

Nairobi City Regeneration Programme The government is pumping billions of shillings into a project that is aimed Clean goals: Inside ambitious plan

NUMBERS THAT TELL A STORY

48%

Percentage of current **sanitation coverage** in Nairobi.

60%

Percentage of **sanitation coverage** that the government hopes to achieve by 2026.

2.8M

Number of **city residents** expected to benefit directly from the city regeneration project.

400

Number of kilometres of **sewer** that Athi Water Development Works hopes to lay in the next five years.

SH1.73B

Cost of phases One, Two and Three of the Nairobi City Regeneration Programme.

160,000M³

Or (160 million litres), the current capacity of the **Dandora water treatment plant** in Ruai.

4,000

Acres of **grabbed land** reclaimed by the government for expansion of the Dandora treatment plant.

10

Kilometres of **sewer lines** that have been unblocked so far.

15

Number of **ablution blocks** constructed in various city neighbourhoods as part of the regeneration programme.

7

River crossings that have been rehabilitated across Ngong, Ruaraka, Mathare and Kibarage rivers.

2

River crossings that have been redone along Thika Road.

35

Kilometres of **sewer lines** constructed across Nairobi.

2030

Year by when the world hopes to attain **universal sanitation coverage**.

Multibillion-shilling programme is aimed at boosting access to sanitation facilities in the city within five years

BY JAMES KAHONGEH

In Kariobangi South's High Ridge area, Maria Aden walks into a tin shed just outside her house, carrying a bucket of water. She relieves herself, then flushes the waste into the shallow trench that flows reluctantly through her shared compound.

Open sewage flows and an abhorrent smell of human excrement are the order of the day in this slum in Ruaraka. Oblivious of the health risks involved, children play in and by the trenches. "We wash clothes and then use the water to flush our toilet," Ms Aden says.

What Aden calls 'toilets' are shallow structures whose sludge isn't connected to any sewer system. Rains, therefore, are a nightmare here. The facilities, too, need to be emptied frequently. And that is done by hand.

Here, tin barrels full of human waste on hand-drawn carts are a common feature. With as little as Sh400, one can have their "toilet" scoured clean. Where this human waste ends is obvious: the river.

Across Thika Highway is the neighbouring

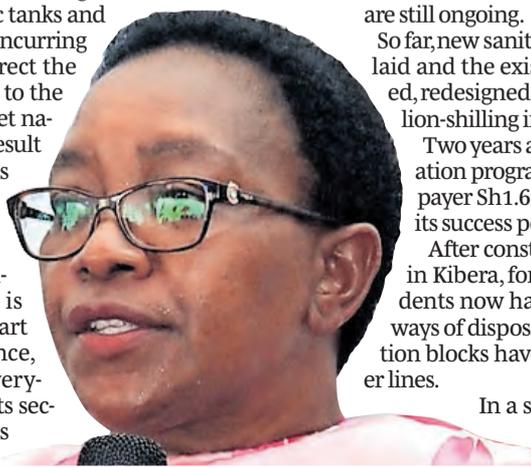
Roysambu. By comparison, Roysambu and Kariobangi are worlds apart; the former is a fairly well-planned neighbourhood, with high-rise apartment blocks that serve part of Nairobi's middle-class population.

The two neighbourhoods, though, have a common denominator: free-flowing sewage in the streets and alleyways. The mess in Roysambu is attributed to failure by the authorities to install sewer lines and negligence by property owners to maintain high sanitation standards.

Where sewer lines are absent in this and other densely populated estates in the city, such as Imara Daima, Embakasi, Kahawa and Umoja, property owners are required to manage their waste water by installing septic tanks and exhausting them. But to avoid incurring costs, some developers just direct the effluent from their properties to the zones across their fences and let nature take care of the rest. The result is a network of sewage streams that are both an eyesore and a health hazard.

In Kawangware, Kibera, Huruma, Mathare and Kariobangi, lack of proper sanitation is as much a nuisance as it is a part of life. In Huruma, for instance, "clean" water pipes zigzag everywhere, some cutting through its section of River Mathare and its mass of filth in a dreadful

The programme, led by **CS Sicily Kariuki**, below, aims to increase access to sanitation facilities for Nairobi residents and improve water quality.



meshwork of dung, disease and disgrace.

The state of sanitation in Nairobi is a horror story. It has been for decades. In an attempt to rectify this situation, the Ministry of Water, Sanitation and Irrigation, through Athi Water Development Works, rolled out in 2018 the Nairobi City Regeneration Programme (NCRP), spearheaded by Athi Water CEO Eng Michael Thuita.

The programme aims to increase access to sanitation facilities for Nairobi residents, improve the quality of water, and reclaim riparian ecosystems of the city's rivers.

Under the NCRP, several water and sanitation-related projects have been undertaken in different locations across the city while others are still ongoing.

So far, new sanitation infrastructure has been laid and the existing sewer lines rehabilitated, redesigned and expanded in a multi-billion-shilling investment.

Two years after it began, the city regeneration programme, which will cost the taxpayer Sh1.62 billion, is beginning to show its success points.

After construction of 15 ablution blocks in Kibera, for instance, thousands of residents now have better and more hygienic ways of disposing of solid waste. These ablution blocks have been connected to the sewer lines.

In a slum where flying toilets and human-waste-choked rivers are routine, sanity is

slowly being realised. NCRP's target is to put up 20 ablution blocks here. This project is also expected to significantly address an endemic flooding crisis in the expansive slum. Additionally, hundreds of manholes along sewer lines in the city have been unblocked and desilted.

Where installation of sewer lines is being carried out, it's projected that the price of land and property will appreciate considerably, as more people move into areas that are adequately connected to sanitation facilities.

"The city regeneration programme is not just seeking to address a social issue, it is also a developmental initiative as well," says Water and Sanitation CS Sicily Kariuki.

Cleaning rivers

They may be muddy, but today, (some sections of) Ruruaka and Mathare rivers are the cleanest of all the seven rivers in Nairobi.

During construction of the Thika Highway, two trunks were destroyed at the crossings in Mathare and Ruaraka. For eight years, raw sewage from the broken trunks drained into the rivers, creating a grey mass of flowing filth.

With the trunks now rehabilitated and expanded, and the sewage rerouted, the rivers are so clean that they have become a haven for swimmers and launderers.

Nairobi, Ngong and Kibarage are the other river crossings where sewer was directly polluting the river, but that has since been fixed.

But if the government has made major strides in the regeneration programme, it is the

at improving access to clean water, sanitation, as well as cleaning the riparian ecosystem around city of Nairobi to end Nairobi's sanitation woes

Project is coming 60 years too late

BY JAMES KAHONGEH

The Constitution of Kenya guarantees the right to basic services such as clean water to drink and sanitation facilities. But to millions of city residents, this right remains a mirage 60 years after independence.

With the current population at 47 million in Kenya, only 30 per cent, or 14.1 million Kenyans, have access to proper sanitation facilities. The rest, 32.9 million people, have either unreliable means of waste disposal or none at all.

At 26 per cent nationally, Kenya is among countries in the world with a critically low sanitation coverage. The government hopes to increase this to 40 per cent by the end of this calendar year, according to Water, Sanitation and Irrigation CS Sicily Kariuki.

In Nairobi, which has a reasonably higher coverage – at 48 per cent – the government has invested several billions of shillings to raise the coverage to 60 per cent within the next five years.

It's an ambitious project whose success is hinged on allocation of funds against multiple other competing developmental needs.

A 2018 World Bank report shows that Kenya is one of the countries that fell short of attaining the Millennium Development Goals (MDG) for increasing access to water and sanitation. Under the Sustainable Development Goals (SDG 6), however, focus shifts from mere access to water to safe management of waste throughout the entire sanitation service, from waste water generation to disposal or reuse.

According to findings of the 2019 Kenya Population and Housing Census, only 18 per cent (792,000) of households in Nairobi have a functional septic tank, while 2.1 (9,240) city residents use uncovered pit latrines. About 4,400 others defecate in the open.

In terms of disposal of human waste, 70,400 (1.6 per cent) of city residents dump human waste in their compounds while 343,200 (or 7.8 per cent) dump it in waterways, census results show.

At 37.9 per cent (1.67 million people), the majority of city residents rely on community-based organisations (CBOs) to collect and dispose of their waste.

Insufficient funding remains a major hindrance to expansion of sanitation infrastructure in the city. Global Waters, a US-Aid programme, observed in a 2015 report that Kenya's investment in sanitation and water projects was heavily donor-dependent. Donor funding accounts for 64 per cent of sector financing.

Observes the CS: "There are many competing needs in the government's priority list that include road and rail expansion and the affordable housing programme. But this also calls for responsible utilisation of the available resources by government officers."

repossession of more than 4,350 acres of land that had been grabbed by private developers to expand waste water management that has been the biggest win.

For more than 15 years, developers had encroached on this land in Ruai, putting up homes and making it impossible to expand the Dandora Estate Waste Water Treatment Plant (DEWWTP) in Ruai.

What was a thriving estate of maisonettes and bungalows only eight months ago is now reclaimed government land, with newly-constructed water treatment ponds that stretch as far as the eye can see.

Since September last year, excavators have been on site to create more ponds that will expand the current 160,000m³ (160 million litres) daily waste water treatment capacity to 180,000m³ (180 million litres) by the end of the year.

To deter future encroachment, the government is constructing a 6.3-kilometre perimeter wall to secure the treatment plant. Works on the masonry boundary wall began in September 2020 and are 20 per cent complete. The whole project will cost the taxpayer Sh270 million.

"Our plan is to further expand the Dandora treatment plant and reclaim other sewer facilities that had broken down and had waste water diverted elsewhere. This way, we'll boost the hygiene conditions for populations living in our different neighbourhoods in the city," CS Kariuki says.

The worrying state of sanitation in the country is attributed to a plethora of factors, ranging from poor funding to corruption, haphazard planning by developers and negligence, a situation that's made even worse by a fast-growing population, especially in urban areas.

A year after coming to power in early 2020, the Nairobi Metropolitan Services (NMS) has supplied billions of litres of water to various low-scale city neighbourhoods, through water bowzers and water kiosks.

NMS, in collaboration with Athi Water, has also sunk 193 boreholes so far, connecting more city residents that were otherwise outside the grid to a reliable source of clean water.

Curiously, though, in a city where the demand for water had been growing at a steady rate of 20,000 cubic metres per year, increased access to the commodity hasn't been matched with expansion of waste water treatment facilities, which has strained the existing infrastructure.

Since independence, the question of sanitation has largely featured only during outbreaks of water-borne diseases such as cholera and typhoid. As soon as the outbreak is contained, the country moves on fast. Until the next outbreak.

Successive regimes have concentrated on increasing access to water, relegating the element of sanitation to the backburner. Sometimes sanitation hasn't featured at all. For a good reason.

Sanitation, according to Eng Erastus Maina of Athi Water, is a capital-intensive investment that also requires time. It's for this reason that making water available to millions of city residents has for decades been an attractive carrot to dangle to the masses during political campaigns.

But, as the demand for water bulges, so does the need for sanitation facilities.

Says CS Kariuki on striking the elusive balance: "Our people need clean water, but they also need access to sanitation facilities. That's



why the government is investing in projects that will increase our sanitation coverage, not just in Nairobi but across Kenya."

But putting up sewer facilities is only one step in addressing the sanitation quagmire, CS Kariuki says, emphasising the need for responsible usage of the infrastructure by city residents.

"It's upon the residents to protect the infrastructure and report illegal diversions and destruction, which have been major problems in the past. This investment doesn't belong to the government, but to the people who rely on it," she notes.

Data from the World Bank indicates that during the 25-year period between 1990 and 2015, the rate of access to sanitation facilities grew by a paltry five per cent. This translates to an underwhelming 0.2 per cent increase in access to sanitation services per year.

Only nine years to the 2030 deadline by which the world should have attained universal sanitation coverage, Kenya is lagging behind. At this rate, experts warn, it could take decades for Kenya to realise this goal.

While admitting that the country is running out of time, CS Kariuki insists that Ken-

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Ms Sicily Kariuki, CS, Ministry of Water, Sanitation and Irrigation.



ya is firmly on course to meet its own targets. "We must work very hard to achieve this target. There's need to invest more in sanitation."

To that effect, starting this year the government is investing an additional Sh20 billion in Nairobi alone to improve sanitation infrastructure in partnership with the African Development Bank (AfDB).

This investment, CS Kariuki says, will add the city an additional 20 per cent sanitation coverage, to 68 per cent. To attain a significant sanitation network in the country, the World Bank strongly proposes cross-cutting stakeholder engagement and extensive community consultations.

"It's critical that existing policies, legislations and regulations, both at the national and sub-national (county) levels, are reviewed and a multi-sectoral approach adopted," the World Bank recommends.

This week, the Cabinet passed the Water Policy in Sessional Paper Number One, soon expected to be tabled in Parliament. The Cabinet also approved three sets of regulation on water use, water services and water harvesting and storage.

Notes the CS: "We now have a reasonably robust policy and legal framework. This is the anchor policy that will help us to address issues of access to water and sanitation coverage as we move forward."

On best sanitation practices around the world, Eng Maina says Kenya has an opportunity to adopt in its current works world-class materials such as high-density polyethylene and dual-wall corrugated water and sewer line pipes "that are cost effective, easier to install and more durable".

"We also need to conduct more ground water exploration and expand our use of solar energy to power the pumping systems. This is more sustainable than use of hydro-electricity or diesel," says Eng Maina.

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An aerial view of the newly expanded Dandora waste water treatment plant in Ruai. JEFF ANGOTE IN NATION