

SCIENCE

SAYANSI

Telling the African science story

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Why climate change is not gender neutral in Africa



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Reclaiming the Science narrative for the African Audience

The recent launch of Mongabay's Swahili language service marks a long-overdue step in telling Africa's science stories in African languages. Sayansi welcomes this milestone and remains committed to producing science journalism in Kiswahili and other local languages.

Yet for decades, the science that could inform their decisions, protect their health and strengthen their livelihoods has largely been published in a language most of them do not speak.

Sayansi, named after the Kiswahili word for science, was founded on a simple belief: evidence-based reporting on health, climate, agriculture, and environment must reach the majority of Kenyans.

Therefore, the arrival of a global platform in this space is a confirmation that the work matters, and that the audience has always been there.

This edition of Sayansi is shaped by the same spirit of accessibility and urgency with stories gathered here, moving across several interconnected crises.

Unlike the abstract, data-heavy framings that still dominate much international coverage, the climate crisis in these pages has faces and addresses.

We have stories from the arid counties of northern Kenya where prolonged drought is quietly dismantling household economies and pushing girls out of school and from coastal farmland where saline soils have locked farmers out of rice production for generations among others.

In this edition you will also notice a deeper look into the rise in new HIV infections among adolescent girls and young women. This is a climate justice story with health consequences, and covering it as anything less, therefore, misses the point.

The same is true of the surge in antimicrobial resistance, the persistence of sleeping sickness, the strain on maternal health services in remote counties, and the expanding geography of disease outbreaks.

You will also notice that almost every story in this issue, regardless of its primary focus, arrives eventually at the same finding, that women bear a disproportionate share of the cost of environmental and health system failures, and a disproportionately small share of the resources needed to respond.

A quick look at the recent innovations in the agricultural sector provides this edition's note of measured hope as Kenyan researchers are developing crop varieties bred for the conditions farmers actually face. Some of these conditions include saline soils, erratic rainfall, rising temperatures and bird pressure among others.

The push to grow more sunflower and soybean and reduce Kenya's dependence on imported edible oil is a story about food sovereignty as much as agronomy. These innovations deserve the spotlight this edition provides, but more importantly, they deserve to reach farmers in the languages they actually speak.

Our opinion pieces push further, interrogating the politics of climate negotiations, the ethics of biomedical communication, and the fundamental responsibility of journalists to report with more precision and more courage.

This all lives under the roof Sayansi has always built, a space where science is never a spectator sport, where African expertise is centered. It also represents the truth for those who need it most.

Read on.

SAYANSI

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Cover photo: Mrs Phyllis Nduva a farmer from Mwaani village near Wote Town, Makueni County in eastern Kenya at her farm.

Photo Credit: MESHA



Participants at the launch of Mongabay Swahili Service on March 10, 2026 in Nairobi, Kenya. Photo Credit: MESHA

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The triple threat facing African girls

By Violet Otindo

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In the drought-stricken village of Kargi in Marsabit, a teenage girl quietly drops out of school after her family's livestock, their only source of wealth, perishes during a prolonged dry spell.

Simultaneously, in Western Kenya, a young mother misses a critical antenatal appointment because transport costs have doubled and the nearest facility remains miles away.

In a crowded urban informal settlement, a 19-year-old hesitates to seek HIV prevention services, paralyzed by the persistent shadow of stigma.

These stories may seem like isolated hardships, but they are deeply interconnected. They exist at the volatile intersection of climate stress, gender inequality, and health vulnerability, a nexus now reflected in Kenya's latest HIV data.

New HIV infections in Kenya rose by 19 percent in 2024, reaching 19,991 cases compared to 16,752 in 2023.

Data from the National Syndemic Disease Control Council (NSDCC). NSDCC HIV Estimates 2025 report reveals that nearly a third (32%) of these infections were among those aged 10–24.

Within this youthful cohort, the burden is overwhelmingly gendered, with adolescent girls and young women accounting for eight out of every ten new infections. Most strikingly, eight in ten new infections in that age group occurred among adolescent girls and young women.

Currently, women account for 67 percent of all people living with HIV in Kenya. The national prevalence among women stands at 4.5 percent, more than double the 2.2 percent recorded among men.



Doreen Moraa Moracha, a health and triple threat ambassador: Experts say that among the youth, the HIV burden is overwhelmingly gendered, with adolescent girls and young women accounting for eight out of every ten new infections.
Photo Credit: Sammy Waweru

"These numbers tell us that the epidemic is shaped by more than individual choices," says Angella Langat, a Director at the NSDCC. "When adolescent girls carry the highest burden of new infections, we must examine the structural conditions around them."

Climate as a health driver

In Kenya's Arid and Semi-Arid Lands (ASAL), environmental shocks are rewriting health outcomes. When drought erodes household income, families face impossible trade-offs. Often, girls are the first to be pulled from school, leading to a rise in early marriages and deepened economic vulnerability.

During the MESHA Media Café on Just Transition held ahead of COP30, experts emphasized that climate change is a justice issue. "If we separate climate from health, we miss the full picture," noted Imali Ngusale, Technical Communications Advisor at the African Centre for Health, Climate and Gender Justice Alliance (ACHCGA). "Economic shocks translate into health risks. Climate stress quietly reshapes HIV vulnerability."

The 'Triple Threat'

The NSDCC has formally termed the co-occurrence of new HIV infections, adolescent pregnancies, and sexual and gender-based violence (SGBV) as the 'Triple Threat.'

In 2024, SGBV cases among minors aged 10–17 represented 36 percent of the national total, while adolescent pregnancies accounted for 16 percent of all pregnancies nationwide.

Geography also plays a role. Half of all people living with HIV in 2024 were concentrated in just seven counties. Furthermore, mother-to-child transmission (MTCT) rose to 9.3 percent nationally. In counties like Wajir, Mandera, and Samburu, MTCT rates exceeded a staggering 20 percent. “In ASAL counties, where transmission remains high, community engagement is critical,” says Douglas Bosire, Acting CEO of the NSDCC. Adding that “faith leaders and local networks are essential in reducing stigma and encouraging treatment adherence.”

Innovation vs. Structure

Kenya has made significant strides toward the UNAIDS 95-95-95 targets, with 97 percent of adults knowing their status and 83 percent achieving viral suppression. The country also recently integrated long-acting injectable PrEP (Lenacapavir) into its framework to increase discretion and reduce clinic visits.

However, medical innovation alone is not a silver bullet. Dr. Jonah Onenthia, Prevention Manager at NASCOP, observes that PrEP initiations declined by 29 percent in late 2025.

“Without addressing stigma, economic instability, and gender power dynamics, uptake will remain uneven,” he warns.

A call for narrative change

Protecting the next generation requires a shift in how these stories are told and how policies are made.

“We must move beyond symbolic moments,” says Audrey Masitsa, Regional Communication & Advocacy Coordinator at Mission Inclusion.

“Effective coverage means intentionally centering women as leaders and innovators in climate action. We need evidence-driven stories that influence investment and public understanding.”

The signals from Marsabit to the lakeside regions are clear: when climate stress meets gender inequality, health vulnerability follows. Kenya’s HIV response must now evolve to meet this complex, modern reality.

How floods and droughts deepen Kenya’s gender inequality

By Violet Otindo
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Recent flooding across counties including Garissa and Kisumu during the early 2026 long rains displaced thousands of households and devastated infrastructure, according to the National Disaster Operations Centre and Kenya Red Cross. While the physical destruction of homes and submerged farms is visible, a quieter, more gendered crisis is unfolding in the aftermath.

The scale of this crisis is underscored by the 2023-2025 UN Women and UNEP reports on the ‘Climate-Care Nexus. This research, alongside the 2025 Kenya Household Satellite Account on Unpaid Care, reveals that in climate-affected communities, women disproportionately shoulder the burden of domestic labor.

As displacement disrupts social systems, women are forced to fill the gaps—sourcing clean water from contaminated or distant sources and caring for family members falling ill to climate-related diseases under extreme pressure.

Researchers argue that these realities prove climate change is far more than an environmental crisis, it is a critical issue of gender and health justice.

Deepening Existing Inequalities

Severe flash floods in vulnerable regions have caused thousands of deaths and displaced millions across the continent.

Beyond the immediate danger, these disasters leave women and girls exposed to heightened risks linked to water scarcity, health emergencies, and a spike in gender-based violence (GBV).

Speaking during a recent cross-border science forum organized by the Media for Environment, Science, Health and Agriculture (MESHA), Imali Ngusale, Strategic and Technical Lead at the African Centre for Health, Climate and Gender Justice Alliance (ACHCGA), noted that environmental shifts are rarely experienced equally.

“Climate change disproportionately impacts women and marginalized genders by intensifying health risks, care burdens, and exposure to climate-related shocks,” Ngusale stated.

She emphasized that while climate change refers to long-term shifts in weather patterns driven by human activity, its social impacts are immediate and discriminatory.

The Intersection of Economic Stress and Violence

The forum also highlighted the intersection of environmental pressure and social stress.

Rosebell Barbara, a researcher at ACHCGA, presented findings linking climate-related economic pressures to increased violence against women in Kenya.

“Extreme weather worsens economic insecurity, and this climate vulnerability can lead to an increase in both domestic and technology-facilitated violence,” Barbara warned.

As livelihoods in farming, fishing, and pastoralism fail due to weather extremes, the resulting household tension often manifests as physical or emotional abuse.

The debate is now shifting toward global policy and the concept of a “Just Transition.”



Studies by UN Women and the United Nations Environment Programme show that in climate-affected communities, women disproportionately carry unpaid care responsibilities.

Photo Credit: ACHCGA

Teresa Anderson, Climate Justice Lead at ActionAid International, argued during discussions on the COP30 climate summit outcomes that environmental policies must not be drafted in a vacuum.

"Climate action should prioritize people's daily needs and ensure that the transition to low-carbon economies does not push communities further into poverty," Anderson said.

She noted that COP30 outcomes have strengthened global principles that emphasize participation, protected livelihoods, and gender inclusion.

For Africa, where millions depend on climate-sensitive industries, these policy shifts are a matter of survival.

Experts at the forum emphasized that linking hard climate data with lived experiences is the only way to create effective adaptation plans under the Paris Agreement.

The forum concluded with a challenge to journalists to reshape the public narrative.

"Media narratives influence whose climate experiences are seen, believed, and prioritized," Ngusale said.

By adopting gender-responsive reporting, the media can ensure that climate policies do more than just protect the landscape, they must also address the health and social inequalities that leave women on the front lines of the crisis.

Gender-responsive climate journalism in Africa must move beyond victimhood

By **Monica Kayombo**
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Climate change is not gender-neutral. Its impacts are profoundly shaped by pre-existing social structures, disproportionately affecting women and exacerbating inequalities through differences in social roles, resource access, and power dynamics.

The statistics are stark: by 2050, climate change could push up to 158 million more women and girls into poverty—16 million more than the projected number of men and boys.

Even today, 47.8 million more women face food insecurity and hunger than their male counterparts. In response, African media is being called upon to move beyond merely highlighting these challenges and start actively changing the narrative.

Speaking during a recent virtual forum for members of the Media Science Cafés across Zambia, Kenya, Malawi, Zimbabwe, and Uganda, Audrey Masitsa—Mission inclusion's Regional Communication and Advocacy Coordinator—highlighted the critical role of journalists in shaping public policy.

In her presentation, "Why does this matter?" Masitsa identified common gaps in current gender and climate reporting. She observed that gender is often treated as a "checkbox" rather than a lens. "Women are usually portrayed either as victims of disaster or passive beneficiaries of aid," Masitsa said. "This results in incomplete, extractive storytelling that overlooks agency and solutions."

She noted that many stories focus exclusively on impacts and disasters, allowing community voices to be overshadowed by institutional experts. Effective reporting, she argued, requires linking lived realities to systemic policies.



Members of Chambuko Amkeni Conservation, a women-led group, based Kilifi County, Kenya, along the coast. They are engaged in mangrove restoration and protection. The media should bring out the things that the women are doing in shaping climate adaptation.

Photo Credit: Mission Inclusion

To add real value to climate action, journalists must become “power aware.” This involves balancing stories by scrutinizing who speaks, who decides, and who benefits from climate interventions. “In 2024, women comprised just 24 percent of heads of delegation at COP29, and globally, women lead only 28 percent of environment-related national ministries,” Masitsa noted. “This makes the media’s role in amplifying women’s climate leadership all the more critical.”

She urged practitioners to ask better questions, spend more time in affected communities, and hold systems—rather than vulnerable populations—accountable.

Masitsa cited the Regenerative Seascapes for People, Climate and Nature Project (ReSea) as a prime example of where journalists can find stories of agency.

The ReSea project, a CAD \$30 million initiative implemented by Mission Inclusion in collaboration with the International Union for Conservation of Nature (IUCN) and financed by Global Affairs Canada, promotes Nature-based Solutions (NbS) across the Western Indian Ocean. Operating in Kenya, Tanzania, Mozambique, Comoros, and Madagascar, the project supports over 71,000 people, with ripple effects benefiting up to two million residents.



“In 2024, women comprised just 24 percent of heads of delegation at COP29” - Audrey Masitsa-Mission inclusion Senior Manager for Communications and Advocacy.

Photo Credit: Mission Inclusion

It trains women and youth in seaweed farming and sustainable fisheries while restoring coastal ecosystems like mangroves. “When reporting on such initiatives, journalists must go deeper,” Masitsa explained.

“Highlight the structural barriers, such as challenges accessing capital or market power, and follow the journey of how these women are leading marine governance and designing climate solutions.”

In her closing remarks, Masitsa reminded the forum that gender-responsive reporting is not merely a form of advocacy; it is a matter of journalistic accuracy.

“When journalists tell fuller stories, they improve public understanding, influence better policy, and amplify solutions that are already working,” she concluded.

Africa's green energy boom has a gender problem



Solar installation in Gachuriri Village, Mbeere South, Embu County, Kenya. Legal analysts say transition projects may face scrutiny if social safeguards are not embedded in climate policy. Photo Credit: Chemtai Kirui

By Chemtai Kirui

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When African governments signed onto the Belém Action Mechanism (BAM) at COP30 in Brazil last year, they made a high-stakes promise: the continent's massive green energy expansion would protect its most vulnerable workers.

Now, legal experts and policy analysts warn that the clock is ticking on whether that promise will hold.

With a March 15 deadline approaching for countries to submit their national implementation plans, the focus has shifted from political rhetoric to legal accountability.

At stake is whether protections for informal workers, who make up more than 80 percent of Africa's workforce according to the International Labour Organization (ILO), will be woven into the energy strategies reshaping the continent's economic future.

80%

At stake is whether protections for informal workers, who make up more than 80% of Africa's workforce according to the International Labour Organization (ILO), will be woven into the energy strategies reshaping the continent's economic future.

During a cross-border briefing convened by the Media for Environment, Science, Health and Agriculture (MESHA) in February 2026, over 80 journalists and policy specialists examined how international commitments are filtering into domestic law.

"It's not enough that these principles are agreed upon internationally," said Teresa Anderson, Global Lead on Climate Justice at ActionAid International.

"The years after COP30 require us to use these outcomes to deliver action on the ground."

The landscape of climate litigation changed significantly following the International Court of Justice (ICJ) Advisory Opinion on the Obligations of States in Respect of Climate Change.

By linking a state's "due diligence" duties to the 1.5°C temperature threshold, the ruling transformed political aspirations into potential legal benchmarks.

Domestic courts can now use these benchmarks to assess whether governments are doing enough to protect their populations from climate-related harm.

Legal scholars, including Professor Daniel Bradlow of the University of Pretoria, argue that the ICJ's 2025 ruling creates a "legal collision course" between a state's duty to pay its creditors and its court-affirmed duty to shield its population from climate catastrophe.

Farmer Steven Mutua oversees a solar-powered irrigation system in Mbeere South, Embu County, replacing a diesel pump.

Photo Credit: Chemtai Kirui



Writing for the South African Institute of International Affairs (SAIIA), Bradlow suggested this provides a legal basis for African nations to prioritize climate adaptation over debt servicing through innovative mechanisms like debt-for-climate swaps.

Despite the urgent need for a “just transition,” financing remains a bottleneck. Research from ActionAid’s 2024 How the Finance Flows report estimates that only 2.8 percent of multilateral climate mitigation finance over the past decade has supported just transition measures.

Essentially, only one dollar out of every 35 reaches the communities most exposed to the energy shift.

Particular scrutiny is now falling on projects linked to Article 6 of the Paris Agreement, which governs international carbon markets.

In coastal and forested areas, carbon credit initiatives have occasionally restricted land access for fishers and smallholder farmers.

Imali Ngusale, Strategic Lead at the African Centre for Health, Climate and Gender Justice Alliance (ACHCGA), warned that infrastructure-heavy strategies often fail to account for indirect social impacts.

“Climate change deepens existing gender inequalities by interacting with social, economic, and political power structures,” she said.

This gap is most visible in the “blue economy.” In coastal Kenya, women-led mangrove restoration projects are proving that community oversight is a practical necessity, not just a social gesture.

In Kwale County, for instance, women’s groups involved in the Mikoko Pamoja carbon credit project successfully demanded a seat at the table after initially being excluded from revenue-sharing decisions.

Audrey Masitsa of Mission Inclusion emphasized that local oversight is vital for the longevity of green projects. “Giving local stakeholders formal oversight roles is a practical necessity to prevent the social unrest that could derail multi-million-dollar investments,” she noted.

As preparations advance for COP31 in Antalya, with Türkiye hosting and Australia presiding, negotiators face growing pressure to turn ‘just transition’ promises into enforceable domestic policy.

The MESHA forum concluded with a clear consensus: the real test of Africa’s energy transition has moved beyond multilateral halls to domestic legal systems.

The durability of the continent’s green investment surge will depend on whether projects are deemed legally robust by local courts and socially defensible by the communities they serve.

Three tablets could help end sleeping sickness in Africa

By Violet Otindo
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For decades, a diagnosis of sleeping sickness in remote African villages marked the beginning of a long and frightening journey.

Patients frequently traveled vast distances to reach specialized hospitals, where they endured painful injections and weeks of medical supervision.

Earlier medicines were so toxic they carried a grim reputation: the arsenic-based treatments used for over 60 years were known to kill one in every 20 patients.

That difficult treatment pathway is on the verge of a historic transformation. Scientists have developed a new oral medicine, acoziborole, which can treat sleeping sickness with a single dose of just three tablets.

This breakthrough targets *Trypanosoma brucei gambiense*, the parasite responsible for 95 percent of sleeping sickness cases.

Developed through a partnership between the Drugs for Neglected Diseases initiative (DNDi) and Sanofi, the drug received a positive opinion from the European Medicines Agency (EMA) on February 27, 2026. This recommendation, issued under the EU-M4all pathway, clears the way for the treatment to be used in adults and adolescents across Africa.

Macro shot of a tsetse fly on the ground.
INSET: *Trypanosoma gambiense* is a flagellated protozoan in blood smear.
Photo Credit: ROYALTY FREE (DREAMSTIME)



Clinical trials conducted in the Democratic Republic of Congo (DRC) and Guinea demonstrated a staggering 96 percent success rate, curing even advanced stages of the disease where the parasite had invaded the central nervous system.

Sleeping sickness is transmitted through the bite of infected tsetse flies, making it a disease of the environment.

Research led by Professor Eric M. Fèvre of the University of Liverpool and the International Livestock Research Institute (ILRI) shows that land-use changes and livestock movements directly influence where tsetse flies survive.

In Kenya's Lambwe Valley, a historic hotspot in Homa Bay County—scientists from the Kenya Agricultural and Livestock Research Organization (KALRO) have found that tsetse flies are extremely sensitive to ecological shifts.

"Changes in vegetation cover and climate variability can influence vector density and disease transmission," researchers noted. This climate-health nexus is a growing concern as shifting rainfall patterns across Africa reshape the habitats of disease-carrying insects.

The World Health Organization (WHO) has set a global target to eliminate sleeping sickness as a public health problem by 2030. Kenya reached this milestone early, receiving official WHO validation in August 2025. It became the tenth country to achieve this status through rigorous surveillance across six historically endemic counties.

Despite this success, the disease remains a threat in neighboring regions where communities rely on fishing, farming, and livestock grazing—activities that increase exposure to tsetse fly habitats.

Public health experts believe acoziborole will be the "closer" in the fight against the disease.

Because the treatment is a single oral dose, mobile health teams can treat patients immediately in their own villages after a positive screening, rather than referring them to distant, intimidating hospitals.

While a pediatric trial (ACOZI-KIDS) is currently underway in the DRC to ensure the drug is safe for children under 12, the current approval for adults and adolescents marks a definitive shift in the narrative.

For communities that have lived under the shadow of this parasite for generations, these three tablets offer the hope that one of Africa's most feared diseases may finally be brought to an end.

Rising onion demand: How a farm is positioning for 148,000-tonne market

By Denis Lokaria

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In the red soils of Kwa Matingi village, a quiet agricultural transformation is underway; one defined not just by onions, but by systems thinking.

On a six-acre farm nearing harvest, Suleiman Maundu expects over Sh5.4 million (US\$41,763) in gross revenue, based on yields of 18 tonnes per acre at Sh50 per (US\$0.39) kilogram.

Behind this arithmetic lies a deeper story of how engineering, climate adaptation, and market strategy converge to reshape farming in Kenya's Arid and Semi-Arid Lands (ASALs).

What began in 2020 as a pandemic-era experiment, Rama Farm Supplies Ltd has evolved into a high-volume enterprise spanning 20 acres across Machakos County.

"Even at modest prices, scale makes the difference," Maundu says. "But scale without systems is risky."

Machakos County typically receives only 500mm of annual rainfall and faces a severe drought cycle every three to four years. In an environment where water is the central variable for success, Maundu has engineered his farm with industrial precision.

Two on-farm reservoirs, Kyamisanzi and Kyamatinga, anchor a network of pipelines that distribute over 700,000 liters of water daily.

Powered by a combination of solar panels and electric pumps, the farm utilizes drip irrigation to minimize evaporation and deliver moisture directly to the roots.

"When water became reliable, everything changed. We moved from reacting to planning," Maundu explains.



Suleiman Maundu tending to his onions in his Tala, Machakos-based farm. Photo Credit: MESHA

Unlike conventional seasonal farming, Rama Farm operates on a staggered production system.

At any given time, different fields are at varying growth stages—from nurseries to ready-to-harvest beds. This approach stabilizes cash flow and protects the business from the notorious price volatility of the Kenyan vegetable market.

"When you harvest everything at once, you gamble with prices. Staggering gives you leverage," says Maundu.

This strategy mirrors supply chain management, ensuring a consistent market presence and maximizing the predictable maturation intervals of hybrid onion varieties.

The journey to 18 tonnes per acre was not without setbacks. Early seasons were plagued by unsuitable seed varieties that sprouted in storage and disease outbreaks that saw yields plummet to just six tonnes.

Initial investments exceeded Sh2 million (US\$1,547), and in the early days, net returns sometimes fell as low as Sh50,000 (US\$387). "Agriculture is both science and risk," Maundu reflects. "Mistakes are expensive, but they teach you faster than success."

A critical turning point was the installation of a 1.8-kilometer pipeline and a three-phase power connection, funded through a credit arrangement built on personal trust.

The consistent water supply immediately eliminated moisture stress and stabilized yields.

The impact of Rama Farm extends beyond its borders. Local land values in Kwa Matingi have more than doubled as neighboring farmers adopt similar irrigation systems.

Maundu's produce serves a diversified network: high-grade onions go to supermarket chains, while smaller bulbs supply local markets in Tala, Matuu, and Ruai. Regional demand is also surging; Kenya's onion exports skyrocketed by 278 percent in 2023.

While Kenya still relies on imports from Tanzania and Egypt to close supply gaps, the national consumption is projected to rise to 148,000 tonnes by 2026, creating a massive opening for local commercial farmers.

Maundu's approach is heavily influenced by his background in mechanical engineering. As the founder of Ramtek Services Ltd, he views the farm as a system of interconnected components—energy, soil, and market data, that must be optimized.

As climate variability intensifies, Rama Farm offers a blueprint for the future of the ASAL regions.

Success no longer depends on the arrival of the rains, but on the integration of renewable energy, improved hybrids, and the precise application of infrastructure.



Clean cooking and Kenya's journey to safer homes

A girl cooks using solid firewood fuel in Mumias, Kakamega county exposing herself to the risks of health and safety.

Photo Credit: Shabana Maakokha

By Shaban Makokha

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Across millions of Kenyan homes, the day begins with smoke-filled kitchens, where women cook over open fires and children inhale harmful air pollution. What feels ordinary has become a silent public health crisis.

According to the World Health Organization (WHO), household air pollution from polluting fuels was responsible for an estimated 3.2 million deaths globally in 2020 alone.

In Kenya, the burden is significant: 68.5 percent of households still rely on firewood as their primary fuel.

A Threat to Health and Heritage

The smoke filling these kitchens contains fine particulate matter that causes respiratory infections, heart complications, and lung disease.

Women and children, who spend the most time near the hearth, are disproportionately affected. Infants strapped to their mothers' backs breathe this polluted air before they can even crawl.

Beyond the home, traditional cooking is driving rapid deforestation. In Kakamega, Vihiga, and Nandi—home to Kenya's only tropical rainforest—the crisis is visible from space. Satellite imagery estimates that 20 percent of the indigenous cover of the Kakamega Forest has been lost over the past three decades.

"Cutting trees faster than they can regenerate fuels a cycle of land degradation," explain environmental experts. "It increases vulnerability to climate disasters for the very communities who depend on these forests."

For families struggling to make ends meet, the cost of traditional cooking is high.

Charcoal prices have surged, forcing low-income urban families into unsafe alternatives like kerosene.

Furthermore, the hours women spend searching for firewood represent lost productivity—time that could be used for education or small businesses.

A quiet revolution is now taking shape. Launched in March 2026, the Accelerating County Cooking Transitions (A2CT) project targets Kakamega, Meru, and Taita Taveta counties.

This comprehensive initiative brings together the Ministry of Energy, SNV, the Clean Cooking Association of Kenya (CCAK), and Gamos East Africa, with support from UK PACT.

The project aims to equip counties with data-driven clean cooking policies, transition at least 50 percent of trained households to modern solutions and strengthen financial inclusion for 200 clean energy entrepreneurs.

Baseline findings released on March 10, 2026, show the steep mountain ahead: in Kakamega, firewood meets 57 percent of energy needs, while Liquefied Petroleum Gas (LPG) represents only 9 percent.

Kakamega Governor Fernandes Barasa has acknowledged the challenge, noting that while national clean cooking adoption stands at 31 percent, his county languishes at just 9 percent.

To bridge this gap, the county has secured Sh3 billion to support rural electrification, a crucial step for electric cooking transitions.

For Rebecca Hallam, Country Director for SNV, the agenda is fundamentally about people. "At the center of today's launch are households seeking healthier solutions and entrepreneurs building green businesses," Hallam said during the project launch. She emphasized that technologies like LPG, ethanol, and electric pressure cookers offer more than cleaner air—they offer "dignity, time, and safety."

As the A2CT project gains momentum, the benefits are expected to cascade through every aspect of life.

Women gain back valuable hours, children breathe easier, and the country moves closer to its climate goals.

While challenges like upfront costs and cultural preferences remain, the journey in Kakamega has begun. It is a future where the simple act of cooking a family meal no longer carries the risk of an early grave.

Kenya's HIV prevention injection advances science, but equity matters

By Angella Langat

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In July 2025, the World Health Organization released landmark guidelines recommending twice-yearly injectable lenacapavir (LEN) as an additional pre-exposure prophylaxis (PrEP) option for HIV prevention.

Clinical trial data underpinning the WHO recommendation showed lenacapavir reduced HIV acquisition by 100 percent among women in the PURPOSE 1 trial and by 96 percent in the primarily male PURPOSE 2 trial, compared with estimated background HIV incidence.

Twice-yearly injectable Lenacapavir offers something powerful: fewer clinic visits, no daily pills, and greater discretion for people who struggle with adherence or stigma.

Lenacapavir is not a vaccine. It is a long-acting HIV prevention medicine given twice a year to reduce the risk of infection—a form of pre-exposure prophylaxis (PrEP).



Angella Langat, MBS, director at the National Syndemic Diseases Council.
Photo Credit: MESHA

The need is urgent

Kenya recorded 20,105 new HIV infections in adults in 2024, alongside 4,349 cases among children — reversing a three-year downward trend, according to data from the National Syndemic Disease Control Council (NSDCC).

Women bore a disproportionate burden, accounting for 13,236 new infections, double the number recorded among men. Among young people aged 15–24 years, adolescent girls and young women accounted for 39 percent of all new HIV infections in 2023, according to NSDCC.

Ten counties accounted for 57 percent of all new HIV acquisitions as of the most recent sub-national appraisal, with five counties Nairobi, Kisumu, Homa Bay, Siaya, and Migori alone contributing 40 percent.

At the same time, PrEP uptake has shown signs of strain. PrEP initiations declined by 29% between July–September and October–December 2025 Biomedical innovation alone does not guarantee equity.

If human-rights safeguards are not deliberately embedded, long-acting PrEP could reproduce the very barriers that have slowed prevention for years: stigma, breaches of confidentiality, moral judgment, and uneven county-level access.

The Constitution guarantees every Kenyan the right to the highest attainable standard of health. The real question now is whether that right will shape how this prevention tool is delivered.

Consider John and Felisha. They are married. They attend church every Sunday. They are raising two children. They are also HIV-discordant John is living with HIV, Felisha is not.

For them, prevention is not about lifestyle. It is about longevity. It is about protecting a marriage they cherish and ensuring their children grow up with both parents healthy.

When they hear about a twice-yearly injectable option, they hear relief.

But they also worry. They worry about confidentiality. In many communities, being seen at a clinic can trigger speculation.

A poorly handled appointment message

A casual comment from a provider. A separate queue that silently labels clients. Any of these can expose families to gossip and stigma.

They worry about judgment. In a religious society like Kenya, prevention is sometimes mischaracterised as a license for promiscuity. That framing is deeply misleading. Long-acting PrEP is not a moral statement. It is a health protection tool.

They worry about safety. Because this is new science. Long-acting PrEP represents a major biomedical breakthrough. The WHO guidelines emphasize equity, human rights, and simplified testing approaches using rapid diagnostic tests prep guidelines from WHO.

But implementation is where trust is earned. Kenya has made significant strides in treatment, with 97 percent of people living with HIV currently on treatment across 3,752 treatment sites, and the country is on track to meet the UNAIDS 95-95-95 targets, according to the NSDCC's 2024 HIV Progress Report.

AIDS-related deaths stood at 21,009 in 2025, according to Kenya's HIV Estimates Portal, with Kisumu County recording the highest county-level toll.

Progress is real, but fragile

If Kenya is to maintain public confidence especially among parents, faith leaders, and community elders innovation must be paired with visible safeguards:

First, confidentiality by design. Discreet client flow, strict data protection, secure digital systems, and controlled access to records.

Second, informed and voluntary consent. Clients must understand benefits, risks, and alternatives. Refusal must never mean exclusion from other services.

Third, non-discrimination in service delivery. Prevention must be accessible to adolescents, young women, key populations, and discordant couples without stigma.

Fourth, credible pharmacovigilance. County-level adverse event reporting systems must be strengthened. Safety data must be published transparently.

For John and Felisha, dignity means protection from HIV and protection from stigma.

For a 19 year-old navigating university life in Homa Bay one of the counties with high HIV burden, dignity means agency without exposure.

For a parent listening to church announcements, dignity means knowing their daughter is protected, not judged.

Kenya has regional credibility in HIV leadership. Long-acting PrEP could strengthen the prevention pillar and accelerate progress toward ending HIV as a public health threat.

But success will not be measured only by procurement numbers or injection coverage rates.

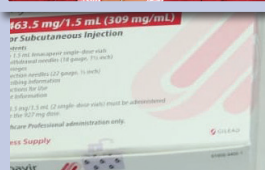
It will be measured by trust. Trust that clinics protect privacy. Trust that consent is genuine.

Trust that safety is monitored transparently. Trust that science and faith can align in protecting life. Innovation without dignity breeds suspicion. Innovation with dignity builds confidence.

If Kenya does this well, long-acting PrEP will not be remembered as controversial.

It will be remembered as leadership science delivered with conscience, and prevention delivered with respect for the families it is meant to protect.

Lenacapavir: New era in HIV prevention, not a vaccine



Kenya unveils Lenacapavir, a breakthrough long-acting option for HIV prevention. INSET: Angella Langat, MBS, director at the National Syndemic Diseases Council. Photo Credit: Violet Otindo

By Angella Langat

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Kenya is entering a promising new phase in HIV prevention with the introduction of Lenacapavir, a long-acting medicine designed to reduce the risk of HIV infection.

The development has generated excitement in the public space, as it should. New tools are critical in the ongoing fight against HIV.

But amid the enthusiasm, one point needs to be clarified: Lenacapavir is not a vaccine.

It is a preventive medicine given to people who do not have HIV to help reduce their risk of infection. This approach is known as pre-exposure prophylaxis, or PrEP. Unlike daily oral PrEP tablets that must be taken regularly, Lenacapavir is administered as an injection every six months.

A vaccine works differently. Vaccines work by training the body's immune system to recognise and fight a disease, often providing long-lasting protection and sometimes lifelong immunity.

Lenacapavir does not work that way. As a long-acting PrEP option, it works by blocking the virus at a critical stage of its replication cycle.

Its protection lasts only as long as the drug remains at effective levels in the body, which requires a repeat injection every six months.

This distinction may seem technical, but it is important for public understanding.

Kenya recorded 19,991 new HIV infections in 2024, representing a 19 percent increase compared to the previous year. Many of these infections occur among adolescent girls and young women, while ten counties account for more than half of the country's new infections.

These numbers remind us that HIV prevention remains an urgent priority.

Innovations such as Lenacapavir therefore offer hope. Long-acting prevention options can make it easier for people to protect themselves, particularly for those who struggle with daily pills or who face stigma when seeking HIV prevention services.

The World Health Organization (WHO) has emphasised that expanding access to effective HIV prevention tools, including pre-exposure prophylaxis, is essential to reducing new infections and achieving Kenya's HIV control goals, including the vision of ending AIDS as a public health threat by 2030. But innovation must be accompanied by clear and accurate information.

If people believe Lenacapavir is a vaccine, misunderstandings may follow. Some individuals may assume that a single injection provides lifelong protection.

Others may misunderstand how often it must be taken, or how it should be used alongside other prevention tools.

Public debate may also shift in the wrong direction, raising unnecessary questions about whether such a product should be mandatory, or who should receive it. Lenacapavir is not mandatory, and it is not designed for one gender or one group.

It is a prevention option for anyone who is HIV-negative and at risk of infection, and its use should always be discussed with a qualified health provider.

Kenya has made significant progress in HIV treatment over the past two decades. Today, millions of people living with HIV are receiving antiretroviral therapy and living longer, healthier lives.

Treatment alone, however, cannot end the epidemic. Prevention remains the most effective way to reduce new infections.

Once someone becomes infected with HIV, treatment becomes lifelong. Preventing infection in the first place protects families, reduces the burden on health systems and safeguards future generations.

For prevention programs to succeed, the public must trust the information they receive. That trust begins with clear, consistent and accurate communication.

Lenacapavir is a preventive HIV medicine given every six months. It does not provide lifelong immunity. It is voluntary. And it forms part of a broader HIV prevention package that includes condoms, HIV testing, treatment and community awareness programs.

Kenya needs innovation in HIV prevention. But innovation must be matched with clarity. In public health, accurate information saves lives, while confusion can put them at risk.

The writer is a director at the National Syndemic Diseases Council

Climate change is taking an unseen toll on Kenyan women's mental health



When livestock - the backbone of the pastoralist economy - succumb to drought, women in many instances are left to pick up the pieces forcing them to seek other alternatives which are hard to come by. *Photo Credit: ActionAid*

By Jane M. Mwanza
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At 5 p.m., as the coastal heat settles over Kilifi County, 15-year-old Magdaline Baya walks home from school, her black rubber shoes powdered with red dust.

Dropping her books, she immediately picks up two yellow jerrycans for a three-kilometer trek to fetch water. By the time she returns, night is falling. Between peeling cassava, tethering goats, and tending to siblings, her school homework remains untouched.

"I want to become a veterinary doctor, but sometimes I am too tired to even read," Magdaline says. "While I'm at school, I am always thinking about home. It scares me."

In drought-prone regions like Kaloleni, climate change is not only shrinking water sources—it is shrinking girls' futures.

The crisis is increasingly visible in the data. A landmark study published in May 2025 by researchers at the Brain and Mind Institute, Aga Khan University, analyzed 14,801 women in Kilifi County. The findings are sobering: climate shocks—including droughts, heatwaves, and erratic rainfall—are directly linked to a 10.8 percent rise in depressive symptoms among women in informal settlements. These shocks significantly increase psychological distress and, alarmingly, suicidal ideation.

"Climate shocks don't just affect agriculture; they disrupt the emotional and social stability of households," explains Prof. Zul Merali, Founding Director of the Brain and Mind Institute.

"Women carry the invisible burden of caregiving, food insecurity, and economic anxiety, which compounds mental distress."

Despite these growing health risks, Kenya's climate finance reflects a stark imbalance.

According to a Climate Policy Initiative analysis, only 11.7 percent of tracked climate funding was directed toward adaptation efforts like water security and social safety nets.

Meanwhile, nearly 80 percent flowed into mitigation measures like renewable energy.

While Kenya builds sophisticated financial infrastructure to trade carbon credits through its new national registry, there is no equivalent system to track how much finance reaches gender-responsive health programs.

There is currently no ring-fenced national allocation dedicated specifically to climate-induced mental health care for women or protection for girls forced out of school by water scarcity.

Faced with systemic under-investment, women are leading their own recovery. In Kilifi, digital creator and community advocate Audrey Masitsa has been working with women's groups to move beyond mere awareness.

"The coastal region is one of the most affected by rising temperatures," Audrey says. "We support women's groups to learn and grow through beekeeping and kitchen gardens.

Empowering them with skills enables them to lead adaptation efforts and protect their families."

This resilience is echoed hundreds of kilometers north in Marsabit and Samburu. When livestock—the backbone of the pastoralist economy—succumb to drought, women like Nuria Gollo are left to pick up the pieces. Many have turned to beekeeping as a "climate-smart" lifeline, providing income for school fees and food when traditional herds fail.

The Africa Centre for Health and Climate Gender Advocacy (ACHCGA) argues that climate change is fundamentally a health justice issue.

Strategic Lead Imali Ngusale warns that by ignoring "non-economic losses"—such as fractured livelihoods and mental health—global climate frameworks risk failing those they claim to protect.

Speaking at a recent MESHA Science Café, Teresa Anderson of ActionAid International noted that at COP30, world leaders reaffirmed commitments to a "Just Transition."

However, she cautioned that "if climate action pushes people into poverty or strips them of livelihoods, it will fail."

For Magdaline in Kaloleni, justice is not found in the elegance of a policy phrase.

It would mean water nearby, a clinic equipped to handle heat-related illness, and the time to finally finish her notebook under the dim light of her lamp.

Until climate finance protects the bodies that carry the water, the promise of a Just Transition remains a lived injustice.

Beyond the victim trope: Centering women in climate change reporting

Mission inclusion's Audrey Masitsa shares expert insights on how journalists can capture women's resilience, leadership, and innovation on the climate frontlines.

By Agatha Ngotho
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Audrey Masitsa is the Regional Communication and Advocacy Coordinator at Mission inclusion, with expertise spanning science communication, gender justice, and climate change.

She speaks to Agatha Ngotho about what it takes to report accurately and powerfully on gender and climate, and why getting it right matters for communities on the frontlines.

What is a gender and climate change story?

A gender and climate change story addresses the climate crisis from a gender perspective.

It recognizes that climate impacts are felt differently by women—they bear the brunt of the crisis, and the associated stresses increase their risk of gender-based violence.

Despite this reality, women are rarely included in decision-making for climate adaptation mechanisms, even though they are best placed to develop these solutions. A holistic gender and climate change story goes further to highlight the innovations women have developed to adapt and mitigate.

This includes economic activities that supplement family income, environmental conservation measures, and their full participation and leadership in community bodies where they contribute to critical decision-making.

In your experience, why do so many climate stories leave out the gender perspective?

Traditionally, women's issues have been treated as secondary, barely making headlines unless it is International Women's Day, Mother's Day, a horrific incident involving sexual harassment or GBV, or a scandal. Research bears this out: women represented just 24 percent of heads of delegation at COP29 in 2024, and head only 28 percent of environment-related national ministries globally. Only recently have the disproportionate effects of climate change on women—and their capacity for innovation in adaptation and mitigation—begun attracting broader attention.

However, we need to move beyond mere attention toward recognizing their resilience, leadership, and expertise, and actively supporting the scaling up of their initiatives.

Where do journalists go wrong when reporting on gender and climate change?

For a start, climate reporting mostly covers disasters and extreme weather conditions like droughts and floods. Climate stories rarely go beyond this, let alone incorporate the gender aspects. When women are featured, they are almost exclusively portrayed as victims who have lost their homes, are struggling to feed their children, and are walking for hundreds of kilometers in search of drinking water—often pictured pleading, “Serikali saidia” (Government, help us).

Journalists rarely capture the moments where women’s leadership in adaptation and mitigation has resulted in positive change for themselves, their families, and their communities.

How can reporters avoid always casting women as victims of climate change and instead show them as problem-solvers and leaders?

To begin with, reporters must understand the difference in how climate change impacts women versus men. Then, rather than relying solely on secondary sources, speak directly to the women and ask the right questions. The same way you would interview a technical expert or government spokesperson about their problem-solving strategies is exactly how you should interview the women at the center of these climate issues.

Not only should you ask how climate change has affected them, but you should also ask what they are doing to adapt and mitigate its effects.

The final story should tell the complete narrative—the challenges faced, the solutions implemented, and their impact—clearly reporting these as efforts driven by the women themselves.

Beyond quoting statistics, how can journalists tell stories that clearly show how climate change affects women and men differently?

Speak directly to them. Ask the right questions.



Audrey Masitsa, Regional Communication and Advocacy Coordinator at Mission Inclusion and an expert in science communication, gender and climate change.

And remember that in many areas, women do not feel comfortable speaking up when men are present, so it is crucial to ensure they feel safe to open up. This might mean interviewing them separately so that you get a comprehensive view of their actual experiences.

In rural areas where women are deeply involved in farming and water collection, how can the media better capture their knowledge and everyday solutions?

Through one-on-one engagement, journeying with them as they implement their solutions. From my work, I have found that these women are very eager to speak about what they are doing and share their knowledge, but they lack the platform to do so. As always, creating a safe space and building trust goes a long way. Most importantly, let the women tell their own stories rather than telling the story for them.

Climate reporting can get technical with policy and technical terms. How do you make these stories understandable without losing the science?

I use a three-step formula:

1. **Translate the jargon** into simple, everyday language using relatable examples and experiences.

2. **Add the human angle** by showcasing the real-life impacts on the affected people.

3. **Keep it local and relatable.**

This approach helps move climate change from an abstract concept to a tangible issue that clearly affects human lives.

From a communicator’s point of view, what does it take to ensure women’s voices are genuinely heard, not just added as an afterthought?

There are many initiatives that empower women to speak for themselves and advocate for their rights. These initiatives are a communicator’s best friend.

When women are confident enough to demand a seat at the table, your job is to provide the platform where they can showcase their knowledge, expertise, and innovation.

Often, this authentic representation engages the audience and compels them to act. Letting your protagonists speak for themselves is the most effective way to ensure they are heard and given the space for meaningful participation.

What do you feel is still missing in the way the media covers gender and climate change?

We need a definitive shift from treating women as victims or passive recipients of aid to portraying them as agents of change.

They hold the solutions to the climate challenges they face and are experts and leaders in their own right. There must be a positive representation of their resilience, rather than a sole focus on their vulnerability and suffering.

Furthermore, it is critical to use both female and male technical experts as sources in equal measure.

Research by the Reuters Institute shows that women make up only 23 percent of sources quoted in climate change news stories globally—a gap that science and environmental journalists are uniquely positioned to close.

Closing the Gap: Why Gender Must Shape Africa's Climate Reporting



Journalists at a past in person event. The media's responsibility is to connect climate policy to real community experiences, especially where health and gender impacts are most visible. Photo Credit: MESHA

By Violet Otindo
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Climate change is deepening inequality across Africa, with women and marginalized communities bearing the heaviest burden, experts warned during the third cross-border science forum hosted by the Media for Environment, Science, Health and Agriculture (MESHA) on February 28, 2025.

Convened under the African Media Science Café Consortium (AMSCC)—a regional network linking science journalism organizations in Kenya, Zambia, Malawi, Zimbabwe, and Uganda—the virtual forum brought together journalists, researchers, and climate advocates to examine the intersection of climate change, gender, and health.

Aghan Daniel, CEO of MESHA, noted that the cross-border platform was designed to strengthen science journalism and ensure climate debates translate into public accountability.

"Climate change does not respect borders, and neither should our journalism," he said.

"Our responsibility as media is to connect climate policy to real community experiences, especially where health and gender impacts are most visible."

He urged journalists to move beyond event-based coverage of global climate summits and interrogate how commitments made at such forums are implemented at national and local levels.

"If we report COP30 outcomes without tracking delivery, we fail our audiences," Aghan said. "The real story is what happens after the agreements are signed."

Teresa Anderson, Global Lead on Climate Justice at ActionAid International, stated that the Just Transition Mechanism—formally known as the Belém Action Mechanism (BAM) adopted at COP30 in Brazil in November 2025—contains strong language on participation, livelihoods, and social protection.

However, she warned that the real test lies in its implementation.

"A just transition must go beyond carbon counting," she said.

"If we do not center people's rights and economic security, climate action can reproduce injustice."

Anderson noted that civil society organizations pushed strongly for BAM throughout the negotiations, describing the outcome as a major victory for workers, women, and civil society groups seeking a framework that protects jobs and improves lives.

She pointed out that the mechanism still uses the word 'develop' rather than 'establish', meaning its operational details must be finalized at future UN climate talks.

"It must go beyond the energy sector," Anderson explained. "Agriculture, mining, and other livelihood sectors must be included because people's jobs and economic survival depend on them."

She added that the Belém decision on Just Transition represents a landmark in UNFCCC history, featuring unprecedentedly ambitious language on human and labor rights, the rights of Indigenous Peoples and Afro-descendants, gender equality, women's empowerment, and youth development.

"The agreement recognizes workers, women, farmers, Indigenous communities, and human rights," she said. "This means governments can now be held accountable to ensure climate action protects people's livelihoods, food security, and access to land and energy."

Imali Ngusale, Strategic and Technical Lead at the African Centre for Health, Climate and Gender Justice Alliance (ACHCGA), emphasized that climate change disproportionately affects women due to existing structural inequalities.

"Women already face barriers in access to land, finance, education, and decision-making spaces," she said. "When droughts or floods strike, those existing inequalities are amplified."

COP30 concluded with an agreement calling for a tripling of funding for developing nations to protect their people from the growing impacts of the climate crisis, alongside stepped-up support for workers transitioning to clean energy.

For African countries on the frontlines of climate change, this commitment represents a potential lifeline, though advocates stress that these pledges must translate into concrete financial flows.

Ngusale highlighted the importance of Article 8 of the Paris Agreement, which recognizes loss and damage associated with extreme weather and slow-onset climate events. She called for faster access to the Loss and Damage Fund, arguing that countries most affected by climate disasters cannot afford prolonged bureaucratic delays.

"Communities on the frontlines should not wait years for compensation while impacts intensify," she said.

Furthermore, Ngusale noted that gender-responsive climate approaches must acknowledge non-economic losses, such as impacts on health, dignity, livelihoods, and care systems.

"Gender-blind climate reporting often erases the lived realities of women, caregivers, and frontline communities," she said. "When that happens, policy responses fail to address health and social inequities." She also raised emerging concerns regarding the relationship between climate-related economic distress and gender-based violence, an area where ACHCGA is currently undertaking further research.

Audrey Masitsa, Regional Communication and Advocacy Coordinator at Mission Inclusion, urged journalists to shift the narrative away from portraying women solely as victims of climate change.

"In coastal communities, women are leading adaptation efforts, restoring mangroves, strengthening fisheries governance, and building resilience," she said. "Those are powerful stories that deserve prominence."

Masitsa cautioned against reinforcing stereotypes and encouraged journalists to center community voices in their reporting, adding, "Gender-responsive climate reporting is not an add-on; it is essential to telling the full story."

Participants agreed that cross-border collaboration among journalists can strengthen the scrutiny of climate finance and improve coverage of the gender and health dimensions of climate change.

As Africa faces rising temperatures, prolonged droughts, and increasing displacement, speakers emphasized that inclusive and evidence-based reporting will be critical in shaping public understanding and policy debates.

"If we ignore gender in climate reporting, we ignore half the impact," Ngusale concluded.

Solar water project expands access for vulnerable households

By Milliam Murigi
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The dam at the edge of Kaibaga farm in Nyandarua County has fed and sickened the same families for a decade. Its water is still, greenish, and quiet; for more than 50 families resettled here from IDP camps, it was once the only option they had.

"I came from an area where rivers were flowing freely, where water was everywhere," says Isaac Njoroge, who was resettled in Kaibaga after the post-election clashes.

"Coming here, to a place where water was scarce and dirty, was a shock. Every day became a struggle just to drink, cook, or bathe."

Residents knew the dam water was unsafe, but they drank it anyway.

A 20-litre jerrycan of clean drinking water from vendors costs about 20 shillings—a price that is far from small for households without a stable income.

This struggle reflects a national challenge: according to the Kenya Demographic and Health Survey 2022, only 56 percent of rural households have access to improved drinking water sources, leaving millions dependent on unsafe rivers, unprotected wells, and surface water.



After years of relying on unsafe dam water, Isaac Njoroge can finally access clean water at his doorstep, improving hygiene and daily life for his family. BELOW: John Kihara Mwangi, who spent years buying water, shares his story of how the new borehole has transformed daily life.

Photo Credit: Milliam Murigi



The burden of this scarcity falls heavily on women and girls. UN Women reports that they collectively spend 250 million hours every day collecting water—more than three times the burden carried by men and boys. When money ran out in Kaimbaga, families fetched from the dam and boiled it. When they couldn't afford the fuel to boil it, they drank it untreated.

Illness followed in cycles. Parents describe recurring stomach problems and nights when children cried from abdominal pain. "We knew it was dirty," says George Mbogo, a resident.

"But it was the only water we had." The situation worsened as rainfall became less predictable due to changing weather patterns.

In dry periods, the dam shrank, becoming more concentrated with contaminants. During heavy rains, floods swept silt, debris, and waste into the remaining water. For John Kihara Mwangi, a 67-year-old widower, access depended entirely on his ability to pay. Unable to walk to the dam, he spent 150 shillings a week on water—money that often had to be diverted from food or medicine.

"I had to decide what I could skip," Mwangi says.

"I also learned to ration every container. Washing clothes could wait. Cleaning could wait. Drinking could not."

For Njoroge, water scarcity dictated the rhythm of survival. Caring for three children with disabilities required constant hygiene, yet buying enough water was impossible.

He would set aside two days every week to fetch water from the dam. As a casual laborer, this meant two days without wages—a sacrifice where survival effectively replaced work.

However, life has recently undergone a transformation.

These changes are part of the Financing Locally-Led Climate Action (FLLoCA) programme, a ten-year Government of Kenya initiative (2020–2030).

Backed by the World Bank, Denmark, Sweden, Germany, and the Netherlands, with funding exceeding USD 294 million, the programme channels climate finance directly to communities through county governments.

In Kaimbaga, the solution is a solar-powered borehole producing 29 cubic metres of water per hour—enough to supply 500 households. Already, 20 of the most vulnerable households have been connected free of charge.

A communal water point has also been established for those without household connections, allowing them to access safe water for a small fee to sustain the system.

"We spoke to the community and asked which project they wanted to see implemented. Water immediately emerged as their biggest challenge," says Mbogo, who now serves as Chairperson of the Project Management Committee.

As taps begin to flow, the settlement offers a glimpse of what is possible when communities define their own climate-resilient solutions.

While the dam at the edge of the farm remains a reminder of the battles fought, the roar of the borehole marks the beginning of a healthier, more secure era for Kaimbaga.

Why climate change is not gender neutral in Africa

By Cece Siago

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Khadija Dosa sits on the edge of the Indian Ocean watching the tide in Mkwiro Island. Early last year, she was elected chairperson of the Mkwiro Beach Management Unit in Kwale County, becoming one of the few women leading fisheries governance on Kenya's coast.

For years, women in coastal communities mostly waited on the shore to receive and process fish caught by men who ventured into the sea.

But as climate change continues to disrupt fisheries and ocean resources, more women are stepping into leadership roles to help their communities adapt.

In Kenya's coastal region, Beach Management Units are community based organizations formed to manage and conserve fisheries by promoting sustainable use of ocean resources.

They bring together fishermen, fish mongers, boat operators and other members of the community a specific landing site.

For Khadija, the nomination came as a surprise, even though she had always been vocal about fisheries on the island. She now leads one of the island's largest community projects, the Mkwiro Bogoa Octopus Closure.

This is a marine conservation and livelihood project that covers about 18 hectares of ocean and brings together 46 octopus gleaners, 40 of whom are women and six are men. Since the writer is explaining about that project.

"It works by temporarily restricts harvesting in a designated marine area to allow octopus populations to recover."

Octopus gleaning involves collecting octopus from shallow reef areas during low tide, a practice traditionally dominated by women along the Kenyan coast.

The closure allows octopus populations time to grow and reproduce by temporarily restricting harvesting in a designated area. After a set period, the site is opened and the community harvests the octopus collectively.

Across the Western Indian Ocean, temporary octopus closures are increasingly being used as a community led climate adaptation strategy.

By allowing octopus populations to recover, the closures help restore marine ecosystems while also providing higher value harvests for coastal communities.

Before the closures were introduced, gleaners say octopus catches were more predictable. But climate change is increasingly reshaping fisheries along Kenya's coast, affecting the growth and availability of marine species.

This year the harvest has been delayed in Mkwiro. While the community expected to open the site in February, unusually high ocean temperatures have forced them to postpone the activity.

Khadija says the delay has been particularly frustrating for the women involved in the octopus enclosure groups.

"Most of the members in the octopus enclosure group are women, so when the harvest is delayed it affects them the most," she said.

According to her, many men in the community still rely on traditional fishing or tourism activities for income, meaning they may not feel the impact of the delay as strongly as women who depend on octopus harvesting.

However those part of the BMU still assist with harvesting and marketing of the octopus once matured and ready to be sold.

In many coastal communities, women are heavily involved in post harvest activities such as processing, drying and selling seafood, while men dominate offshore fishing.

As climate change disrupts marine ecosystems and fish availability, these shifts are increasingly affecting women's incomes and livelihoods.

A few kilometres away in Vanga, Mwanatumu Kadau once served as chairperson of the local Beach Management Unit but was recently voted out.

"The community is not ready for female leadership especially in the fisheries sector. I would lead and also question possible injustices. Maybe that is why I was not voted in again. But this silences our voice as women," she said.

She would also lead conservation initiatives such as seagrass restoration for carbon credits and the Vanga Blue Forest, a large carbon project that allows the community to earn for protecting the mangroves.

While Vanga's step was seen as progress towards inclusion, many Beach Management Units across Kenya still lack female representation, downplaying gender balance in one of the country's most important coastal economic sectors.

Mtengo Omari, a BMU Network Chairperson said historically the fisheries sector was a male dominated field.

However, he said, including women in leadership has helped strengthen community's resilience to climate change impacts.

Though there is progress, he admits that other BMUs across Kenya's Coastal region are yet to meaningfully include women.

"Our aim is to ensure that we are collaborating as a community. Besides supporting women to take leadership positions, we are involved in projects that help improve our livelihoods and adapt to effects of climate change along the coast," he said.

According to the UN Women Data Hub, climate change worsens poverty, productivity loss and food insecurity.

Women are often more affected because they bear much of the responsibility for food production and caregiving within households.

Experts say limited representation of women in decision making spaces creates gaps in the implementation of gender action plans across Africa where women are affected by floods, drought and other emergencies.

"When women are missing from leadership spaces, the need to implement gender action plans is often downplayed," said Imali Ngusale the Strategic and Technical Lead at the African Centre for Health, Climate and Gender Justice Alliance (ACHCGA).

She said among the impacts of adverse climate effects include women having the need to have an extra job, displacement by water scarcity and gender based violence especially during climate emergencies.

She notes that climate change is rarely a single disaster but a gradual process that deepens existing inequalities.

"Climate change is not just one event. It is gradual. It affects livelihoods and interacts with structural inequalities, which makes the impacts more severe," she said.

Ngusale added that shifting global geopolitics could also affect how climate support reaches vulnerable countries. "The global landscape is changing. Organizations such as the Food and Agriculture Organization (FAO) and the World Food Programme (WFP) may not always have the same capacity to support low and middle income countries. But even as geopolitics change, climate change is not," she said.

According to her, this gap could increase the risk of climate induced displacement as food insecurity worsens. "We may start seeing more climate induced displacement or even climate refugees as communities struggle to cope with food shortages," she said.

Ngusale also warns that many media narratives about climate change still fail to capture how the crisis affects women and are gender blind.



A pensive Khadija Dosa, Chairperson of a group leading conservation efforts of a beach in Mkwiro Island along the coastal strip of Kenya. As climate change continues to disrupt fisheries and ocean resources, more women are taking the lead to help communities adapt.

Photo Credit: Cece Siago

However, she says women should not always be portrayed only as victims of the crisis.

"Sometimes women are not just surviving, they are thriving despite climate change," she said. Back in Kwale, Khadija continues working with other members of the Beach Management Unit to protect the ocean resources their community depends on.

According to the Kwale County Climate Action Plan 2023 - 2027, the devolved unit is setting aside Sh60 million (US\$462,000) to adapt to effects of the climate crisis in its blue economy largely the ocean.

The plan stated that climate change in marine temperature is causing bleaching of corals, which reduced fish productivity, yet 31 per cent of people are engaged in fishing as their main source of livelihood in Kwale.

The challenge does not end there, rising sea levels are also increasing salinity upstream lowering agriculture potential. In addition, it has led to loss of mangroves, coastal flooding and loss of certain species.

To adapt to these changes, the plan lists enhancing coral reef restoration, establishment of early warning systems and constructing eco-friendly sea walls, with local fisher communities such as that of Khadija listed among targeted groups.

Climate change continues to reshape fisheries and coastal livelihoods, but Khadija hopes more women would step into leadership to help communities navigate an uncertain future along Kenya's changing coast.

Experts call on government to centre women in climate decisions



Women should not be seen as passive victims but as decision-makers in all spheres of life including science and policy.

Photo Credit: Mission Inclusion

By Archangel Nzangaya
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Experts are urging governments, including Malawi, and Civil Society Organizations (CSOs) to act now by placing women at the center of climate adaptation and policy decisions. They warn that continued exclusion of women threatens the very fabric of community resilience.

These calls were made during a virtual Cross-Border Science Café on Gender, Health, and Climate Change, organized by the **Media for Environment, Science, Health and Agriculture (MESHA)** in partnership with the International Development Research Centre.

The forum brought together journalists from Malawi, Zimbabwe, Tanzania, Kenya, Zambia, and Uganda to examine the intersection of climate change and health, highlighting the disproportionate impacts on women.

Teresa Anderson of ActionAid International highlighted how climate shocks exacerbate hunger, loss of income, and gender-based violence.

"Climate affects yields and forces girls out of school. Women on unequal footing face reduced literacy and are often ignored by agricultural extension services," Anderson said.

"As a result, they have less access to updated weather information, which sets them back again when it comes to climate action."

She urged policymakers to review the implementation of Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) to ensure they include comprehensive community mapping and support for public services such as social protection, education, and health.

Audrey Masitsa of Mission Inclusion emphasized the importance of moving women from being seen as passive victims to recognized decision-makers in science and policy.

"Women must be trained to have voice and agency," Masitsa said. "They need the confidence to participate in governance forums and lead adaptation initiatives, even at small scales."



Stella Samuel a farmer and mother from Njunga Village in Ntcheu
Photo Credit: World Vision Malawi

Masitsa also highlighted the role of “positive masculinity,” stressing that men must understand and support women’s leadership to address harmful gender norms that act as barriers to effective climate solutions.

The Malawi Perspective: Systemic Challenges and Indigenous Knowledge

Speaking on Malawi’s perspective, Dingaani Mithi, Programme Manager for the Journalists Association Against AIDS in Malawi, identified systemic challenges—such as limited access to reproductive health and persistent poverty—that heighten female vulnerability.

Mithi also drew attention to the link between rapid population growth and environmental stress, noting that when women are not empowered to make decisions about family size, it strains natural resources. He stressed the urgent need to integrate indigenous knowledge into national strategies.

“Traditional knowledge is critical because it helps communities predict weather patterns and guide farmers on crop selection without relying solely on modern systems” Mithi explained.

However, he noted that this knowledge remains poorly harnessed due to limited financing and a disconnect between policymakers and community realities.

Changing the Narrative: The Role of the Media

The café also served as a catalyst for journalists to rethink their reporting. Catherine Tembo, a journalist with Mlimi FM in Malawi, said the forum challenged her to move beyond portraying women only as victims.

“As journalists, we need to change this narrative by showing women as leaders and contributors who provide solutions,” Tembo said.

She noted that the lessons are already influencing her work, including stories linking climate change to cholera and malnutrition produced under the MESHA Science Journalism Fellowship.

Tembo encouraged colleagues across the continent to embrace “solutions journalism,” which highlights active interventions rather than just the impacts of disasters.

The stakes of inaction are high.

According to the **Gender Snapshot 2024 report**, climate change could push up to 158 million more women and girls into poverty by 2050—16 million more than the projected number of men and boys.

Placing women at the center of climate action is no longer just a matter of equity; it is a necessity for global survival.

Mongabay’s new Swahili platform boosts conservation participation

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The recent launch of Mongabay Swahili heralds an important step towards empowering people at the grassroots to participate effectively in conservation efforts, a senior government official has said.

While speaking at the launch event, the guest of honour, Mr Stephen Isaboke, EBS, Principal Secretary, State Department for Broadcasting and Telecommunication, reminded the media of their importance in providing credible and science-based information to enable informed public understanding and decision-making in this digital age.

“In a continent that harbours more than 400 million social media users, this is fertile ground for disinformation. This makes credible journalism more important than ever, in languages that are most understood by communities in cities, informal settlements and the grassroots,” he said in a speech read on his behalf by Mr Temesi Mukani, the Secretary, Information and Broadcasting.



Mongabay's David Akono shares moments with senior journalists Ann Ngugi formerly of BBC and Ali Manzu of KTN. Swahili language, they noted, represents an important step towards democratizing environmental knowledge. Photo Credit: MESHA

On his part, Mr Mukani stressed the dual impact of technology and artificial intelligence (AI) on information production, verification and sharing.

"While artificial intelligence presents risks such as the spread of manipulated or misleading content, it also offers powerful tools of fact checking, translation, data analysis, and wider dissemination of knowledge. When used responsibly, technology can significantly strengthen the quality and reach of environmental reporting," he said.

David Akana, the Director of Programs for Mongabay Africa, underscored the importance of local languages in communicating environment issues that African audiences can relate to.

"While English might be important for us to use in this region, we also recognize that using local languages is even more appropriate, as our communities engage and transact through them more," he said.

On the relevance of Mongabay Swahili, he said: "This new platform is an important step towards making environmental and climate reporting more accessible in one of Africa's most widely spoken languages. This is aimed at strengthening conversations around nature, conservation, and sustainable development across East Africa."



Mr Temesi Mukani, Kenya's Secretary, Information and Broadcasting at the Mongabay Swahili Service launch. He emphasized the importance of platforms that prioritize fact-based reporting and scientific evidence, saying they play a key role in protecting the integrity of public discourse. Photo Credit: MESHA

He emphasized the importance of platforms that prioritize fact-based reporting and scientific evidence, saying they play a key role in protecting the integrity of public discourse.

The PS said the launch of the Mongabay Swahili platform held on March 10, 2026 in Nairobi was a significant step towards strengthening environmental journalism in the region.

Mongabay is an international conservation news outlet, it has unveiled its Swahili platform targeting more than 200 million speakers across the East Africa region and millions more globally.

The hybrid event themed "Truth in the age of noise: Conservation journalism, disinformation and the promise of artificial intelligence" took place in Kenya's capital, Nairobi.

It was attended by nearly 200 participants, who comprised of journalists, conservationists, scientists, UNEP representatives, communicators, indigenous community representatives, among others.

"Language determines who can access knowledge and participate in public conversations. Reporting environmental issues in Swahili, therefore, helps bring science and biodiversity issues to those most affected," he said.

Mongabay's core reporting is on the intersection of people and nature, primarily biodiversity, climate change, pollution, land degradation, oceans and how these issues relate to people.

The African team is focused on solutions, even as it puts to task governments, local and global actors that may be reneging on their mandates in sustainable conservation

During the launch, Ann Ngugi, a former BBC journalist, underscored the importance of simplifying terminologies so that language does not become a barrier to aiding communities in participating in local decision making on conservation matters.

Sustaining journalism that lasts for generations

By **Enock Nyanhoga Monari**
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Kenya's media industry is at a defining moment in its history. Traditional revenue streams such as print advertising and subscriptions are steadily declining, while digital platforms continue to reshape how audiences consume information.

Globally and locally, a growing share of advertising expenditure now flows to multinational technology companies rather than directly to newsrooms.

Yet even as the business model evolves, the role of journalism remains as vital as ever: informing the public, scrutinizing those in power, and strengthening democratic societies.

The challenge today is not simply about producing news; it is about ensuring that news organizations remain sustainable in the long run.

Without stable funding, media houses struggle to retain skilled journalists, maintain equipment, invest in technology, and support the investigative reporting that keeps societies informed and accountable.

If sustainability is not addressed deliberately, the quality and independence of journalism may gradually erode.

One of the most practical responses lies in diversifying sources of funding. Relying on a single stream of income; whether advertising, subscriptions, or donor support — exposes media organizations to financial vulnerability.

A more resilient model combines multiple revenue streams, including reader subscriptions, advertising revenue, grants, partnerships, and innovative financing approaches.

Diversification strengthens financial stability, enables long-term planning, and creates room for investment in new content formats that meet evolving audience needs.

Sustainability, however, goes beyond finances. Media institutions must also strengthen internal capacity. This includes investing in skilled journalists, modern newsroom systems, digital tools, and effective management structures.

In an era defined by rapid technological change and shifting audience behaviour, adaptability is essential.

Media organizations that prioritize professionalism, ethical standards, and operational efficiency are better positioned to navigate disruption while maintaining credibility.

Innovation and audience engagement are equally critical. Today's audiences expect content that is accessible, relevant, and reflective of their lived realities. Media organizations that embrace digital storytelling, multimedia platforms, and interactive formats can reach wider and more diverse audiences.

Amplifying local and community voices ensures journalism remains inclusive and meaningful across regions. Supporting smaller and community-based outlets is particularly important, as they often serve audiences whose stories might otherwise go untold.

Institutions that promote accountability and professionalism in the media sector — such as the Media Council of Kenya; also play a vital role in strengthening sustainability.

Clear regulatory frameworks, strong editorial independence, and transparent governance structures help build public trust and protect media organizations from undue influence.

Public confidence in the media is not automatic; it must be earned and safeguarded through integrity and responsible journalism.

Ultimately, sustainable media is not only a concern for journalists and media owners. It is a public interest issue.



Enock Nyanhoga Monari, board member at the Media Council of Kenya

When media organizations are strong, independent, and financially stable, they are better able to inform citizens, hold leaders accountable, and contribute to national development.

A healthy media ecosystem strengthens democracy and empowers society with reliable information.

The future of journalism will depend on how effectively media organizations adapt to change while staying true to their core mission. By embracing diversified funding, investing in people and technology, fostering innovation, and upholding the highest standards of professionalism, the media can not only navigate the current transformation but secure its long-term relevance.

A free press must not only be protected in law it must also be protected in its economic foundations.

High costs and low awareness suppress soil testing uptake



Experts sort soil samples at a site in western Kenya. Food and Agriculture Organization (FAO) has warned that soil nutrient depletion is one of the leading causes of declining agricultural output in sub-Saharan Africa. Photo Credit: Agatha Ngotho

By Agatha Ngotho
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Peter Mwangi, a smallholder farmer in Murang'a says he has planted maize the same way he always does, but the harvest kept declining.

"I later learned my soil had lost nutrients, but the cost of testing was too high for me to check regularly," he said.

Mwangi's experience reflects that of many farmers across Kenya struggling with declining yields linked to poor soil health. While soil testing is widely recognised as a critical step in improving productivity, access and affordability remain major barriers.

For Jane Wanjiku, a vegetable farmer in Kiambu, soil testing only became an option after repeated crop failures. "Extension officers told me my soil needed specific nutrients, not just the usual fertiliser," she explained. "But testing is expensive, and many farmers just guess."

Experts say "guesswork farming" has contributed to declining soil fertility, with farmers often applying the wrong fertilisers, leading to low yields and wasted resources.

According to Kenya Agricultural and Livestock Research Organisation (KALRO), soil testing helps farmers understand nutrient deficiencies, soil pH, and appropriate fertiliser use. However, uptake remains low.

Data from the Ministry of Agriculture and Livestock Development indicates that less than 20 percent of Kenyan farmers regularly test their soils, largely due to cost and limited access to testing services.

In some regions, a single soil test can cost between Ksh 1,500 (US\$11.5) and Ksh 3,000 (US\$23), putting it out of reach for many smallholders.

A 2023 report by the Alliance for a Green Revolution in Africa (AGRA) pointed out soil degradation as a growing concern, noting that up to 65 percent of Kenya's soils are degraded, affecting productivity and food security.

Similarly, the Food and Agriculture Organization (FAO) has warned that soil nutrient depletion is one of the leading causes of declining agricultural output in sub-Saharan Africa.

It is against this backdrop that the government is now pushing for expanded soil testing as part of efforts to boost food production.

Speaking during the Kilimo Biashara Expo at KALRO Kandara in Murang'a County, Agriculture Cabinet Secretary Mutahi Kagwe acknowledged that cost remains a key obstacle for farmers.

"I don't know how much they are charging, but whatever they are charging, we can drop it down to make it affordable for farmers," he said.

Kagwe noted that science and technology will play a central role in transforming soil testing in Kenya.

Traditionally, soil samples are collected manually, a process that is both time-consuming and costly. "Science is what we are going to use. We have been going around the country, you drive to a farm and collect a sample," he said.

The CS added that the government is now planning to shift towards more advanced methods, including the use of drones.

"Moving forward, this is going to be done by drones. We are not going to be driving around, and we can test a lot more intensively if we use the science available to us," Kagwe added.

The proposed use of drone technology is expected to increase the scale and efficiency of soil testing.

Through a partnership involving the Comprehensive Africa Agriculture Development Programme (CAADP) and Fahari Aviation, Kagwe said Kenya is planning to roll out large-scale soil mapping.

Fahari Aviation, a subsidiary of Kenya Airways, has been deploying drone technology for precision agriculture, including crop spraying, mapping, and monitoring.

The collaboration is expected to generate detailed data on soil health across the country, helping farmers make informed decisions.

Kagwe noted that the government is already undertaking a national soil mapping exercise aimed at identifying nutrient deficiencies in different regions.

"One of the key challenges facing our farmers is poor soil health, which leads to low food production," he said.

"Even though agriculture is devolved, the national government still has the capacity to support farmers through soil testing."

He further suggested that soil testing could eventually be offered at minimal cost or even free to encourage uptake.

"In my opinion, soil testing should be a service provided for free so that farmers can respond by buying the correct fertilisers," he said, adding that affordable pricing could encourage more farmers to test their soils regularly.

Dr Timothy Njagi, a seasoned development economist at Agricultural and Natural Resources Policy Analysis Network, says the low uptake of soil testing services in Kenya is largely driven by high costs and limited awareness.

He warns that without widespread soil testing, government fertiliser subsidy programmes risk being less effective, as farmers may continue applying unsuitable inputs.

Farmers agree that cost remains a major barrier.

Many say they would test their soils regularly if the service were affordable or free.

"We just want to know what our soil needs so we can farm better," said Mwangi.

Tackling climate change, one organic orchard at a time



Mrs Phyllis Nduva a farmer from Mwaani village near Wote Town, Makueni County in eastern Kenya at her farm. Photo Credit: MESHA

By Milliam Murigi
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At Kituasi Orchards in Kituasi Village, Wote/Nziu Ward, Makueni County, rows of citrus trees now thrive without the chemical pesticides that once dominated the farm.

The secret behind this transformation? Phyllis Nduva, a 72-year-old farmer whose 20-acre orchard of oranges and mangoes now serves as a model of sustainable, climate-smart agriculture.

"The shift to organic farming was not just an agricultural decision; it was a moral one," says Nduva.

"I realized that what I was doing was harming the environment, exposing my family and consumers to chemicals."

Like many smallholder farmers, Nduva had long relied on synthetic pesticides to protect her crops. But growing awareness of their environmental and health impacts sparked a transformation in both her farming practices and her role in the local agricultural community.

But growing awareness of their environmental and health impacts sparked a transformation, both in her farming practices and her role as a leader in the local agricultural community.

Today, Kituasi Orchards operates on principles of agroecology, a farming approach that works with nature rather than against it. Nduva has adopted Integrated Pest Management (IPM), organic manure, biopesticides, and intercropping, reducing her reliance on synthetic inputs while maintaining productivity.

These practices have not only protected her crops but also improved the farm soil health. This has also enhanced biodiversity and her farm is now alive with pollinators and beneficial insects that were rarely seen before.

The approach has also improved resilience to unpredictable weather, which is becoming more important as climate change intensifies. "Since I transitioned to organic farming in 2016, I have seen significant changes on my farm."

Josephine Makumbi, the Wote/Nziu Ward Agricultural Officer says the local government of Makueni County has provided 900 fruit fly traps to farmers in the area.

Photo Credit: MESHA



There are now more bees and other beneficial insects, which has improved pollination and the quality of my fruits has greatly improved," she says.

"Pests remain a major threat, especially in a changing climate. Warmer temperatures are accelerating pest lifecycles and bringing in new pests that were once unheard of in the area," she adds.

Warmer temperatures are not only accelerating pest lifecycles but also bringing in new pests that were once unheard of in the area. To manage them without reverting to chemicals, she has adopted a range of IPM techniques, including fruit fly traps, solar traps and the use of an augmentorium bag.

The augmentorium bag, she explains, plays a crucial role in breaking the pest breeding cycle. Infected fruits are collected and placed inside the bag, which is sealed, preventing fruit flies from escaping. The enclosed environment causes the flies to die off, reducing future infestations.

This offers a more effective method of control compared to leaving the fruits to rot in the open, where pests continue to multiply. "Before, we would just leave the damaged fruits on the farm and that only made the problem worse," says Nduva who, who also chairs the Makueni County Fruit Processors Cooperative Society Limited. "Now we are controlling pests in a way that protects both the crop and the environment."

Apart from adopting IPM techniques and biopesticides, she has also embraced intercropping. She plants legumes in her fruit orchards.

Intercropping fruit trees with legumes serves multiple purposes. The legumes fix nitrogen in the soil, reducing the need for synthetic fertilizers, while also acting as cover crops that conserve moisture and prevent soil erosion. In a region where rainfall is becoming increasingly unpredictable, such practices are proving critical.

"Because of this transition to organic farming, we can now sell our fruits any day and at any time, whenever a buyer is available, without worrying about the long withdrawal periods that come with chemical pesticides. This gives us more flexibility, improves marketability and ensures that our fruits are safe and healthy for consumers," says Dominic Mwendwa, the farm manager.

Beyond her own farm, Nduva is extending this knowledge to others. She has been training fellow farmers on organic farming practices and IPM methods, helping to scale climate-smart agriculture at the community level. Already, 600 farmers have adopted it.

But beyond climate mitigation and adaptation, Nduva's journey highlights a deeper issue climate justice. Women make up a large share of Kenya's agricultural workforce and are often the most affected by climate shocks. Droughts, declining yields and food insecurity disproportionately affect them, even as they often have less access to land, financing and extension services.

Despite these challenges, women are leading the way in adopting sustainable farming practices, demonstrating resilience and innovation in the face of climate pressures.

"Women are the ones working in the farms every day. We see the changes in the soil, the weather and the crops," she says. "We have to find ways to adapt."

But while Nduva's success highlights the promise of agroecology, adoption remains uneven. For example, according to Josephine Makumbi, the Wote/Nziu ward agricultural officer, only about three out of every ten farmers in the area have adopted IPM practices.

Cost remains a significant barrier. An augmentorium bag for instance, costs around Sh6,000 (US\$46.4), while fruit fly traps retail at approximately Sh350 (US\$2.7) each requiring at least four per acre. For many smallholder farmers, such upfront investments are difficult to afford.

"As a county we have started giving some of these tools for free to the farmers. So far we have given 900 fruit fly traps in this ward alone. Together with other stakeholders we have also provided solar bags which work the same as augmentorium bags but are cheaper. A bag costs only Sh100 (US\$0.77)," says Makumbi.

There are also concerns about the effectiveness and speed of bio-pesticides. Charles Musyoka, a fruit farmer from the same village says that unlike chemical pesticides, bio-pesticides act gradually.

By the time the bio-pesticide works completely, the infestation may have already progressed. This, he explains, is one reason why some farmers continue to rely, at least partially, on chemical solutions, which act faster and provide immediate results.

"It is common to see farmers using chemical pesticides during the flowering period and switching to bio-pesticides once the fruits have formed to ensure protection," says Musyoka.

This hybrid approach reflects a broader reality: while awareness of safer and more sustainable farming methods is growing, the transition is neither simple nor immediate.

However, Makumbi urges all farmers to embrace agroecology, noting that it not only reduces the sector's environmental footprint but also empowers farmers to become stewards of their ecosystems.

Residents' survival depends on polluted water sources



Women in Rabai village, near Kenya's coastal city of Mombasa fetch water from a filthy water pan due to water scarcity in the area. Photo Credit: Ruth Keah

By Ruth Keah

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In many coastal communities of Kenya, effects of climate change are felt everyday especially by women. Erratic rainfall, drying water sources and limited access to safe water are forcing families to rely on unsafe alternatives, increasing the risk of diseases.

For women, who are often responsible for fetching water and caring for children and the sick, this crisis comes with a hidden cost, lost time, lost income and reduced opportunities to work or run small businesses.

This situation is clearly seen in the life of Saumu Mwamta from Kwambaji village in Rabai Constituency, Kilifi County along Kenya's Coastline. Last year, her son started complaining of itching and pain when urinating, and later began passing blood in his urine.

Doctors at a nearby private hospital confirmed that he had schistosomiasis (bilharzia), a disease linked to unsafe water.

"Due to water scarcity here in Rabai, we depend on supply from bowzers or water pans, which are not safe sources of the commodity. I believe that is where my son got the disease," she said.

For Mrs. Mwamta, this was not just a health scare, it marked the beginning of serious economic and emotional strain. As the main caregiver, she had to close her shop for several days, losing both customers and income to take care of the sick child. For a single treatment at the private clinic she spent about Ksh 2,500 (US\$22), using savings from her small business of selling charcoal and petty household items.

Water scarcity in Rabai has worsened with changing weather patterns.

Families now depend on water pans which are also drying up. On the other hand, water vendors' products are suspect as their sources are unknown.

Charo Khamisi, a farm manager at Mtandikeni village in Rabai where women fetch water from the water pan, said that the lack of rainfall last year prevented the pan from filling up. As a result, the community has been relying on water harvested during the previous year, which is now being depleted.

"For this pan to have sufficient water, it depends on both the short rains and the long rains. However, last year we did not receive any rainfall. This has led to the water in the pan gradually drying up," said Khamisi.

For his own use, Charo relies on a traditional method of purifying the water with ashes. He lets the water sit for three hours before using it, as he cannot afford to buy water treatment products from the shop.

"I take ashes and add in the water I have fetched from the water pan, then leave the water for three hours to settle. I normally use it for washing, cooking, cleaning utensils and clothes, and even drinking," he said.

According to Charo, when his wife and children come to visit him, they use the same water. "When my wife comes to visit me with our two young children, aged 3 and 5, she uses the same water and sometimes my children complain of stomach ache, "Since I cannot afford to take them to the hospital, I normally give them traditional herbal medicine," he added.

Mrs. Mwamta said that sometimes she is forced to walk for more than 15 minutes to look for water, often from contaminated sources shared with livestock. "We share the water with cows and goats, which defecate in it because we have no other option," she said.

Though they boil the water for drinking, for other uses including washing and bathing, the water is used as is. Climate change is intensifying this burden.

According to an updated February 2024 UN Women Economic Empowerment Report, women perform up to three times more unpaid care work than men.



Charo Khamisi, a water administrator, relies on a traditional water purifying method using ashes to keep his family healthy. Photo Credit: Ruth Keah



Saumu Mwamta's family from a village at Kenya's Coastal region has had to bear the brunt of consuming unsafe water resulting in her son contracting bilharzia, a disease linked to unhealthy water. Photo Credit: Ruth Keah

It further states that Climate change could push up to 158.3 million more women and girls into poverty by 2050. In water-stressed regions, this includes hours spent fetching water and caring for sick family members. Climate-related water shortages increase exposure to waterborne diseases, further adding to women's responsibilities.

Saida Riziki is from Mazera, Kasarani village in Rabai, she is also a Community Health Promoter. In 2025, she took care of her two grandchildren who were diagnosed with bilharzia. Although she suspects they got the disease from school, the water they use from water pans could also be a contributing factor.

"I took both of them to the hospital, the girl and the boy. They were tested and found to have bilharzia. They were given medicine, and after about one month, they had recovered," she said.

Riziki says the river near her house is polluted due to open defecation on the river as most people do not have toilets.

"On the other side, there are also used diapers that are thrown away and often end up in the river. Women still fetch this water for drinking because of water shortages," she said.

For Riziki, taking care of her grandchildren meant she had to balance her work of serving the community and looking after them.

"I took up community work on weekends so that I can have enough time to care for them during the weekdays," she said.

Riziki usually boils water for drinking and educates others on hygiene to keep them safe from the diseases.

Chimwaga Mwamuye, is a health promotion officer in the coast region based in Kilifi County. He said the water in the pans are not well protected. In areas without proper toilets, human waste can be washed into water sources when it rains. During dry seasons, contamination becomes more concentrated as water levels shrink.

He said most of the diseases recorded in the area due to unsafe water usage include Bilharzia, diarrhea, and skin infections like ringworms, with most of the 14 dispensaries recording 3–5 cases in a week.

According to the WHO Drinking-Water Fact Sheet (2023), Over 2 billion people currently live in water-stressed countries, a number expected to rise due to climate change and population growth.

Additionally, the report says around 3.6 billion people live in areas highly susceptible to climate-related water impacts, such as droughts, floods, and contamination.

Hamisa Zaja, an expert in water and sanitation, said in many rural areas where water is scarce, people are not only prone to skin diseases, but women and people with disabilities are also at higher risk of sexual assault.

During her routine visit to schools in Kilifi County for mentorship with girls who are abled differently, she noticed a worrying trend, many schoolchildren were suffering from ringworms.

According to Hamisa, this is attributed to the unsafe water from water pans they use at home. "I was saddened to see so many children with ringworms and no support was being provided," she said.

Hamisa added that, it is unfortunate that despite harsh weather and limited water, politicians in some parts of the Coast region are using water scarcity as a campaign tool. This politicization makes women and children even more vulnerable.

"There is a need to stop politicizing water issues and ensure everyone has access to clean water, and healthy life as stated in the Kenyan constitution under Article 43 (1) (d)," she said.

Mwamuye encourages people to use simple solutions like boiling water, using purification tablets such as WaterGuard, or placing water in clear containers under direct sunlight for at least six hours to kill germs.

"Although these methods do not solve the larger problem of a changing climate, which makes water sources increasingly unreliable, they help ensure that families remain healthy despite the health risks they face," he concluded.

The link between climate and health is now gaining global attention. At the 30th UN Climate Change Conference (COP30) in Belém, Brazil, world leaders warned that climate change is already reshaping disease patterns.

In response, the Belém Health Action Plan is calling for stronger disease surveillance and evidence-based responses to illnesses that are influenced by climate change.

How youth 'plant doctors' are rescuing Makueni farms

By Milliam Murigi

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For more than three decades, Robert Musyoka has farmed in Kituasi village, Makueni County, relying on experience passed down through generations.

But for much of that time, his biggest battles were fought blindly. When pests invaded his crops, Musyoka had no expert to turn to.

"There was no one to diagnose what was happening in my farm," he says. "We didn't know the pests, and we didn't understand the pesticides."

Like many farmers in the region, his only option used to be visiting a local agrovet shop often carrying a damaged leaf or describing symptoms as best as he could.

The solution used to be the same always. Buy a chemical and spray. "We used to spray anything we were told," he recalls. "Sometimes it worked, sometimes it didn't. Most times, we just lost money."

Today, however, Musyoka's story is different. What was once a struggle defined by trial and error has evolved into a more predictable and rewarding journey, guided by expert support and informed decisions.

"We are happy to have these youths," he says. "Now we have officers who are trained. When something affects the farm, they come, they check and they advise correctly."

The "youths" he refers to are part of a growing network of plant doctors. Young, trained agricultural service providers who are transforming how farming is practiced in Makueni.

Kelvin Musyoki, is one of the plant doctors currently working with the Makueni County Food Processors Cooperative.

Since 2023, he has been working directly with farmers, helping them move from guesswork to informed decision-making.



Kelvin Musyoki, a plant doctor in one of the farms he had been invited to carry out a field inspection. He is one of the trained plant doctors in Makueni County, supporting farmers in early pest and disease detection and improving crop health. Photo Credit: MESHA

"Before we were trained, even myself, I used to do the same thing," Musyoki admits. "I would see an affected leaf, pick it and walk to an agrovet. They would prescribe something, and I would spray without really knowing the problem."

That changed when he joined a training programme that equipped him and 29 other young people with skills in agroecology and integrated pest management. The initiative by Makueni County Food Processors Cooperative, implemented in partnership with the Centre for Agriculture and Bioscience International (CABI), set out to solve a persistent problem of the lack of accessible, reliable agricultural extension services.

Since 2023, the cohort of 30 trained plant doctors has been working directly with farmers, offering on-the-ground advisory services rooted in agroecology.

Their mission is simple, help farmers produce more and better while protecting both human health and the environment. Their work begins where problems arise in the field.

"When a farmer calls, the first thing we do is scout the farm," Musyoki explains. "We identify the pest or disease, then advice on the best way to control it."

Unlike conventional approaches that often rely on chemical sprays, plant doctors promote Integrated Pest Management (IPM) an approach that focuses on preventing and controlling pests using natural, safe and practical methods such as traps before considering chemicals.

This shift toward low-chemical farming is also addressing a growing concern, food safety.



Robert Musyoka, once a frequent visitor to agrovet shops with damaged leaves in hand, now relies on plant doctors for quick and accurate diagnosis, improving pest control and farm productivity.

Photo Credit: MESHA

By reducing reliance on synthetic pesticides, farmers are producing food with fewer chemical residues improving both consumer health and market value.

"It's not every time you see a pest that you spray," he says. "There are biological ways, there are cultural practices. Spraying should be the last option."

The impact has been visible across farms like Musyoka's. Crop losses have reduced, yields have improved and farmers are beginning to see agriculture as a more predictable and profitable venture.

But the transformation is not limited to crops. It is also reshaping livelihoods. For years, agriculture has struggled to attract young people, often viewed as labor-intensive with little financial reward. Musyoki and his peers are changing that perception by positioning farming as agribusiness.

"Agriculture is a business like any other," he says. "When young people understand that, they begin to see opportunities."

The model itself reinforces that idea. Plant doctors operate as service providers, charging farmers for scouting, diagnosis and treatment. Using bio-pesticides, a service provider can spray multiple farms in a day turning knowledge into a steady income stream.

"It's not free," Musyoki explains. "When you go to a farm, you are paid to scout, to diagnose and even to spray."

The ripple effect has been significant. After their initial training, each of the 30 plant doctors was tasked with mentoring other young people. Through this peer-to-peer model, the network has expanded from 30 to 68 youth now actively engaged in agribusiness ranging from crop production and poultry farming to transport services within agricultural value chains.

"We were told to go back and mentor others," Musyoki says. "Now we are seeing more youths joining agribusiness and starting their own projects."

Crucially, the initiative is also bridging a long-standing gap in agricultural extension services. With limited government officers available to cover vast rural areas, farmers often lack timely support.

Now, with trained youth embedded within communities, farmers can access advice quickly often before a pest outbreak escalates into a crisis.

When plant doctors encounter unfamiliar pests, they are not left to guess.

They work closely with CABI and the Kenya Plant Health Inspectorate Service (KEPHIS), to tap into expert networks.

Using digital platforms, they share images of pests and receive real-time guidance, ensuring accurate diagnosis even in complex cases.

Fair offers lifeline to drought-stricken farmers



A woman farmer tests a chaff cutter one of the modern farm machines on display at the Kenya Agricultural and Livestock Research (KALRO), Bachuma Centre (along the Kenyan Coast) Open Week held last March. Photo Credit: KALRO Bachuma

By Ruth Keah

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Catherine Myange, a farmer from Miasenyi, in Voi Constituency, Taita-Taveta County, located along the Nairobi-Mombasa highway never imagined that drought would one day disrupt her life severely. At the start of her farming life, she never imagined that she would struggle to the point of buying food for her own animals.

For five years now, Myange has been forced to purchase animal feed because the grass has completely dried up. The situation has become so bad that she sometimes fears her livestock might die.

"The drought is ravaging," she said. "There is no rain, and food is hard to find. You are left wondering whether to buy food for yourself or for your animals. Honestly, we are in a very bad situation," she laments.

Myange is not alone in this struggle. For Julius Kitonga, another farmer, it has become increasingly difficult to keep livestock during long dry period. Water is especially hard to find.

He has had to buy containers to store water. He also buys water delivered by bowser trucks just to keep his animals alive.

"Water is a big problem," he said. "Rivers have dried up, and the nearest water sources are far away. Sometimes we have to buy water, because without it our livestock might die." Kitonga said.

In the dry and hot coastal areas of Kenya, many farmers have been facing these challenges for years.

The weather has changed significantly. Rainfall is no longer reliable, sometimes there is too little, and other times too much. As a result, crops fail, animals go hungry, and families suffer.

Based on recent scientific reports from the Kenya Meteorological Department (2024–2025) and

specialized climate impact studies, the challenges faced by farmers in Kenya's dry and hot coastal regions are driven by extreme climate volatility, which is rapidly becoming the new "normal".

Godana Dida, a farmer from Mackinnon area, in Kwale county, situated in Kenyan Coastal region shares a similar experience.

The area borders Kwale and Taita Taveta counties close to the Tanzanian border.

Severe drought has forced him to move his livestock to Kinango, a neighbouring village in Kwale county which borders Taita Taveta county in search of pasture.

Even with this solution, new problems emerged. In Kinango, there are many tsetse flies that bite the animals, causing diseases like Animal African Trypanosomiasis (AAT), as a result, some of his livestock became sick, and others even died.

A 2019 research publication Assessing the impact of Tsetse Fly on livestock productivity using geospatial technologies, Case Study in Kubo South Location, Kwale County, Kenya by University of Nairobi, revealed that some households in the area have lost up to eight cattle due to trypanosomiasis which is a great setback to farmers as each cattle costs an average of Ksh 30,000 (US\$231).

Dida and the other farmers interviewed shared their experiences during the Kenya Agricultural and Livestock Research (KALRO) Bachuma Open Week, an event that brought hope and practical solutions to many people seeking ways of coping with drought.

KALRO Bachuma, located in Taita Taveta County, is a research center that focuses on sheep, goats and camels.

During the open week, farmers of both gender from different parts of the county came together to learn, interact with experts and discover new and enhanced ways to improve their farming.

The event was held under the theme From Research to Market: Scaling Agricultural Technologies for Inclusive Growth.

Its main goal was to ensure that all farmers, especially those affected by climate change can access and benefit from modern, climate-smart farming methods.

The Centre Director, Mr. Levi Wambulwa, in his remarks, encouraged farmers to adopt feeds and livestock breeds that can survive harsh weather conditions like Galla goats, Dorper sheep and Boran cattle. He said that using research-based solutions, it can help farmers cope with climate change and protect their livelihoods.

The approach also supports global efforts like the United Nations Sustainable Development Goal 13, which focuses on climate action and building resilience against climate-related disasters.

According to the United Nations Development Programme (UNDP), about 80 percent of Kenya's land is made up of Arid and Semi-Arid Lands (ASAL). These areas include regions such as the coastal zone, where drought is common and farming is often difficult.

Mr. Wambulwa urged farmers to plant improved pasture and range grasses that can grow even in dry conditions, such as Bush rye (*Enteropogon macrostachyus*), Maasai love grass (*Eragrostis superba*) and African foxtail. These grasses are high-yielding, nutritious and well-suited for dry areas.

"If farmers plant and reseed these grasses, the country can have enough animal feed," he said.

For farmers like Dida, the open week is always a valuable opportunity for him.

He attends the event every year and the knowledge he gains helps him improve his livestock, even during harsh weather. He also uses the chance to buy stronger, drought-tolerant animals.

"I keep Boran cattle, so every year I come here to purchase additional ones. This year, I have bought four," said a smiling Dida.

For Myange and Kitonga, they also found the event helpful. The knowledge gained from experts will help them practice climate-smart farming and keep their animals healthy notwithstanding the challenges they face.

During the event, farmers were introduced to different types of animal feeds and pasture grasses such as the use of Black Soldier fly as a protein supplement in animal feed, and molasses-urea mineral blocks, which help improve milk production and animal growth.

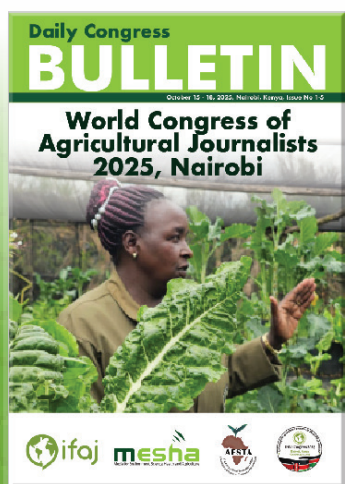
In addition, farmers got to see and buy different livestock breeds like Galla goats, Dorper sheep, and Boran cattle.

Modern farm tools, equipment and machines were also showcased to help farmers process and store feed more easily and improve feeding practices. Such farm tools included the Chaff cutter, an agricultural machine used to chop straw, hay, or fodder into small, manageable pieces, enhancing digestion and reduce feeding waste.

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Women led it, youth scaled it: a Maasai community's fight to adapt to climate change



From Right to left- Nadupoi Women and youth group founder Rebecca Koising'e and chairlady Irene Makui engage members during a meeting in Oolootikosh, Kajiado. Photo Credit: Juliet Akoth

By Juliet Akoth

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When the wind rises over Oolootikosh village in Kajiado County, it sweeps dust across the dry ground as goats, sheep and cattle gather at a community borehole to drink.

But the borehole is more than a watering point. It is also where members of Nadupoi, a women and youth group, meet to figure out how to survive as droughts intensify and life in this pastoralist community grows more uncertain.

The group, made up of 28 members, is a collective comprising mostly elderly Maasai women. Since 2023, however, Nadupoi has also opened its doors to youth members who bring language skills, market connections and new ideas. They practice climate-smart farming, helping households secure food while also generating income.

Rebecca Koising'e, the group's founder, traces Nadupoi's beginnings to a simple intention:

Solidarity. In 2011, she started bringing women together after seeing her neighbours, especially widows, struggle to afford school fees and medical care as drought weakened their traditional livelihoods.

"I formed the group because I was wanted to unify women to find solutions to their own problems," Koising'e says. "This coming together has helped us become one and advance while leaving no one behind," she adds.

Immaculate Ntalalai, a widow and breadwinner, joined Nadupoi at its formation and has experienced its impact firsthand.

When her husband died in early 2011, she was left to support three children alone. Previously, she and her husband had run a joint business selling livestock products.

He sold meat while she sold milk. But his death left her vulnerable. As Maasai culture dictates, she had no rights to family property ownership. This allowed male relatives to sell off the animals for their own benefits.

Drought then decimated her remaining herd, leaving her destitute. "The situation was really bad after my husband's death," Ntalalai recalls.

"I struggled to provide for my family until I learned about the group," she said.

Joining Nadupoi proved life changing. Through small loans offered by the group with three-month grace periods and the generosity of fellow members, she managed to send her children to school and ensure they had food and shelter. The group's support later enabled her to purchase four sheep of her own.

Climate Smart Farming

The group's biggest shift has been into farming. On an eight-acre parcel of community land entrusted to them by the Kajiado County Government, the women and youth now grow vegetables.

They use climate smart practices, including crop diversification, bee keeping, organic manure and drip irrigation, to grow kales, curly kale, spinach, tomatoes and onions.

Nadupoi's work mirrors the Kajiado County Climate Change Action Plan 2023 to 2027, which prioritizes climate-smart agriculture, water management and resilient livelihoods. It also speaks to Sustainable Development Goal 2 on food security, Goal 5 on gender equality and Goal 13 on climate action.

According to the group secretary Jane Parletuan, members began looking beyond livestock when they realized drought spells were becoming more frequent, clearing their herds of cattle and leaving them vulnerable to food insecurity. "We realized we cannot depend on the cattle alone," she notes. "When drought comes, it can wipe out the herds. So, we started farming and even keeping chickens so that we have eggs, vegetables and other options for income and food," Parletuan told MESHA.

But she is quick to add that this does not mean abandoning cattle. Instead, she argues, keeping smaller, manageable herds alongside farming is safer than chasing big numbers in a drying climate. That adaptation is unfolding against a harsher climate backdrop across much of Kenya, specifically in arid and semi-arid lands.

Dr. Jackson Koimbori, an agro climatologist and Senior Circular Economy and Climate Change Coordinator at the Kenya Private Sector Alliance, says the most serious risks facing such communities are extreme heat, erratic rainfall and drought driven water shortages. These pressures are felt through livestock losses, crop stress and deepening local food insecurity. "The key climate risks in most semi-arid regions in Kenya revolve around drought caused by rising temperatures and floods caused by extreme rainfall patterns," stresses Dr. Koimbori.

He explains that the turn towards mixed livelihoods is a practical response. Crop production, he notes, can demand less water than keeping large herds, while losses may be less devastating and drought tolerant varieties are more accessible than climate resilient livestock breeds, communities still have to balance market demand with what can survive locally, but he sees diversification as necessary.



Clarice Moipoi, a youth member of the Nadupoi group, carefully inspects ripening tomatoes to assess their readiness for harvest. Photo Credit: Juliet Akoth

"I think the shift is part of them trying to adapt to the changing climate as it is right now," he notes.

Nadupoi has already tested that logic. After a fish farming venture stalled because a pond liner tore, the group assessed the cost of restarting it against other urgent needs and put more energy into onion production, a shorter cycle activity that could bring quicker returns.

In October 2025, the group planted onions on 1.5 acres of community land and harvested 927 kilograms in two batches by January.

"When the market is very good, we sell at Ksh 70 (US\$ 0.53) per kilo but when it's very bad, we sell at Ksh 55 (US\$ 0.42)," notes youth leader Emmanuel Masaga.

The group made an estimated profit of Ksh 64,000 (US\$ 489.39) from this venture.

Farming with a Fragile Water Lifeline

Yet even as Nadupoi produces harvests, the women and youth describe a ceiling they cannot break on their own: scaling. Their land, though eight acres in size, they only utilize 1.5 acres.

Water and security are the main reasons. The community solar powered borehole supplies irrigation water, but its yield can drop, especially in the dry season when the water table falls.

When that happens, the group rations irrigation, watering one section today and another tomorrow.

"It's not that water doesn't come out," Masaga says. "Sometimes it comes out a little. So, we have to ration how the water is used. If we water a part of the farm today, the next day it won't be watered; instead, another area will be watered. That is how we survive with what we have."

Agro-climatologist Koimbori cautions that boreholes alone cannot sustain adaptation in drylands because they depend on groundwater recharge and can fail when rainwater is not retained.

He argues that communities need water harvesting and storage systems, such as dams, to farm more reliably through dry seasons. But infrastructure alone is not enough.

"The lack of funding is a key issue," he says, warning that without steady financing, planning and timely information, local projects remain stuck in survival mode.

Looking Ahead

Despite the challenges the Nadupoi Women and youth group is determined to succeed.

Adaptation here is not a single act. It is a long, collective discipline, held together by women who refuse to be left behind, and by youth who refuse to watch their elders struggle alone.

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The secret to Africa's health and economic sovereignty



Scientists like Dr Robert Karanja (pictured) are concerned that for decades Africa has consumed products from research done outside the continent thus compromising product efficacy.

Photo Credit: MESHA

By Christine Ochogo
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Experts and policy makers have called on African governments to invest more in Research and Development (R&D) as a long-term strategy to bridge the health financing gap in the continent.

Over years much of Africa's health research has depended on donor support, often shaped by external priorities.

This emerged during a round table meeting of journalists and African Research champions from Kenya, under African voices of Science (AVoS), an initiative by Speak Up Africa to strategically re-position African voices in science for improved health systems for all.

At the Nairobi meeting, the champions - Dr Robert Karanja (Biomedical scientist/Founder and executive Director Biolinx Africa), Dr Lisa Micheni (Senior lecturer in Medical Microbiology, Pwani University) and Policy and Government Affairs Partner, Africa - Roche, maintained that stronger domestic investment in research and innovation would enable African countries to develop home-grown health solutions to benefit Africans.

The experts argued that for decades Africa was largely consuming products from research done outside the continent thus compromising some product efficacy as compared to the population where the research was done.

"Out of the clinical trials happening globally, only 4 per cent are done in Africa. Most drugs and vaccines are being developed without our DNA inputs and the clinical validations are also done without testing on African people and so we cannot be certain about their efficacy on us," Dr Karanja revealed.

The scientist further revealed that over the past decade, there has been a significant shift in how research and development is conducted. Drug and vaccine development is increasingly guided by advances in DNA and genomic research. However, African genetic data accounts for less than three percent of the global biobank, highlighting a major gap in representation.

In addition, Mr Omollo observed that there has been a number of research done over years but only end up at pilot stage even after proving their effectiveness in enhancing lives and livelihoods. This is because of a combination of financial, policy, institutional, and market challenges.

"If we are not able to move health products to scale then it makes no difference and technically not making any impact as intended to improve lives and promote health even though they have consumed a lot of time and resources," Omollo alluded.

He added. "We must talk about research and development from pre-clinical trials to product introduction and use."

The Abuja declaration adopted during the Second Ordinary Session of the African Union Assembly held in Abuja, Nigeria, in 2006 saw African Member states commit to allocating 1 per cent of their countries GDP to Research and Development as a starting point. However, due to limiting factors and competing priorities countries are still struggling with that.



Dr Lisa Micheni and Mr John Paul Omollo say stronger domestic investment in research and innovation enable African countries to develop home-grown health solutions to benefit inhabitants of the continent.

Photo Credit: MESHA

As a health policy strategist Mr Omollo noted that as of present day, the best countries in Africa currently allocates 0.8 per cent of their GDP to research and Development among them Kenya and South Africa. Many others are lagging at 0.3 per cent compared to the global average of 1.7 per cent.

"This is a good bench mark to start with even though we are not yet there. Kenya for example intends to increase R&D allocation from 0.8 per cent to 2 per cent and out of the 2 percent, 30 percent should go to health research and Development," he explained.

As Africa moves towards self-reliance, the researcher challenged health advocates and the media to constantly keep tracking countries budget making process to see how much allocations goes to R&D and be able to communicate to decision and policy makers on the need to start looking at Research as an economic driver for countries rather than as a consuming sector as the continent.

The experts admitted that a lot of research do not get to be translated into policies because most scientist are still conservative and avoid speaking to policy makers, patient groups, media and civil society.

In addressing the above, they mentioned the necessity to heighten communication flow from the laboratories by simplifying complex scientific data for policy influence into simple language that policy makers are able to translate into policy for implementation.

Dr Karanja, a biomedical researcher noted that investing in R&D is not merely a scientific ambition but an economic necessity.

Countries that fund research locally capture markets, reduce dependence on imports and inspire biotechnology industries.

"As scientist we not only offer solutions but we need to have business models that can attract investors in providing the resources we need for the development of our ideas," he advised.

Dr Lisa Micheni cited lack of infrastructure and enough trained personnel to handle the emerging technologies in the laboratories as some of the challenges researchers face.

She spoke. "In Bioinformatics for example, we generate information to study genes and DNA but we are forced to send the information abroad for interpretation which consumes time and sometimes bring Intellectual Property (IP) issues on one's original work.

With the formation of African Medicines Agency (AMA) which works to align medicine regulations across African countries, researchers will be able to conduct multi-country clinical trials more easily and reduce duplication of regulatory approvals.

The African Union through Africa Union Development Agencies AUDA-NEPAD come up with two continental policy frameworks strategies, created to strengthen research, innovation, and development in Africa.

The duo strategies: Health Research and Innovation Strategy for Africa (HRISA) 2018-2030 and Science Technology and Innovation Strategy for Africa (STISA 2034) form Africa's continental roadmap for strengthening Research and Development (R&D) and ensuring African solutions to African challenges.

This aligns with agenda 2063 on ***'The Africa We want'***