
<tr>
<td>50</td>
<td>Noella Mumba</td>
<td>African Wildlife Foundation</td>
<td><a href="mailto:NMumba@awf.org">NMumba@awf.org</a></td>
</tr>
<tr>
<td>51</td>
<td>Lunzalu Kevin</td>
<td>GYBN</td>
<td><a href="mailto:kyouth.biodiversity@gmail.com">kyouth.biodiversity@gmail.com</a></td>
</tr>
<tr>
<td>52</td>
<td>Ada Mwangola</td>
<td>Vision 2030</td>
<td><a href="mailto:amwangola@vision2030.go.ke">amwangola@vision2030.go.ke</a></td>
</tr>
<tr>
<td>53</td>
<td>Anne Muthoni</td>
<td>The East African Wildlife Society (EAWS)</td>
<td><a href="mailto:Anne.muthoni@eawildlife.org">Anne.muthoni@eawildlife.org</a></td>
</tr>
<tr>
<td>54</td>
<td>Timothy Nzioka</td>
<td></td>
<td><a href="mailto:Timothy.nzioka@gmail.com">Timothy.nzioka@gmail.com</a></td>
</tr>
<tr>
<td></td>
<td>Name</td>
<td>Organization</td>
<td>Email</td>
</tr>
<tr>
<td>---</td>
<td>-----------</td>
<td>---------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>55</td>
<td>David Zinny</td>
<td>Zemit Planners</td>
<td><a href="mailto:deezinny@gmail.com">deezinny@gmail.com</a></td>
</tr>
<tr>
<td>56</td>
<td>Stella Wekesa</td>
<td>IFAW</td>
<td><a href="mailto:swekesa@ifaw.org">swekesa@ifaw.org</a></td>
</tr>
<tr>
<td>57</td>
<td>Irene Gai</td>
<td>OXFAM</td>
<td><a href="mailto:ajurgai@gmail.com">ajurgai@gmail.com</a></td>
</tr>
<tr>
<td>58</td>
<td>Timothy Dan</td>
<td>Kenya Forest WG</td>
<td><a href="mailto:dantimo44@gmail.com">dantimo44@gmail.com</a></td>
</tr>
<tr>
<td>59</td>
<td>Moses Kariuki</td>
<td>Hakijamii</td>
<td><a href="mailto:pkariuki@hakijamii.com">pkariuki@hakijamii.com</a></td>
</tr>
<tr>
<td>60</td>
<td>Walter Kangethe</td>
<td>African Wildlife Foundation</td>
<td><a href="mailto:wkangethe@awf.org">wkangethe@awf.org</a></td>
</tr>
</tbody>
</table>