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Media for Environment, Science, Health and Agriculture

Fifth African Conference of Science Journalists

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Theme: Letting Science Live

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Journalists must be brave and careful enough to run investigative stories

Members of the Fourth Estate attending a training session. A senior journalist has noted that pursuing investigative stories require fearlessness and professionalism.

By Carolyne Oyugi | lyneoyugi@gmail.com

Working with communities in addressing biodiversity challenges has been cited as a panacea to protecting key ecosystems in Africa, a marine expert has said.

Investigative stories reveal completely new information to the public, add new knowledge or depth to ideas, or reveal inside details of an investigation or inquiry. Shitemi Khamadi of Africa Uncensored said the real danger is in the mind and peoples' imagination.

"Every time we meet new people and tell them what we do, their first question is whether our offices have been raided or our gadgets bugged by the government or people targeted by our stories," he said.

Speaking during Day Two of the Fifth African Conference of Science Journalists, Khamadi said people are more suspicious and afraid than they should be.

"Yes, there is danger and journalists have suffered the consequences of running some investigative stories, some have even lost their lives. That should however not silence us," he said.

Khamadi added that being brave does not mean that journalists should ignore security measures.

Many journalists have also avoided investigative stories because they are expensive and time consuming, yet their media houses are not willing to fund them or do not have the funds.

This has however been changing, though slowly. Some organisations are now coming up and willing to fund climate change issues, so it should not be a limitation.

Khamadi said that investigative articles should add new knowledge or depth to an idea besides revealing inside details of an investigation process or inquiry.

He said although investigating environmental conservation and wildlife poaching for articles to be published in the media was dangerous, the journalists' fear was more in mind than in reality.

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A scientist fields questions from the media. There is need for partnerships to support news gatherers to delve into investigative journalism.

MESHA Secretary Aghan Daniel called on journalists to work on their pitching skills and bring it to a level where donors are happy to spend money on their ideas.

"We have great ideas but our pitching might not be strong enough to convince donors to fund them. We have to be creative and use the many resources available to work on this, some are even free," he said.

One of the stories done by Africa Unsensored is The forgotten struggle of Kenyan indigenous people: Lake Turkana Wind Project. This story published in June 2017 revealed how the Turkana community involvement was ignored during the construction and use of the wind power as required by the law.

Other stories are: Saving the Planet One EV at A Time – April 2022, The Killer Crocodiles of Lake Victoria – November 2016 and End of the River – April 2017.

Journalists have also been faulted for not putting responsible institutions like National Environment Management Authority (NEMA) and Kenya Forest Service (KFS) to task.

For example, in the past 10 years alone, one fifth of the Mount Kenya ecosystem has been deforested. The causes range from agriculture and illegal logging to localised impacts from unsustainable livestock overgrazing and fires.

Deforestation has also reduced the quality and quantity of water for downstream users, as well as increasing sedimentation. Soil erosion is one of the most serious threats to the ecosystem, not helped by poor water management and illegal abstraction.

"All these are happening yet no one is asking important questions like who causes the fire or cuts the trees? What is their interest and have they been punished for that?" said Khamadi.

The area's rich natural biodiversity includes 778 plant species, and iconic animals like the African elephant, leopard and endangered black rhino. It is one of the last few East African homes for the bongo (a forest antelope), along with giant forest hogs, black-fronted duikers and mole shrews. Its cherished birds include rare kinds of starlings, ibis, and the endangered Sharpe's longclaw.

This is also one of the largest water catchments for Kenya, providing drinking water for over two million people. And supporting widespread agriculture, including coffee and tea plantations, plus important hydropower projects and manufacturing. It was recently estimated that the Mount Kenya area provides the country with ecosystem services worth around $220 million (Sh25.6 billion) per year.

Journalists were also urged to start thinking of sustainability of their work.

One way is creating partnership with organisations that share the same interest and are willing to share resources. Journalists can also monitise their work online by selling their stories or create online platforms where people pay to read or watch their stories.

Additional reporting by Musembi Nzengu

> *"In the past 10 years alone, one fifth of the Mount Kenya ecosystem has been deforested."*

John Kinyanyui, TechnicalManager, Water Resource Authority. Collective action on water resources is crucial for sustainability amidst climate change.

Kenya: Collective responsibility crucial in saving River Malewa

By Sharon Atieno I sharonphoebeatieno@gmail.com

Despite River Malewa providing about 90 per cent of the water flowing into Lake Naivasha, it has come under threat from climate change and human activities.

It is against this background that stakeholders, including the government, private sector and community members were called upon to take collective responsibility to save the river and prevent it from further degradation during a three-day campaign that was launched on May 24 by World Wide Fund for nature (WWF)-Kenya and its partners in Naivasha.

Speaking during the launch of the three-day campaign dubbed #JourneyofWater, Water Resource Authority (WRA) Technical Manager John Kinyanjui called on the community to stop faulting climate change for degradation of the River Malewa and take responsibility for their action.

He said that even though climate change was an issue of concern, destructive human activities such as planting of blue gum trees and crops along the river's course, as well as deforestation were contributing to the poor water quality and quantity in the river.

Noting that the river is a lifeline for many WRA Rift Valley Regional Manager David Mumo said the communities have a responsibility of taking care of the river catchment for the sake of their livelihoods.

He urged upstream and downstream communities to work together to ensure the water flows smoothly so that each group can continue benefitting from the resource.

WWF Freshwater Lead Dr William Ojwang', echoing the theme of the campaign that water is everybody's business, said collective action on water resources such as River Malewa was crucial to make water resources sustainable amidst climate change, which has been characterised by erratic rain patterns.

He said there was need for a multi-sectoral approach to ensuring that water resources are effectively managed.

Further, Dr Ojwang' said that though the journey began in Malewa, the campaign would be replicated in other places, taking into consideration rivers that are being degraded by human activities.

This #JourneyofWater campaign will highlight the path and the numerous threats that River Malewa encounters from the upper catchment (upstream), midstream to downstream (lower catchment), emphasizing the need for all beneficiaries to protect, preserve and sustainably manage water resources in Lake Naivasha Basin.

The #JourneyofWater #RiverMalewa campaign brings together different stakeholders, including the public, government agencies and community led organisations.

Plastics chocking life out of Lake Victoria, killing livelihoods, warns expert

Youth clean up Mombasa. Micro plastics have affected the economy and aquatic resources, hence adversely impacting the livelihoods of the community around the lake and beyond.

By Bozo Jenje | bozojenje@yahoo. com
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Microplastics are a major threat to the fish species and aquatic life in Lake Victoria.

According to Bahati Sosthenes Muyoma, an oceans expert at the University of Dar es Salaam, Department of Aquatic Sciences and Fisheries Technology, the spread of plastics on the second largest fresh water lake in the word has led to the decline of fish species.

Mr Muyoma said micro plastics have affected the economy and aquatic resources, hence adversely impacting the livelihoods of the community around the lake and beyond.

"The endemic species support over 30 million people directly through employment and indirectly," he said at the Fifth African Conference of Science Journalists.

During his presentation on the unseen dangers in our waters, Mr Muyoma said studies in 2018 in Europe revealed that about 350 tonnes of plastic are produced annually and about 150 tonnes are floating in the lake, according to the World Economic World (WEF, 2016).

"As a result and if not checked, the ration between plastic and fish could increase tremendously to 5:1 in terms of weight. This does not augur well for humanity," he said.

The researcher said the negative impacts have led to campaigns against plastics since statistics show that fish have had a negative interaction with them.

"The plastics entangle the fish and are also linked to diseases among the fish in the lake," said Mr Muyoma.

He said studies have revealed incidents of ingestion by the African Nile perch and tilapia, especially in Lake Victoria.

"We see there is both economic and health implication occasioned by the spread of plastics and this needs to be addressed," he said.

Mr Muyoma said the pollution happens mostly in the form of particles with a size less than 5mm in various shapes and colours known as microplastics, which can either be manufactured intentionally in primary form or broken from macroplastics as a secondary source.

"Some degenerate from large sources into small particles and others are from manufacturers and in their form are harmful to fish in the lake," he said.

He said fishermen in the three East African Community (EAC) member states of Kenya, Tanzania and Uganda have suffered the impact of plastic pollution in the lake, yet over 70 per cent of fish export from Tanzania is from this water mass.

Lake Victoria is shared by Tanzania (51 per cent), Uganda (43 per cent) and Kenya (6 per cent).

According to Biginagwa Study, which was conducted in Mwanza, Tanzania, the gastrointestinal tracts of locally fished Nile perch and tilapia were examined for plastics, which were confirmed in 20 per cent of the fish.

Mr Muyoma said it was unfortunate that whereas Tanzania and Kenya have banned the use of plastics their neighbour, Uganda, was yet to follow suit. This contributes to poor coordination, regulation and awareness creation among the region's vast population.

He said 10-20 per cent of plastics get recycled globally, while the remaining 80 per cent are land based and have a great impact on soils, which ultimately affect crop yields.

Citizen TV journalist Laura Otieno, who has extensively covered news around Lake Victoria, decried persistent direct dumping of effluent, including plastics, into the lake.

Ms Otieno, who is also the MESHA vice chair, pointed out over-fishing using illegal gear and deforestation as areas that should interest stakeholders to start thinking of the right interventions.

She said fish stocks in Lake Victoria have been declining since 1987 due to the use of improper fishing gear and plastic wastes.

Ms Otieno talked of two teenagers who are developing a mobile application targeting the youth to help collect and recycle plastic waste.

"To combat the surge in plastic pollution in Lake Victoria, a teenage duo in Kisumu, Kenya, is embracing technology along the shores of the lake, with the aim of incorporating younger generations into restoring Africa's largest freshwater lake," she said.

Mr Muyoma urged the media to create more awareness in the community on illegal dumping of plastics.

He said entrepreneurs should also promote circular economy and engage in more research on plastics, adding that only a few countries have researched on the same. "Among the countries in the frontline are South Africa, Algeria, Egypt, Ethopia, Kenya, Mozambique, Ghana, Tanzania and Mauritania," he said.

"Fish stocks in Lake Victoria have been declining since 1987 due to the use of improper fishing gear and plastic wastes."

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Leishmaniasis: Little-known disease eating away poor people

Simon Bolo, head of Leishmaniasis Access at the Drugs for Neglected Diseases initiative (DNDi).

By Joyce Chimbi
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One in seven people worldwide is living in a Leishmaniasis-endemic area, according to the World Health Organisation (WHO). In Africa, the disease is most endemic in Algeria and the East Africa region where thousands of people are at risk of infection from frequent outbreaks of a disease that still remains largely neglected.

Simon Bolo, head of Leishmaniasis Access at the Drugs for Neglected Diseases initiative (DNDi), a non-for-profit research and development organisation, said an estimated 900,000 to 1.3 million new cases of Leishmaniasis are recorded every year globally.

He said Leishmaniasis is caused by protozoan parasites, which are transmitted by the bite of infected female sandflies.
The disease is generally associated with malnutrition, population displacement, poor housing, and generally a weak immune system and lack of financial resources.

Placing the disease on the spotlight during the Fifth African Conference of Science Journalists, Bolo, listed three main forms of Leishmaniasis.

"Cutaneous Leishmaniasis causes skin lesions, mainly ulcers, on exposed parts of the body. Visceral Leishmaniasis, also known as kala-azar, is fatal if left untreated and is the deadliest parasitic disease after malaria. Symptoms include prolonged fever, enlarged spleen and liver, substantial weight loss and progressive anaemia," Bolo said.

"Mucocutaneous Leishmaniasis, which leads to partial or total destruction of mucous membranes of the nose, mouth and throat. Leishmaniasis in all its forms affects the poorest people in the community and affected regions are often remote and unstable, with limited resources for treating the disease."

WHO data shows that left untreated, Visceral Leishmaniasis leads to fatalities in over 95 per cent of cases and is commonly found in East Africa, Brazil and India. An estimated 50,000 to 90,000 new cases are recorded annually around the world.

Worse still, WHO's 2020 statistics show that more than 90 per cent of new cases of Visceral Leishmaniasis occurred in just 10 countries, including Kenya, Somalia, Ethiopia, Eritrea, Sudan, South Sudan, Yemen, India, Brazil and China.

In the same year, more than 85 per cent of new Cutaneous Leishmaniasis cases were similarly found in 10 countries, including Libya, Algeria and Tunisia. Additionally, more than 90 per cent of the Mucocutaneous Leishmaniasis cases occurred in Ethiopia, Brazil, Peru and Bolivia.

Discussions into Leishmaniasis stressed the need for initiatives to eliminate the disease as a public health problem. This is particularly important as research shows that Leishmaniasis-HIV coinfected people are at great risk of progressing to full-blown clinical disease, further compounding the risk of death from the disease.

"East Africa harbours highest burden of Visceral Leishmaniasis worldwide. Majority of patients are children, with the exception of North Ethiopia where the disease affects mainly young male adults in work settings.
Ethiopia is one of the top three countries in the world where a high burden of HIV-Visceral Leishmaniasis coinfection is reported," Bolo said.

He said the objective of the DNDi Visceral Leishmaniasis programme is to deliver "a safe, effective, short-course oral treatment for Visceral Leishmaniasis, a new treatment for post–kala azar dermal leishmaniasis and treatment options for HIV-Visceral Leishmaniasis co-infected patients."

He said DNDi also aims to build and maintain successful platforms and consortiums to facilitate conduct of clinical activities and implementation of tools.

Overall, the roadmap is to eliminate the disease in all its forms from all endemic areas, including those in Africa. As such, the long-term strategy is the development of new field-adapted oral treatments to be deployed at primary healthcare systems.

On lessons learnt in combating the neglected disease, he cited the need for involvement of various actors at very early stages of clinical research to ensure the success and acceptability during implementation.

"There is also a need to involve community groups in research results dissemination and awareness creation and to strengthen coordination efforts amongst partners to ensure better utilisation of meagre resources available. Understanding barriers to access (in diagnostics and treatment) before implementation begins is similarly critical," Bolo said.

He stressed the urgent need for media involvement, saying journalists can communicate the disease burden and gaps in diagnostics and treatments for neglected disease, to support progress from research results into action.

Adopt e-vehicles to reduce air pollution, Africa urged

By Aimable Twahirwa
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African governments have been urged to put policies and finances in place to start adopting electric vehicles to reduce air pollution.

Estimates by the UN Environment Programme (UNEP) indicate that the transport sector is the fastest-growing greenhouse gas (GHG) emitting sector, expected to reach a share of more than 30 per cent of total GHG emissions in the future.

It said that over the last 20 years, electric vehicles have experienced significant technological developments that have not only lowered their cost but also reduced their environmental footprint and increased their utility.

Speaking on the sidelines of the Fifth African Conference of Science Journalists, Annika Berlin from Sustainable Mobility Unit at UNEP, said government spending on post-tax petroleum subsidies in most African countries could be reduced and redistributed if electric vehicles were adopted.

Ms Berlin said electric motorcycles or e-motors cost less to buy and operate, with up to 83 per cent less carbon dioxide emissions.

Currently, UNEP's Global Electric Mobility Programme is supporting more than 50 low- and middle-income countries, especially in sub-Saharan Africa, with more than US$80 million in grants and over US$250 million in loans.

Vehicles in traffic. Electric motorcycles or e-motors cost less to buy and operate, with up to 83 per cent less carbon dioxide emissions.

The technical assistance to country projects include the development of business models and finance schemes, development of e-mobility strategies and roadmaps and preparation of fiscal reforms to incentivise e-mobility at the national level.

However, despite these incentives, Africa still faces unique challenges related to unreliable electricity supply. The Average Interruption Disruption Index for sub-Saharan Africa was 39.30 compared to 0.87 for high-income countries.

In addition, the expert said availability of electric vehicles is currently limited to new cars. However, most vehicles purchased in Africa are low-cost used ones, driven by affordability challenges and weak regulation.

The pilot project, which was rolled out in 18 African countries, is expected to expand, in an effort to reduce air pollution, improve national energy security and create green jobs.

But Ms Berlin stressed the need to educate and raise public awareness in electric mobility for those responsible for the acquisition of public and private fleets to improve decision-making.

"It is also important to ensure the promotion of applied research and development to generate a business environment in electromobility," she said.

Strides made in suppressing HIV a sign of hope in the fight, says expert

By Ann Mikia | annmikia@gmail.com

A leading researcher has traced the strides that Kenya and other countries have made in the fight against HIV/Aids since the first case emerged almost 40 years ago.

Speaking during the Fifth African Conference of Science Journalists, which is being held virtually, a Ministry of Health official, Dr Lazarus Momanyi, recalled that when the disease emerged, it was regarded as a "death sentence".

"There were no counselling services, no anti-retroviral therapy that could then prevent the virus from multiplying in the body and no known cure.

"However, over time, so much water has passed under the bridge and HIV has kept the scientists busy since then."

Currently, due to the great strides that have been made by the scientific community, among others, in curbing the spread of the incurable virus, people living with the virus lead normal lives like those with other non-communicable diseases.

Dr Momanyi described the ongoing Undetectable=Untransmittable (U=U) programme as a global campaign, explaining how the sexual transmission of HIV can be stopped.

"When a person is living with HIV and is on effective treatment, it lowers the viral load or the level of HIV in the blood.

"When the levels are extremely low (below 200 copies/ml of blood measured) it is referred to as an undetectable viral load. This is also medically known as virally suppressed. At this stage, HIV cannot be passed on sexually," he explained.

He, however, clarified that while this may work very well with heterosexuals, men who have sex with men are still at a higher risk of infection.

Dr. Lazarus Momanyi

Dr Momanyi also said putting people living with HIV on treatment makes them lead healthier lives.

Some of the interventions to prevent new HIV infections include use of condoms, Prevention of Mother to Child Transmission (PMTCT), male circumcision, and counselling and testing.

He said such interventions have borne fruit because today discordant couples are getting married and protecting the negative partner and even siring HIV negative children.

At the same time, Dr Momanyi recalled how several personalities had earlier claimed to have discovered various "cures" against HIV but these were later proved to be false claims.

In Kenya, for example, Prof Arthur Obel was among those who claimed to have gotten a cure through a herbal concoction he had named "Pearl Omega".

Others who claimed to have found a "cure" include former Gambian President Yaya Jammah, who claimed to have invented a cure and made people living with HIV take his 'bogus' concoction. Many people died even after taking the 'medicine'.

Ambilikile Mwasapile, alias Babu wa Loliondo, from Tanzania had become a household name in the region after people living with HIV boarded buses and made long queues at his home to get a cup of his medicine.

Many who abandoned ARVs after taking contents of the 'wonder' cup succumbed after a while.

Shepherd Bushiri from Malawi also claimed to cure HIV though there is no evidence to date.

Dr Momanyi clarified that having the virus becoming undetectable in the body does not mean cure.

"When patients take ARVs, the amount of the virus reduces to undetectable levels. At the same time, some of the reasons why it is so hard to cure HIV is because the virus hides in reservoirs such as the bone marrow or in the lymphocytes, or white blood cells that are intrinsically hard to kill," he said.

Globally, however, only two cases have been reported to have been cured from HIV.

"The two had HIV then got leukemia… This is a cancer of the blood – forming tissues, hindering the body's ability to fight infection.

"When the two patients got chemotherapy to treat cancer it didn't respond and so they got bone marrow transplant. After this they tested HIV negative. One of the patients died after two years from cancer-related complications but didn't have HIV," he said.

Dr Momanyi said there is light at the end of the tunnel, given the strides that scientists had made in suppressing HIV.

African governments urged to prioritise Kala-azar in health budgets

By Clifford Akumu | akumu.clifford@gmail.com

African governments have been urged to prioritise redistribution of funds towards the control of Visceral Leishmaniasis or Kala-azar, a disease that kills over 14,000 people every year globally.

Simon Bolo, Head of Leishmaniasis Access, Eastern Africa at Drugs for Neglected Tropical Diseases Initiative (DNDi), said that despite some successes, "the continent is still grappling with challenges of controlling Kala-azar".

Mr Bolo, while speaking at the Fifth African Conference of Science Journalists organised by the Media for Environment, Health, Science and Agriculture (MESHA), stressed the need for African states to accord Kala-azar a share of the health budget pie.

"We urge the African governments to prioritise VL in their health budget allocation," he said during the virtual conference that started on May 24 and will end on May 27.

Eastern Africa accounts for 57 per cent of the global burden of VL, translating to 30,000 to 40,000 new cases every year. Children are the most affected, accounting for 50-70 per cent of the cases.

Kala-azar is caused by a parasite called Leishmania donovani, which is transmitted from the bite of infected female sandflies. Kala-azar is fatal if left untreated.

In Africa, it is the 'big three' – malaria, HIV/AIDS and tuberculosis – that often get the most attention and funding.

This leaves other equally fatal diseases with little support to provide people with drugs or treatment programmes

Similarly, the advent of COVID-19 has since thrown the funding needs off balance, with priority focus moving towards the pandemic.

In the Kenya's 2022-23 budget, for example, the Treasury ministry allocated its biggest ever budget to health. Cabinet Secretary Ukur Yatani allocated Sh146.8 billion to the healthcare sector out of which Sh62.3 billion will cover Universal Health Coverage (UHC).

COVID-19 vaccines received Sh7 billion while free maternity received Sh4.1 billion. The rest – Sh16.2 billion – was allocated for malaria, AIDS and TB.

Mr Bolo said one of the key challenges in VL management was late diagnosis. However, through the use of rapid diagnostic technology, the process has now been improved for patients' experience.

"We used to have very invasive diagnostic way for VL confirmation. However, four endemic countries, Kenya included, are already implementing the rapid diagnostic test technology," he said.

VL patients across the continent still use injection drugs as a form of treatment. However, noted Mr Bolo, DNDi is steadily making progress in developing treatment for some of the neglected diseases such as Kala-azar.

In sleeping sickness, he mentioned that DNDi has developed a simple oral treatment that can cure all stages of the disease.

"Over the last 10 years, we have delivered new drugs to make treatments shorter, safer and more effective. We are waiting for review of the research results to enable us endorse the combination treatment of paromomycin and miltefosin as new treatment options for Kala-azar," added Mr Bolo.

He said although the current Kala-azar treatment is working, "they are still not adequate to reach the poor of the poorest."

Because of supply chain management bottlenecks, "It is still difficult for VL patients in Kenya's arid and semi-arid regions to access treatment," he added.

The expert further appealed to the African governments and other partners to join in the efforts to develop, roll out and scale up new innovative tools to test and treat neglected tropical diseases (NTDs).

The Media for Environment, Science, Health and Agriculture

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.

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Kemfri Principal Scientist Dr Kipkorir Langat in a mangrove forest at Gazi, Kwale County, Kenya.

Why carbon credits project of mangroves in Kenya's coast is a success story

By Asha Bekidusa | abekidusa@gmail.com

Communities living around Gazi Bay in Kwale, Kenya, have benefited from carbon trading from mangroves since 2013.

Kenya Marine and Fisheries Research Institute (KMFRI) Chief Scientist James Kairo said the community leads a mangrove conservation and restoration project called 'Mikoko Pamoja' (loosely translated as 'Mangroves Together').

Speaking during the Fifth African Conference of Science Journalists, Dr Kairo said this is the world's first blue carbon project whose aim is to provide long-term incentives for mangrove protection and restoration through community involvement and benefit.

"It involves both the prevention of deforestation of the local mangrove forest, as well as community-based reforestation. The project also supports community development projects such as provision of schoolbooks, construction of school buildings and provision of clean drinking water," he said.

The project has so far ensured conservation of 117 hectares of mangroves in the Gazi Bay. Out of this protected area, 107 hectares is avoided, 10 hectares is plantation, while 0.4 hectares is used for planting every year.

The mangroves at the coastal region have long been endangered, with communities cutting them down for charcoal and construction. This is despite a ban on logging that has been in force since 2018.

Mangroves, also called 'the blue forests', typically grow in the intertidal zone along tropical and subtropical coastlines. Approximately 75 per cent of mangroves worldwide are concentrated in just 15 countries, and barely seven per cent of them lie in protected areas.

Gazi is a typical fishing community, living a subsistence lifestyle with limited agricultural activities to sustain them. The area remains the main target for illegal loggers of the mangrove trees because poles from mangroves in this area are suitable for construction, as they are straight and more usable than other timber.

With a cover of 715 hectares of mangroves, Gazi Bay is a small community whose efforts of restoring and protecting the mangroves is an example to be emulated.

Kemfri Principal Scientist Dr Kipkorir Langat fields questions from journalists in Mombasa. Mangroves provide a wide range of services and benefits to both the environment and the surrounding community

Mangroves provide a wide range of services and benefits to both the environment and the surrounding community. These include providing breeding ground and habitat for various species of fish, water purification, improving biodiversity and sequestering large amounts of carbon dioxide from the atmosphere. They can be part of climate mitigation and adaptation strategies.

With an increase in the number of people interested in doing carbon business this comes as a huge boost for the community to earn a source of livelihood.

A carbon credit is a permit that represents one tonne of carbon dioxide removed from the atmosphere.

Dr Kairo said the project earns the community $30,000 (Ksh3.4 million) annually from selling 3,000 tonnes of carbon credit proceeds, whose impact has breathed life into the two villages and put it back on a positive trajectory, rekindling hopes of a better tomorrow for future generations.

"The project has helped in boosting the education sector, with the children of Gazi receiving 600 textbooks from the earnings and we also bought iron sheets for Gazi Primary School for two classrooms," he said.

This has reduced the ratio of students sharing textbooks, hence improved performance in the local primary school.

Apart from the education sector, other activities include purchase of two water tanks of 15,000-litre and 10,000-litre capacity, two water pumps and creation of water points, which benefit the whole community.

This in turn has led to employment of two water sellers and a security guard and free clean water for over 1,000 students in three schools and a local dispensary.

Dr Kairo attributed this success to community commitment, strong science, government support and international network, with Hollywood star Leonardo DiCaprio supporting expansion of Mikoko Pamoja, among other international players.

He said the project is a triple win for climate, community and biodiversity conservation as it has transformed thousands of lives around the area, especially with all carbon credits owned by the community.

Plans are underway to replicate it elsewhere in Kenya and Africa at large. Already plans to expand the project to neighbouring Vanga village are underway while countries like Madagascar, Tanzania and Mozambique are replicating the same.

> *Fish stocks in Lake Victoria have been declining since 1987 due to the use of improper fishing gear and plastic wastes.*

Expert: Africa needs to restrict vehicles age limit to tackle transport emissions

By Clifford Akumu | akumu.clifford@gmail.com

African governments have been urged to institute fuel emission standards and restrict vehicles age limit to tackle transport emission menace across the continent.

Annika Berlin, Programme Management Officer, Sustainable Mobility Unit, Economy Division at UNEP said, "Although transport emissions per capita are still low in Africa, they are currently growing rapidly than anywhere in the world."

She said to reduce transport emissions in Africa needs a myriad of approaches.

"I urge African states to adopt the ASI model, including; avoid and reduce the need for motorised travel, shift to more environment friendly modes of transport and fuel economy," said Ms Berlin.

She said failure to act puts the continent at risk of being a dumping ground for old, polluting, internal-combustion-engine vehicles as developed countries shift to electric vehicles.

Over 80 per cent of vehicles, for example, have been imported and they keep on polluting the continent. Between 2020 and 2027, Africa's new vehicle demand is expected to increase by 85 per cent.

Currently, approximately 55 per cent of the global population lives in urban areas. By 2050 this proportion is estimated to reach 68 per cent, according to the United Nations data.

The menace of outdoor air pollution in African cities is compounded by the increased imports of old vehicles, which are known to be heavy emitters of pollutants, said Ms Berlin.

Environmentalists too are rooting for restrictions on importation of over 15-year-old vehicles.

Kenya has since taken a first step in vehicle import restrictions. The government banned the importation of second-hand buses and trucks in a move that was seen as a boon for the local auto assembly industry.

The Kenya Bureau of Standards (Kebs) said it would not allow the importation of buses and trucks into the country beginning July 1 this year.

Evidence shows that the air pollution levels in Nairobi, as with other East African urban areas, are currently at unhealthy levels.

Ms Berlin said Kampala and Nairobi are some of the major cities in the larger Eastern African region where air pollution is rising rapidly, affecting the health and environment.

The 2021 World Air Quality Report finds that only three per cent of cities and no single country met the latest World Health Organisation's (WHO) PM2.5 annual air quality guideline.

Kampala's air quality index measured at Nsambya (a city suburb) by the air pollution monitor in September 2018 indicated that it was six times higher (162 g/m3) than WHO Air Quality Guidelines (25 g/m3).

In 2020, the average PM2.5 concentration in Nairobi was 14.7 μg/m3, which is about 1.5 times the WHO recommended annual PM2.5 threshold concentration. The most polluted month in 2020 was July, with an average of PM2.

Meanwhile, switching fully to electric mobility is still a tall order, said Ms Berlin

To deploy electric vehicles, there is a need for conducive policy regulations and subsidies that will make it cheaper for the end user to easily afford the e-vehicles.

In European countries, for example, the governments have realised the importance of e-mobility and are heavily supporting subsidy and regulation initiatives.

Besides East Africa, other cities in China and India are also facing visibility degradation due to increased air pollution, while visibility is significantly improving in European cities.

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