

The State of Shared Water Resources in the Context Of Climate Change, Challenges and Policy Options



POLICY BRIEF | MOMBASA COUNTY



The time to act is now, especially since sustainable water utilization and conservation is key in building communities' resilience and adaptation capacity to the climate crisis. The findings and recommendations by this study are essential in equipping decision-makers with evidence-based policy options to enhancing sustainable shared water ecosystem utilization and conservation in Mombasa County. Understanding the state of utilisation, governance, budgetary allocation and associated challenges and gaps will promote sustainable shared water resources protection and management.

Methodology

This study adopted a mixed methodology comprising of literature reviews of secondary data, and primary data collection through Key Informant Interviews and Focus Group Discussions.

Findings

a. Shared water resources on the County

Mombasa County lacks major sources of its own and mainly relies on 3 sources from the neighbouring counties namely: Mzima springs in Taita Taveta County, Malele springs in Kwale county and Baricho alluvial aquifer in Kilifi County. The major natural water resources in Mombasa County are Tudor creek, River Mtopanga, Ziwa la Ng'ombe and River Mtsapuni/Mkapuni and the Indian Ocean. Mombasa County has rich ecosystems that extend from the coastal, inshore and deep sea. The County is highly dependent on trans-basin transfer of water namely Mzima springs, Baricho water works and Marere boreholes. The ground water aquifers and boreholes spread across the entire County. At least three permanent springs, four water pans and a number of borewells are operated by private investors, NGOs and CBOs.

b. Conditions of shared water ecosystems

i. Water levels

The County experiences long dry spells, and flooding. Further, apart from the Indian ocean, primary data collected indicated that most natural water resources are at a risk of extinction. For example, R. Mtsapuni, R.Mkapni and R. Mtopanga completely dry up during the dry seasons.

The County is already experiencing serious beach erosion due to rising sea levels, coastal storms, loss of coral reefs, and intrusion of salty water into aquifers and ground water.

Executive Summary

Water is essential to human survival. According to a 2020 United Nations Development Report, water is part of the solution to the current climate crisis. Water is also the primary medium through which we feel the impact of climate change. This, coupled with pollution and biodiversity loss, makes sustainable utilisation and conservation of shared water ecosystems critical for our survival. Mombasa County is, due to its geographical location and make up, susceptible to adverse impacts of climate change such as flooding, long dry spells, and rising sea levels. To name a few, pollution, unsustainable utilisation, deforestation, and inadequate resources are some of the main hinderances towards sustainable water resource development, utilisation and conservation in the County. A study conducted by Econews Africa examines the state of utilisation, management and conservation of shared water ecosystems in the County. It identifies the gaps and challenges, and proposes possible policy responses.

Introduction

The study was sanctioned to generate knowledge and positive traditional practices for managing shared water resources; expose the challenges in water resource management and reveal human activities, practices and policy incoherence on water and water resource management.

ii. Pollution

The study established that pollution from human activities and manufacturing plants is one of the menaces to the shared water resources in Mombasa. The study observed that some manufacturing plants channel their refuse and pollutants in large and very toxic amounts into the water resources. Additionally, the community around the water resources use them as dumping sites and some channel their sewage lines to the resources. For this reason, the community mentioned that they no longer trust the natural resources and prefer water from drilled boreholes.

iii. Community and users detached from ecosystems

The study realised that community and users of shared water resources are significantly detached and unconscious about the importance of such resources. Most people take the existence of such ecosystems for granted and as result pollute and neglect them. This is seen through heavy pollution on the water bodies, and human and industrial settlement that replace some natural water resources. Moreover, there is little effort towards water re-use and recycling at household levels.

c. Weaknesses in water resource governance, water allocation and administration procedures

Whereas MOWASSCO talks of a written and regularly revised rationing formula they use in water distribution that takes account of different needs by the users (for instance commercial or household), members of the community decry long periods of dry taps and acute shortage, some receiving water just once in a month. The community complained of discrimination as the first priority in provision being given to big hotels and industries (with vested interest, share or ownership by some of the county government officials themselves).

d. Shared water resource conflicts

The study established certain conflicts emanating from water access and use. First, there's conflict among water institutions caused by lack of involving the other in their decisions and activities. Secondly, there is intercounty conflicts involving Mombasa County and each of the three counties (Kilifi, Kwale and Taita Taveta) where Mombasa gets her waters. Comparing their needs and those of Mombasa County, the three counties are often expressing concern about the continuous over exploitation of the water by Mombasa County whose need for water is higher than the three counties. Thirdly, there is a conflict between water users and the authorities in charge. This conflict arises from the perception of water users that water as a commodity is heavily regulated and made expensive while it is a natural resource given to all by God and be not be regulated and accessed free of charge.

e. Best Practices in Water usage and conservation in the County

Some of the best practices the study observed for the county include:

- Water-smart landscaping and irrigation;
- Construction of water pans such as the Mwakirunge water pan;
- Extensive installation of metre systems;
- Speedy replacement of broken water pipes;

- Use of boreholes as an alternative water source;
- Optimization of cooling towers of bulk storage facilities to prevent loss through evaporation.

f. The policy and institutional frameworks

The Water Act, 2016.

As the principle law for the water sector in Kenya, it requires county governments to appoint Water Service Providers to serve as licensed water operators.

The Mombasa County Water and Sewerage Services Act, 2016

The water sector in the County is governed by the Mombasa County Water Services and Sewerage Act, 2016. The Act provides for a legal and institutional framework for provision of water and sewerage services, mechanisms of ensuring high quality services to citizens, and commercial viability of the water service provider. It establishes the Mombasa Water and Sewerage Services Corporation to take over operations from MOWASCO. However, six years down the line, operations seem to still be undertaken by MOWASCO. This could be hindering speedy implementation of the Act.

The Water and Sanitation Services Directorate

Established under the Mombasa Water Act, the Directorate exercises oversight on water management in the County. It also advises on legislation, policy, co-ordination and performance of the sector. Its other functions include developing guidelines and standards for the sector, and developing bulk infrastructure for water harvesting and storage.

Mombasa Water and Sewerage Services Corporation

This is an institution established under the Mombasa Water Act, to be the county's water service provider. The Corporation is supposed to take over water provision functions from the former MOWASCO. These functions include: providing and managing water and sewerage services, developing and maintaining adequate water supply systems and developing and managing water works for conservation.

Mombasa Water and Sanitation Company Limited (MOWASCO)

MOWASCO was officially incorporated in 2011, having been the County's water service provider since 2005. It is in charge of water and sewerage service provision in the County. After the 2016 Act, its functions were supposed to be taken over by the Corporation but this is yet to happen. In 2020, the Company its licence was renewed for a further 5 years by WASREB.

The Coast Water Works Development Agency (CWWDA)

This is a key institution; one of the 9 regional water works agencies established under Kenya's Water Act of 2016. It is a state corporation with the mandate to develop and maintain sustainable water and sanitation infrastructure within the Coast region. It took over from the Coast Water Service Board. The agency is in charge of revenue collection, developing sustainable water and sanitation infrastructure in the coast region, and production and supply of bulk water from the 4 major sources being Mzima springs, Marere springs, Baricho well field, and Tiwi boreholes.

The Mombasa Water Act is silent with relation to coordination of functions between the CWWDA and county water institutions.

Further, the Act leans towards provisions on strengthening the operations of the Corporation, and fails to look into sustainable water management and conservations measures such as pollution control.

g. Budgetary allocation

The study analysed the Mombasa County fiscal strategy papers to establish budget allocation trends for the sector. The analysis established an increase in total budget allocation to the sector between the FY 2016/2017 and FY 2020/2021. However, utilization of these monies has been poor as a very small percentage of the allocated development expenditure budget is utilised, as shown in figure 1 below.

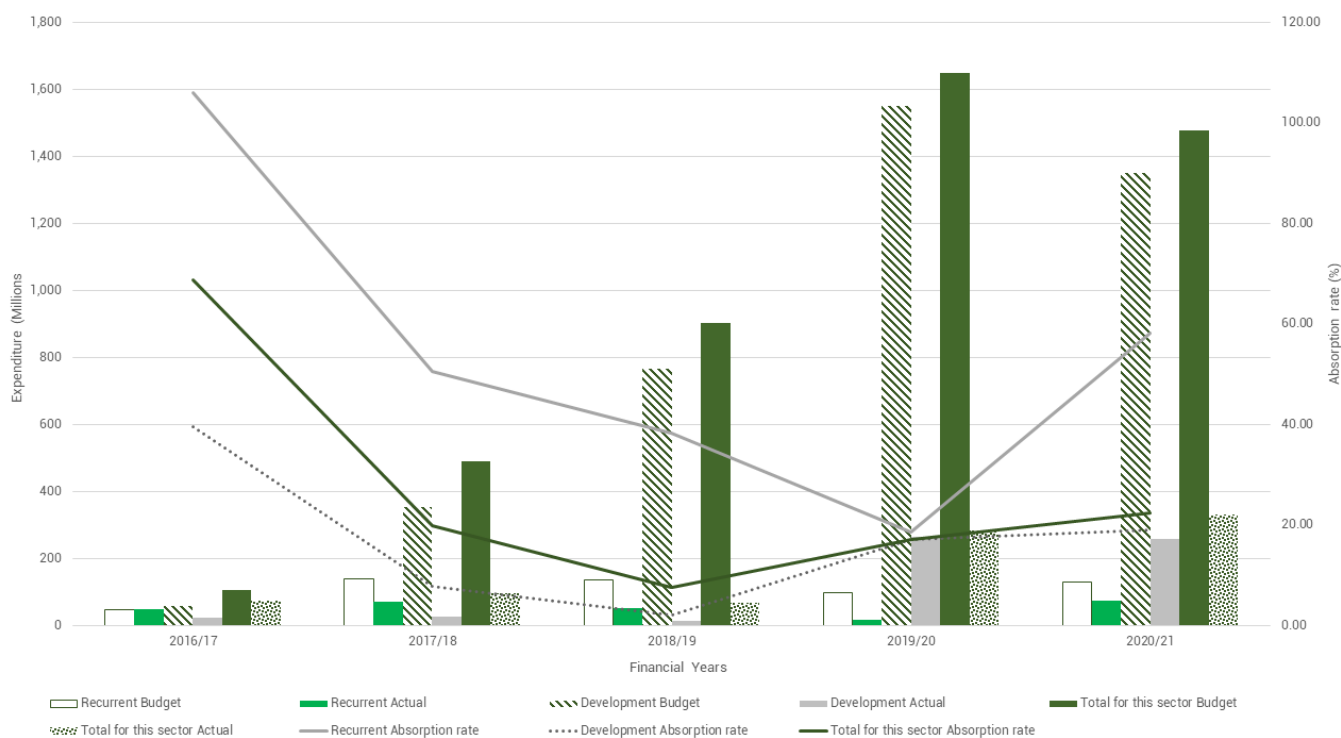


Figure 1: An Analysis of Expenditure on Water, Environment and Natural Resource (KES Millions) | Data Source: Mombasa County Fiscal Strategy Papers, 2016-2021

h. The disjuncture between indigenous and modern practices in water resource management and conservation

The study examined indigenous mechanisms and practices that were used in conservation of water and water resources and established that indigenous usage and conservation methods promoted sustainable water use. These included:

- Elders were the custodians of natural resources including rivers and streams and they acted as community stewards ensuring sustainable and protection of these resources.
- Separation of designated water points for livestock from those for domestic use to reduce pollution.
- Digging of terraces and contours were dug to prevent water run-off.
- Planting of traditional nurseries to reduce water loss

through evaporation.

Policy Recommendations to the County Government

a. Budgetary allocation

- The County government needs to come up with comprehensive and periodic implementation plans for the sector strategies to promote optimal utilisation to budgetary allocations towards sustainable water resource development and utilisation.
- To develop commercial financing plans using the World Bank toolkit.

b. Policy and institutional framework

- Embrace ecosystem-based adaptation to help protect and maintain healthy ecosystems providing resilience against the impacts of climate change. This approach

helps reconcile socio-economic development with the conservation and restoration of compromised ecosystems.

- Hasten the operationalisation of key sections of the County Water Act and domestication of the Act through county legislations.
- To properly coordinate and harmonise the mandates and functions of county water institutions and the Coastal Water Works Development Agency
- In collaboration with the Senate fast-track the enactment of the County Resource Development Bill of 2021.
- To embrace cross-county cooperation with the counties hosting the bulk water sources, in order to promote concerted efforts in sustainable management of the resource.

c. Indigenous knowledge

- Assist communities to develop water resources management plans for their rivers and streams
- To incorporate indigenous water resource conservation knowledge in its policies and strategies. This can only be achieved through extensive stakeholder engagement in policy and planning.
- To leverage on water resource user associations in enhancing community participation in sustainable utilisation and conservation.

d. Sustainable water resource management

- To enhance measures to curb pollution of natural water resources from human and industrial activities.
- To put in place measures such as terraces to curb water run-off.
- To utilise Public Private Partnerships in encouraging private-sector investment in the sector
- Integrate business and human rights approach in the water sector given the heavy presence of private sector/corporations running the affairs.
- To conduct consumer and community sensitisation campaigns on sustainable water utilisation and conservation. This will promote water re-use in households.