



NAIROBI CITY COUNTY ASSEMBLY

*Report for  
Study on  
21st May 2017  
to Melb  
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FIRST ASSEMBLY – FIFTH SESSION

REPORT OF THE COMMITTEE ON WATER AND SANITATION ON THE  
VISIT HELD IN THE CITY OF MELBOURNE, AUSTRALIA FROM 19<sup>TH</sup> - 25<sup>TH</sup>  
SEPTEMBER, 2016 TO STUDY MODERN WATER AND WASTE WATER  
MANAGEMENT TECHNOLOGIES

Clerk's Chambers,  
CITY HALL,  
NAIROBI.

APRIL, 2017

## PREFACE

Mr. Speaker Sir,

The Sectoral Committee on Water and Sanitation is one of the Sectoral Committees established under Standing Order 191. It is mandated pursuant to Standing Order 191(5):-

- a) investigate, inquire into, and report on all matters relating to the mandate, management, activities, administration, operations and estimates of the assigned departments;*
- b) study the programme and policy objectives of departments and the effectiveness of the implementation;*
- c) study and review all county legislation referred to it;*
- d) study, assess and analyse the relative success of the departments as measured by the results obtained as compared with its stated objectives;*
- e) investigate and inquire into all matters relating to the assigned departments as they may deem necessary, and as may be referred to them by the County Assembly;*
- f) vet and report on all appointments where the Constitution or any law requires the County Assembly to approve, except those under Standing Order 185(Committee on Appointments); and*
- g) make reports and recommendations to the County Assembly as often as possible, including recommendation of proposed legislation.*

The Committee on Water and Sanitation comprises the following members:

- 1. Hon. Alex O. Otieno, MCA - Chairperson
- 2. Hon. Kenneth Thugi, MCA - Deputy Chairperson
- 3. Hon. Michael Ogada, MCA
- 4. Hon. Herman Azangu, MCA
- 5. Hon. Robert Mbatia, MCA
- 6. Hon. Hashim Kamau, MCA
- 7. Hon. David Kairu, MCA
- 8. Hon. Pius Otieno, MCA
- 9. Hon. Celestine Ongere, MCA
- 10. Hon. Hawa Dafala, MCA
- 11. Hon. Maurice Akuk, MCA
- 12. Hon. Oscar Lore, MCA
- 13. Hon. Victoria Alali, MCA
- 14. Hon. Monica Ndegwa, MCA
- 15. Hon. Nancy Mwaura, MCA

16. Hon. Peter Wanyoike, MCA

17. Hon. Caroline Muga, MCA

**Mr. Speaker Sir,**

In accordance with the Second Schedule of the Standing Orders, the Sectoral Committee is mandated to consider all matters relating to:- *Water and sanitation services; water distribution, regulation, marketing and sewerage services*. The Committee exercise oversight role on the work and administration of the Water related issues.

**Mr. Speaker Sir,**

In pursuit of best practices, the Australian High Commission invited the Committee Members to undertake a planned program on modern water and waste water management technologies in Melbourne, Australia from 18<sup>th</sup> – 25<sup>th</sup> August, 2016. In deed this was a good learning opportunity that culminated into compilation of this report with key findings/observations and recommendations.

**Mr. Speaker Sir,**

It is meaningful to note that, from this Study visit, the Australian Government is interested to collaborate with the Kenyan Government for purposes of developing Nairobi as a water resilient City. As such, storm water harvesting technologies and the restoration of Nairobi Dam were some of the areas underlined for collaborations.

**Mr. Speaker Sir,**

Upon adoption of this report, the Committee wishes to share the recommendations with the Cabinet Secretary, Ministry of Water and Irrigation who together with the Sector's County Executive Committee could initiate further talks with the Australian Government to make Nairobi a replica of the Melbourne City where water rationing would become a thing of the past. This is doable.



Mr. Speaker Sir,

The Committee wishes to sincerely thank the Australian High Commission, Nairobi and in particular Jeremy Green, Deputy High Commissioner and Andrew Marriott, Deputy Head of Mission (a.i.)

The Delegation acknowledges the receptiveness of Ian Moorhouse, Grantley Butterfield, officials from South East Water, Yarre Valley Water, Melbourne Water and Water Services Association of Australia and all officers from the Victoria State who ensured the objectives of the visit were achieved.

The Committee also acknowledges the continuous support extended by the Offices of the Speaker and the Clerk of the Nairobi City County Assembly.

On behalf of the Committee, I now have the honor and pleasure to present this report on the study visit to Melbourne, Australia.

SIGNATURE.....

  
HON. ALEX OTIENO OUDA, MCA  
(CHAIRPERSON)

DATE ..... 18/4/017 .....

## 2.0 INTRODUCTION

The Kenyan delegation undertook the five-day programme of the planned study coordinated by a Senior Consultant in Melbourne in Victoria State, Australia. The Members visited several water related institutions where respective officers took them through numerous lessons on among other things, storm water harvesting, waste water technologies and reuse and resilient Cities.

### 2.1.1 VISIT TO MONASH UNIVERSITY

The delegation visited the Cooperative Research Centre (CRC) for Water Sensitive Cities in Monash University Campus on 19<sup>th</sup> September, 2016 to be taken through a presentation on sustainable development goals with a focus on developing nations.

The CRC was created through a collaboration with over 70 research, industry and government partners with the aim of creating cities and towns' water sensitive.

The delegation learnt that the Victoria State Government had a land area of 22.75 million hectares (3% of Australia's total land area), a population of 5.84 million (25% of Australia's total population) and agricultural output of \$12.6 billion worth of food and fibre per year (25% of Australia's total agricultural output)

On the sources of water consumption, 90% is surface water, 8% is ground water and 2% recycled water. It was also learnt that 73% of its water was used for irrigation, 13% for urban and commercial activities, 8% for environmental conservation, 4% for domestic and livestock and 2% for power generation.

It was observed from the forum that the institutional arrangements of Victoria State comprised of Ministers, secretaries and departments that were tasked in planning and allocation of resources, setting authority obligations, owning and monitoring water authorities' financial performance and creating relevant policies. The regulators such as Essential Services Commission are mandated to control prices and service quality; Environment Protection Authority sets environmental standards and



controls environmental performance whereas the Energy and Water Ombudsman Victoria serves as a customer advocacy/complaints Centre for issues relating to water.

The delegation was informed that Melbourne Water continues to provide safe, secure and affordable water services to the City of Melbourne for almost 125 years. Subsequently, there has been investment with the aim of maintaining public and environmental health and enhance the liveability of the region.

Over the last 15 years in particular, maintaining service levels has needed a response to a number of significant challenges such as worst millennium drought (2001-2009), the Black Saturday bushfire, significant population growth and local flooding among others. In order to respond to the challenges, major investment from 2004 to 2014 on Melbourne asset base was undertaken which saw an increase from \$4 Billion to \$14 Billion.

#### **2.1.2 VISIT TO SOUTH EAST WATER AND YARRA VALLEY WATER**

The delegation got the chance to interact with the officials of the South East Water and Yarra Valley Water. The delegation was informed that South East Water had fully utilized technology that closely monitored leaks and any illegal connections which are seen in pressure sewer. It was mentioned that technology had enhanced responsiveness to customers' complaints, where customers do not have to visit the SE premises to be attended to.

It was underscored that maintenance of sewerage network was critical to preventing related pollution.

Conversely, it was expressed by the delegation that more land was needed to facilitate sewerage expansion in Nairobi. Issue regarding human encroachment coupled with lack of political good will was mentioned as major hindrance to overstretched sewer cover.

It was observed that best practice in integrated water had enabled South East Water manage its water resources in an efficient manner. And as a result of limited land for expansion, the Water Company had embraced the vertical/compact system.

The delegation noted that the SE Water was undertaking new research for new innovations on water and sanitation. The Company had also embarked on nurturing young school children on efficient water use and significance of saving water.

The water Company admitted that great funding on Research & Development from Melbourne Council, for instance had made it possible for SE Water to be 20 years ahead of its plans/targets.

It was suggested that due to the growing global interest for digital meters, deliberate efforts had to be pursued for the same to aid in leakages detection and responsiveness to customers' complaints.

At Yarra Valley Water, the delegation was informed that there existed 16 No. Councils in Victoria State. It was noted that Melbourne Water sold water to Yarra Valley Water, City West Water and South East Water in bulk/wholesale which was then retailed to tenants/customers.

The delegation established that Yarra Valley distributed water to total of two million people in its 750,000 connection networks. It was repeatedly stated that the success of Yarra Valley Water was grounded on the proper understanding of the organization culture that consequently makes execution of strategies easier. In view of this, benchmarks such as role clarity, customer focus, employee satisfaction and staff alignment with strategy remained key pillars for success. These standards have since seen the organization record reduced customer complaints to 30%.

Members were told that more investment in leadership trainings was critical for organization's performance and productivity. In addition, continuous conversations with employees was essential for the success of the business. It was reiterated that recruitment of Yarra Valley Water staff focused more on skills and experience of work and level of work ability (capability) and needed to be a perfect fit of the organization's culture.



### 2.1.3 VICTORIA STATE GOVERNMENT

The visit to Victoria State Government by the delegation provided an insight into efficient and practical institutional arrangements /structures in Melbourne that have enhanced service provision through seamless implementation of corporate plans.

In addition, it was observed that the Victoria State continuously engage its citizens at the grassroots for purposes of making them have a better understanding of existing institutional arrangements of the State. However, the State Government has experienced challenges such as increased competition for water between urban, environment, agriculture and power, effects of climate change on water security, sustainability of economic growth and investment in infrastructure that called for prompt intervention.

In order to try to manage these challenges, it was mentioned by the Officers in charge of Environment that huge innovations were underway in Australia with the assistance of development partners such as the World Bank, Asian Development Bank and United Nations Water.

The Officers informed the delegation that most water in Australia is sourced from rivers and lakes where almost 80% is used for irrigation (agriculture) and 10% - 15% for commercial purposes. It was said that the Ministry on Environment was tasked to ensure the existing 19 No. Water Corporations and 10 No. Water Catchment Authorities delivered on their respective mandates.

Distinctively to note was the fact that Melbourne water has distributed its management roles to its retail customers; that is, South East Water, Yarra Valley Water and City West which are tasked to undertake infrastructural development and also handle customer complaints. This was in contrast to Nairobi where Athi Water Services Board, a national entity is mandated to construct water and sanitation infrastructure whereas Nairobi City Water and Sewerage Company Limited, a County Public Corporation and a water service provider, solely charged with the distribution of water and sanitation services and also managing customers' complaints.



The discussions concluded that there be identification of areas/action points for further collaboration between the Australian and Kenyan Governments.

#### **2.1.4 WATER SERVICES ASSOCIATION OF AUSTRALIA**

At the Water Services Association of Australia, the delegation was informed by the Officials that Australia was the 3<sup>rd</sup> most urbanized Country after Singapore and Monaco. It was learnt that the Association collaborated and worked closely with key players in the water sector with the aim of representing and articulating the interests of the water industry.

It was established that, through close working relations with sector players, the Association has been at the forefront in developing a strategic plan geared towards achieving the Sustainable Development Goals associated with water and sanitation.

In addition, the Water Association of Australia has developed its strategic priorities that focuses on harnessing the digital economy in water networks, identifying the value of water's contribution to liveable cities and focusing on customer innovation through engagements with regulators.

It was also learnt that the Association was actively involved in setting up of standards whereby they ensure that new standards demonstrated positive value to the Australian community and must be supported by the community and relevant organizations.

The delegation noted that the Association developed and designed the standards that certify that the products and services and systems are safe, reliable and consistent.

#### **2.1.5 WESTERN TREATMENT PLANT**

The delegation visited Western Treatment Plant which is located in Werribee and was established in 1897. The Members found out that unlike Nairobi, the plant spanned 10,500 hectares and was a world leader in technical and environmental innovation.

The delegation learnt from the Plant's Engineers that the plant processed approximately 60% of Melbourne's sewage. It was also found out that the Eastern Treatment Plant at Bangholme which sits on 1,100 hectares was opened in 1975 to serve Melbourne's growing population and it treated about 40% of Melbourne's total sewage.

## 2.1.6 ROUNDTALE DISCUSSIONS

In culmination of the study visit, Prof Jane Doolan and Ian Moorhouse, the consultants appointed by the Victoria State Government facilitated a consultative meeting that identified potential opportunities for collaboration between Australia and Kenya.

Restoration of Nairobi dam was identified as one of the potential projects for partnership. The delegation stated that the dam was situated at the centre of the City but had fallen to disrepair because of among other things, human encroachment and effluents from nearby Kibera informal settlement.

The discussions agreed that the Australian and Kenyan governments bring on board other relevant stakeholders to ensure sufficient resource funding for implementation of storm water harvesting technologies.

The Delegation expressed commitment to champion for the implementation of recommendations of the report that majorly advocated for a resilient City. It conveyed gratitude and magnanimity in the manner the Victoria State was willing to extend its support to Kenya.

## 3.0 RECOMMENDATIONS

The Victoria State tasked two consultants, Prof Jane Doolan and Ian Moorhouse to take up the views and report on the lessons learnt by the delegation and way forward.

In view of this, it was recommended as follows;

- i. There is urgent need for concerted efforts to restore Nairobi dam that has been an 'abandoned kid'. Therefore, the willingness by the Australian Government to



support the dam's restoration bid of the recreational facility should be embraced both by the County and National Governments. As such, the National Government, through the Ministries of Water and Irrigation and Environment and Natural resources should immediately initiate talks with the Australian government to actualize the restoration of the Nairobi dam and more importantly chat an amicable modus operandi that would see closer collaboration on waste water treatment and storm water harvesting technologies and reuse to effect the Melbourne-Nairobi sister cities, concept unanimously agreed upon during the study visit.

This partnership and continuous collaborations would, in both short and long run, see Nairobi become a water sensitive and resiliently liveable City that is keen on improving its public amenities and being a precursor to other Counties on areas of waste water treatment and storm water harvesting technologies and reuse.

- ii. The County Government in liaison with the Nairobi City Water and Sewerage Company Limited should champion for the establishment of a distinct office of the Ombudsman at the County level that solely focuses on complaints relating to water and sanitation.
- iii. The NCWSC and the Sector of Environment, Energy and Water need to undertake more investment in leadership trainings to enhance management skills and improve productivity of its workforce in order to impact positively on service delivery. Consequently, it is also critical to embrace organisation culture change to expedite execution and realization of County Sectors' strategy and objectives. For instance, implementation of 'change people or change the people approach' that ensures right personnel is designated to a particular job.
- iv. According to the statistics of the Water Aid United kingdom, 2008, 17 million people in Kenya do not have access to safe water and over 32 million (over two-thirds of the population do not have access to adequate sanitation). Therefore, it is prudent to incorporate the guidelines for storm water bio filtration systems to reduce usage of potable water for other uses such as agriculture, gardens and cleaning of vehicles.
- v. There should be advocacy for an integrated approach amongst related Sectors in order to realize an efficient institutional arrangement that goes a long way towards

achievement of a water resilient city. In Victoria State, for instance, the Ministry of Lands, Local Government, Planning, Water and Environment has three Ministers with one implementing officer beneath them. This has ensured that the implementing officer/secretary unifies all ideas from the top before they are implemented.

- vi. The Sector of Environment, Energy and Water needs to actively engage with industry players (research organizations, Universities and Private sector) and local community/residents in order to create an enabling environment for innovation, Research & Development that will prepare Nairobi City to be more resilient through long term water planning to meet the supply and demand projections.
- vii. The Environment, Energy and Water Sector should embrace critical thinking that is essential in developing right frameworks that set clear policy directions on management of water and sanitation services within the County.