

Special edition
on HIV

SCIENCE

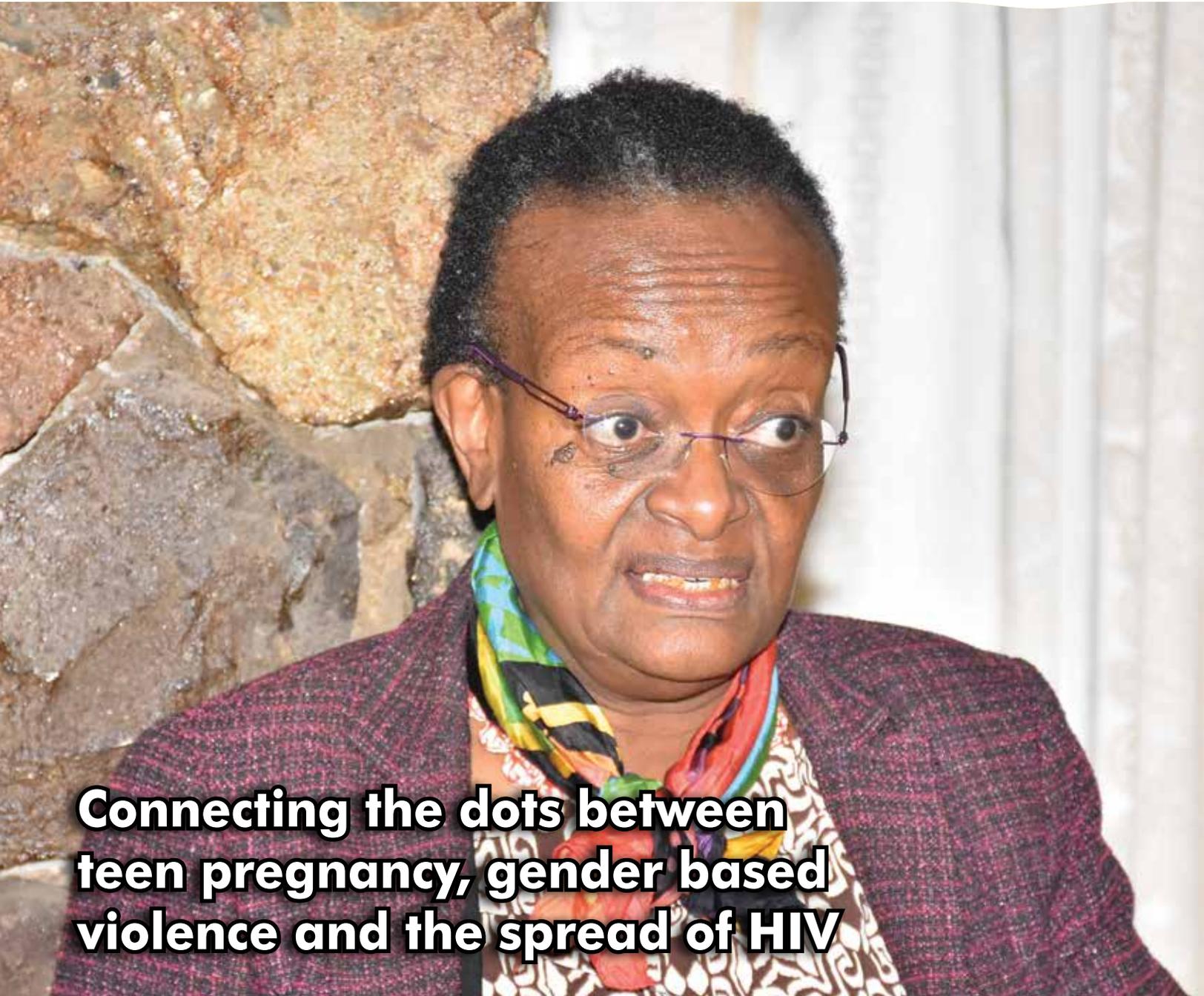
SAYANSI

Telling the African science story

Issue No. 26

www.meshascience.org

JULY 2022



**Connecting the dots between
teen pregnancy, gender based
violence and the spread of HIV**

In this issue

**Initiative targets to reduce
new HIV infections among
young people**

**Experts worried about
the diminishing fate of
wetlands in Kenya**

**That irresistible oily
delicacy in your plate maybe
a beckon by the grave**

The Media for Environment, Science, Health and Agriculture (MESHA) was founded in November 2005 in Nairobi, Kenya and is an organisation that provides support to science journalists covering health, development, technology, agriculture and the environment. It does so by offering training workshops, consultancies and encouraging networking through meetings and conferences among journalists, scientists and other stakeholders in Kenya.

The association emphasises on rural journalism and communication.

The idea for the formation of this association sprang up from the fact that there were many organisations and communicators in the fields of agriculture, environment, health and development. However, few organisations in the region bring journalists covering these issues together, for better reporting in the media.

MESHA believes that in a democratic society where science must be answerable to the public, there is need to find new and innovative ways of effective mass communication about the benefits of science, and other areas of concern to the general public.

MESHA aims to ensure continuity, sustainability and consistent coverage of science and development issues as they arise.

SAYANSI

is a publication of MESHA,
P. O. Box 57458 - 00200, Nairobi, Kenya.
email: sayansimagazine@gmail.com
www.meshascience.org

 Mesha Science

 Mesha Science

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Cover photo:
Prof Ruth Nduati of the University of Nairobi captured recently at a media café organised by Media for Environment, Science, Health and Agriculture (MESHA) on tackling gender based violence in Nairobi.

Photo Credit | Aghan Daniel

MESHA members converge to network, learn from each other

33



Vouching for vaginal ring among adolescent girls, young women

36



Wetlands in Kenya under threat

40



HIV fight in Homa Bay is far from won, we must not let our guard down just yet

Six years ago, Homa Bay County in Kenya was staring at a catastrophe with a runaway HIV prevalence of 25.7 per cent against a national average prevalence of 6.04 per cent, according to Kenya's National AIDS and STI Control Programme (NAS COP).

However, over the years, stakeholders have reported the numbers going down, thanks to the management of the virus by the country's agencies in charge and their partners.

Elizabeth Glaser Pediatric AIDS Foundation reports that viral suppression rates have increased in the county, significantly lowering the risk of HIV transmission. As a result, the annual new HIV cases in Homa Bay County have reduced from 10,625 in 2015 to 3,080 in 2020. Anti-retroviral therapy (ART) coverage has risen from 63 per cent in 2016, to 95 per cent in 2021.

These numbers paint a glorious picture in the fight against HIV in Homa Bay. However, the reality on the ground is that the fight is still far from being won and Homa Bay residents are still deep in the woods.

When MESH A held a science café for journalists in the county recently, issues that emerged on this fight were appalling inasmuch as they were eye-opening.

Justus Ochola, Homa Bay County AIDS and STI Control Coordinator, said there is a large number of people who acquired HIV at birth from their positive mothers but are yet to be identified. Either they have never known their HIV status or are hiding the truth because of stigma. It means these people are unknowingly spreading the virus to their partners if they are sexually active. These people are also not under care, threatening the attainment of the 95-95-95 UNAIDS target by 2030.

Secondly, Mr Ochola said, sexual abuse of children and teenagers is still rampant in the county. Ochola says they do not have a rescue centre yet, which means these children and teenagers are forced to continue living in the same locality or even homes with those who defiled them. This is also thanks to kangaroo courts, which let go of these sex pests with just a slap on the wrist.

Down the lake in Rangwe Sub-county, AIDS and STI Control Coordinator Judith Abong'o insisted that sex for fish is still a reality that cannot be ignored. Has the media been fatigued by reporting on sex for fish to the extent that it no longer makes news?

Finally, COVID-19 erased many gains made in the HIV fight. At the height of the pandemic in the country, patients could no longer access HIV medication as easily as they used to. The rate of testing also reduced as people did not visit health facilities for fear of contracting the deadly coronavirus.

Given the issues raised above and many more, all stakeholders, including the media, must up their game and slay the HIV dragon in Homa Bay. Let us not rejoice in statistics that may not depict the real situation and let people perish even in cases where deaths are preventable.

When MESH A held a science café for journalists in the county recently, issues that emerged on this fight were appalling inasmuch as they were eye-opening.



Justus Ochola, the Homa Bay County Aids and STI Coordinator (CASCO).

The triple threat: How teen pregnancy, sexual gender-based violence raise HIV infections

By John Riaga | oukoriaga@gmail.com

Born HIV positive, defiled by a man she knew as her grandfather and faced with the risk of an unwanted pregnancy at the tender age of 10, Philomena (not her real name) has seen it all in life.

Orphaned by HIV and AIDS, Philomena and her three siblings are under the care of their frail grandmother in a remote village in Pala area of Karachuonyo North Sub-county and she has to contend with the double tragedy of seeing her oppressor – her grandfather – every day.

The 70-year-old was arrested and arraigned but is out on bond as the case continues.

Philomena's tragedy is the epitome of what is now known as the triple threat of HIV infection, Sexual Gender Based Violence (SGBV) and teenage pregnancy.

Though lucky not to have conceived after her ordeal, essentially escaping from being part of the statistics of teenage mothers, Philomena may have infected her grandfather with HIV.

"Because of the loose ends in our justice system, this perpetrator is out on bond with no record of being tested to know his status. We do not know where or who else he has had intercourse with. That is our dilemma," said Justus Ochola, the Homa Bay County Aids and STI Coordinator (CASCO).

Homa Bay County ranks among the top on all the three parameters of the triple threat.

The county was among the first in Kenya to start offering treatment for HIV in 1999. Today, Karachuonyo Sub-county has a total of 126,000 people living with HIV on treatment.

On teenage pregnancies, the county reports a 33 per cent prevalence rate. Ochola said, "This means that out of 100 girls of age 10-19 years, 33 will have had their first pregnancy."

This data ranks the county as the second highest in teenage pregnancy in the entire country, second to Narok County.

Photo Credit | Francis Mureithi



Members of the Ikidilania group, Homa Bay County, hold a meeting to discuss how to enhance efforts on fighting gender based violence.

Ochola said Homa Bay also has a very high number of reported cases of SGBV. Between January and April this year, there have been 1,441 cases of SGBV reported.

"These three threats are correlated and as a county we are dealing with them wholesomely," he said.

Debrah Locho (not her real name) is a 40-year-old widow from a nearby village. Eight years ago, her 13-year-old daughter, then in Standard Five at a local primary school, was raped and impregnated by a stranger. The man had arrived in the village a few days earlier in search of menial jobs

He timed one morning when Locho had travelled and defiled her daughter, then he disappeared without a trace.

"With the suspect not known by anyone and therefore nobody to arrest, we had to cope with the pregnancy. My daughter agreed to carry it to term, following intensive counselling because she had contemplated abortion," said Locho.

Lucky to test negative, Locho's daughter today is happily married after accepting to go back to school and finished her education. Most of the victims of teenage pregnancies are not as lucky, they end up testing positive for HIV and some drop out of school.

According to Karachuonyo North Sub-county Aids Coordinator Joseph Ondu, the fact that the perpetrators are not easily identified complicates the struggle to contain the situation.

"Since most of the perpetrators happen to be close relatives of their victims, there is always a rush to set up Kangaroo courts to quickly dispense of such cases, with the suspects getting away with the crimes," said Ondu.

In the neighbouring Rangwe Sub-county, locals have devised measures, including taking both teenage mothers and their agemates of the opposite gender back to school in a bid to tame the rising the cases of teenage pregnancy.

Local Aids Coordinator Judy Abong'o said with a rising number of teenage girls getting pregnant, they got pre-disposed to HIV infection.

"Here too, the triple threat is real with teenage pregnancies and SGBV playing a key role in the rise in cases of new infections. That is why we have doubled our efforts through various interventions," said Abong'o.

Locho, said she is happy that though she may never get to know who raped her daughter and made her pregnant, the girl accepted to go back to school to complete her secondary education.

"Not knowing the perpetrator is just one problem, the other is the burden of taking care of my grandchild while the mother is in school since I have five other children," said Locho.

Ochola, who led a team of health journalists from the Media for Environment, Science, Health and Agriculture (MESH) on a science café field visit to the two sub-counties, said out of the eight sub-counties in Homa Bay, Karachuonyo ranked second to Ndhiwa in HIV prevalence.

The county has over 100,000 people living with HIV.

Ochola said there was a rescue centre put up in Makongeni area but it still required support in terms of materials such as consumables.

"In order for the centre to serve its intended purpose fully, we still need volunteers and partners to help out with items like sanitary towels, food stuff and other items," he said.

Photo Credit | Francis Mureithi



Rangwe Sub-county AIDS and STIs Coordinator Judith Abong'o.

Unprotected sex among adolescents blamed for big HIV burden in western Kenya

By Carol Otieno Miyawa | lolwecarol@gmail.com

The rampant cases of teen pregnancy in Rangwe, Homa Bay County means many young girls have sex without protection, raising their chances of acquiring HIV.

Rangwe Sub-county AIDS and STIs Coordinator Judith Abong'o said because of this unprotected sex, the sub-county records 2,000 new HIV infections yearly.

"The teenage girls and adolescents need to be taught by their elders about sex, unwanted pregnancy and HIV.

"There have been a lot of teenage pregnancies in the area. We even received some information about an 11 year old that got pregnant," said Ms Abong'o during a MESHSA science café in Rangwe.

She said Rangwe has a total population of 125,000, and 18.2 per cent of them are living with HIV.

"Out of the 13,495 people living with the virus, 13,205 are under medication", she said, adding that in 2020, the new infections of all ages was 1,313.

Abong'o argues that adolescents are part of what contributes to the rise in HIV infections and teen pregnancy is a major burden in controlling the spread of HIV.

Debrah Locho, mother to a victim of teenage pregnancy, said she struggled to take care of the 14-year-old girl after she got pregnant.

"Since she gave birth it has not been easy. She had to drop out of school. I had to counsel her as a mother who has experienced the burden of parenting and illiteracy. She agreed to go back to school after giving birth," said Locho.

Even though the girl is back in school, Achieng still has the burden of raising the child.

"I have to look for school fees, food and cater for the baby's needs. I am a widow, I have been trying so hard for my family but it is still difficult," she narrated.

Despite that the struggle, she says she is doing everything she can to give the girl and her other four children a better future.

Abong'o said gender based violence has also contributed to the increase in HIV/AIDS cases.

She said when violence breaks within the households some children usually to run away into the streets, where they are at risk of sexual abuse. If they are HIV positive, the condition deteriorates because they have no food to improve their immunity and no one to administer treatment to them.

"Gender-based violence also leads spouses to finding ways to alternative to satisfy themselves sexually outside the violent marriage," said Abong'o.

Helen Aoko, a mother of eight and a victim of gender-based violence, narrates how it has taken a toll on her life.

"There has never been happiness in my marriage. My husband used to beat me in front of my children. Of all the children, only one has been able to attend college," she says.

"Some days back, my husband molested a 12-year-old mentally disturbed child. He was arrested and released on bond but the case is still ongoing. All the household duties now fall on me as I have become the bread winner."

Abong'o said to reduce the HIV burden, women should be empowered, they should get jobs and have income so that they stop being misused by their male counterparts, especially in regions where fishing is the main source of income.

Involve everyone in fight against gender-based violence, don urges

Photo Credit | Aghan Daniel



Prof Ruth Nduati, a lecturer at the University, speaks at a media café organised by MESHHA on tackling gender-based violence in Nairobi.

By Scovian Lillian | lscovian02@gmail.com

Women have been urged to protect fellow women against violence during this electioneering period in Kenya.

Prof Ruth Nduati of the University of said this is a sure way of reducing adverse impacts of election violence such as rape, and minimising gender-based violence during this period.

She was speaking at a media café organised by Media for Environment, Science, Health and Agriculture (MESHHA) on tackling gender-based violence in Nairobi.

“Women are easily attacked when violence occurs, it is important to raise the moral courage among women through sensitisation and creation of awareness, including in the grassroots,” she said.

Prof Nduati said children also get affected both physically and emotionally in the face of attacks.

She said it is critical to fully involve men in the fight against gender-based violence to protect one another while sensitising each other on the harm caused by rape to women.

“It is important to involve the entire community, including men, empower them aggressively to protect one another and embrace good mechanisms for safety,” she said.

The media was also challenged to not only highlight election violence survivor stories but to help create full awareness especially now (electioneering period) and air programmes targeting perpetrators for violence prevention.

For much of sub-Saharan Africa, rising populations combined with climate change and other environmental factors are threatening food and nutritional security.

Programme turns off tap on new pediatrics HIV infections

By Joyce Chimbi | j.chimbi@gmail.com

Photo Credit | Joyce Chimbi

Homa Bay County has long been the face of HIV/AIDS in Kenya as it has the country's oldest and largest HIV treatment programme.

"Six years ago, with an overall HIV prevalence for all adults and children at 25.7 per cent, against a national average 6.04 per cent, for mothers living with HIV the miracle was in giving birth to a HIV negative baby," says Elisha Arunga Odoyo, a clinician with Prevention of Mother to Child Transmission (PMTCT) programme at Homa Bay County Teaching and Referral Hospital (HBTRH).

Until recently, mother to child transmission of HIV in Homa Bay remained at 16.8 per cent.

According to Centres for Disease Control and Prevention (CDC), Kenya is among 22 countries that collectively account for 90 per cent of pregnant women living with HIV and without proper intervention, 40 per cent of all babies born within this cohort acquire the virus.

Of the 1.4 million people living with HIV in Kenya in 2019, up to 90,000 were children aged below 14. An estimated 11 per cent of these children were in Homa-Bay.

Despite the PMTCT programme and the availability of free Anti-Retroviral Treatment (ART) care and treatment in Homa Bay, as many as four in every 100 children tested acquired HIV, as per the NASCOP statistics.

Mother to child transmission of HIV is responsible for a significant majority of infections among children aged 0 to 14 years.



Of the 1.4 million people living with HIV in Kenya in 2019, up to 90,000 were children aged below 14. An estimated 11 per cent of these children were in Homa Bay County in south western Kenya.

In the absence of ART treatment and care for positive pregnant and lactating women, the likelihood of passing on the virus to their child is 15 per cent to 45 per cent. ART and other interventions such as peer and mentor mother programmes reduce this risk to below 5 per cent.

This risk is reduced through implementation of PMTCT programme, which provides a range of services to women and infants such as offering lifelong ART, supporting adherence to ART treatment, providing safe child birth practices and appropriate infant feeding.

Within the PMTCT programme, infants exposed to HIV are also provided with virological testing after birth and during breastfeeding period.

Around the world, an estimated 1.4 million HIV infections among children were prevented between 2010 and 2018 because of the PMTCT programme.

To reduce the pediatric HIV burden, in 2016, the Ministry of Health alongside its health partners introduced the peer and mentor mother programme in Homa Bay to help address factors that interfered with the success of PMTCT programme.

Upon investigating why drugs were not working, the Ministry of Health found that mothers were interrupting ART treatment.

“The mentor model was designed to help improve adherence to treatment. Mothers were transmitting HIV to their babies because of a high viral load,” said Mr Odoyo.

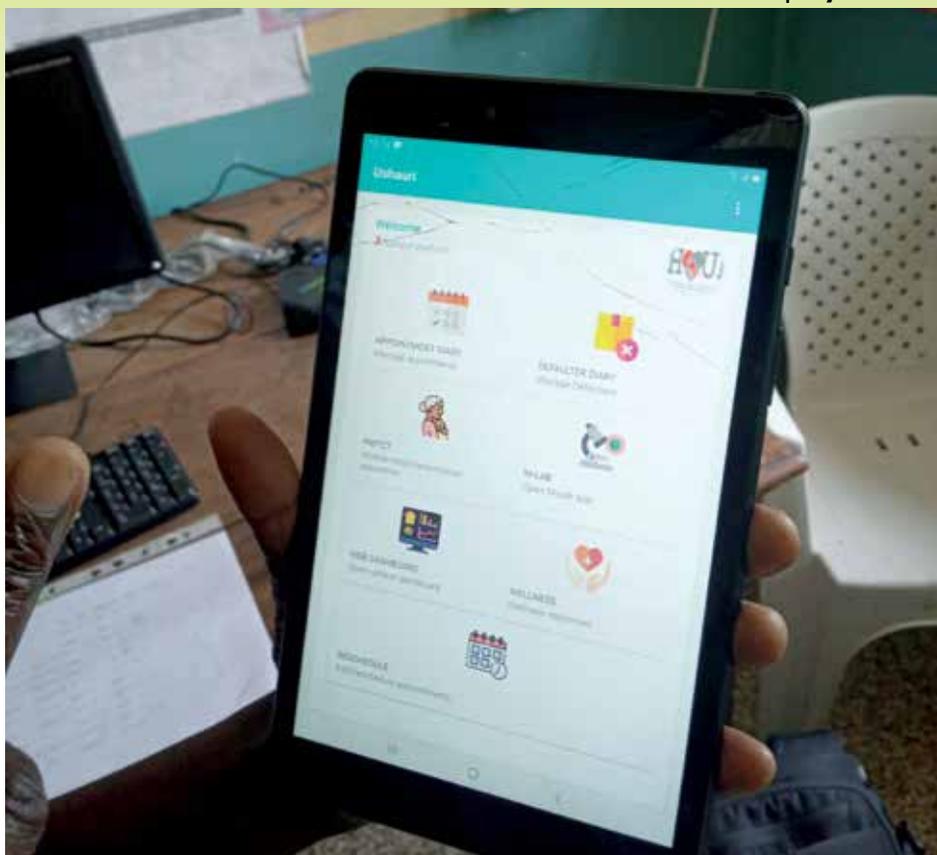
Some mothers stopped taking ARVs for some time, others discovered they were HIV positive within the pregnancy and lactating period, but were not started on treatment, as recommended by World Health Organisation (WHO).

An investigation into the project revealed that the factors keeping mothers from treatment were outside the scope of health facilities. Mothers were not missing out on treatment because ARVs were unavailable, but because of social factors like fear of stigma and discrimination, denial of HIV status, lack of transportation to access health facilities and domestic violence.

“I’m a HIV positive mentor mother. Denial and hopelessness can lead someone to refuse treatment. Others do not know that not taking medication as advised can lead to transmission of HIV. Others self-stigmatise while many lack social support to help them stay on track,” said *Imelda Akoth.

At the Country hospital, for instance, Mr Odoyo said as many as 100 mothers living with HIV were lost to follow-up annually. These were mothers who were out of the critical ART treatment and care for at least 30 days to their last clinic visit.

“In addition to mothers lost to follow-up, we had at least 100 missed opportunities every year. These were high risk mothers who tested positive for HIV but were not enrolled into HIV care and treatment, and at great risk of transmitting HIV to their babies,” he said.



Infrastructure to run the programme, including tablets and internet connectivity, transportation for home visits as well as regular training to help mentors keep up with the PMTCT guidelines, are all funded by donors.

Eventually, often three months after delivery, these high risk mothers would present themselves at the referral hospital, extremely sick and accompanied by similarly sick HIV positive babies.

To help bring pregnant and lactating mothers with HIV to health facilities for treatment and care, the Health ministry selected and trained peer and mentor mothers to remove social barriers responsible for high mother-to-child transmission of HIV.

The number of peer and mentor mothers in facilities within Homa Bay depends on the number of mothers in need of mentorship.

Adolescent and teenage mothers, mothers across all ages newly diagnosed with HIV and newly widowed pregnant and lactating mothers are often a high-risk group in need of mentorship.

Within the current PMTCT programme at the Homa-Bay referral hospital, the youngest mother is 13 and the oldest 42. The mentorship structure therefore takes age into consideration before pairing up mentors and mentees.

Peer mothers include a 24-year-old mother of a HIV negative baby, attached to adolescents and people below age 24. There is also Akoth, a mother of three HIV negative babies attached to mentor those aged over 25.

The mentorship structure is the bridge between HIV positive pregnant and lactating mothers and PMTCT services.

The mothers undertake home visits and are in constant touch with their assigned mentees through phone calls and text messages, round the clock.

They use a specially designed and easy to navigate Ushauri (Swahili for advice) app that enables them to review a patient's treatment history, appointments and treatment regimen in minutes.

After an appointment, mentors update the app by confirming that the patient made scheduled clinic visits and input details of their next visit.

The peer and mentor mothers say the magic is in ensuring any problem that could hinder a PMTCT high risk mother from accessing services is addressed from the onset.

"We are trained to look for problems outside the treatment programme itself. ART is available free of charge and health workers are at the facilities waiting to serve people. But they will not come looking for you at home. This is where mentorship comes in," Akoth explained.

When PMTCT mothers visit health facilities, they hold a session with mentors before seeing a clinician. Any issues that emerge from the sessions are reported to clinicians and nurses, as they may interfere with treatment outcomes.

Mothers unable to visit their preferred health facilities due to distance and lack of transportation are referred to others nearer to them and assisted by mentors to assimilate into a PMTCT programme.

One Onyango, a beneficiary of the peer mentor programme, says mentor and peer mothers are the backbone of the initiative.

Since the introduction of the programme, transmission of HIV from mother to child has reduced from 16.8 per cent in 2015 to 9.1 per cent in 2019. Since 2018, not a single mother who receives PMTCT services directly from the referral hospital as their primary health care provider has delivered a HIV positive baby.



The mentor mother intervention bringing Kenya's Homa Bay County closer to eliminating mother to child transmission of HIV.

Now, all HIV positive babies recorded at the hospital are referral cases; three in 2018, two in 2020 and another two in 2021, as per the referral hospital's records.

The primary limitation with the mentorship programme is that it is heavily reliant on donor support, even for payment of mentors.

Infrastructure to run the programme, including tablets and internet connectivity, transportation for home visits as well as regular training to help mentors keep up with the PMTCT guidelines, are all funded by donors.

This is not sustainable because donor support can be terminated, sometimes abruptly. The programme hence needs a stable source of funding to protect the success it has achieved.

Onyango's success story is one of many across health facilities within Homa-Bay County, including at Obunga dispensary, Kitare Health Facility, Rangwe sub-County Hospital and the Homa Bay Teaching and referral Hospital (HBTRH).

The county seeks to sustain the mentorship structure towards raising a HIV free generation by reaching zero new paediatrics HIV infections, one HIV negative baby at a time.

Men must now play their part in ending teenage pregnancies, says NACC boss

By Aggrey Omboki | omboki2725@gmail.com

Photo Credit | Aggrey Omboki

Kenyan men have been called upon to play a more active role in ending teenage pregnancies and new HIV infections in the country.

National Aids Control Council (NACC) Chief Executive Officer Dr Ruth Laibon-Masha urged men to see themselves as agents of positive change in the fight against HIV/AIDS.

She made the remarks at a press briefing during the UNAIDS conference in Nairobi on April 11.

The high-level three-day UNAIDS consultative forum was meant to take stock of the efforts to achieve the 95-95-95 HIV/AIDS targets set in 2014 by the Joint United Nations Programme on HIV/AIDS.

Composed of experts and state officials drawn from East, West and Central Africa, the meeting also lay the groundwork for the next cycle of fundraising for the Global Fund that targets at least Ksh2 trillion or US\$17 billion for the region's war against HIV.

In her remarks made on behalf of Health Ministry Principal Secretary Susan Mochache, Dr Laibon-Masha, however, said her call was not made to demonise men in the fight against HIV, which saw about 32,000 new cases reported locally in 2021.

"We are not saying that all men are bad. Men should however see themselves as change agents in the fight to end cases of teenage pregnancies and new infections," she said.

Her remarks come on the back of data released on April 8, 2022 by the Ministry of Health indicating that it handled 45,724 cases of pregnant adolescents aged between 10 and 19 years in the period covering January and February 2022.



Dr Ruth Laibon-Masha, National Aids Control Council (NACC) Chief Executive Officer.

On April 7, 2022, Mochache said the country recorded 2,196 cases of sexual and gender-based violence (SGBV) among teens aged 12 to 17 years within the same period.

At least 14 per cent or seven out of every 50 births in Kenya are composed of teen mothers aged 15-19 years.

Ministry of Health statistics further indicate that 63 per cent of pregnancies in this age group are unintended, with abortions claiming 35 per cent of them.

According to National Council on Population and Development (CCPD) Director Mohammed Sheikh, an estimated 59.3 per cent of girls who are

sexually active are not using any form of contraceptives, increasing their chances of getting pregnant or even contracting STIs and HIV/AIDS.

Dr Laibon-Masha termed the latest HIV data "a big problem," adding that the challenge lies in providing education to empower teens and adults in communities to significantly reduce or eliminate new cases.

"Every year we get around 32,000 new infections, with most occurring in people aged 35 and below. Some 61 per cent of these occur among young people aged 15-24 years, and the majority of SGBV cases among children aged between 10-17 year olds, which is a big problem," said Dr Laibon-Masha.



Great 8 Pillars CBO in Rangwe holds discussions on how to combat teenage pregnancies in their area.

In his November 8, 2021 preparatory speech delivered before the World Aids Day marked on December 1, 2021, Dr Sheikh called for a cooperative and coordinated approach towards combating teenage pregnancies in the country, noting that girls across the country faced different sets of challenges.

Mochache further said every week 98 girls aged between 10 and 19 years are infected with HIV due to SGBV.

Dr Laibon-Masha said it was no longer acceptable for men to sit back and allow criminals to perpetrate sexual and gender based violence against male and female adolescents.

“Men should no longer condone acts of SGBV. It is time they play a role as parents and protective partners for women in the fight to ensure SGBV cases are not only prevented, but reported to the law enforcement agencies as soon as they occur,” said the NACC boss.

“We are faced with the challenge of how to stop mother to child transmission, and end cases of sexual violence. We cannot continue to condone SGBV against our children, particularly our girls.

The complacency with which we have been viewing teen pregnancies must stop.”

She also called on men to get tested for HIV and ensure they access medication that is offered for free by the Ministry of Health.

“The data shows that more men than women are dying of HIV related complications. It is important for men to go for testing, and to immediately access treatment if found to be living with the virus,” she said.

Dr Masha said the country had made vital progress in the fight to eliminate stigma but admitted that it still loomed large over people living with HIV in some areas of the country.

“Although we have made strides in efforts to reduce stigma in the fight against HIV, people are still stigmatised from their homes to places of work. We have done a stigma index and still find that stigma and discrimination are on pronounced levels in places with low prevalence,” she said.

Dr Laibon-Masha said the country needs to make concerted efforts to fight and eliminate stigma since it is a barrier to those living with the virus from accessing treatment or freely discussing their condition.

“Stigma fuels the pandemic in several ways because it makes PLHIVs not access treatment and medication,” she said.

UNAIDS Systems, Science and Services Director Dr Fode Simaga, who was also one of the meeting’s key presenters, called for unhindered access to HIV testing and treatment.

“National health service providers have to make urgent efforts to ensure that key populations can access testing and treatment in our facilities without shame or fear. This will be central to the objective of implementing universal health coverage and leaving no one behind in our drive to achieve the 95-95-95 target by 2030,” said Dr Simaga.

Dr Simaga also called on East and Central African nations to “step up domestic investment on health service provision to ensure they capture the unreached segments of populations living with the virus”.

Kangaroo courts fuelling sexual GBV, teen pregnancy and HIV infections

By Carol Otieno Miyawa | lolwecarol@gmail.com

Photo Credit | Aghan Daniel

Fighting sexual gender-based violence, especially on children, in Homa Bay is greatly hampered by kangaroo courts that normally protect the perpetrators.

According to Homa Bay County AIDS and STI Coordinator Justus Ocholla, many defilement cases, especially those involving relatives, go unreported. Instead the community sits to solve the problem out of court, in which case the perpetrator walks away scot free with just a slap on the wrist.

Ocholla said this emboldens the perpetrators to carry on with the abuse, even as the victims remain traumatised because they have to continue living with their tormentors.

"From January to April 1,441 cases of sexual violence have been reported in Homa Bay County. However, many cases go unreported because they happen in the community," he said.

Ocholla was speaking during a MESHA science café in Rachuonyo North Sub-county.

He said their biggest problem is lack of a rescue centre where they can take care of victims of sexual gender-based violence to stop them from interacting with their oppressors.

Ocholla said they have started building a rescue centre in Makongeni in Homa Bay town and hopes it will be ready for use as soon as possible.

He said what is more worrying is that the rampant defilement and marital rape fuel teenage pregnancy and spread of HIV. Rachuonyo North Sub-county AIDS and STI Coordinator Joseph Ondu said when a rape/defilement case is reported to the hospitals, the clinicians do a series of tests, including HIV.

**Kennedy Osewe,
Chairman of
Great 8 Pillars,
a Community
Based
Organisation
(CBO) in Kenya's
Homa Bay
County.**



Ondu the victims are also counselled and encouraged to report the matter to the police by being given a P3 form filled by the clinicians.

According to Kennedy Osewe, Chairman of Great 8 Pillars CBO, HIV is still a big threat in area and the triple threats (gender-based violence, teenage pregnancy and HIV) are still real in the area.

He said and the Ministry of Health is really struggling to handle the threats in Homa Bay County.

"It is unfortunate that Homa Bay County has the longest story of HIV and AIDS and it was the first in the western part of the country to offer treatment to people living with HIV in 1999. The cases are still increasing, especially among the adolescents," said Ocholla.

He said Homa Bay has a total of 126,000 people living with HIV and are on treatment, 96,000 are in public health facilities and 30,000 people are in private hospitals.

Ocholla said that apart from the high number of people leaving with HIV, teenage pregnancy is also on the rise and Homa Bay is rated second after Narok County at 33 per cent.

Ocholla said there is a close relationship between HIV spread, sexual gender based violence and marital rape. He said the county takes care of cases of marital rape, which highly contribute to HIV spread.

"Rachuonyo North Sub-county takes care of 24,000 out of the 126,000 who are currently on HIV treatment and the number keeps going up. The majority who are under treatment are people aged below 24 years who live long with HIV and keep spreading the virus," he said.

He said people infect others through unprotected sex because of stigma. "They don't want to come out and tell the truth about their status, but keep on spreading the virus," he said.

Ocholla said another factor that contributes to HIV spread is the case of people who got the disease at birth from their mothers but do not know their status.

He said a concerted effort is needed in Homa Bay to encourage people to come out and talk about the triple threats.

He encouraged people to know their HIV status by visiting VCT centres from time to time, and urged the Ministry of Health to employ counsellors or other experts to talk to the community about the triple threats and their impact.

Why targeted approach is needed in fight against HIV among adolescents

By Joyce Chimbi | j.chimbi@gmail.com

Photo Credit | Joyce Chimbi

The ominous warning came in 2019 through an anonymous message on her mobile phone to stay away from a man she met on social media.

At 18 years and freshly out of high school, *Nicole Kisi was in a relationship with a 45-year-old businessman.

"The message said I should be careful because of a rumour that the man's wife died of HIV/AIDS. I was shocked. I forwarded the message to my boyfriend and he told me the person was jealous of him because he was successful," she recounts.

"He looked healthy to me and I believed that the message came from one of those jealous people."

One year into the relationship, Kisi was in and out of hospitals. At first, she was treated for severe malaria but her condition only worsened. Eventually, she tested HIV positive.

As with other sub-Saharan African countries, government data shows AIDS is the leading cause of death and morbidity among adolescents and young people in Kenya.

Africa's fight to combat HIV over the past decade has seen new infections reduce by 43 per cent and nearly halving AIDS-related deaths.

Still, the Joint United Nations Programme on HIV/AIDS (UNAIDS) shows the continent is not on track to end AIDS by 2030, as key elimination milestones have not been met.

"There are 18,004 new infections and 2,797 deaths among adolescents aged 10-19 years annually in Kenya.



Elisha Arunga Odoyo, a clinical officer within the PMTCT program at the Homa Bay County Referral Hospital.

Overall, 40 per cent of new HIV infections in the country are among adolescents and young people aged 15 to 24 years," says Damaris Owuor, a HIV activist based in Nairobi.

"The Prevention of Mother to Child Transmission (PMTCT) of HIV is extremely successful and so we are greatly concerned about the HIV risk that our young people now face from cross generational sex."

More than 90 per cent of HIV infections in children result from mother-to-child-transmission, says Elisha Arunga Odoyo, a clinical officer within the PMTCT programme at the Homa Bay County Referral Hospital.

UNAIDS data shows the East and Southern Africa has significantly reduced this risk. Between 2010 and 2018, new HIV infections among children aged 0 to 14 years declined from 1.1 million to 84,000 across the region.

Odoyo points to Kenya's Homa Bay County, which despite having the highest HIV prevalence in Kenya at 20.7 per cent, over four times the national prevalence of 4.8 per cent, reduced mother to child transmission of HIV from 16.8 per cent in 2015 to 9.1 per cent in 2019.

Owuor says poor sex and reproductive health education and lack of access to adolescent-friendly reproductive health services are largely to blame.

Further, UNICEF research shows that transactional and age disparate sex, peer pressure, stigma and discrimination, harmful social and gender norms as well as unequal power dynamics contribute significantly to the bulging number of adolescents living with HIV.

Against this backdrop, RHAY (Reducing HIV in Adolescents and Youth) held a conference on June 20-24, 2022 in Kisumu.

The conference provided a forum for adolescents and young people (AYP) working on HIV advocacy, prevention or treatment to submit abstracts and best practices for presentation.

At least 80 per cent of presenters at the conference were those aged below 30 years and all presentations based on data from adolescents and young people 10 to 24 years old.

Premised on the belief that adolescents and young people might have ground-breaking ideas on how to reduce the burden of HIV among their peers but lack resources to back them up, the 30-U-30 initiative took centre stage during the conference.

In the 30-U-30 initiative, 30 adolescents and young people under 30 years of age with promising ideas on how to address the burden of HIV among their peers were provided with seed funding (under 30-U-30 Awards) to pilot their ideas.

The most recent Kenya Demographic and Health Survey shows three out of 10 girls have sex before age 15 and that one in every five girls, aged 15 to 19 years, is either pregnant or already a mother.

Still, Owuor says significant strides have not been made to address the risk that adolescents face in acquiring HIV and more so adolescent girls, who account for six in every seven new HIV infections among adolescents in sub-Saharan Africa.

“My friends and I worried more about getting pregnant than HIV. When you are young, you think about HIV as something that happens to older people. None of my friends has ever bought a condom but we have bought P2 (morning after pill) so many times for fear of getting pregnant,” she says.

Research by UNAIDS shows adolescents and mothers are still disproportionately affected by HIV and are being left behind the global AIDS response.

Owuor cautions that the youth bulge could significantly increase new HIV infections in the absence of a targeted approach to increase access to HIV prevention, testing, care and treatment among adolescents and young people.



Delegates attend the RHAY conference in Kisumu recently.

To achieve the 2030 global target to end AIDS, an analysis by the World Health Organisation (WHO) indicates that by 2025, 95 per cent of all people living with HIV know their status, 95 per cent of those who know their status are on treatment and 95 per cent of those on treatment have a suppressed viral load.

As of December 2021, in Africa, 87 per cent of people living with HIV knew their status, of those 77 per cent were on treatment and 68 per cent had a suppressed viral load.

Thus far, only nine countries, including Kenya, Botswana, Cabo Verde, Lesotho, Malawi, Nigeria, Rwanda, Uganda and Zimbabwe, were on track to reach the 95-95-95 target to end AIDS.

Nonetheless, Owuor says while progress has been commendable, the ambitious target will not be achieved if key HIV/AIDS elimination milestones among adolescents are missed.

Access to and uptake of HIV testing and counselling by adolescents is significantly low as is antiretroviral therapy coverage

in comparison to any other age group of persons living with HIV, according to Kenya's Ministry of Health.

UNICEF research finds that while there is increased awareness of HIV in general, adolescents still lack comprehensive knowledge of HIV and condom use remains low in the age group.

“Young people are among the least tested and without a targeted intervention, they also do not adhere to treatment and are often virally unsuppressed. A high viral load, or the amount of HIV in the blood, increases the risk of an adolescent transmitting the virus so we have to break this cycle,” Owuor says.

Kisi agrees, adding that an adolescent's journey to accept a positive HIV result is a long road marred with denial, anger and bitterness.

“Seeing your friends living a carefree life as you die inside is very painful. The biggest problem is that you lose hope and start to believe that there is no future,” she says. “Even today, I struggle with accepting my status. I recently joined a peer support group and I am smiling again. I feel more hopeful than I have ever before.”

Photo Credit: RHAY Conference 2022 Secretariat



Young people follow a session during the RHAY conference in Kisumu.

Initiative brings together young people to fight HIV among themselves

By Aggrey Omboki | omboki2725@gmail.com

A new initiative by adolescents and young people on ways to reduce the spread of HIV and manage positive living has been operational in the country for the last six months.

Dubbed 'Reducing HIV in Adolescents and Youth (RHAY)' in Eastern & Southern Africa, the initiative culminated in a conference in Kisumu on June 20-24 that showcased young people's ideas, innovations and solutions that could see a quicker end to the HIV/AIDS epidemic.

Ministry of Health data collected by the Kenya Population-based HIV Impact Assessment (KENPHIA) 2018 survey indicates that Kenya's HIV prevalence now stands at 4.9 per cent.

Statistics also shows that some 1.5 million Kenyans are living with the virus, with 1.2 million currently on antiretroviral therapy.

In his remarks during the World Aids Day marked in Nakuru on December 1, 2021, President Uhuru Kenyatta said Kenya had made tremendous progress in slowing down the spread of HIV/AIDS in recent years. He said new infections had declined by 68.4 per cent between 2013 and 2021.

"Within the same period, deaths attributed to HIV/AIDS have reduced by 67 per cent from 58,446 people in 2013 to 19,486 this year," said President Kenyatta.

He said the downward trend was a result of the growing government investment in the diagnosis, prevention and management of HIV/AIDS and related illnesses.

"This encouraging performance is attributed to the increase in the number of people on life-saving antiretroviral treatment, which rose by 83 per cent, from 656,369 in 2013 to 1,199,101 in 2021," he said.

In 2020, UNICEF reported that the number of children living with HIV in Kenya fell from 180,000 in 2010 to 111,500 that year, "partly due to improved access to services, including for more pregnant women".

The UN body noted the high rates of infection among young Kenyans as a cause for concern.

"However, infection rates among young people (15-24) remain concerning. In 2020, they accounted for 35 per cent of new infections, with two thirds of cases among young women," said the UNICEF update entitled 'Protecting children and adolescents from HIV and AIDS and providing care'.

According to Winnie Wadera, who was one of the conference coordinators, the event was held on the firm belief that young people know the best way forward in overcoming the virus.

“RHAY is premised on the belief that Adolescents and Young People (AYP) may be having ideas on how to reduce the burden of HIV among their peers but lack resources to try out their ideas,” said Ms Wadera.

RHAY comes on the back of disturbing revelations by the government on the new HIV infections and teenage pregnancy cases.

On April 8, 2022, the Ministry of Health released statistics showing that an estimated 98 girls aged 10-19 got infected with HIV every week between the month of January and February 2022.

During the same period, some 2,196 cases of sexual gender-based violence were reported among girls aged 12 to 17 years.

Health Principal Secretary Susan Mochache said the ministry was worried about the infection rate.

Ms Mochache acknowledged the country’s youthful population as a national and global asset, but singled out the triple threat posed by adolescent motherhood, new HIV cases among young people as well as sexual and gender-based violence as an obstacle to development.

“Kenya has a predominantly young population, with 67 per cent aged below 29 years,” she said, adding that the triple threat of teenage pregnancy, HIV and sexual and gender-based violence (SGBV) could no longer be allowed to threaten the career prospects of young girls.

“We cannot nurture their potential if we continue to condone the disruption of education for adolescent girls,” the PS said.

To take advantage of the massive potential among this age group to generate ideas to end the epidemic, Ms Wadera and

other like-minded partners planned a programme dubbed 30-U-30 (30 under 30), targeting 30 young innovators and HIV healthcare solution providers.

“RHAY designed an initiative known as 30-U-30 in which 30 adolescents and young people with promising ideas on

“We were able to partner with the BGMF, also attended the Lake Region Economic Bloc Summit, just to publicise the conference and see how the HIV-AIDS elimination agenda could be fitted into the economic outlook and programmes for the region,” Ms Wadera said.

Photo Credit | RHAY Conference 2022 Secretariat



Winnie Wadera, one of the RHAY conference coordinators believes young people know the best way to overcome the virus.

how to address the burden of HIV among their peers were provided with seed funding under the 30-U-30 Awards to pilot their ideas,” she said.

Prior to the conference, the organisers held a workshop bringing together 152 young people to get their views. A call for concept proposals was sent out covering the three categories of HIV prevention, care and treatment, advocacy and community engagement.

Conference organisers sought and received funding from the Bill and Melinda Gates Foundation (BGMF), which generously covered the seed funding costs for the 30-U-30 awardees to practically carry out their ideas.

The RHAY secretariat then set up the local, adolescent and young people committees, defined and clustered relevant concepts before attaching them to mentors. A total of 113 young people drawn from Kisumu, Migori, Siaya, Nairobi and Homa Bay counties were trained to write abstracts and concept proposals.

“Among the unique stories coming out is men for periods by James Omollo to assess the effectiveness of male champions in MHM in Mombasa County. Pauline Anyango’s combo pack, which includes a water bottle, pill pack, alarm clock, is geared towards encouraging ARV adherence in Kisumu County,” said Ms Wadera.



Participants at the conference: A combination of door-to-door evangelism and prevention awareness can be more effective in getting more people tested and treated.

Another interesting pair of ideas was a look by Ivy Ochillo into the prevalence of depression and substance abuse among people living with the virus in Kondele, Kisumu County, as well as a pilot programme by Marylyn Nyabuti entitled “let us do this together”, and aimed at improving viral status disclosure among youth living positively in Mbita Sub-county.

Dinah Akinyi and Gerald Owuor studied the church’s level of influence, and whether a combination of door-to-door evangelism and prevention awareness can be more effective in getting more people tested and treated.

Ms Wadera believes it is vital for everyone to test.

“Testing should not just be a basis for recognising or admitting careless behaviour,” e says.

“RHAY is also assessing the effectiveness of HIV testing and counselling.”

Another area identified for significant improvement was key populations’ access to HIV testing, counselling and treatment.

“One of the things the young researchers found out was that transgender women in Kisumu County are at a high risk. So they looked into ways to provide a better environment for them,” said Ms Wadera.

“How do you reduce the risk by ensuring they come in for testing and are adherent to the treatment for those found to be positive? This is one of the questions the young researchers hope to answer by proposing solutions,” she said.

In an April 11, 2022 press briefing on the way forward for HIV programmes in the country, National Aids Control Council (NACC) Chief Executive Officer Dr Ruth Laibon Masha said there was a need to

quickly reinforce prevention measures and cover lost ground due to a slowdown in service provision during the COVID-19 pandemic containment period.

“At the height of the pandemic, people shied away from treatment, but in time we used alternative measures and technology to encourage people to get tested and get treated,” said Dr Masha.

UNAIDS Equitable Financing Director Jaime Azcona believes that key populations should benefit from increased funding for relevant programmes and services.

“Our motto for the HIV-AIDS control efforts for the East and Central region is ‘spend more, spend better, which focuses on effectiveness, efficiency and equity of service provision,” said Mr Azcona at the fund mobilisation forum held in Nairobi on April 11-13, 2022.



Prof Elizabeth Bukusi gives a presentation at the conference.

How youth networks influence HIV testing

By Joseph Obonyo

An ongoing research in Migori County, Kenya, has revealed that peer-to-peer communication could be the best way to get young people tested for HIV, a youth meeting heard.

According to Harrizon Ayallo, the lead researcher in the Reducing HIV in Adolescents and Youth (RHAY) project, young people understand each other better and should be used to communicate health information to their peers.

This is how youth in Kenya test for HIV, he said, adding that their research aimed at acquiring information on ways of promoting HIV testing and care among adolescents and youth.

Mr Ayallo was speaking at the RHAY Conference held in Kisumu on June 20-24 by the Impact Research Development Organisation and other partners. It brought together young people from eastern and southern Africa.

A study titled, 'Assessment of effects of peer social networks of uptake of HIV testing and linkage' was presented at the Conference.

Ayallo said data from the study could help engage and involve young people in initiatives aimed at reducing HIV in adolescents and youth and by extension the overall population.

"The peer-to-peer social network strategy is already proving to be a reliable method and this data should act to push attention and recourse towards further research as well as implementation," he said.

The study was conducted among adolescents aged 15 to 24 in six health facilities. It further indicated a rise in the number of adolescents seeking information about HIV testing.

Ayallo said a number of inquiries made in the health centres came from referrals by peers.

"Adolescents have a huge influence on their peers to uptake HIV testing and linkage to care services," he said.

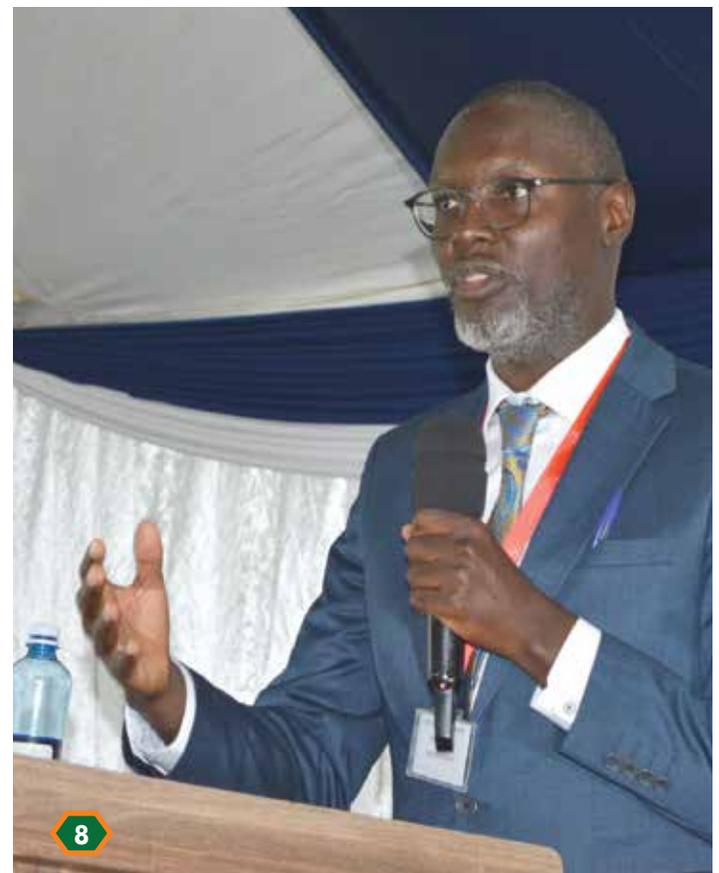
This article was first published in the Lake Region Bulletin, an online based publication operating from Kisumu, Kenya.

Reducing HIV in Adolescents and Youth (RHAY) Conference



1. Two young attendees follow the proceedings of the meeting.
2. Dr Ann Njoroge of Kenyatta National Hospital listens attentively to the proceedings of the Conference. Dr Njoroge gave a presentation on Implementation Science.
3. A group of DREAM girls is all ears to the presentations.
4. Beth Moraa, Legal Environment Advisor on Sexual and Reproductive Health (SRH) of Adolescence and Youth Program (AYPs) in Eastern and Southern Africa.

Photos Credit | RHAY Conference 2022 Secretariat



5. Prof. Elizabeth Bukusi and Dr Kawango Agot field questions from the media on the sidelines of the RHAY conference.
6. Delegates pose for a photo on the menstrual advocacy stand at the conference.
7. Delegates follow the proceedings.
8. Dr Greg Ganda, Kisumu County Health Executive, speaks during the official opening of the conference.

Africa to suffer 'dangerously high levels' of water scarcity by 2025, say experts

By Joyce Chimbi | j.chimbi@gmail.com

Photo Credit | Joyce Chimbi

One cool morning, as Joan Waweru and a few fellow children walked to a river, they stumbled on the body of a neighbour.

Joan was only 13 then, old enough to follow the village murmurs on the incident. The neighbor committed suicide by drowning in the River Kamiti.

But even after the traumatising incident, the villagers did not reduce dependence on the river that meanders between coffee plantations in Kenya's Kiambu County. The river was the local community's primary source of water for domestic and other use.

And so life continued as if nothing had happened there.

Ten years on, the Kiaibabu village, where Joan lived then, still relies on the same river.

"My mother walks about 3km to the river and back; once in the morning and in the evening. That's 6km every day to get only 60 liters of water. She carries a 20 liter container on her back and two five-liter ones on each hand for every trip she makes," Joan says.

The other option for the families in Kiaibabu would have been River Maing'oroti, which is about a kilometer away, "but over the years water in the river has receded, taking more time to fill up water containers."

This confirms what the United Nations has recently stated: Like Lidya's mother, the average woman in rural Africa walks at least 6km every day to get 40 liters of water.



Access to clean, affordable and safe drinking water far from universal across Africa.

In the UN estimates, Kenya has been classified as a water-scarce country, as only about 56 per cent of the population has access to clean water. The UN researchers predict that water scarcity in Africa could reach "dangerously high levels" by 2025.

This at a time the globe is making efforts to achieve the 17 Sustainable Development Goals, the sixth of which is Access to Sustainable Water and Sanitation. World Water Day was marked on March 22 under the theme "Groundwater: making the invisible visible".

With one in three people in Africa facing water scarcity, access to clean, affordable and safe drinking water is far from being universal.

On average, people in sub-Saharan Africa take at least 30 minutes daily to access water. In short, the sub-Saharan Africa region loses up to 40 billion hours a year collecting water.

In the absence of clean and easily accessible water, research shows communities, more so in rural Africa and informal urban settlements, will remain locked in generational poverty.

In August last year, UNICEF said "nearly nine of 10 children in North Africa live in areas of high or extremely high-water stresses with serious consequences on their health, nutrition, cognitive development and future livelihoods."

Against this backdrop, the World Health Organisation says for every \$1 invested in water sanitation, there is an economic return of between \$3 to \$34.

The capital cost required to secure safe drinking water, sanitation and hygiene for all in the sub-Saharan Africa, as per World Resources Institute (WRI) estimates, is \$35 billion per year.

Experts in natural resources such as Simon Peter Njuguna from Kenya's Ministry of Water, Sanitation and Irrigation say securing safe drinking water for all requires exploring, protecting and sustainably using ground water.

Ground water, he says, is critical to human survival and in adapting to climate change, as it holds very large quantities of water and feeds springs, rivers, lakes, wetlands and oceans.

Njuguna says that Africa being home to 677 lakes, has the largest volume of non-frozen water and that two-thirds of the sub-Saharan Africa relies on surface water from lakes, rivers, wetlands and even oceans.

Despite large volumes of surface water, WRI research shows that 400 million people in sub-Saharan Africa lack access to basic drinking water and that African countries face some of the highest water risks globally.

Water scarcity in Africa, Njuguna says, is largely driven by a lack of investment in water in infrastructure such as piping to bring water closer to the people.

In Kampala and Lagos, for instance, WRI estimates show only 15 per cent of city residents have access to piped water. "Water scarcity is also a consequence of changing weather patterns, including unpredictable rainfall, low rainfall and rising temperatures," he says.

Nairobi-based food safety and security expert Evans Kori says water drives Africa's GDP and is central to food security.

WRI estimates show for 90 per cent of sub-Saharan Africa's rural population, agriculture is the primary source of income. As such, water stresses due to changing weather patterns spell doom for the region because more than 95 per cent of farming in sub-Saharan Africa is rain-fed.

Kori says water is a major and critical factor of agricultural production. He says escalating water insecurity is as much a health and nutrition issue as it is a development one.

"Serious investment in water related infrastructure is urgently needed to ensure all people and more so the most vulnerable households have access to clean water. In Kenya, for instance, Despite rivers increasingly becoming crime scenes, where bodies are dumped, for many rural households the river is the only option," he says.

He references River Yala in Kenya's west, which flows about 219km into Lake Victoria from Rift Valley.

In January 2022 alone, more than 20 bodies were retrieved from the river after locals saw them float.

"Yala is not an isolated incident. In June 2021 for example, more than 15 bodies were found in rivers in Murang'a County, yet for many locals, these rivers are a primary source of water. Urgent intervention is needed because this is a health disaster," Kori said.

Even though surface water is considered unfit for human consumption unless treated, safety is not a priority for millions of poor and vulnerable households in Africa.

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We must build up COVID-19 vaccination efforts, GAVI CEO says



**Dr Seth Berkley,
the CEO GAVI, the
Vaccine Alliance.**

By Ruth Keah | rkeahkadide@gmail.com

Vaccine hesitancy has been a hot topic during the pandemic, and with it a lot of questions and misconceptions.

"In general, when people talk about vaccine hesitancy, they think mostly it is a problem in the developing countries while it's not," said Dr Seth Berkley, the CEO GAVI, the Vaccine Alliance.

Statistics from the organisation indicate that France has the highest vaccine hesitancy and Rwanda the lowest.

Dr Berkley said most people in these countries know about the disease and want to protect their families, and that it is easy to educate them. However, the COVID-19 vaccine has been highly politicised globally with rumours and a lot of misinformation.

This, he added, is the biggest concern they are facing right now than with any other vaccine he has worked with. Consequently, he called on journalists and local community, religious and political leaders to help deal with some uncertainties and rumours about the vaccine to increase uptake.

Dr Berkley was addressing journalists during a global media dialogue webinar titled, Unpacking Covax: Reporting On Global COVID-19 Vaccine Equity and Access So Far.

He said as Gavi, they have a large global supply of vaccines, which can meet individual needs in each country, with those having lower absorption rate and lower uptake as their priority.

"As of January, there were 34 countries that had a coverage of less than 10 per cent and now we are down to 20 countries, most of which are in Africa," he said.

Their strategy includes a new delivery partnership, bringing everyone together to support those countries to make sure they close the gap between lower middle income and low-income countries.

The other strategy is making sure low-income countries are not at the back of the queue should they see further development of the pandemic due to the opening up of many countries.

"There could be more variants and spread of the virus globally since most restrictions have been loosened in most countries. They could be more or less severe, so we have to plan for the worst but hope for the best," he said.

As GAVI, he said, they are trying to raise an additional USD5.2 billion (Ksh611 billion) to provide support in the following ways: USD1 billion (Ksh117 billion) for deliveries in countries with low absorption, USD500,000 (Ksh58.8 million) to allow countries to absorb other dose donations and the rest of the money to allow them purchase vaccines if there are new variants.

Dr Berkley said the world is not done with the coronavirus yet and there is a need to continue accelerating the vaccination effort. He said it is critical for high-risk populations in every country to be vaccinated since they are the most at risk if there is another severe variant.

Even as GAVI is trying to provide support in the vaccine access in Africa, there are still mixed reactions about the uptake among Mombasa residents. Some are not planning to have the vaccine anytime soon.

Gordon Paul, a resident of Kongowea area in Nyalı Constituency, for instance, has not been vaccinated.

He believes that the vaccine is not safe for him since it was discovered too early. He says he first wants to see a HIV vaccine before the COVID-19 vaccine.

Photo Credit | Aghan Daniel

"We have had HIV-AIDS for many years but there is no vaccine for it, why are you telling me to get a vaccine for COVID-19, which broke out just two years ago?" Paul poses.

Mombasa County Public Health Chief Officer Pauline Oginga says so far they have vaccinated approximately 450,000 people in the county. But since the COVID-19 containment measures were relaxed by the government, health workers meet resistance from the locals when doing the door-to-door vaccine campaign.

"Even the churches where we had done bookings for people to be vaccinated on Sundays cancelled the bookings after the announcement by the Health Cabinet Secretary," said Ms Oginga.

She said people misinterpreted the relaxation of the measures to mean that COVID-19 was no longer a threat to them.

She said in hospitals they now vaccinate 10-15 people per day, which she says is a very low number compared to when the measures were still in place and they could vaccinate more than 50 people per day.

Ms Oginga said the only people who now go for COVID-19 testing in hospitals are those who want to travel abroad.

Among the measures the county took to make sure people get vaccinated are the health workers visiting people where they are, including in night clubs and their homes. She said they are also still holding community sensitisation sessions on the importance of the vaccines.

Oginga appealed to Mombasa residents to continue sanitising, washing hands and observing social distance. "It is good when the economy opens up and we really support that, because we want our country and economy to grow. However, it cannot grow if we are going to get re-affections and have the cases going up, especially at this time of political campaigns," she said.



Prof Walter Jaoko, the director of KAVI Institute of Clinical Research at the University of Nairobi.

This comes as the Health Chief Administrative Secretary Mercy Mwangangi called upon the counties to utilise all available vaccines on their shelves to minimise wastage. She said vaccines have a short shelf life.

"We have seen cases of expired drugs being destroyed in Africa. This includes our neighbours and other countries within the horn of Africa," Dr Mwangangi said.

The Ministry of Health announced that by March 23, 2022, at least 840,000 doses of AstraZeneca vaccines had expired and another one million doses of Johnson and Johnson were likely to expire if they were not used by April 15.

The highest number of doses that have expired have been reported in Nakuru at 35,000, Busia (27,980), Kajiado (25,770), Kakamega (12,000) and Kwale (11,730). The doses had an expiry date of February 28.

Prof Walter Jaoko, the director of KAVI Institute of Clinical Research at the University of Nairobi, said that even as the world celebrated the relaxation of the measures, people need to be careful because another deadly variant of the vaccine could still break out. "The world is opening up, which is good for our economy, but the problem is that nobody can tell you whether there would be another variant that will be much more aggressive than what we have currently," he said during a MESH boot camp in Nairobi.

He said there is a need for people to go back to normal life but cautiously.

Prof Jaoko called on the media to keep educating the public so that they can make informed decisions on the COVID-19 vaccine uptake.

"The most important thing is for the public to get the right information about the COVID-19 vaccine that will enable them make informed decisions and know the importance of being vaccinated," he said.

Photo Credit | Aggrey Omboki



Institute of Legislative Affairs (IILA) chief executive officer Celine Awuor speaks at the media training session held in Sagana, Muranga County on June 18, 2022.

That irresistible oily delicacy in your plate may be a beckon by the grave

By Aggrey Omboki | omboki2725@gmail.com

You probably enjoy that meal embellished with a generous touch of cooking oil that promises a treat for the taste buds.

It might however not occur to you that regular consumption of such could increase your risk of developing heart disease, as they contain trans-fats.

Nutritionist Daisy Lenjo says trans-fats are not good for regular consumption.

"Trans-fats increase Low-density lipoprotein (LDL) and decrease high-density lipoprotein (HDL), which could raise the risk of heart disease," she says.

The LDL, also known as bad cholesterol, contributes to atherosclerosis - clogging or buildup of fat deposits in arteries. This narrows the arteries, forcing the heart to pump harder to move blood through them.

Arteriosclerosis increases the risks of heart attack, stroke and peripheral artery disease (PAD).

The expert says HDL cholesterol is regarded as good because healthy levels in one's body may provide protection from heart attack and stroke. HDL helps carry LDL away from the arteries and back to the liver, where the LDL is broken down and passed from the body.

The HDL does not, however, completely flush LDL cholesterol from the arteries; it carries only about one-third of blood cholesterol.

According to the nutritionist, trans-fatty acids (TFAs) also cause insulin resistance and increase risk of developing Type 2 diabetes.

"Dietary TFAs create inflammation and increase the risk of the development of cancerous lesions," says Ms Lenjo.

Triglycerides are the most common type of fat in the body. They store excess energy from the food and drinks consumed.

"A high triglyceride level combined with high LDL (bad) cholesterol or low HDL (good) cholesterol is linked with fatty buildups within the artery walls, which increases the risk of heart attack and stroke," says heart health website www.heart.org.

Photo Credit | Aggrey Omboki



Cornelius Sayi of the Stroke Association of Kenya during the panel discussion at the Sagana media training session on June 17, 2022.

According to World Health Organisation (WHO), partially hydrogenated oils (PHOs) are the main source of industrially-produced trans-fat. "PHO is an ingredient in many foods, including margarine, vegetable shortening, Vanaspati ghee, fried foods and doughnuts, baked foods such as crackers, biscuits, and pies; pre-mixed products such as pancake and hot chocolate mix," the WHO says, adding: "Baked and fried street and restaurant foods often contain industrially-produced trans-fat. All these products can be made without industrially-produced trans-fat."

International Institute of Legal Affairs (ILLA) CEO Ms Celine Awuor is quick to remind: "Biscuits, cakes, fried fast foods and other refined products contain TFAs."

And now ILLA has launched a campaign to eliminate trans-fats from diets.

Ms Awuor is concerned about the rising cost of cooking oil that has pushed many to settle for cheaper options that solidify at room temperature. "These are the trans-fats we need to avoid," she says.

According to her, the campaign will involve creating awareness on the dangers of trans-fats consumption. "The campaign will include consumers' associations, MPs, policy makers like the Ministry of Health and the public," she said Ms Awuor in a Nairobi press briefing last April.

Now she says continued consumption of trans-fats is contributing to the increase in non-communicable diseases (NCDs) burden in Kenya.

"The cumulative cost of treating NCDs is already very high globally. NCD treatment costs drain household incomes because the people hospitalized and those dying are mostly middle-aged and elderly," says Ms Awuor.

She has fingered weak product labelling laws as being responsible for the confusion surrounding consumers as they shop for food products.

"The weak legislation is a gap the suppliers of products with TFAs are exploiting to sell. Labelling laws do not compel the manufacturers on packaging. For instance, cooking oils have cholesterol while margarine labels claim their hydrogenation levels are low.

"Labelling should be clear. It is currently vague, hence misleading to the consumer. It does not highlight levels of trans-fats contained in the fat mixture," she says.

Incorrect product information, she says, amounts to deceiving buyers, while placing unsubstantiated claims on products is also illegal.

Ms Awuor sees a further deterioration of quality of refined foodstuffs if the situation is not checked.

"The danger lies in leaving the industry to say what it wants about the products. For instance, the false claim that their products are cholesterol-free. It becomes dangerous for the consumers when such claims are misleading," she says.

ILLA now wants TFA elimination but is emphatic that more concerted efforts are required to conclusively deal with its threat.

"Removal of lipids or PHOs from our diets results in substantial health benefits. Similarly, the replacement of TFAs with unsaturated fatty acids decreases the risk of cardiovascular diseases," Ms Awuor recommends.

**Ministry of Health
Non-Communicable
Diseases Program
Lead Dr Nasirumbi
Magero speaks at
the media training
session on Trans Fats
held at Naivasha on
May 5, 2022**



She says elimination, combined with other measures, will help realise tangible health benefits for consumers.

Among the healthy alternatives the ILLA chief proposes are sunflower, olive, corn and canola oils.

She admits that the trans-fat consumption problem is not as pronounced in rural areas, but says the situation could change.

“People in the rural setup can access healthier alternatives due to relative abundance of natural food supply. This is, however, subject to change as more refined products find their way into food chains in rural areas,” she says.

Ms Awuor says: “We urge the Health ministry and other concerned state departments to protect Kenyans from health complications caused by trans-fats.

“Government committed to protect Kenyans through the National Strategic Plan for the Prevention and Elimination of NCDs.

We want full implementation, which includes stricter regulation of harmful products likely to spur development of lifestyle diseases.”

Ms Lenjo worries about the rising prevalence of NCDs: “In East Africa, the prevalence of NCDs has risen tremendously.”

The WHO estimates that by 2030 there will be a 27 per cent increase in NCDs, which translates to an additional 28 million deaths. In sub-Saharan Africa, NCDs cause over 50 per cent of all reported adult deaths. Closer home in the East African Community (EAC), up to 40 per cent of all deaths can be attributed to NCDs.

Ms Lenjo says a change in food policy could save 17.5 million lives on the planet over the next 25 years.

“TFAs can be eliminated and alternatively replaced with healthier oils without affecting the taste or quality of food,” says the nutritionist.

ILLA will be engaging government and development partners on development and implementation of policies for production of healthier oils for domestic and import markets.

“We are also seeking the implementation of agricultural policies to support the development of healthier alternative oils,” Ms Awuor told *Sayansi*.

The WHO says the trans-fats situation can be monitored and controlled in member countries. “Monitoring and controlling trans-fat usage in countries with large informal food sectors may be challenging, as they are difficult to regulate. However, by mandating that the oil and fats industry limit, or banning trans-fat content, the oils and fats available in the market can help drive change in product formulation in the informal food sector,” it says.

“Additionally, a trans-fat monitoring system, including random tests in the formal and informal sectors, can be established, with specific penalties,” WHO adds.

Changing mindsets to combat malnutrition in tea growing zones

Photos Credit | KTDA Foundation



Farmers watch a project worker showcase the apt method of cooking veges and recommended portions when serving.

By Ann Mikia | annmikia@gmail.com

It started with the Kenya Health Demographic Survey 2014 findings that counties that grew tea in the Rift Valley had more incidents of stunted children because of malnutrition.

This was a wakeup call to Kenya Tea Development Agency (KTDA) which, through its social responsibility policy, sought to ensure the affected farmers got the necessary sensitisation to mitigate the poor health record.

Nancy Chepkwony, a mother of four, lives in Bomet. She told Sayansi that during the Covid-19 era, KTDA invited tea farmers to the factory and not only gave them food stuff but also educated them on how to prepare the food. "We received four kilos of maize, four kilos of beans, traditional vegetables, some fruits and millet porridge flour."

They were taught the importance of balanced diet, having a kitchen garden and not overcooking vegetables, lest they lose their nutritional value.

According to Ms Chepkwony and some tea farmers in Bomet, land fragmentation has made it difficult to spare even a small portion for a kitchen garden. "Only our parents have larger portions of land and they subdivided small pieces for their many children," she says.

Head of the KTDA Foundation Sudi Matara says nine in every 10 farmers own less than an acre, and out of those, 75 per cent own less than half an acre. He says tea picking is a labour intensive exercise and if the small-scale farmers fall ill, they hire pickers, depleting their already limited resources.

Men, being mostly the bread winners, were not left behind in the sensitisation exercise. They were taught the importance of good health in boosting productivity. They were given fruit tree seedlings such as oranges and tree tomatoes to plant in their homesteads.

Only months later, Nicholas Mutai, a tea farmer in Bomet, was a happy man. "My tree tomatoes have already started producing fruits and I'm very happy that my family can at last get fruits without spending more," he said.

Mr Mutai also received sweet potato vines, and "they produce some very delicious yellow potatoes, and we now take them with tea."

Mr Matara says the sensitisation programme has achieved tremendous results. He remembers telling some old men that fruits are good for their health, but they dismissed him, saying those were for children.

Months later, the same men were sharing how they enjoy eating fruits that they have grown in their homesteads. Mr Matara says change of their mindset has been remarkable.



Tea farmers at a demonstration vegetable farm in Kericho.

Nine in every 10 farmers own less than an acre, and out of those, 75 per cent own less than half an acre. Tea picking is labour intensive and if farmers fall ill, they hire pickers, depleting their already limited resources.

The KTDA foundation has 35,000 farmers in the nutrition programme.

They are drawn from Bomet, Kericho and Nyeri. Up to 40 per cent of the farmers are aged above 50. According to the Ministry of Health, this is the age likely to suffer from Non-Communicable Diseases (NCDs).

Mr Matara says there is no food poverty in tea growing areas; the problem is unhealthy eating habits that subsequently impact on the health of tea farmers and their children, causing malnutrition and stunting. "If you go to Central, people will mostly only eat githeri. If you go to Western, they'll be eating ugali and tea. We therefore hold cooking demonstrations and sensitise them on how to enrich food and even the portions to eat."

He says as a result of their efforts, some beneficiaries with NCDs like diabetes and hypertension manage them better with diet and exercise.

Richard Rono is thankful to KTDA for the regular capacity building sessions. He attributes his thriving kitchen garden to the regular sessions, and now values the indigenous vegetables after learning about their nutritional value.

Asked why they think the KTDA Foundation held those sessions with them, farmers say research established that some farmers in Bomet did not have space for any other crops apart from tea, yet the well-being of a farmer is key in producing competitive tea.

Mr Matara says the foundation, in collaboration with organisations such as Global Alliance for Improved Health also educate tea farmers on a number of aspects, including economic diversification to ensure a farmer has other sources of income apart from that of the cash crop.

They train and encourage farmers to rear rabbits, poultry, dairy cows and even goats, or consider bee keeping and starting kitchen gardens.

Why vaginal ring is the silver bullet against HIV among young women

Joseph Ouma | joothoth@gmail.com

The young Sharmitawa Mutikizwe (name changed) is a teenager who recognizes the fact that she is sexually active and at risk of contracting HIV. Therefore, to protect herself from the infection, Mutikizwe used the magical dapivirine vaginal ring.

She says she has no problem using the dapivirine ring, which lasts for three months if fitted correctly and slowly but steadily releases anti-retroviral drug into the user without disrupting sexual activities or invading her privacy.

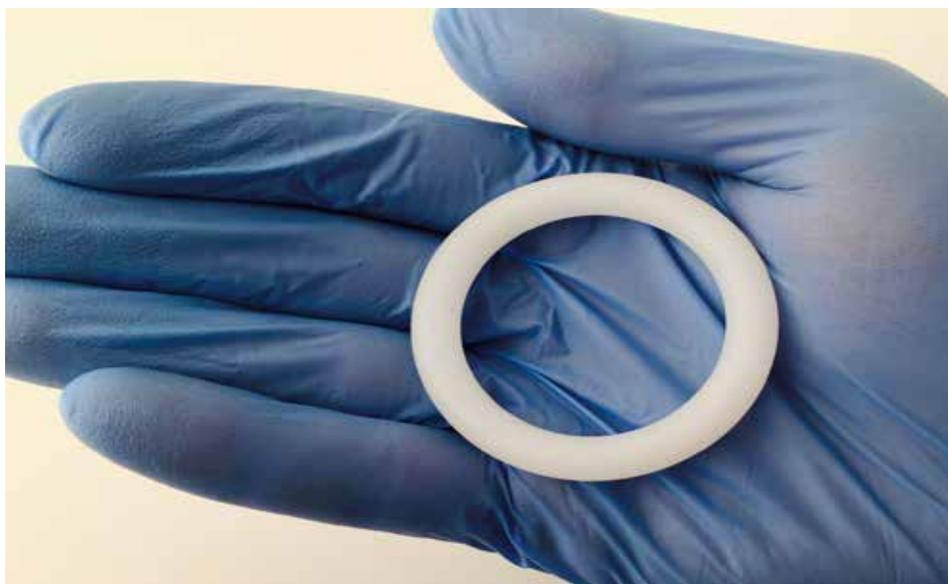
Speaking during a webinar by the Media for Environment, Science, Health & Agriculture (MESHA) that brought together journalists from Kenya, Uganda, Zambia and Zimbabwe the teenager breathed hope to her contemporaries.

"The dapivirine ring did not in any way affect my sexual activities and this proved the efficacy of the product," she said.

Mutikizwe is just one of the many young girls who participated in the REACH programme, the first HIV prevention study incorporating the concept of informed choice into its design.

In REACH, all participants used both the dapivirine ring and Truvada as daily oral Pre-Exposure-Prophylaxis (PrEP) each for six months, with the order of use determined randomly.

The study was conducted in four (MTN-affiliated) clinical research sites (CRSs): Makerere University – John Hopkins University in Kampala, Uganda; University of Zimbabwe Clinical Trials Research Centre, Spilhaus, in Harare; Wits Reproductive Health & HIV Institute in Johannesburg; and Emayundheni Desmond Tutu HIV Foundation in Cape Town, South Africa.



A dapivirine vaginal ring.

According to UNAIDS, in 2020, one in four new HIV diagnoses in sub-Saharan Africa were among young women aged 15 – 24, even though they make up only 10 per cent of the population.

UNAIDS has ensured that young women and girls have access to a range of safe and effective HIV prevention methods because as has been seen with contraceptives, the more options that are available the more likely there will be one that can and will be used.

Daily oral PrEP approved in many countries is only one method but many adolescent girls and young women prefer a method they find easy or desirable to use.

The ring is the first biomedical HIV prevention product designed specifically for women.

It is also the first long-acting method, having received a positive scientific opinion from the European Medicines Agency (EMA) in 2020 for its use in developing countries like Kenya.

It targets women at high risk of contracting HIV who cannot or choose not to use daily oral PrEP.

Soon after, the World Health Organisation (WHO) recommended the ring as an additional prevention choice for women.

The ring's developer, the nonprofit International Partnership for Microbicides (IPM), successfully sought its approval in Eastern and Southern Africa, with Zimbabwe following suit among several other countries.

This explains why Mutikizwe can sit pretty despite the rising number of new HIV infections and unintended pregnancy, Sexual and Gender Based Violence (SGBV) among adolescents and women aged 10-19 years threatening their health.

These jolted stakeholders into starting a campaign aimed at eliminating the triple threat of HIV, teenage pregnancy and SGBV by 2030 among adolescents and young women in Kenya.

Kenya has made significant steps to ensure adolescents and young people are educated, enjoy healthy life and achieve their aspirations, but the triple threat has frustrated the progress made.

Some stakeholders observed that adolescent girls remain highly vulnerable to pregnancy, GBV and HIV beyond conditions that are out of their control.

Prof Kenneth Ngunjiri of Jomo Kenyatta University of Agriculture and Technology, School of Public Health, and Department of Global Health at the University of Washington, singled out adherence to the HIV protection regimen as key to the success of the REACH study involving more than 4,800 women.

Prof Ngunjiri said daily and weekly checking, online counselling and support groups during the COVID-19 pandemic worked magic by ensuring adherence was upheld. He said in the programme, 67 per cent of the women chose the ring while 33 per cent opted for oral PrEP.

He asked the media to highlight Sexually Transmitted Infections (STIs), which if not tackled in a year could degenerate into chlamydia and finally progress to infertility.

“There is an urgent need for differentiated delivery by way of increasing options for the women,” he said.

Chillufya Hamipongo, a women’s health advocate, appealed to the donor communities to focus their policies and work closely with advocates who are knowledgeable enough on the problems facing developing countries.

Hamipongo said the US President’s Emergency Plan for AIDS Relief (PEPFAR) whose funding has totalled over US\$100 billion (K11.7 Trillion) PEPFAR has declined to fund the global roll out of the dapivirine ring.



Prof Kenneth Ngunjiri, Jomo Kenyatta University of Agriculture and Technology, School of Public Health.

This raised a lot of concern among stakeholders who still believe that not all has been lost, since they are still pursuing other options while keeping their fingers crossed that PEPFAR would ultimately come around and change its hard stance.

However, she cautioned against over-reliance or anchoring the success of the programme on donor support.

“Our respective African governments should walk the talk by allocating adequate resources to fund women focused health programmes,” she said.

Hamipongo said community voices, which are slowly dying down should also be rejuvenated for greater impact.

Daianitha Pillay of the International Partnership for Microbicides (IPM), the manufacturer of Microbicides and the dapivirine ring, said it has 56mm outer diameter and 7.7mm cross-sectional diameter. It costs between US\$12 – US\$13 (Ksh1,404 – Ksh1,521) but the final users, who are the common citizen, will not pay a cent as respective governments will meet the cost.

“The ring’s shelf life is 60 months when stored at below 30 degrees Centigrade, reducing HIV infection by 35 per cent while the Aspire does so by 27 per cent for oral PrEP. This silicon ring is made to sit on the base of the vagina using the index finger to deliver the ring to the base,” she explained.

Pillay said in the next five years stakeholders hope to see the dapivirine ring rolled out fully for use globally.

Chapter members converge to network, learn from each other

By **Jecinta Mwangi**

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What started as a goat eating party turned into a great learning and networking session for the members of Media for Environment, Science, Health and Agriculture (MESHA), Nairobi Chapter.

The members converged at Paradise Lost, Kiambu County, on June 11, 2022, to let off steam after a busy half of the year. It was the first time the Nairobi Chapter was holding such a meeting, which was an opportunity to know each other and exchange ideas on how to grow MESHA to greater heights.

The event brought together all categories of members, including veterans and founders of the organisation.

Before the veteran journalists settled down to share their golden past and wisdom in what was akin to a baraza, the younger members could not waste the chance to sample what Paradise Lost had to offer.

They literally got lost into a range of fun activities; from boat riding to a photo session in a natural environment that Nairobi residents rarely see, before everyone settled down for mouth-watering delicacies – roast goat, fried chicken and vegetables, washed down with a blend of soft drinks and high quality alcohol.

Then it was time for the veterans to spit some wisdom and share the journey they have walked with MESHA since its inception.

“Back then, our editors kept telling us that science doesn’t sell and they were not keen on creating science desks in newsrooms. So, when we formed MESHA, very few people took us seriously,” said Wambara Ojanji.

They also shared their personal experiences as journalists and writers, the highs and lows they have had during their careers, the challenges they faced and the good times, including the accolades they have received and the fulfilment that comes with doing their job and following their passion.



MESHA Nairobi Chapter members share experiences in science journalism at Paradise Lost, Kiambu County, on June 11, 2022.

“Despite the harsh words from our editors, we did not get discouraged and the efforts eventually paid off. Soon enough, science stories started getting space on the front page of newspapers and we never looked back,” said Mike Mwaniki.

The veterans encouraged the younger members, including students, to put in the work, be diligent and never be afraid to chase opportunities that come their way as they further their careers. They also spoke on identifying relevant stories and the whole process of coming up with a story from research to publication.

They pointed out how easy it is for the younger generation to research, authenticate and validate their stories as compared to the past when there was limited access to research and sources.

With the advancement in technology, getting information has been made easier. Research materials are just a click away unlike in the old days when one had to visit the library to get a reference.

They also emphasised on upholding the winning spirit within the organisation and supporting each other.

MESHA journalists have won various accolades, with the most recent one being John Riaga who was appointed Science Journalism Forum coordinator for sub-Saharan Africa.

The younger members said they have so far benefited from MESHA and hope to learn a lot more from the entire membership.

“I have learnt from veteran journalists the best practices in the industry and from here I’ll be able to incorporate this with the mentorship I have received to make my science stories better,” said Kairu Karega, a student journalist at the University of Nairobi.

MESHA CEO Daniel Aghan urged the veterans to continue mentoring the younger journalists.

“There are a lot of established journalists in MESHA. Some have been in the industry for years and have accumulated knowledge on how to do different tasks. Take the chance to consult, network and ask questions. They are ready to guide,” he said.

Agatha Ngotho, a board member of MESHA, sought the opportunity to formalise the Nairobi Chapter and promised more such networking and fun sessions.

MESHA Nairobi Chapter members picnic



Nairobi, June 23, 2022

Call for Applications: Biodiversity podcast

MESHA invites journalists and podcasters to submit in-depth podcast proposals on efforts in place to promote, study and save East African biodiversity. Podcasts should aim for a length of 3-10 minutes.

The call is under MESHA's Journalists Acting for Biodiversity Project (The JAB project) funded by the JRS Biodiversity Foundation.

The project seeks to underscore the important role biodiversity plays in our existence, society, economy and ecosystems. The mission is to create awareness of the status of biodiversity in our region and to profile initiatives by communities and organisations that seek to study, protect, value and preserve our rich heritage of East African biodiversity.

Topics under consideration

- The critical importance of biodiversity to sustaining tourism
- Community involvement in research and conservation efforts
- Emerging issues and new innovations relating to biodiversity

- Valuing ecosystem services (i.e. water regulation, medicine, food/fiber sources, soil fertility) of biodiversity to our society and economy Broadcast

The episodes will be broadcast on podcasters own platform, MESHA's podcast platform and YouTube in both English and Kiswahili.

Eligibility

- Primary beneficiaries of story grants should be local journalists focusing on environment biodiversity or those that have worked with MESHA before engaged in science-related reporting activities.
- We recommend collaborative reporting that will involve more than one journalist and at least one scientist or researcher willing to share resulting coverage; we are looking for proposals that seek to leverage their work for the greatest possible reach and impact.

Deadline

The first deadline of the pitches should be sent to sayansimagazine@gmail.com by July 31, 2022.

Conference of our time: A journalist's perspectives on the Fifth MESH African Conference of Science Journalists



Tebby Otieno.

By Tebby Otieno | tebbyotieno62@gmail.com

As the MESH African Conference of Science Journalists drew to a close last Friday, many things kept crossing my mind.

First, it must take a stroke of some genius to organize such a big conference. The amount of work that goes on in the preparation of this conference must be enormous laced with a lot of hard work, I suppose.

The manner in which the themes were arranged to fit in snugly into four days, with the first day being set aside for health, the second day dedicated to agriculture, with environment, biodiversity and climate change being the main concern on day 3 – struck me with awe.

Issues of what we do – reporting science journalism - fitted in snugly on day 4 - the last day of the Conference. This excellent, meticulous arrangement and planning only comes from experienced conference directors.

I found this approach stimulating, enriching and professional. So logical were the presentations that as a first time attendee, I felt nothing but joy. When the conference began, within the first three presentations, my fear, mixed with anxiety, quickly evaporated, leaving me in the realization that this was a Conference of note. So, as they say, I sat back, listened and enjoyed.

At exactly 1am each subsequent night, we received the day's conference bulletin! What a surprise! With barely any resources, the Secretariat managed to put together this daily publication with the alacrity of the Korean Sword! Whatever magic our Secretary, Aghan Daniel uses on his team to put up such an out of the world show, remains a mystery for me and perhaps to many MESH members.

Wait a minute. And so where did the International Federation of Agriculture Journalists emerge from to make such scintillating opening remarks at the beginning of the conference! This is yet another aspect that has left me in awe! The opening ceremony had three speakers, - our own MESH Chairman, Mr Bozo Jenje, a representative of InfoNile, our partners in the Conference, Alis Okonji and Lena Johansson, the President of ifaj. She shed a lot of light on the Federation and stated that human rights and freedom of speech were key tenets in promoting science journalism.

The keynote speech, from Dr Samuel Oti left me thinking – how can I contribute towards decolonizing health rights and funding for my own African brothers and sisters?

The day of health.....mine. This was a gem. An experts spoke eloquently on how much hope there was in the introduction of the vaginal ring in the intervention against HIV that left me wondering – have all women of Africa heard of this ring? Then came the presentation on U=U by Dr Lazarus Momanyi, a Ministry of Health official. U=U basically means undetectable is equal to untransmittable. Good enough, I now know that adherence is key in wrestling HIV/AIDS. I asked our Conference Director, Nduta Waweru why they had to bring a science café into the conference and her answer was.....



MESHA members in a recent training. The association has announced expansion plans to recruit members from African countries.

"Our funders, AVAC, okayed our request for this session, adding that it is rewarding to once in a while meet other journalists who ordinarily do not attend the cafes."

I also noticed that this year, there were more than 5 sessions on biodiversity. Why the prominence to this branch of conservation? The organisers told me that since February, MESHA received funds from JRS Biodiversity Foundation to do a project called Journalists Acting for Biodiversity (JAB). This support enabled the invitation of four scientists to talk about biodiversity at the Conference.

Sessions on agriculture were mouth-watering. That there are 500 species of edible insects in Kenya was an amazing fact that has convinced me now to believe that insects have a big role to play in food security in Africa. From the agriculture session, I picked the knowledge that I need not worry about Genetically Modified Organisms since our endemic species are intact – in fact they are kept in a gene bank! And very country has its own genebank.

It was also cool to note that there is a fallacy about so called farmer saved seeds, as our farmers do plan what is called grain and not seed. Where are all these seed people been? I have kept on wondering. That there are regulations that seek to ensure that we do seed business harmoniously within the economic blocs. Even though I am an avid reader, I have decided that I will read even more. How come I have all along not known that there are continental guidelines the use of Biotechnology for food and agriculture? Thanks to the Conference now I know. It was gratifying to hear Dr Simplicé Nonou, Head of Agriculture and Food Security at the African Union Commission talk about biotech in Africa and led us as journalists into understanding what is happening in Africa as a whole.

It was a brilliant idea to bring science journalists to share with us their experiences in covering climate change. I learnt a lot and will practice what I heard other journalists across the borders do.

Calling on African governments and international agencies

If any event needs funding from agencies, the UN body, African Union, large and international NGOs, the Kenya Government etc - that event is the MESHA Fifth African Conference of Science Journalists.

This Conference holds the future for African science and should hence be made BIG. It is that single event that provides a forum to showcase science being done in Africa. It is that gathering that acts as a single market where all the science done in Africa yearly can be brought together and presented to the masses – devoid of jargon.

My take is that the Conference is that a must attend event by all who work in the space of science. It will require attendance from each of the 54 African countries, it can be our heritage where the West come to listen to us as they savour our science.

I call on the industry players, producers of goods and services in Africa to come out and support the Conference. This conference can no longer remain low keyed. It must attract the high and the mighty!

Come on people of Africa and put money in this Conference.

Uganda's first wildlife vet wants more women involved in wildlife conservation

Photo Credit | Jo-Anne McArthur



Gladys Kalema-Zikusoka takes a stroll inside Bwindi National Park in Uganda.

By Clifford Akumu | akumu.clifford@gmail.com

Gladys Kalema-Zikusoka, Uganda's first wildlife vet is the founder of Conservation Through Public Health to protect the health of mountain gorillas while improving the lives and livelihoods of the communities who live with them.

Years before the One Health approach was thrust into the spotlight following the outbreak of the COVID-19 pandemic, Dr Kalema-Zikusoka was already putting it into practice in Bwindi local community by enabling people, gorillas and other wildlife to co-exist through improving their health and community livelihoods in and around protected areas.

Last year, the pioneering wildlife veterinarian was named Champion of the Earth for Science and Innovation – from the United Nations Environment Programme. She tells Clifford Akumu about her amazing adventures with mountain gorillas.

Kindly tell us how you gained interest in wildlife conservation?

I have always loved animals since I was young. We had many pets at home and at the age of 12 I decided that I wanted to become a veterinary doctor.

My passion for animals led to the creation of a wildlife club in my high school – Kibuli Secondary School. This made me want to become a veterinary doctor who also works with wildlife. I later went to study veterinary medicine at Royal Veterinary College in London to enhance my dreams and passion. My first job was setting up the veterinary department at Uganda Wildlife Authority as Uganda's first wildlife vet.

When I led a team that investigated a fatal scabies skin disease outbreak in then critically endangered mountain gorillas traced to the Bwindi local community, we founded Conservation Through Public Health (CTPH) NGO a few years later to improve the health of people and wildlife together.

Habitat loss and poaching are the biggest threats to mountain gorillas' population. As a wildlife conservation enthusiast, just how huge is the challenge and what is your organisation doing about it?

This is a very big challenge and threat to the endangered mountain gorillas due to poverty, hunger and the increase in human population growth.

To deal with these challenges, CTPH carries out different programmes in the communities living adjacent to the gorilla habitat.

CTPH trains Village Health and Conservation Teams (VHCTs) – community volunteers – to educate the local communities on the importance of gorillas and the forest to the local and national economy so that they can all protect the species. The VHCTs are also trained to provide health services and conservation education to the local community members, including family planning methods to enable families to balance their budgets, reduce poverty in their homes and their dependence on the park to meet basic needs for food and fuelwood. This in turn is reducing the unsustainable population growth rate in the surrounding communities.

CTPH also has an alternative livelihood programme that provides the local community members with food and other sources of income to meet their basic family needs. Through the 'Ready to Grow' programme, CTPH was able to boost food security for local communities living around Bwindi Impenetrable National Park by providing them with perennial crop seedlings. Each grow kit distributed via the programme includes 10 packages of low-maintenance seedlings that need little space to grow and are harvestable within one to four months. This has reduced their dependence on the gorilla habitat for meat from duikers and bush pigs and fuel wood and helped to curb poaching.

CTPH also has a social enterprise – Gorilla Conservation Coffee, which works closely with 500 local coffee farmers adjacent to Bwindi Impenetrable National Park. Gorilla Conservation Coffee buys coffee from the local farmers at a premium price above the market rate and supports the farmers through training in sustainable coffee farming and processing. This helps to improve the coffee quality and increase production yield.



Mountain gorillas captured in a park in Uganda recently.

Supporting local farmers helps to protect the endangered gorillas and their fragile habitat.

You have received several awards for your conservation work with mountain gorillas. Which one of them has stood out for you and why?

All the awards I have received for the work through CTPH and Gorilla Conservation are a great deal. The first award we received was the San Diego Zoo Conservation in Action award in 2008, which was a great source of encouragement and since then we have been greatly honoured and humbled to win other awards.

Each award has a different focus, but all of them recognise our holistic and innovative approach that is having a positive impact on conservation, health and sustainable development.

The most recent awards I have received in the past three years for our One Health and Planetary health model have been the 2021 World Veterinary Day Award from Uganda Veterinary Association, 2021 UNEP Champion of the Earth Award for Science and Innovation and Edinburgh Medal for science and humanity and for CTPH it has been the Saint Andrews Prize for the Environment.

Illegal wildlife trade and poaching activities is a major threat to the animals' survival. What are the latest statistics looking like for the most trafficked and poached animals and where in Uganda are the wildlife poaching hotspots?

Some of the most poached and trafficked animals in Uganda include pangolins, elephants and rhinos. Uganda Wildlife Authority (UWA) together with its partners are working hard to combat poaching and wildlife trafficking of some of the animals mentioned. UWA rangers carry out routine patrols in the national parks to ensure the protection of the wildlife and their habitats.

There is very strict law enforcement at country borders where there is a high likelihood of smuggling of wildlife.

There is much more wildlife poaching in savannah protected areas than forest protected areas, which have more foot traffic from rangers and tourists providing more protection and law enforcement.

Tell us about your new book on gorilla conservation and what should we expect when you launch it later this year?

My book titled 'Walking With Gorillas' that will be launched in October this year is a part memoir part charter that takes you through my personal conservation journey and my work as a wildlife veterinarian conserving mountain gorillas and other wildlife – reviving a wildlife club at high school, setting up the veterinary unit in UWA, founding CTPH and Gorilla Conservation Coffee and advocating for responsible and sustainable tourism to the great apes. It also talks about nurturing female and African leadership in conservation in order to have lasting impact.

When you finally wrap up your career, what would you like to see happen for the wildlife across the country?

I would like to see more women and young people involved in the conservation of wildlife, especially among the local communities who share their habitat with wildlife. When you educate and provide knowledge to young people about the necessity of conserving wildlife, they will be the future decision makers and are able to influence policies that protect our planet.

Kisii wetlands under threat as agencies play blame game

By Steve Mokaya | stevewebsmtz@gmail.com

Photo Credit | Steve Mokaya

Brick holding 'houses' dot the eastern part of Nyanturago wetland. Gaping holes form part of the plane's topography.

Brick making is one of the major activities on the near 1,000-acre wetland in Nyanturago near Keroka town, a major boundary of Kisii and Nyamira counties. The wetland is a major source of water in this area and the larger part of Kisii County.

However, over time human activities in the marshland have resulted in a massive shrinking of the resource. Some rivers have also dried up, and others have coloured waters.

"About 10 years ago, there used to be many birds here but almost all of them have flown away. There were also many fish in this marshland, but nowadays there are hardly any," says James Nyagaka, the chairman of the clan elders in Ibeno location, Nyanturago East.

Nyagaka says the wetland, which traverses Kisii Central and Gucha sub-counties, has been grabbed and encroached on by so many people that he thinks it is impossible to restore it to its pristine state.

"Due to the increase in population in this area, it reached a point where the locals started seeing this as idle land. They soon moved in to make money out of it. That's when they launched brick making, others started planting gum trees and crop cultivation," Nyagaka says.

True to his words, deep into the wetland, there are forests of eucalyptus trees, tea bushes, maize farms and sugarcane plantations. In between the farms, deep trenches have been dug to channel excess water out of the 'field' and into a river that passes through the marshland.



National Environment Complaints Committee (NECC) Chairman, Dr Justy Nyaberi, addresses journalists in Kisii in February. NECC officials had visited the county to assess the state of the wetlands after numerous complaints from the public.

Early this year, the National Environment Complaints Committee (NECC) said the wetland was under threat of completely disappearing due to human activities.

Dr Justy Nyaberi, NECC's Chairman, said the body had received several complaints from the residents of Nyanturago that the rivers were shrinking and others drying up. The committee in February said it had plans to redeem the wetland from the people who have encroached on it.

However, Nyagaka is not convinced that the reclamation is going to be an easy task, considering that many people have lived there for ages.

"Many people have been buried there and it will be hard to remove people from the wetland because most of them call it home," he says.

The clan elder advises that instead of removing people from the area, the government should talk to the people and reach a mutual agreement that can benefit them and protect the wetland.

John Momanyi, a resident of Nyanturago, is worried about the government's plan to restore the wetland. Momanyi, a father and husband, has all of his land in the wetland. He has been making bricks since he dropped out of secondary school in 2000.

Should the government make true its plan of vacating them from the wetland, he says, he and hundreds of other people will be landless and without a livelihood.

"We have nowhere to go. I have no other land. This is the land that I was given by my parents. And I'm not alone. We are many who have homes and farms in this marshland," Momanyi says.

Photo Credit | Steve Mokaya



Young men prepare to make bricks at Etorā wetland, Kisii County, Kenya.

He says a majority of the youth in this area did not go to school because they had access to a large piece of land. To them, the wetland was their clear route to wealth.

However, Momanyi acknowledges that none of them has a title deed to the land. In addition, he admits that brick making poses a great danger to the children in the area, in addition to killing the wetland.

“When we make bricks, we leave many open holes behind and when it rains water fills them. It can be a danger to children, as sometimes a few fall in these pits. But we try to refill the pits sometimes,” he says.

Jason Onkoba, Ibeno Assistant Chief, agrees that the wetland is under threat but adds that there is little he can do to change the situation.

“Brick making has been a commercial project for quite long in this area. There are schools and churches constructed in the wetland too. It’s the county government that has not done its proper work because it is the custodian of the wetland. We on the ground cannot do much,” Onkoba says.

On one side of the wetland, towards the river is a broad fish pond, almost 100 by 150 metres big. It looks neglected – weeds are growing in the pond and the walls look weak.

Onkoba says the fish pond was a national government project, and it was started as part of the conservation and empowerment initiatives for the people around the wetland.

“Unfortunately it was mismanaged. People didn’t understand the importance of the project and they started fighting over it. It’s no longer useful, and sooner or later, its walls will crumble,” he says.

The assistant chief says the residents can’t tell the original boundaries of the marshland, and due to that, anyone who gets a chance to utilise the remaining part does so quickly.

“All those people don’t have title deeds. Even the schools built there don’t have title deeds. Even my office is built on the wetland, and we don’t have a title deed,” Onkoba says.

About 30 kilometres away from Nyanturago is Etorā Wetland, which borders the Kisii-Kilgoris highway in Kisii South, otherwise known as Gucha. The two wetlands – Nyanturago and Etorā – are the largest in Kisii County. In total, they cover about 2,000 acres of land, according to NECC.

They are the major sources of rivers and streams in the county. Directly and indirectly, the over 1.2 million people in Kisii county bank on them to get water. Some of the main tributaries of River Gucha come out of these wetlands.

Sadly, like Nyanturago, Etorā wetland is also suffering from almost similar challenges and shares the same fate. There is increased construction of houses in the wetland, large-scale brick making, crop cultivation and pollution by a Chinese Company located next to the wetland.

Robert Osoro, Etorā assistant chief, says brick making has disfigured the wetland and paved the way for crop cultivation.

“There is a big difference between the past and now. In the past, no one could walk along this place. It was a sinking ground, full of water. But now there are even farms for tea and other crops. Trenches were built to drain waters into rivers, leaving most of the land dry,” the chief says.

He says he uses his barazas to educate the public about the importance of the wetlands. However, he believes that a lot needs to be done to protect the marshland.

“Removal of people won’t happen. Besides the common mwananchi’s invasion of the wetland, there is a police post, a public school and a proposed District Officer’s (DO) office on the wetland. Some people have also processed title deeds for their land that originally belonged to the wetland,” says Osoro.

Richard Machuka, the chairman of the clan elders of Etorā sub-location, says the entry of Stecol Corporation, a Chinese construction company, has dealt the wetland a fatal blow.

“The company has a site near the wetland. It has septic tanks next to the river that flows through the wetland, and sometimes the tanks overflow into the river. People have been complaining that their livestock get sick after drinking water from the river,” Machuka says.



Thomas Gesengi (right), the Water Resources Authority Regional Director for Kisii-Migori shoreline, at Kegati Wetland in May 2022. The wetland has been grabbed by locals.

However, Peter Wu, the Business Manager at Stecol Corporation, dismisses the claims.

“Our septic tanks are situated about 100 metres away from the river. They have never overflow into the river or the wetland,” Wu says.

He says last year, officers from the Water Resources Authority (WRA) visited the site and advised them to cover their septic tanks with a concrete slab.

“We have complied with all the requirements from NEMA and we have an Environmental Impacts Assessment certificate from NEMA,” he says.

Leonard Ofula, the National Environment Management Authority (NEMA) Kisii County Director, says he would visit the site soon to look into the allegations from the public.

In February, when the NECC officials visited the county to discuss the complaints from the public about the environment, an interim county committee was formed to look into the issues raised, including making efforts to reclaim the two wetlands.

Ofula says the committee was yet to achieve anything because it was not a legal committee.

However, he admits that wetlands in the county are at risk of drying up. The biggest impediment to NEMA’s full involvement in the protection of the two wetlands, Ofula says, is the lack of gazettement of the wetlands by the county government.

“The county government is the owner of the wetlands. We just come in as a regulator. Besides, in Kisii, we don’t have any gazetted wetland and that’s our biggest problem. Nyanturago was supposed to be gazetted but that has not happened yet. When it is gazetted, then we can comfortably come in,” he says.

The NEMA director says currently, the authority is doing awareness through newspapers and radios to educate the public about the importance of protecting wetlands and other natural resources in Kisii County.

Meanwhile, Thomas Gesengi, the WRA Coordinator for the Southern Shoreline, which covers Nyamira, Kisii, Homa Bay, Migori and Narok counties, says the authority is doing its best to conserve the wetlands.

However, Gesengi says, their efforts are being frustrated by a lack of cooperation and financial support from the county and national governments.

“In 2019 we had a programme of cutting down gum trees from riparian land. Eucalyptus trees are supposed to be six to 30 metres from water boundaries, depending on the size of the water body. We did that and we shall keep doing it,” he says.

Concerning Nyanturago and Etoro wetlands, Gesengi says they will move there soon and remove those who have eaten into the wetlands. However, he says they will follow the right procedure and law in doing that.

"We don't care, even if they are 10,000. We shall remove them. I will serve them with orders of seven days to evacuate the areas. I've started with the Kegati wetland, and I work with the ministry of interior," he says.

Kegati wetland is seven acres big. It is the main source of water for the Gusii Water and Sanitation Company (GWASCO), which supplies water to the larger Gusii region. River Gucha meanders through the wetland.

He says Kisii and Nyamira County governments have their priorities elsewhere but protecting wetlands, and that is a major setback in their work.

"About two years ago, there was an outcry from the public about the decline of water in River Nyakomisaro, which passes through Kisii town. A task force was formed, where I was the chairman," he says.

"The governor of Kisii County announced that he'd give us Sh10 million (USD 100,000) to implement the plan and save the water resources in the County, but the money was not disbursed. The plan that we came up with has been rotting in the files since early last year."

However, Kisii County Environment Executive Amos Andama dismissed Gesengi's claims that the county government is frustrating the efforts of WRA.

"Government doesn't work on promises. A budget of Sh20 million (USD 200,000) was allocated for the plan. But a deficit is always there. Priority was on paying salaries so that the government can operate. The flow of funds from the national treasury has not been easy, and that has hampered a lot of things, including development," Andama says.



James Nyagaka, the chairman of village elders at Nyanturago. He said most people have built houses in Nyanturago wetland.

He calls upon WRA to use the money it collects monthly to implement its plans.

Notwithstanding, Andama says the county government has come up with the Kisii County Climate Change Act whose aim is to protect the environment and natural resources.

Concerning the issue of gazettelement of the wetlands, the CEC member says it will happen, but it will take time.

"Gazettelement is a process. In this matter too, we have our priority on forests, and then we'll come to the wetlands."

Andama said the County government will work towards protecting the wetlands, but it will do that while paying attention to other issues as well.

"We've got to protect those wetlands, but again, we've got to survive. There is a lot that the government has to do in several other sectors," he says.

Nyaberi, the chairman of NECC, accuses the county government of not taking wetland protection seriously. He promises action.

"We will remove them (the people who have encroached on the wetlands). It's Kisii County that encourages such things. Most county governments have reclaimed many wetlands," Nyaberi says.

This story was first published by The Star Newspaper courtesy of JRS Biodiversity Foundation story grant to MESH.

Hunger for sand takes a toll on endangered mudfish in Eastern Kenya

Photo Credit | Benjamin Nyaga



Fish vendors John Kinyanjui and Boniface Mwanzia display fish for sale at the Embu-Machakos border area in Eastern Kenya. They said they are forced to ferry cutfish and mudfish from Naivasha, Rift Valley which is over 300km away..

By Benjamin Nyaga | muneneb775@gmail.com

About 15 years ago, Alfred Musyoki led a thriving business trapping fish in River Tana, he would hawk his daily catch to vendors who supplied their trade as far as Machakos and Kitui.

Musyoki comes from the Kiromboko area in Mutuobare, across the Embu-Kitui border. The border is marked by the River Tana, which according to the Freshwater Ecoregions of the World (FEOW) study, flows through extensive wetlands and mangrove stands, creating an ideal habitat for the mudfish species.

Mudfish are identified through their small size, tubular, highly flexible, scaleless body with rounded fins, well-developed flanges on the caudal peduncle, tubular nostrils, small or absent pelvic fins, and

mottled brown coloration is becoming extinct despite dominance in rivers in the past.

However, as the waters reduced, perhaps due to deforestation upstream, a new crop of business people, raided the region with trucks and shovels.

Musyoki says due to sand harvesting, the waters flow fast and fish are unable to thrive.

“Most fishermen have opted out because it is difficult to continue with the trade,” he told *The Star*.

“The fish market is facing a challenge of lack enough fish leading to vendors opting to outsource their fish from other regions outside the county.”

The fishermen sell a kilogram of fish at Sh200 (USD2) to vendors, who then sell it at a set price according to demand.

Infrastructural demand

According to the United Nations Environment Programme (UNEP), sand is the second most used resource worldwide after water.

Sand is not only the source of infrastructural raw material but also a base resource that supports life.

Sand harvesting which has been going on for 20 years now in this part of river Tana, has seen the river’s aqua life degrade due to diverted waterways and cleared vegetation.

Reeds lining the river banks have also been disturbed, affecting the habitats of mudfish, which dwell in areas rich in dense vegetation with slow-flowing water.

Gidreon Musyoki says the reeds and branches are used to trap sand and prevent it from flowing downstream.

“My work is to trap the sand using branches to prevent it from flowing downstream,” said Gideon.

The demand for sand in recent years has been catapulted by the rapid infrastructural growth within the country.

The sand harvested in Kiromboko is mainly used for economic purposes which include construction sites in the neighbouring and distant counties of Kiambu and Nairobi.

Tata Nzule the Kiromboko the sand harvesting site coordinator, says the area can produce over 500 lorries of sand a week during the dry seasons when the water level decreases.

“During the dry season, we load close to over 70 lorries a day, because we work for 24 hours or until late at night. We have the potential to load over 100 within 24 hours and thus in a week we can surpass 500 lorries,” said Nzule.

Photo Credit | Benjamin Nyaga

Despite infrastructural growth playing a major development role in the country, the impacts of the unhealed wounds left behind by sand extraction in rivers are immensely affecting aqua life.

Besides fish, crocodiles, hippopotamus, and birds which play a role in promoting tourism are also affected.

Already, Mudfish are fast migrating from these rivers due to sand harvesting.

These rivers serve as the home for most fish species which have been a source of food, income, and the most coveted health nutrients of omega oil necessary for brain development.

A study from the Food and Agriculture Organization of the United Nations (FAO) shows that the annual fish demand in Kenya is 600,000 tonnes while the current production lies at 400,000 tonnes, yet the country boasts of vast aquatic resources amounting to 1.14million hectares worth of fish production capacity of 11 million tonnes.

Stanley Mbugua, a fish vendor who has been in the business since 1995 and a resident of Machakos, says the business is facing a huge challenge brought about by the biodiversity interference impact.

He adds that he has been forced to travel to Naivasha in search of mudfish and catfish which are among his customer's favourites.

"The fish business has turned into a nightmare since prices have risen compared to earlier when our water sources experienced fewer activities compared to now," he said.

On a good day, he used to make Sh2,000 (USD20) and above but now he can only make less than Sh1,000 (USD10).

The situation has not been different for Boniface Mwanzia, a fish vendor who said he has been forced to raise the prices since the cost from fishermen and transportation from other regions is increasing daily.

"Not all fish species are available in rivers within the county. We're forced to transport catfish and mudfish from as far as Naivasha and it's costing us a lot of money.



Sand harvesters scoop sand on River Tana at a place called Kiromboko at the Embu-Kitui border in Eastern Kenya.

The matter has worsened the job since the customers are always complaining about the prices. We don't have an option but to sell at a loss in some instances because fish can't be stored for long," he adds.

Embu County National Environmental Management Authority (NEMA) Director Boniface Birichi, says the sand harvesting in River Tana in Mbeere south has been mistaken and the exercise taking place is desilting, which is meant to prevent excess sand from flowing into the Kiambere hydroelectric dam and decreasing the required water levels.

"When conducting desilting exercises, it cannot be 100 percent harmless. There will be some impacts which we assess and indicate how they should be mitigated," said Birichi.

The matter has not been lightly received by environmental and human activists who have criticized how the County government and other relevant bodies have been treating the issue.

Environmental, Social welfare, and Justice activist Taratisio Ireri Kawe point out that sand scooping and harvesting within the areas of Kiromboko in Mbeere South and Marivwe, Muthanthara, among others in Mbeere North has left the people poor and without proper nutrition found in fish.

He said the government should sensitize communities on the importance of fish as a source of food and employment without causing harm to aquatic life.

"County government should regulate and enact laws that will control the mining of sand within the county. I tell the people to see not only sand but also the opportunities that would come with the fish business in these rivers," said Kawe.

The Mining Act of 2017 in Kenya places sand in the same line as other natural resources which are under the national government's control despite its location.

On his side, Simon Kang'iri an environmental activist and conservationist say sand harvesting has led to dried rivers and destroyed aqua life and the situation is heading to worse if not well managed. He adds that sand harvesters should put into consideration the dangers of uncontrolled harvesting.

"As the harvesting takes place day by day, we lose our water living organisms and lose our rivers as well. We are also losing the important vegetation along river lines," he explains.

This story was first published by The Star Newspaper courtesy of JRS Biodiversity Foundation story grant to MESHA.

Sand harvesting needs regulation to save biodiversity, says UNEP

By Joyce Chimbi | j.chimbi@gmail.com

Uncontrolled and unregulated sand extraction is posing a great threat to biodiversity, adversely affecting water supply, fisheries, food production and tourism, UNEP has warned.

In a report released by its GRID-Geneva team, the United Nations Environment Programme says sand is such a critical resource and plays a most "strategic role in delivering ecosystem services, vital infrastructure for economic development, providing livelihoods within communities and maintaining biodiversity. It is linked to all 17 Sustainable Development Goals (SDGs) either directly or indirectly."

However, UNEP warns that despite the strategic importance of sand, "its extraction, sourcing, use and management remain largely ungoverned in many regions of the world, leading to numerous environmental and social consequences that have been largely overlooked."

"To achieve sustainable development, we need to drastically change the way we produce, build and consume products, infrastructures and services. Our sand resources are not infinite and we need to use them wisely," said Pascal Peduzzi, Director of GRID-Geneva at UNEP and overall programme coordinator for the report.

"If we can get a grip on how to manage the most extracted solid material in the world, we can avert a crisis and move toward a circular economy."

The report released in April 2022 titled Sand and Sustainability: 10 Strategic Recommendations to Avert a Crisis is the voice of world experts on how to adopt improved practices for sustainable sand extraction and management.

The report warns that sand mining activities have significantly contributed to land use and land cover changes that are negatively impacting on ecosystem goods and services.

The report raises the alarm that ongoing sand use brings humanity and essentially life on earth, "up against the wall", highlighting an urgent need for a strategic recognition of sand. It stresses that "sand is the world's second most exploited resource and must be wisely managed."

The report says an estimated 50 billion tonnes, enough to build a wall 27 metres wide and 27 metres high around the earth "is the volume of sand and gravel used each year, and its extraction and use needs rethinking."

If we can get a grip on how to manage the most extracted solid material in the world, we can avert a crisis and move toward a circular economy.

A significant portion of sand extraction is undertaken where it plays an active critical role such as rivers and coastal or marine ecosystems, placing affected areas at risk of erosion, salination of aquifers and loss of protection against storm surges.

The report is a collection of expert recommendations via interviews, experts' roundtable and direct contribution of 20 lead authors.

The report comes hot on the heels of a key resolution on mineral resource governance adopted at the fourth United Nations Environment Assembly (UNEA) in promotion of sustainable land management.

The report supports three resolutions from UNEA, including the mineral resource governance whose highlight is that sand is the most extracted material in volume. The second resolution is the sustainable and resilient infrastructure since infrastructure requires sand as a building material.

The third resolution is the environmental aspects of mineral and metal management whose key highlight is a request to raise environmental standards on how to manage these resources.

In this regard, report authors stress the need to ban the landfilling of mineral waste, encourage reuse of sand in public procurement contracts as a policy measure and call for other relevant legal changes to regulate sand mining activities.

It further urges that crushed rock or recycled construction and demolition material and ore-sand from mine tailings be considered because they are viable alternatives to sand.

Environmental experts are optimistic that the report and UNEA resolutions will bring attention to the impact of ongoing sand extraction and use, and how these activities affect lives and livelihoods, and that increased awareness will inspire change in the right direction.

Fly rescuing farmers battered by hard economic times

By Aggrey Omboki | omboki2725@gmail.com

The rising cost of animal feeds is pushing many small-scale livestock farmers to think harder. A number of farmers are now turning to insects such as black soldier fly to feed poultry.

Charles Odira, a farmer in Namthoi, Kisumu, has adopted the black soldier fly farming.

"The fly's larvae is a nutritious source of protein for chicken," he says. Mr Odira has also noticed that the feed helps layers to produce larger and uniform-sized eggs, "and eggs with harder shells, which reduces chances of breakage during transportation and storage," he says.

Mr Odira recycles the waste from the insects by running it through a special mill to produce fertiliser, which he sells.

The Horticulture graduate from Jomo Kenyatta University of Agriculture and Technology says he quit a board teacher's job at St Anne's High School in Homa Bay for fulltime agribusiness.

Dr Julius Ecuru is the Manager of BioInnovate Africa, an International Centre of Insect Physiology and Ecology (*icipe*) subsidiary dedicated to development of solutions to technological and agricultural challenges.

Dr Ecuru describes the firm's approach to societal challenges as driven by need to wisely use resources provided by nature.

"BioInnovate uses science biodiversity to provide practical, affordable solutions to pressing societal challenges," he says.

The firm is currently carrying out the black soldier fly project that also uses bio waste to feed adult insects.



Photo Credit | Aggrey Omboki

Black soldier flies convert waste into organic fertiliser that feeds back into agricultural production and helps with carbon.

"Black fly larvae is nutritious food rich in Omega 3 proteins," Dr Ecuru told Sayansi.

BioInnovate is working on the project with partners in Kenya, Ethiopia and Tanzania.

Dr Sunday Ekese, director of research and partnerships at *icipe*, has been involved in the institute's insects for food programme since its inception in 2012.

"Meat, including insects, is going to play a huge role in enhancing food and nutritional security. In the last 50 years, we have seen a triple growth in demand for meat. Currently, we produce around 340 million tonnes," he says.

According to the expert, 80 billion animals are slaughtered globally annually. An average person eats about 43kg of meat per year.

The slaughtered include 72 billion chicken, 3.3 billion ducks, 1.3 billion pigs, 723 million geese, 636 million turkeys, 633 million rabbits, 602 million sheep, 503 million goats and 325 million cows.

In 2020, Statista.com reports that nearly 2 million head of cattle and calves were slaughtered in Kenya. "The amount declined sharply from 3 million cows in the previous year, interrupting an upward trend since 2016. The interruption of hospitality industry due to Covid-19 pandemic led to a reduction in demand for beef," writes Julie Faria.

"As of 2020, some 12 million sheep and goats were slaughtered in Kenya. The amount increased by 6.5 per cent in comparison to the previous year," the website says.

"From 2016 onwards, the slaughtering of sheep and goats grew substantially. For instance, around 8.2 million were slaughtered that year," writes Ms Faria.

Dr Ekesi says the global livestock population requires significant amounts of feed compared to insects kept for food.

“Accompanying the global meat demand is that for animal feed. At least 11 billion tonnes of compounded feed was produced in 2018,” he says, adding that insect protein has around 38 per cent to 78 per cent content, with plant protein varying at around 1 per cent to 40 per cent, and animal protein between 25 per cent and 58 per cent content. “From the data, it is clear that insects can play a massive role in achieving food security,” says Dr Ekesi.

“On average, one only requires 2kg of feed to produce 1kg of insect protein. You need around 25kg of feed for 1kg of beef protein. You need 1 litre of water to produce 1kg of insect feed, as compared to 22,000 litres for 1kg of beef protein,” says the scientist.

The significantly lower insect-based production cost, Dr Ekesi says, should be one of the pillars of sustainable agriculture efforts.

“Insects will certainly leave a lighter footprint on the environment compared to rearing livestock for protein. That’s why we believe insects can play a major role in helping us achieve our carbon neutrality targets,” he says.

According to the Black Soldier Fly How-To Guide published by the University of North Carolina (UNC) Institute of Environment at Chapel Hill, the fly finds a mate within a few days of maturity. “After mating successfully, the black soldier fly lays eggs near a potential food source. The flies prefer to breed and live around decaying matter like manure, carrion, plant refuse, and beehive waste products,” reads the report.

When the female lays eggs, she deposits close to 500 near the organic food source. “The black soldier fly does not lay their eggs directly on the decaying organic material. It likes laying eggs in cracks and crevices near the organic material, as the larvae consumes the material upon hatching,” the guide explains.



A number of farmers are now turning to insects such as black soldier fly to feed poultry.

According to Dr Crysantus Tanga, who heads the Insects for Food and Feed programme at ICIPE, the quality of meat from chicken raised on black soldier is higher. “From trials done with smallholder farmers, broilers raised on black soldier fly feed get to market size between 1.2 and two months earlier than those fed on compounded feed. This means higher profits for farmers,” says Dr Tanga.

Black soldier flies convert waste into organic fertiliser that feeds back into agricultural production and helps with carbon.

“An estimated 2 billion tonnes of waste is produced annually around the globe, but only 33 per cent is efficiently recycled. The insect is therefore vital for the production of both animal feed and fertiliser,” says Dr Ekesi.

Dr Saliou Niassy, head of Technology Transfer Unit in the Environmental Health Theme Team, says: “Insect foods are higher in protein content compared to conventional protein foods such as fish, beans and soya. Chicken and pigs prefer insect-based feed compared to fish or soya meal”.

The insect foods are affordable, and a reliable source of income.

Dr Niassy says: “More than ever, it is vital for us to implement the adoption of a sustainable and circular approach to ecosystem services for better livelihoods, food and nutritional security. One of the ways to achieve this goal is switching to cheaper and more nutritious insect foods.”

Dr Ecuru says biodiversity conservation and biomass stewardship are required at the genetic, species and ecosystem levels, including soil and watershed management.

“Let us provide alternative livelihoods for communities that are biomass or natural site custodians. They also need farm inputs, fuel sources, markets, value chains and jobs,” says Dr Ecuru.

He says communities can be involved as partners in efforts to reclaim degraded areas. “Using science and technology, we can collectively optimise production and reclaim degraded environments.”

He says further research and multisectoral collaborations are necessary.

Photo Credit | Clifford Akumu



Representatives of different seed companies from Africa select sorghum parent lines at Kiboko Research Station in Makueni County, Kenya.

Flour blending expected to serve rising demand for small grains

By Clifford Akumu | akumu.clifford@gmail.com

The heat at Kiboko Crops Research Station, Makueni County, is unbearable, but the sorghum and pearl millet crop on plots is flush with luscious green leaves, foretelling a good harvest.

Notably, the stubby and thin sorghum stalks, which delicately balance bi-colour heads of grain as far as the eye can see, crowd the Kenya's top research facility for arid and rangeland crops.

And soon, some of the sorghum that scientists breed here will be selected by seed companies for commercialisation and distribution to farmers.

Small grains or high value crops, many grown for generations, are getting new attention as food for the future because of their ability to thrive even in harsh conditions.

Dr Eric Manyasa, a lead crop breeder and product placement at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), said the new blending policy will push the demand for small grains.

And to fill the rising demand gap once the policy is actualised, farmers need to produce high volumes of small grains to power the blending system, Dr Manyasa adds.

In 2018, the government came up with a blending policy compelling millers to fortify maize flour with other grains such as sorghum and millet for enhanced nutrition.

Under the department of Crops Development, the Agriculture ministry has already drafted a policy that will see millers blend their flour with other nutrition crops.

Maize being mixed with sorghum, millet and cassava. Wheat will also be blended with cassava.

"We need to move with speed to produce the right materials, varieties that are adapted to the right agro-ecological zones so that when the blending policy is rolled out, we shall be able to produce the required volumes of the grains to run the

blending system," said Dr Manyasa during a field day for regional seed companies at the Kiboko research station to allow the companies select seeds.

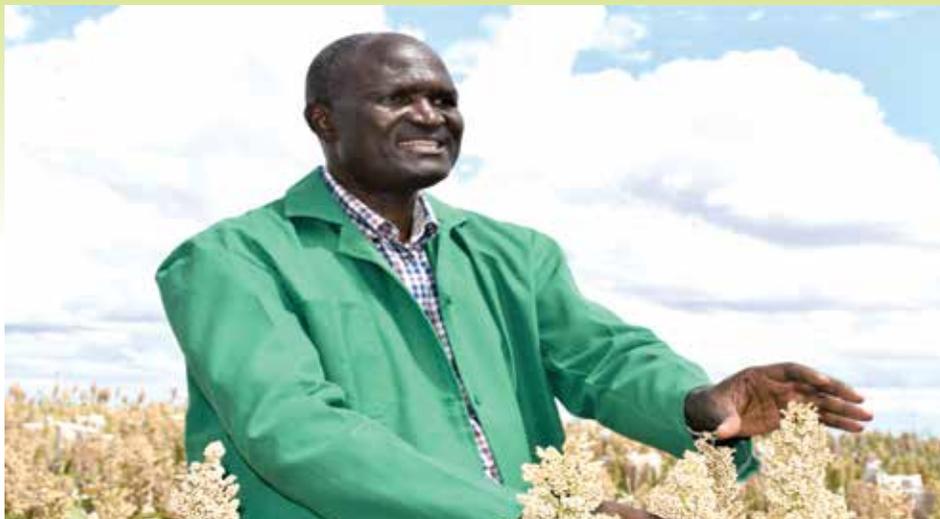
New alternatives for commercial use in food, animal feed and malting sector – the new emerging markets for small grains – are also driving the demand further.

In the last five years, for example, the private sector across Africa has developed a lot of interest in exploiting the opportunity in the growing demand for sorghum and millet grains in a bid to build a market.

Scientists who are breeding sorghum, finger and pearl millet, groundnuts, pigeon and chick peas say they have developed several hybrid varieties that are high-yielding, nutritious and climate smart.

The sorghum varieties, for instance, have high iron, zinc and calcium content, which help curb malnutrition.

Photo Credit | Clifford Akumu



Dr Eric Manyasa, a lead crop breeder at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), in a sorghum farm at Kiboko Research Station in Makueni County, Kenya.

“Climate change effects, food and nutrition security in the country is a reality. The question is, what are we going to do to address these shortcomings? And that is why the interest in the small grains is on the uptick,” said Dr Manyasa.

Kenya produces 250,000-300,000 tonnes of sorghum yearly, riding on the brewing value chain. However, the country still imports some volumes. Dr Manyasa says that capturing the true representative data on volumes is not easy due to the informal nature of the small grain system.

Breweries gobble up 40,000-50,000 tonnes of sorghum each year.

Meanwhile, Kenya’s average national yield for sorghum stands at about 0.7 tonnes per hectare, with the potential of the existing varieties at four to five tonnes per hectare.

Sudan has the highest hectares under sorghum crop at six million, followed by Ethiopia at two million and Tanzania with more than 750,000.

Dr Manyasa stressed the need to build sustainable sorghum and millet value chains to power their utilisation.

Building food systems that are resilient in times of climate change and war, like what is being witnessed between Ukraine and Russia, is vital.

“We need to put more effort in building value chains, create demand for these crops and reduce dependence on crops that we import to save taxpayers’ money and make sure people are not just fed but are fed nutritionally,” added Manyasa.

“So that when there is war in Ukraine for just one week, and we say there is no maize, we are not saying there is no sorghum and millet.”

Partnerships with the right stakeholders, he said, is key in driving the demand agenda and building the volumes for the small grains.

“The hybrids grain yield advantage over open pollinated varieties (OPVs) is at 30-40 per cent. The OPVs are there, can we therefore go ahead and see how the hybrid crops can play a role in building the volumes for the small grains?” said Manyasa.

Some of the challenges that stifle the attainment of the sorghum volumes target such as genetics and management need to be tackled to improve productivity.

Dr Manyasa said they formed the Sorghum and Pearl Millet Hybrid Parents Research Consortium for Eastern and Southern Africa with leading seed companies to enhance the distribution and availability of the seeds to farmers across the region.

More than 10 seed companies and research institutions from Kenya, Ethiopia, Zimbabwe, Tanzania, Uganda and Sudan who attended the event showed interest in the improved crop varieties.

Dr Elzubeir Mohamed, Managing Director, Nile Sun Seed Company from Sudan, said sorghum is a very important crop occupying the largest area of 6-8 million hectares under cultivation in the region.

He said most of sorghum crop under production in Sudan is rain-fed and low-yielding varieties. Sudan produces 5-7 million tonnes of sorghum, depending on the season.

“We are looking for good quality seeds with good grains and yield. We are happy for the team of researchers who have developed improved parental lines for sorghum,” said Dr Mohamed, who had come for the second time for seed selection. From the hybrid parent lines, seed companies like Nile Sun will now be able to multiply hybrid seeds to distribute to farmers.

Sorghum can grow in three agro-ecologies, including the dry low lands in eastern Kenya, the sub-humid areas around the Lake Victoria region and the cool highlands in the North Rift and Central regions of Kenya.

Additionally, efforts are ongoing by the private sector to develop hybrids to fit in the highlands of the Rift Valley to respond to high grain demand, especially for the brewing and animal feed value chains.

Dr Mohamed urged ICRISAT to distribute the seed trial zones in three African regions to give the seed companies ease of accessing the parent lines for high value crops.

“Seed companies should rise and promote the adoption of the new parent lines to save the African farmers. Without hybrid varieties, we cannot compete in the grain market,” Dr Mohamed said.

Dr Leena Tripathi, the leader of biotechnology programme at the International Institute of Tropical Agriculture (IITA).



Adopt technology to feed growing population, expert urges countries

By **Tebby Otieno** | tebbiotieno62@gmail.com

Researchers have called for the adoption of the latest farming technologies to adequately feed the growing world population.

The researchers say the situation is even more worrying in Africa as the continent continues to use the same number of resources in agriculture, even as data already projects that the current population could double by 2050.

Dr Leena Tripathi, the leader of biotechnology programme at the International Institute of Tropical Agriculture (IITA), says an increase in population means an increase in demand for food and calls for better agricultural production.

“With the increasing demand for food and limited resources we need better and more efficient ways to produce food and using all the tools and breeding innovation, including gene editing,” she said.

Dr Tripathi was speaking during a webinar organised by the African Seed Trade Association (AFSTA) last month.

Apart from the increasing population, she said climate change is intensifying food insecurity not only in Africa but globally.

“We are already seeing some harmful effects of the extreme climate not only on the planet but also the pathogens and pests affecting crop productivity. That means there is a need for sustainable agriculture,” she said.

She urged farmers to critically consider closing the yield gap in staple crops like maize, bananas and rice by using New Breeding Tools (NBTs) in addition to conventional technologies like irrigation.

One of the NBTs that researchers have shown to record improvement in crop production is genome editing, a group of technologies that gives scientists the ability to make permanent and heritable changes but at very specific sites in the genome of the organism without bringing any foreign gene.

Some of the technologies available include meganuclease, ZFN, TALEN, and CRISPR/Cas9, which researchers describe as efficient in the essence that they only make specific changes to the DNA. Even though CRISPR/Cas9 remains the most popular technique because it is very simple and easy to adapt, scientists say this does not render other techniques obsolete.

Scientists launch bioethics network



Prof. Evelyn Wagaiyu, Dean, Faculty of Health Sciences, University of Nairobi, Kenya cuts the inaugural cake marking the birth of the African Bioethics Network.



The newly launched Africa Bioethics Network will advocate for the synthesis and harmonization of bioethical activities across the continent.

By Sharon Atieno | sharonphoebeatieno@gmail.com

A group of African experts has formed an association to promote dialogue and action in tackling bioethical issues.

Africa Bioethics Network intends to bring together experts from Africa and beyond in multiple disciplines, such as health, environment and climate change, sustainability, justice, and responsibility, natural sciences, policy and governance, and technology, social sciences, and humanities, among others.

Some of the objectives of the Network include advocating for the synthesis and harmonization of bioethical activities across Africa, reflecting on best ways to tackle bioethical issues in the continent and increasing partnerships to extend their reach to solve problems in one area that can be applied to similar regions elsewhere.

Additionally, they seek to ensure their governance and communications are sensitive to diversity while making good use of information technology and collaborative tools to communicate in real-time as they work together across the globe.

They also want to promote the development of skills and knowledge needed to take part effectively in global research programs, build and support international research networks and develop effective partnerships with civil society organizations and private sector entities.

Further, they want to bring together concerns about health, environment, sustainability, justice and responsibility.

The Africa Bioethics Network was formally launched in May at the Kenya AIDS Vaccine Initiative (KAVI) Institute of Clinical Research, University of Nairobi, Kenya.

Those who attended the launch include the United Nations Educational, Scientific and Cultural Organization (UNESCO) representatives, Clin Win Research Services, Kenya AIDS Vaccine Initiative (KAVI), University of Nairobi, St Paul's University, BCA-ETHICS II, Anahuac University, The International Association of Bioethics (IAB), Kenya Medical Research Institute (KEMRI) and many others with a representation of over 30 countries.