

# THE FLOWLINE

An Athi Water Works Development Agency Newsletter

## HUMAN DIGNITY

# WHERE WATER FLOWS, EQUALITY GROWS

Marking World Water Day under the theme Water and Gender brought a powerful truth into focus—water is not simply a resource, but a pathway to dignity, equity, and opportunity. Reliable access shapes health outcomes, supports livelihoods, and determines whether communities thrive or struggle. Where access is limited, inequality deepens, and across many communities, the burden of water scarcity continues to fall disproportionately on women and girls.



*Reflecting on a Global Theme: Grounding this year's "Water and Gender" theme in lived experience, Mary Mungai, Chairperson Athi Water Works Development Agency discusses the disproportionate burden water scarcity places on women and girls. During an interview at Athi Water Plaza, she reinforced the Agency's commitment to ensuring that water access moves beyond policy into a daily reality where no household is left behind*

For Mary Mungai, Chairperson of Athi Water Works Development Agency, this reality is neither abstract nor distant. It is lived, understood, and now central to the work of an institution tasked with delivering water and sanitation infrastructure to millions. Water, in her view, is not merely a service—it is the foundation upon which dignity, health, and economic life are built. "Water is life. You can substitute many things, but you cannot substitute water," she reflects, grounding a global theme in a truth that resonates across households and communities.

Her perspective is shaped by experience. Having grown up carrying water herself, she understands the burden that limited access places on families, and more acutely on women. That memory continues to inform her leadership, reinforcing the urgency of ensuring that access to water and sanitation moves beyond policy into everyday reality—where no household is left without safe, reliable services, and where dignity is restored within the home.

Within its mandate, Athi Water Works Development Agency



**NAIROBI  
WATER &  
SANITATION  
PROJECT**

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continues to develop and manage large-scale water and sewerage infrastructure across Nairobi, Kiambu, and Murang'a, serving a population of over nine million people. Through flagship investments such as the Northern Collector Tunnel, Karimenu Dam, and the planned Maragua 4 Dam, the Agency is steadily expanding system capacity to respond to growing demand. These projects are complemented by sanitation infrastructure that ensures wastewater is safely managed, recognising that water supply and sanitation must advance together to deliver meaningful public health outcomes.

This work is being advanced under the Nairobi Water and Sanitation Programme, a coordinated framework that brings together the Government of Kenya and development partners to strengthen urban water systems. Support from partners such as the French Development Agency (AFD) has been instrumental in enabling long-term infrastructure planning, financing, and implementation at the scale required.

Mungai acknowledges that such partnerships are essential, noting that delivering water and sanitation services across a rapidly growing metropolitan region requires sustained collaboration, shared vision, and disciplined execution.

Nowhere is the urgency of this work more evident than in Nairobi. As the capital city and economic engine of the country, Nairobi depends fundamentally on reliable water and sanitation systems to function. Every sector—government, business, education, and healthcare—relies on these services. Yet for many residents, access remains inconsistent, marked by rationing, low pressure, and reliance on informal supply systems. "It is not acceptable to see people in a capital city still struggling to access water,"



Mungai observes, pointing to the reality that drive the Government and Athi Water Works investment and reform.

Recent interventions have already begun to shift this reality. In line with national priorities, the Agency has extended water supply to previously underserved areas such as Ongata Rongai, Mavoko, and Kitengela through investments linked to the Northern Collector system. These efforts reflect a broader commitment to equity—ensuring that communities long left at the margins are integrated into formal, reliable supply networks and are able to participate fully in the life of the city.

At its core, this work is about more than increasing volumes of water within the system. It is about what happens when water and sanitation services reach the household. Reliable access restores time, improves health, supports education, and enables economic participation. For women in particular, it removes a long-standing burden, allowing them

to engage more fully in productive and social life without the constant demand of securing water for their families.

The connection between water, sanitation, and gender therefore becomes clear. Access to these services is not only a development issue—it is an equality issue. It determines who has time, who has opportunity, and who is able to participate fully in society. Ensuring that services reach every home is one of the most direct ways to address these imbalances and to create conditions where communities can thrive.

Even as infrastructure expands, Mungai emphasises that water security cannot rest on institutions alone. Sustainable access depends on shared responsibility—on protecting water catchments, preserving ecosystems, and using resources responsibly. Investments in infrastructure must be matched by collective stewardship to ensure that gains made today are sustained for future generations.

# WATER EQUALIZES

In this light, the message emerging from this year's observance is clear. Delivering water and sanitation is not simply about building systems—it is about transforming lives. It is about ensuring that every household, every school, and every community has access to services that uphold dignity, protect health, and unlock opportunity. Where water flows, equality grows.

According to the Nairobi Show Organizing Committee, AWWDA's showcase stood out for bridging infrastructure and impact — translating multi-billion-shilling investments into relatable public outcomes. The Agency's demonstration of the Nairobi Water and Sanitation Project (NWSP) and the Northern Collector Tunnel particularly impressed jurors for their scale and sustainability footprint.

Inside the AWWDA pavilion, visitors interacted with virtual tours of dam construction zones, cross-sectional models of water transmission lines, and a feature wall titled "From Source to City" — tracing how water flows from Murang'a's highlands to Nairobi's taps. The visual experience made the invisible systems of engineering visible, and in doing so, redefined how the public engages with infrastructure.

Internally, the win is seen as more than recognition — it is affirmation. It validates months of cross-departmental teamwork, precise branding, and field documentation that culminated in one coherent story: that water infrastructure is not only built; it is communicated, felt, and celebrated.

In the flow of national progress, moments like these remind Kenyans that excellence in service is not achieved by chance; it is engineered — with purpose, with partnership, and with pride.

### Before Water Access: The Burden of Scarcity

**5:00 AM – 12:00 PM: The Exhausting Trek**

Waking in dim light to carry heavy jerrycans over long distances instead of attending school.

**Mid-Day: Lost Potential**

Missing critical classes due to physical exhaustion and the recurring demand to fetch water.

**Evening: Survival vs. Learning**

Arriving home too tired to study, trapped in a cycle of fatigue and limited opportunity.

### After Water Access: The Opportunity of Growth

**6:30 AM – 9:00 AM: Dignity Restored**

Waking refreshed with running water nearby, allowing for early preparation and classroom engagement.

**4:00 PM: Time Reclaimed**

With the burden removed, time is redirected toward play, helping at home, and social participation.

**Evening: Hope and Energy**

Studying with focus and energy, fueled by the stability of reliable community infrastructure.

Burden & Fatigue

Daily Routine

Ease & Confidence

Time Lost

Education

Time Gained

Survival

Outcome

Growth

## When water comes closer, her future comes alive

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## DELIVERY ASSURANCE

# TRACKING PROGRESS. SECURING DELIVERY

The Government of Kenya, in partnership with the French Development Agency (AFD), continues to strengthen oversight of strategic water and sanitation investments through structured supervision missions designed to ensure delivery, accountability, and long-term system integrity. The March 2026 AFD Supervision Mission brought together key stakeholders across Nairobi to review progress under critical programmes shaping the capital's water future.



*Engineering with Care: Chairperson Mary Mungai and CEO Eng. Joseph Kamau lead the March 2026 AFD Supervision Mission during a site inspection of the Gigiri-Karura transmission pipeline. This strategic infrastructure project is designed to balance technical efficiency with environmental stewardship, ensuring reliable bulk water transmission to millions of residents while preserving the Karura Forest ecosystem.*

The mission, conducted between 16th and 17th March, focused on two flagship investments—the Northern Collector Tunnel (CKE 1074) and the Nairobi Water and Sanitation Project (CKE 1135). These projects form the backbone of ongoing efforts to expand bulk water supply, strengthen distribution networks, and improve sanitation services across Nairobi and its surrounding regions.

From the outset, the tone of the mission was clear. This was not a routine review, but a working session focused on delivery. Technical teams, financial experts, and implementing agencies engaged in detailed discussions on progress, constraints, and

next steps, ensuring that each component of the programme remains aligned to its intended outcomes.

Eng. Bonnie Nyadwaro, Director, Infrastructure Development at AWWDA while speaking on behalf of the implementing teams, underscored the importance of maintaining momentum while ensuring that quality and compliance remain uncompromised. She noted that the scale of the Nairobi Water and Sanitation Programme demands both technical precision and coordinated execution, particularly as multiple work-streams advance simultaneously across the city. The focus, she emphasised, is not only

on completing infrastructure, but on ensuring that each investment translates into reliable service delivery for residents.

Across the Northern Collector system, discussions reflected steady progress toward completion, with attention placed on operational readiness at Kigoro Water Treatment Plant, pipeline interconnections, and the integration of bulk supply into Nairobi's distribution network. The objective remains clear—moving from infrastructure delivery to system performance, where water consistently reaches communities as intended.

Within the Nairobi Water and Sanitation Project, the mission

reviewed progress across multiple work packages, highlighting both achievements and areas requiring acceleration. The Eastern Nairobi network intensification works continue to expand distribution capacity, while preparations for the Western Nairobi transmission system are advancing toward implementation. Parallel investments, including the Gigiri-Karura transmission pipeline and rehabilitation works within the Central Business District, Pumwani, Starehe, Jogoo Road, and Ngara, reflect a coordinated approach to strengthening the system across multiple fronts.

As part of the mission, the delegation undertook a site visit to Karura Forest—a critical ecological and infrastructure corridor where the Gigiri-Karura transmission pipeline is being implemented. The visit provided an opportunity to assess, in real time, how engineering design is being aligned with environmental protection within one of Nairobi’s most sensitive urban ecosystems.

The Karura segment of the project represents a defining test of balance—delivering high-capacity water infrastructure while safeguarding a protected forest environment. The delegation reviewed the controlled corridor approach, the use of existing alignments such as the Wangari Maathai cycling track, and the strict limitations placed on working width and vegetation disturbance. These measures are designed to ensure that construction remains contained, reversible, and fully compliant with environmental approvals.

Members of the AFD delegation emphasised that this approach reflects the core principle underpinning the programme—development must not come at the expense of environmental integrity. The Karura visit therefore served not



*Driving Accountability: Eng. Bonnie Nyadwaro, Director of Infrastructure Development at Athi Water Works Development Agency, led stakeholders through a progress review of critical infrastructure programmes during the March 2026 AFD Supervision Mission—anchoring delivery on technical precision, coordinated execution, and the translation of large-scale investments into reliable services at the household level.*

only as a technical inspection, but as a validation of how environmental, social, and engineering safeguards are being translated into practice on the ground.

This emphasis on safeguards carried through the broader mission discussions. Sustained progress, the delegation noted, depends not only on physical works, but also on strict adherence to environmental, health, safety, and social frameworks. Reviews focused on Environmental

and Social Management Plans, Resettlement Action Plans, and livelihood restoration mechanisms, reinforcing accountability at every stage of implementation.

Financial discipline and project sustainability also featured prominently in the discussions. Reviews of disbursement plans, procurement schedules, and counterpart funding highlighted the importance of maintaining momentum while safeguarding



*Infrastructure in Harmony with Nature . Eng. Bonnie Nyadwaro, Anne-Sophie Triboulet, Fariza Chalal, and Melanie Grignon during a site visit at Karura Forest, overseeing the Gigiri-Karura transmission pipeline while ensuring strict environmental and social safeguards.*

financial integrity. The AFD delegation underscored the need for forward planning, including the exploration of additional financing mechanisms to support long-term investment in the sector.

Sanitation emerged as a central pillar of the programme. Updates on bio-centres in informal settlements, sewerage expansion, and complementary works under CKE 1135 reinforced the importance of integrating water supply with wastewater management. These interventions directly influence public health outcomes, environmental sustainability, and the overall quality of life in urban communities.

The mission also placed strong emphasis on last-mile connectivity, recognising that large-scale infrastructure must ultimately translate into access at the household level. Procurement processes and timelines for these components were reviewed, reinforcing the urgency of bridging the gap between bulk infrastructure and everyday service delivery.

On-site engagements, including the visit to Karura and other project locations, provided stakeholders with a grounded perspective on progress—aligning technical, financial, and operational priorities while addressing implementation challenges in real time. These interactions strengthened coordination across institutions and ensured that decision-making remains anchored in the realities of project delivery.

Throughout the mission, a consistent theme emerged—partnership. The collaboration between the Government of Kenya, Athi Water Works Development Agency, and the French Development Agency continues to shape the trajectory of Nairobi's water and sanitation sector. The AFD delegation reaffirmed its



commitment to supporting Kenya's long-term vision, noting that sustained investment, coupled with strong institutional capacity, is essential to delivering resilient urban systems.

As the mission concluded, the focus remained firmly on delivery. Progress is evident, but the work continues. The Nairobi Water and Sanitation Programme represents more than a collection of projects—it is a coordinated

system transformation effort designed to ensure that water flows reliably, sanitation systems function effectively, and communities experience tangible improvements in their daily lives.

In this context, supervision is not merely oversight. It is assurance—ensuring that every investment delivers on its promise, and that infrastructure translates into dignity, equity, and opportunity for the people it is designed to serve.



## STRATEGIC CAPITAL

# BLUEPRINT FOR NAIROBI'S WESTERN CORRIDOR

**The Government of Kenya, through the Ministry of Water, Sanitation and Irrigation, has greenlit a Ksh 3 billion infrastructure programme aimed at strengthening water supply and modernising sanitation across Nairobi's western corridor.**

Implemented by Athi Water Works Development Agency in partnership with the French Development Agency (AFD), the investment targets over 300,000 residents and signals a decisive shift toward high-capacity, climate-resilient urban utility systems.

At the core of the programme is a long-term engineering vision—one that prioritises durability, system integrity, and future demand. The Government has specified the use of high-strength ductile iron pipes designed to last up to 100 years, ensuring that today's investment continues to serve future generations. Delivery is being undertaken by a joint venture between Zhongmei Engineering Group Limited and Hunan Construction Investment, bringing together global expertise in large-scale infrastructure execution.

The centrepiece of the works is the 19.7-kilometre Kabete–Olesereni pipeline, a high-pressure transmission line that will function as a critical backbone for water distribution across the metropolitan area. Once complete, the system will stabilise supply across multiple zones, reducing pressure fluctuations and strengthening reliability for households and businesses alike.

Beyond transmission, the programme places equal emphasis on last-mile connectivity—ensuring that infrastructure translates into real access at the household level. In the Wilson area, 580 new household connections are already underway, marking a tangible step toward expanding service coverage. Across Karen Plains, Kinoo–Dagoretti, and



*Expanding Nairobi's Water Frontier: AWWDA CEO Eng. Joseph Kamau, alongside Corporation Secretary Joyce Mukururi, formalizes the contract for the Ksh 3 Billion Western Nairobi Water and Sewerage Project with Zhongmei Engineering representatives Pan Nan and Liao Huihuang. Funded by the French Development Agency (AFD), this transformative initiative targets the expansion of water distribution and sewerage services for over 300,000 residents in Kawangware, Riruta, Uthiru, and Satellite, marking a critical leap in urban service delivery.*

Kawangware–Kangemi, more than 22 kilometres of internal distribution networks are being developed to bring water closer to homes and communities.

Environmental considerations have also been integrated into the design. About 2.5 kilometre pipeline extension has been carefully routed to avoid disruption to Ngong Forest, reflecting a deliberate balance between infrastructure delivery and ecological preservation. At the same time, coordination with the Nairobi Expressway corridor ensures that underground water systems align with broader urban transport infrastructure, allowing the city to grow in a structured and integrated manner.

Sanitation forms a critical component of the programme. An additional 63 kilometres of sewer reticulation is being developed, with

the potential to significantly reduce public health risks for approximately 250,000 residents. This integrated approach recognises that water supply and sanitation must advance together to deliver meaningful improvements in living conditions.

The investment reflects a broader commitment to strengthening Nairobi's urban systems at scale. By reinforcing both transmission and distribution networks, the programme moves beyond short-term fixes toward long-term stability—ensuring that water reaches homes reliably, safely, and sustainably.

In doing so, it lays the foundation for a healthier, more productive capital city—one where infrastructure keeps pace with growth and where access to essential services supports both dignity and economic opportunity.

## LEADERSHIP LENS

# WATER FOR THE CITY. CARE FOR THE ECOSYSTEM

*Flowline Recently Engaged Eng. Joseph Mungai Kamau on Building Water Systems that Balance Engineering, Ecology, and Equity within Nairobi.*



*Mandate in Motion . Eng. Joseph Kamau shares insights on advancing water access for over 9 million people across Nairobi, Kiambu, and Murang'a—while preserving the natural ecosystem.*

**Flowline: Karura Forest stands as both a critical ecological asset and a strategic infrastructure corridor. How did the Agency strike that balance in delivering this project?**

**Eng. Kamau:** Athi Water Works operates under a clear mandate—to accelerate access to clean water and improved sanitation across Nairobi, Kiambu, and Murang'a, serving a population of over 9 million people. At the same time, Karura Forest remains one of the city's most sensitive ecological spaces.

The project has been authorised through a Special User Licence issued by the Kenya Forest Service, allowing controlled underground works within a defined corridor. From an engineering perspective,

the alignment through Karura provides the most efficient route from Gigiri Reservoir toward the Outer Ring Road corridor, where demand is highest.

Alternative routes would significantly extend the pipeline, require additional pumping, and increase both cost and environmental footprint. Our approach therefore balances technical efficiency with environmental stewardship—working within existing corridors, limiting disturbance, and ensuring full restoration once works are complete.

**Flowline: At a system level, what does this project unlock for residents across Eastern Nairobi?**

**Eng. Kamau:** This is a backbone intervention designed to strengthen bulk water transmission into Eastern Nairobi. The DN1400 pipeline, extending 8.4 kilometres from Gigiri through Karura to the Outer Ring corridor, increases conveyance capacity and stabilises supply into downstream distribution networks.

The system will deliver approximately 216,000 cubic metres of water per day to the target areas, supporting a projected population of close to three million residents by 2045. These include Umoja, Komarock, Kayole, Nyayo Estate, Savannah, Kariobangi, Dandora, Korogocho, Njiru, Saika, Njathaini, Embakasi, Huruma, Mathare, and surrounding estates where demand

remains high and supply has historically been constrained.

At present, Nairobi produces about 639,000 cubic metres of water per day against a demand approaching one million. That deficit is what citizens experience as rationing, low pressure, and unreliable supply. This project directly addresses that imbalance by strengthening the transmission layer and enabling more consistent and equitable distribution.

**Flowline: The scale is significant. How does the design respond to both current demand and future growth?**

**Eng. Kamau:** We are designing against a clear demand trajectory. The projected population within the target areas is expected to grow from approximately 1.5 million in the near term to nearly 3 million by 2045, with corresponding water demand rising toward 367,000 cubic metres per day.

The 1.4-metre diameter pipeline reflects that growth curve. It ensures that as demand increases, the system remains stable and capable of delivering adequate supply without requiring constant retrofitting.

Urban infrastructure must anticipate growth. By strengthening bulk conveyance now, we are securing the system for the long term—ensuring resilience, efficiency, and continuity of service.

**Flowline: Environmental concerns have been central to public discourse. What safeguards guide implementation within Karura Forest?**

**Eng. Kamau:** Environmental protection is embedded in both design and execution. The project underwent a comprehensive Environmental and Social Impact

Assessment, with approvals issued by the National Environment Management Authority.

The pipeline will follow an existing cycle track corridor within Karura, limiting intrusion into undisturbed forest areas. The working width is tightly controlled, and vegetation clearance is strictly need-based—only trees that must be affected are removed.

We are working under close

supervision from the Kenya Forest Service, alongside conservation stakeholders including Friends of Karura Forest. Any disturbed sections will be reinstated and restored, with replanting undertaken in line with approved environmental management plans.

Works within the forest are confined to a defined four-month window, after which the ecosystem is restored to its original state. This is

## STRENGTHENING WATER TRANSMISSION IN EASTERN NAIROBI

**THE INTERVENTION**

8.4 KM LONG (FROM GIGIRI TO OUTER RING CORRIDOR)

DN1400 BULK WATER TRANSMISSION PIPELINE

INCREASED CONVEYANCE CAPACITY

STABILIZED

INCREASED CONVEYANCE SUPPLY

**OUR MISSION: SUSTAINABLE WATER FOR EASTERN NAIROBI.**

**IMPACT BY 2045**

PROJECTED RESIDENTS: CLOSE TO 3 MILLION

DELIVERING ~216,000 CU METERS PER DAY

SUPPLY TO TARGET AREAS

**OUR STRATEGY**

STRENGTHENING TRANSMISSION LAYER

CONSISTENT DISTRIBUTION

EQUITABLE ACCESS

**OVERCOMING NAIROBI'S WATER DEFICIT**

PRODUCTION: 639,000 CU METERS/DAY

DEMAND: APPROACHING 1,000,000 CU METERS/DAY

THE DEFICIT

RATIONING

LOW PRESSURE

UNRELIABLE SUPPLY

**TARGET AREAS:**

UMOJA	KOMAROCK	KAYOLE	NYAYO	ESTATE
SAVANNAH	KARIOBANGI	DANDORA	KOROGOCHO	NJIRU
SAIKA	NJATHAINI	EMBAKASI	HURUMA	MATHARE

deliberate engineering—precision, discipline, and accountability.

### **Flowline: Stakeholder engagement has been visible throughout. How does the Agency sustain alignment with communities?**

**Eng. Kamau:** Engagement is continuous and structured. We have undertaken extensive consultations with communities, user groups, and conservation stakeholders, ensuring that their feedback informs both design and implementation.

This includes stakeholder forums, joint marking of affected sections, asset enumeration, and ongoing communication throughout the project lifecycle. These engagements are not procedural—they are integral to how we deliver infrastructure.

Infrastructure of this scale must be delivered transparently, with communities actively involved. That is how trust is built—and sustained.

### **Flowline: Beyond transmission, how does this project connect to the broader water system serving Nairobi?**

**Eng. Kamau:** This project forms part of a wider system anchored on the Northern Collector Tunnel, which delivers bulk water into Nairobi. What we are doing here is strengthening the next layer—ensuring that water moves efficiently from bulk supply into distribution networks serving households.

The effectiveness of any water system depends on how well these layers connect—source, transmission, storage, and distribution. Weakness at

any point affects the entire system.

By reinforcing bulk transmission into Eastern Nairobi, we are ensuring that investments upstream translate into actual service delivery on the ground.

### **Flowline: What should citizens expect once the project is complete?**

**Eng. Kamau:** This intervention is designed to strengthen water supply within Zone 9 of the Nairobi City Water and Sewerage Company supply areas—covering Kasarani, Dandora B, Huruma, Kiamumbi, Mathare, Mathare 4A, Mathare North, Mabatini, Mlango Kubwa, and surrounding parts of Eastern Nairobi.



The project will transmit an additional 216,864 cubic metres of water per day into these zones, directly addressing long-standing supply deficits and stabilising distribution across high-demand areas. It is designed to serve a projected population of approximately three million by 2045, with total demand expected to reach 367,438 cubic metres per day.

The benefits will extend across key Eastlands neighbourhoods, including Dandora A, Embakasi, Kariobangi, Kayole, Komarock, Korogocho, Njathaini, Njiru, Nyayo Estate, Saika, Savannah, and Umoja—areas where reliable supply has remained a critical need as the city continues to grow.

### **Flowline: As a final word, what role do citizens play in sustaining these investments?**

**Eng. Kamau:** Water security is shared responsibility. As we invest in infrastructure, we must also protect the ecosystems that sustain it.

Citizens play a critical role—by preserving water catchments, protecting natural systems, and using resources responsibly. When infrastructure development aligns with environmental stewardship, we create systems that serve both present and future generations.

Athi Water Works Development Agency continues to lead this transformation—delivering infrastructure that is technically sound, environmentally responsible, and firmly anchored in public service.

## SYSTEM BACKBONE

# RELIABLE WATER FOR EASTLANDS, NOW UNDERWAY

**K**enya's commitment to delivering reliable, equitable water services continues to take shape through targeted infrastructure investments that place citizens at the centre of development.

Through the Ministry of Water, Sanitation and Irrigation, the Government of Kenya is advancing long-term water security under the Nairobi Water and Sanitation Project (NWSP), implemented by Athi Water Works Development Agency and financed by the French Development Agency (AFD). The partnership reflects a shared focus on strengthening public service delivery while supporting sustainable urban growth.

In line with this mandate, Athi Water Works has delivered a 17-kilometre primary water transmission backbone across Nairobi's eastern suburbs, reinforcing bulk water conveyance to fast-growing areas including Mihango, Utawala, Ruai, and Kamulu.

The Primary Main—spanning 17,494 metres—forms a critical structural layer of Nairobi's water infrastructure, shifting these areas from constrained and intermittent supply toward more stable, system-driven distribution.

Eng. Isaac Thiong'o, Resident Engineer, M/s Egis Water & Maritime & Losai Management Ltd JV, underscored the system-wide importance of the intervention, noting that strengthening bulk transmission directly improves how water moves across the entire network. He explained that reinforcing this primary layer stabilises pressure, enhances flow, and allows the system to respond



*Primary infrastructure is the backbone of service delivery.' — Eng. Caroline Owako, Deputy Director at Athi Water, on the agency's shift toward building more resilient, high-capacity water systems for a growing population.*

to growing demand without compromising service quality across expanding urban areas.

The infrastructure is designed to improve pressure stability, optimise flow across reservoirs, and reduce system strain—key factors in ensuring water reaches households, schools, and health facilities more predictably.

Eng. Caroline Owako, Deputy Director, Bulk Water Supply at Athi Water Works Development Agency, noted that the intervention marks a shift toward a more structured and resilient system. She emphasised that primary transmission infrastructure forms the backbone of service delivery, enabling downstream networks to function efficiently and serve a larger population with greater reliability.

The works align with ongoing transmission upgrades under the Gigiri–Karura–Outer Ring Road pipeline, which will further enhance system capacity and support an estimated three million residents by 2045.

From an engineering perspective, integrating high-capacity transmission lines into the network improves hydraulic performance, supports reservoir balancing, and enhances operational efficiency across Eastern Nairobi. The strengthened backbone ensures that bulk supply translates more effectively into consistent distribution at the consumer level.

The investment also underscores the role of development financing in scaling public infrastructure. Support from the French Development Agency continues to enable Kenya to deliver large-scale, high-impact water projects while maintaining strong environmental and social safeguards.

As Nairobi continues to grow, infrastructure of this scale is essential to ensure supply keeps pace with demand—translating national planning into reliable services for citizens.

For Eastlands, the shift is becoming tangible—moving steadily toward a more dependable and equitable water supply.

**BUILT RIGHT**

**BUILDING QUALITY INTO THE JOSKA EXTENSION**

**C**onstruction of the Joska and Kamulu water infrastructure distribution extensions is advancing steadily under the Eastern Nairobi Water and Sanitation Project, with works reaching 74% completion in Joska and 50% in Kamulu. These extensions form a critical part of the network designed to expand water access across Nairobi’s eastern growth corridor.

According to Eng. Isaac Thiong’o, Resident Engineer, Egis Water and Maritime & Losai Management Ltd JV, the progress reflects a deliberate, phased implementation approach aligned with land access, regulatory requirements, and future demand projections. “We are sequencing the works carefully to ensure each section meets the required standards before advancing. This approach allows us to manage complexity on the ground while maintaining quality across the entire network,” he said.

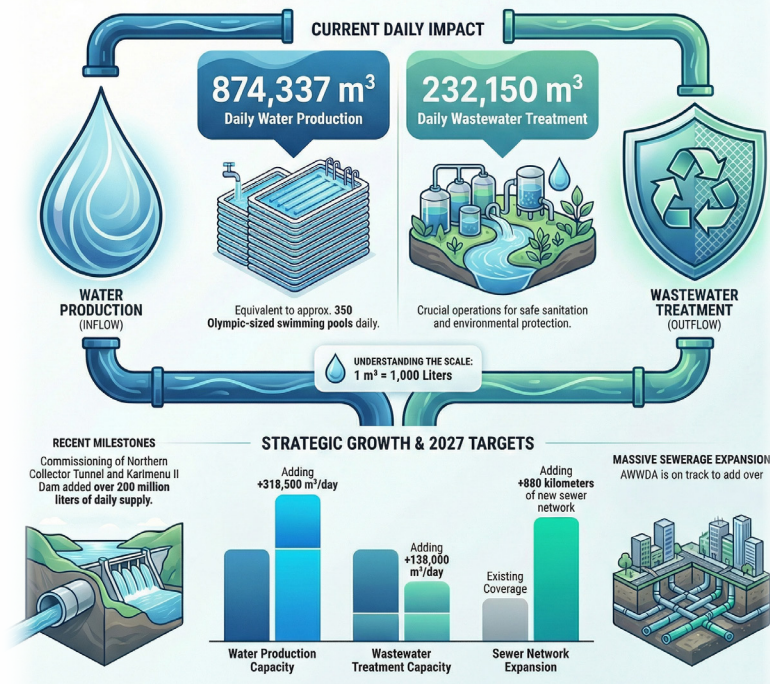
Rather than compress timelines at the expense of durability, the project maintains a disciplined pace that ensures each segment integrates seamlessly into the wider system.

Engineers are constructing distribution systems in areas such as Kitengela and along the Mwalimu Farm School Line with a clear long-term outlook—designing infrastructure that can support decades of urban growth without requiring costly retrofits.

Eng. Thiong’o added that phased development improves coordination, reduces implementation risk, and

**AWWDA: Scaling Water Infrastructure for a Growing Metropolis**

Athi Water Works Development Agency: Massive Operational Scale & 2027 Strategic Roadmap for Nairobi Metropolitan Area



strengthens overall system performance. “Quality control remains central at every stage—from pipe installation to testing—ensuring the network performs reliably once commissioned,” he noted.

This approach allows for close technical oversight, with teams monitoring installation quality, pressure integrity, and compliance with environmental and community considerations.

Eng. Kiprono emphasised that the phased approach reflects institutional discipline in delivering public infrastructure. “Building infrastructure of this scale requires us to get it right the first time. Phasing allows us to align construction with real conditions on the ground while ensuring the

system performs reliably over the long term,” he said.

In heavy civil works, durability defines value. Building right the first time protects public investment, reduces long-term maintenance costs, and ensures infrastructure continues to perform under increasing demand.

The steady progress across Joska and Kamulu reflects a project under control—one that balances urgency with responsibility, and immediate delivery with long-term system performance. Through the Nairobi Water and Sanitation Project, supported by financing from the French Development Agency (AFD), these investments continue to translate into resilient infrastructure that serves both present needs and future growth.

# WATER AT EVERY DOORSTEP

**A**s Nairobi continues to expand, particularly across Eastlands, sustained focus on last-mile connectivity remains critical to ensuring that water infrastructure translates into reliable service for communities.

Athi Water Works Development Agency continues to strengthen water service delivery under the Nairobi Water and Sanitation Project by expanding bulk infrastructure and supporting last-mile distribution in collaboration with Nairobi City Water and Sewerage Company.

With the primary transmission grid firmly in place, implementation of last-mile distribution has scaled up significantly, reaching 23,444 metres of installed lines—surpassing the original scope in response to the rapid growth of areas such as Umoja 3, Lucky Summer, and Mwiki.

Resident Engineer Isaac Thiong’o of the Egis–Losai Joint Venture emphasised that the current phase ensures infrastructure investments translate into real impact at the community level. “What we are doing now is closing the gap between infrastructure and actual access—ensuring that communities begin to feel the impact of these investments in their daily lives,” he said.

This continued expansion builds on ongoing efforts to extend reliable supply across high-density neighbourhoods, where demand has grown rapidly alongside urban development. Each extension of the network brings water closer to households, reducing reliance on informal supply systems and improving access to safe, regulated services.

Works in areas such as Kamiti continue to close the remaining gaps, with 1,469 metres already verified. Close coordination between bulk infrastructure development and utility-level distribution translates transmission-level investments into effective service delivery on the ground.



## AWWDA REGIONAL FOOTPRINT



**CORE ARTERY****FROM SOURCE TO SETTLEMENT**

**A**thi Water Works Development Agency has completed a 17-kilometre primary water transmission backbone across Nairobi's eastern suburbs, marking a decisive shift from temporary supply interventions to long-term urban resilience.

The Primary Main—spanning 17,494 metres—now forms a critical structural layer beneath the city, reinforcing bulk water conveyance across key growth zones including Mihango, Utawala, Ruai, and Kamulu. What once existed as fragmented or constrained supply corridors has now transitioned into a continuous, high-capacity distribution system—one designed to move water with consistency, stability, and scale across some of Nairobi's fastest-growing neighbourhoods.

Senior Engineer Guyatu Halkano of Athi Water Works Development Agency explains that this infrastructure forms part of a broader system anchored on the Northern Collector Tunnel, which delivers bulk water into Nairobi and its surrounding satellite towns. She notes that distribution works—such as those underway in Kitengela—are designed as last-mile extensions of this system, ensuring that water produced at scale ultimately reaches households.

In Kitengela, ongoing works cover approximately 21 kilometres of distribution pipeline, with an initial target of serving around 50,000 people. This phased approach reflects how the system is being expanded deliberately—linking bulk supply to distribution in a way that is both scalable and sustainable.

She emphasises that infrastructure



*Primary infrastructure is the backbone of service delivery.' — Eng. Caroline Owako, Deputy Director at Athi Water, on the agency's shift toward building more resilient, high-capacity water systems for a growing population.*

of this scale only achieves its purpose when it is translated into reliable service. Strengthening transmission ensures stability within the system, but it is through coordinated last-mile delivery that communities begin to experience the real impact. Sustainability, she adds, depends on proper connections through service providers, protection of infrastructure, and a shared responsibility to safeguard the system for long-term use.

The effects of this strengthened backbone are already becoming visible across Eastern Nairobi—not just within the network, but in how communities and economies respond to reliable supply. In Mihango, where development continues to stretch the city's eastern edge, water is increasingly shaping investment decisions. Projects that once faced uncertainty are now progressing with confidence, as developers

begin to anchor their plans around predictable supply.

For Samuel Gatundu, a local developer, reliable water is more than a convenience—it is a catalyst. When supply is stable, developments accelerate, businesses take root, and entire neighbourhoods begin to organise themselves around growth rather than limitation.

The sequencing of this infrastructure reflects deliberate institutional planning, where bulk transmission is established first to anchor stable downstream distribution. Areas previously vulnerable to supply fluctuations, including Ngundu, Njiru, and Donholm, are now supported by a system designed to deliver consistent pressure and flow. What was once unpredictable is steadily becoming structured, allowing both households and enterprises to operate with greater certainty.

Within homes, the transformation

is even more profound. In Utawala, residents who for years adapted their routines around unreliable supply are now experiencing a different reality—one defined by consistency rather than scarcity.

For Irene Njogu, the moment water began flowing directly into her home marked the end of a long period of adjustment and compromise. Daily life, once shaped by the search for water, is gradually giving way to something far simpler: the assurance that it will be available when needed.

For long-term residents, the shift carries a deeper emotional weight. Anthony Ochieng, who has lived in Utawala for over two decades, has witnessed the area expand while infrastructure lagged behind. The steady flow of water into his home today represents not only progress, but recognition—a signal that communities which grew ahead of infrastructure are now being fully integrated into a system designed to serve them reliably. It reflects a closing of the gap between growth and service delivery.

Saika and Obama estates already benefit from over 11,716 metres of operational piping integrated into the wider network, according to Eng. Isaac Thiong’o, Resident Engineer, M/s Egis Water & Maritime & Losai Management Ltd JV. Engineers have built the infrastructure to international standards, ensuring durability, efficiency, and long-term performance as Nairobi continues to expand. He emphasised that the system responds to both present demand and future growth, noting that strengthening the primary layer allows new demand to be absorbed without destabilising existing supply zones.

From a systems perspective, the new transmission line improves hydraulic performance across the network—supporting reservoir



*Catalyst for Urban Growth: Samuel Gatundu, the developer of Sam Tech Plaza, provides a firsthand account of how the newly commissioned water infrastructure in Mihango is transforming the commercial landscape. For developers, reliable water access is more than a utility—it is a critical driver of investment value and business continuity, proving that where water flows, economic opportunity follows*

balancing, reducing pressure losses, and enabling distribution that is more efficient across Eastlands. Each segment of the pipeline contributes to a larger objective: ensuring that water moves not just in volume, but also with stability and predictability across the system.

Resilience, in this case, is built beneath the surface—through materials, engineering precision and disciplined execution. The outcome is not only a stronger network, but also a more dependable one, capable of

sustaining the demands of a rapidly modernising city.

With this investment, public infrastructure moves beyond short-term fixes, establishing a dependable core that strengthens Nairobi’s water security for the long term. What is being built is not simply a transmission line, but a system that connects growth, restores confidence, and ensures that as the city expands, access to water keeps pace with the lives it is meant to sustain.



*Turning the Tide on Scarcity: For Utawala resident Irene Njogu, the sight of fresh water flowing directly into her home marks the end of a long and difficult wait. This milestone, delivered through the expansion of the Eastern Nairobi water backbone, represents the restoration of household dignity and the fulfilment of a commitment to bring safe, reliable services to every doorstep.*

# UNBLOCKING THE SOUTHERN CORRIDOR

For years, missing links along the Mombasa Road corridor have constrained how water flows into Nairobi’s fast-growing southern belt. Through sustained infrastructure investments under the Nairobi Water and Sanitation Project (NWSP), financed by the French Development Agency (AFD), Athi Water Works Development Agency is closing those gaps—unlocking a continuous network that is steadily restoring supply across Syokimau, Mlolongo, and Athi River in Machakos County, as well as Kitengela in Kajiado County, and beyond.



**Courtesy in action:** Eng. Joseph Mungai Kamau, Chief Executive Officer, alongside Eng. Caroline Owako, Deputy Director, Bulk Water Supply, host Syokimau Resident Association leadership—strengthening alignment between delivery and community voice.

At the centre of this effort lies the Syokimau–Mlolongo Distribution Network—an integrated system designed to bridge the long-standing gap between bulk water availability and household access. Covering approximately 40 square kilometres within Mavoko Constituency, the network targets Syokimau Sub-location, Katani, and surrounding wards, with a projected service population of over 208,000 residents by 2047.

The proposed distribution network spans approximately 41 kilometres, with pipe diameters ranging from 200 mm to 63 mm, forming a layered system capable of delivering water across both primary corridors and inner residential zones.

### **From Bulk Supply to Household Access**

The Northern Collector Tunnel (NCT), implemented under the Nairobi Water Master Plan, already delivers bulk water to Nairobi and

its satellite towns, including Mavoko Municipality. However, the absence of fully connected downstream distribution networks has historically limited how effectively that water reaches end users.

Along Mombasa Road, an operational DN500/450 transmission line has long existed—but critical missing links have constrained its ability to deliver consistent supply into Syokimau and neighbouring areas. Existing distribution mains—DN160 mm along Syokimau Airport Road, DN160/110 mm along Katani Road, and DN160 mm along Parliament Road—provide only partial coverage, leaving significant portions of the population underserved.

According to Resident Engineer Isaac Thiong’o, Egis–Losai Joint Venture, resolving these gaps is fundamental to unlocking the full value of existing infrastructure. “The bulk system has been in place,

but without full interconnection, its capacity remains underutilised. By closing these missing links, we are enabling water to move seamlessly from transmission into distribution—ensuring that supply reaches the communities it was always intended to serve,” he said.

He added that the design integrates the network directly with the Northern Collector Tunnel system while maintaining long-term operational flexibility. “We are putting in place a system that is controlled, measurable, and resilient—one that supports both current demand and future urban growth,” he said.

### **Engineering a Reliable System**

Eng. Caroline Owako, Deputy Director, Bulk Water Supply, Athi Water Works, underscored that restoring continuity along the southern corridor requires precision in both design and execution.

“The Mombasa Road stretch has remained a critical missing link for some time, largely due to the complexities introduced during the construction of the Expressway. With those constraints now behind us, we are able to complete these connections and restore full continuity across the network,” she said.

She noted that engineers have designed the Syokimau–Mlolongo network to deliver stable hydraulic performance while maintaining operational flexibility across the system.

Control valves at offtake points regulate flows into downstream networks and allow sections to be isolated during maintenance without disrupting supply across the wider area. Engineers have also installed bulk meters at strategic points to provide real-time data on system performance and support tracking of non-revenue water (NRW), strengthening operational efficiency and accountability.

The network adopts District Metered Area (DMA) zoning, enabling teams to monitor flows closely, detect leaks early, and manage distribution with precision. Combined with high-quality pipe materials, proper jointing, and rigorous testing, these features ensure durability, efficiency, and long-term reliability.

Recent works—including 1,407 metres of pipeline in Kitengela and 1,498 metres along the Mombasa Road corridor—together with completed interconnections at Gateway Mall, are unlocking previously constrained sections of the network and restoring continuity across the system.

### **Communities Driving the Shift**

Across the southern corridor, these interventions signal more than technical progress—they reflect a coordinated effort to deliver reliable,



*Eng. James Kilonzo, Resident Engineer, Artelia in association with Mangat I.B. Patel (MIBP) Ltd hold a focused discourse with Eng. Alphaxard Kithoko and Eng. Rop Kiprono at Athi Water Plaza—sharpening delivery under the Nairobi Water and Sanitation Project (NWSP), financed by French Development Agency (AFD).*

regulated water services to growing communities.

This momentum was evident during a recent courtesy call by a delegation from the Syokimau Resident Association (SRA), where Eng. Joseph Kamau, Chief Executive Officer, received community leaders alongside Eng. Caroline Owako, Deputy Director, Bulk Water Supply. The engagement reinforced a shared commitment between the implementing agency and residents—aligning infrastructure delivery with community expectations.

Juliet Karung’o, Chair of the SRA Water Committee, welcomed the progress, noting that the ongoing works are beginning to translate into visible change at the household level. Mohammed Ismail, Chairman of the Association, emphasised the importance of sustained coordination to ensure that system improvements are matched by consistent service delivery.

For the community, the significance is clear. John Thiong’o, Patron of the SRA, pointed to the confirmed rollout of transmission lines along key roads in Syokimau

by September as a defining milestone—one that signals a transition from prolonged waiting to measurable delivery on the ground.

Construction in sections of Syokimau awaits final coordination under the broader implementation programme, but the direction remains clear. The network closes existing service gaps while supporting future growth, improving public health outcomes, and strengthening socio-economic development across the region.

Together, these engagements reflect a shift in how infrastructure is experienced—not as distant projects, but as shared progress between institutions and the communities, they serve.

As works advance, the system breaks free from past constraints across the southern corridor. The network now restores flow at scale—bringing reliable water closer to homes, businesses, and growing communities along this vital urban stretch.



## INVISIBLE ENGINEERING MODERNISING WATER NETWORK BENEATH THE CITY

**U**rban infrastructure renewal often comes with disruption—roads opened up, businesses interrupted, and daily life unsettled. Across parts of Nairobi, however, a different approach is taking shape. Through the Nairobi Water and Sanitation Programme (NWSP), Athi Water Works Development Agency is advancing a model of infrastructure delivery that strengthens critical systems while preserving the life of the city above.

This transformation is being realised under the Central Nairobi Water Network Rehabilitation Project, a KES 1.6 billion investment supported by the French Development Agency (AFD), designed to modernise ageing water infrastructure while maintaining continuity across the city.

This shift is most visible along the Jogoo Road corridor and within neighbourhoods such as Maringo, Kaloleni, Mbotela, and Bahati, where the rehabilitation of ageing water networks is being undertaken using trenchless technology. Through methods such as Horizontal Directional Drilling (HDD) and pipe bursting, old pipelines are replaced beneath the surface without

extensive excavation, significantly reducing disruption to homes, businesses, and public spaces.

### *Trenchless Technology*

The works target ageing asbestos-cement pipelines that have, over time, contributed to frequent bursts, water losses, and contamination risks. By introducing modern high-density piping, the project is restoring system integrity, improving pressure balance, and reducing non-revenue water across the network. The result is a system that performs more efficiently while remaining largely invisible to the communities it serves.

Mohammed Koech, Sociologist at Athi Water Works Development Agency, frames the approach

in human terms. He notes that infrastructure in dense urban settings must respond not only to technical requirements, but also to the lived realities of communities. The adoption of trenchless technology, he explains, allows the city to upgrade critical systems without interrupting livelihoods. “We are fixing the system without stopping the city,” he observes, capturing the essence of a model that balances engineering precision with social sensitivity.

Community engagement has remained central to this approach. In the past month, a series of Project Affected Persons (PAPs) sensitisation forums were convened across the Jogoo Road project area,

bringing together residents, local leadership, and technical teams in structured dialogue. Beginning in Maringo, and extending through Kaloleni and Mbotela before reaching Bahati, these engagements created a platform for residents to understand the scope of works, raise concerns, and engage directly with those implementing the project.

These forums were not merely informational. They provided space to respond to technical questions in real time, clarify timelines, and align expectations between communities and project teams. In parallel, a Livelihood Restoration framework and grievance mechanisms were reinforced to ensure that businesses and households affected during implementation are supported and protected.

### **Community Representatives**

Key outcome of these engagements was the establishment of Local Level Grievance Redress Committees (GRCs), composed of community representatives who now serve as direct links between residents and the project. These committees provide a structured mechanism for addressing concerns as they arise, ensuring that issues are resolved promptly and transparently.

Evangeline Kagwiria, Community Outreach Consultant under Silmar Consulting, notes that sustained engagement remains essential to successful delivery. She explains that community forums are designed not only to inform, but to involve—ensuring that residents remain active participants in a process that directly affects their environment and daily lives.

From a broader perspective, the initiative reflects a shift in how urban infrastructure is conceived and delivered. Rather than isolated interventions, the works form part of a wider city-wide renewal of



*Involving, Not Just Informing . Community Outreach Consultant Evangeline Kagwiria emphasizes that sustained engagement is the heartbeat of successful delivery.*

Nairobi's water network—linking rehabilitation in central areas with broader system improvements under the NWSP framework.

### **Complementary works**

Sanitation remains an equally important component. Complementary works are being aligned to ensure that wastewater systems keep pace with improvements in water supply, recognising that public health outcomes depend on the integration of both services within the urban environment.

Funded by the French Development Agency (AFD) and implemented under the NWSP, the project demonstrates how infrastructure investment can be both transformative and sensitive—responding to the needs of a growing city without disrupting the communities that sustain it.

Across Maringo, Kaloleni, Mbotela, and Bahati, the impact of this approach is already taking shape. Infrastructure is being renewed with precision, communities are actively engaged, and the system beneath the city is steadily being restored.

In doing so, the project sets a new



*Engineering Without Disruption . Mohammed Koech underscores how trenchless technology modernises infrastructure while keeping the city moving*

standard for urban infrastructure delivery—one where engineering excellence and community stewardship move together, ensuring that progress is not only built, but shared.

### **New Standard**

Scheduled for completion in November 2027, the Central Nairobi Water Network Rehabilitation Project reflects a new model for infrastructure delivery—one that combines engineering innovation, institutional coordination, and community-centered execution.

Rather than disrupting the city to rebuild it, the project demonstrates how infrastructure can be modernised with precision and care—strengthening systems beneath the surface while preserving the life above.

As Nairobi continues to grow, this approach sets the standard for future investments. Through the Nairobi Water and Sanitation Project, supported by financing from the French Development Agency (AFD), these investments continue to shape a water system that delivers reliability, resilience, and long-term value to the people it serves.

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