Special edition on climate change by grantees who covered COP28 with support from IDRC.

SCIENCE SAYANSI

Telling the African science story

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Tanzania now holds pollution and plastic bulls by the horn

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The Media for Environment, Science, Health and Agriculture (MESHA) was founded in November 2005 in Nairobi, Kenya. The organisation supports 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 journalism and communication with more focus on rural areas.

MESHA's formation was motivated by the realisation that there were many organisations and communicators in the fields of agriculture, environment, health and development, yet few within Africa would bring journalists covering these issues together, to enable better reporting and coverage 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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Mesha Science

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Cover Photo
A dumping site in Tanzania, where researchers have established that plastic pollution must be tamed before it gets out of hand and mess health, water bodies and biodiversity.

Photo Credit: Halili Letea

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Was COP28 a hit or miss for Africa?

The last global climate negotiations, held in the United Arabs Emirates, came loaded. There were the usual issues, from Climate Adaptation, Finance, Loss and Damage, Technology Transfer, Just Transition, Gender... you name it. But it was also a peculiar Conference of Parties (COP), as it came with the recommendations of a Global Stock Take on collective climate action since the Paris Agreement. The 28th such meeting (COP28) gave the true picture of the progress and recommended accelerated action to tame global warming.

Parties needed to have this at the back of their minds, even as they argued, agreed and disagreed to protect their interests in the negotiation rooms, where there had been a tendency to make a lot of commitments, but with little implementation, especially by nations considered to be the most responsible for the crisis.

This was also a moment of truth for the nations and parties that subscribe to the United Nations Framework Convention on Climate Change, and a time to operationalise the Loss and Damage Fund that had been passed at the previous climate talks (COP27).

Closer home, and as the momentum built, Africa eyed several goodies at the COP28 talks. Besides interest in the Loss and Damage Fund, Africa still wanted recognition as a continent with special needs. This way funding for climate would come as grants, not loans, and help reduce the debt burden on the continent that also faces perennial and worsening weather events, from floods to prolonged drought, and unpredictable rain patterns that weaken the continent's economies.

During a virtual science café with reporters and editors affiliated to Media for Environment, Science, Health and Agriculture (MESHA) last October, the African Group of Negotiators (AGN) Chairperson and Chief Negotiator Ephraim Shitima (Zambia) summarised Africa's interest in the COP28 negotiations as Just Transition to Renewable Energy and Climate Finance, including funding for Adaptation. This was crucial, considering the effects of climate change on agriculture, the backbone and lifeline of many African economies.

Earlier in September, there had been the adoption of the Nairobi Declaration following a three-day Africa Climate Week that aligned with the same demands.

The truth is that Africa is responsible for 3.8 per cent of the global carbon emissions, but has suffered some of the worst and deadliest effects of climate change.

Before the two-week event, a disagreement on the operalisation of the Loss and Damage Fund had occurred among key committee members, who had met in Egypt, dashing the hopes of the many parties, especially from the Global South.

Besides, from the start of the year, there had been a backlash from several quarters on the choice of the COP28 President, Al Jaber, who had one foot in climate action and another in the fossil fuels industry as the Chief Executive of the United Arab Emirates' state oil company - Adnoc. More chills ran down the spines of many climate change campaigners, as only seven days to the beginning of the COP28 talks Al Jaber displayed a serious conflict of interest during a virtual meeting with senior United Nations climate change campaigners when he dismissed calls for phase-out of fossil fuels, arguing that it would prevent sustainable development, "unless you want to take the world back into caves". At the end of COP28, there was still a controversy over two terminologies concerning fossil fuels, with on section calling for a fossil fuels "phase-out", and another preferring a "phase-down".

It was also during the Dubai negotiations that the number of delegates representing fossil fuels industry tripled to 2,400, from the previous year, the highest ever recorded by the UN in the COPs. Already the International Energy Agency (IEA) had reported that there was no room for any new fossil fuel development if the world was to remain habitable for humanity and the rest of Earth's life.

At the end of COP28, Africa was elated to see the Loss and Damage Fund operationalised, albeit with the controversy surrounding its host institution. Also key was the Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action, which could boost a decarbonised food production system. This declaration was endorsed by 152 of the more than 190 parties, with a $7.1 billion early financial commitment. The Declaration on Climate and Health, which secured an initial $1 billion to enable health systems tackle climate-induced illnesses, besides protecting vulnerable communities, was another win.

These and several other issues were of interest to a team of 15 MESHA-affiliated journalists, who flew to Abu Dhabi to follow the talks, while others followed virtually from their countries. This 'Sayansi' issue therefore looks at the analyses and stories related to the Abu Dhabi happenings, achievements and losses, but localised to reflect situations in specific African countries.

Lynet!

Photo Credit: John Okot

An oil rig in Kasenyi, Buliisa District in Uganda.

Oil curse visits Uganda early, farmers blame destructive floods on pipeline project

By John Okot | ojkenplus@gmail.com

Four years ago John Jabila's garden was bountiful from one edge to the other, with repeated rows of maize crops, potato vines, and banana groves.

But since May last year, floods have swept through his two acres. Jabila has since abandoned the now-submerged land that is also filled with silt and soil sediments.

"I cannot farm anymore because my garden is like a small lake – and our crops are drowning," says Jabila, 41, who lives in Kasenyi in the Albertine region, with his wife and six children.

"Because of that, it is becoming harder to get food every day because I do not have land to grow crops".

Like most Albertine region residents, Jabila's major source of livelihood was farming. He now works as a casual labourer in neighboring villages.

Annet Katushabe, a resident of the same village, abandoned her three-acre land due to rampant flooding. The mother of four now rents a piece of land monthly to continue farming.

"I don't have a solution," says Katushabe, 32. "I have to walk 5km to the rented land to farm because it is the only practical way to access food for my children and also educate them. But it is also expensive to rent, and I have to engage in other odd jobs for extra income," she says.

This amidst Uganda's inability to grow as much food as it did many years ago as high temperatures and erratic rain patterns attributed to climate change affect crop yields.

Fossil fuel proliferation is one of the key causes of global warming that have not only negatively affected Uganda but several other countries in Africa. At the recent COP28 climate talks held in Dubai, more than 190 member countries committed to divest fossil fuels. Back in Uganda, however, locals continue to suffer as a result of the construction of a 1,443km heated East African Crude Oil Pipeline (EACOP). While the pipeline's construction has not progressed much, communities in the Albertine region blame increased flooding on EACOP activities.

In 2021, TotalEnergies, the main stakeholder with 62 per cent ownership of EACOP, embarked on constructing a 700-acre Industrial Area in Buliisa District. The vast site, which is part of the EACOP, will have a Central Processing Facility (CPF) with the capacity to process 190,000 barrels of crude oil, a construction camp for 4,000 workers, and a drilling support base. Setting up this facility however required clearing swathes of trees.

Buliisa District Environment Officer Rogers Tusiime blames TotalEnergies for worsening food insecurity locally since they cut hundreds of trees and exposed the farmlands to flood waters. "Our region is flat. When you uproot all the trees, you disrupt the ecological balance. That's what TotalEnergies did," he says.

Photo Credit: John Okot

This farmer visited her land in Buliisa District, Uganda and found it so flooded that she could not do much.

Mr Tusiime says most locals are smallholder farmers "who can't afford to buy modern farming equipment to manage environmental disasters" thus making them even more vulnerable to floods and other climate shocks.

"TotalEnergies should have known better that cutting many trees has consequences. They cut trees without a proper plan, and now people struggle to grow food," he says.

With studies showing how trees help reduce the speed of runoff water and prevent erosion, Bernard Atwooki, the local Community Development Officer, has urged TotalEnergies to prioritise the people's welfare as it plans its oil drilling works, "which have become a curse that eats away people's major source of survival – farming".

Agriculture remains the major source of livelihood in Uganda, with an estimated 80 per cent of the population, mostly small-holder farmers, relying on it.

Due to the flooding problem, some climate activists and environmental rights organisations have sought legal redress. In June 2023, TotalEnergies was sued by 26 Ugandans for reparations over human rights violations. They claimed the French oil giant had caused "serious harm" by depriving locals of their freedom to farm, leading to "serious food shortages".

A report by Human Rights also showed that "construction and operation of EACOP" bore grave environmental risks since "the pipeline route traverses sensitive ecosystems, including protected areas and internationally significant wetlands, posing threats to biodiversity and ecosystems that local communities depend on".

More than 500 members of the community in the Albertine region also petitioned the Uganda Wildlife Authority over attacks by elephants, blaming it on EACOP. (Murchison Falls National Park, the largest in Uganda, has the highest number of elephants totaling 15,000.)

EACOP however denies causing the floods, arguing that Buliisa is "historically prone to flooding", especially during rainy seasons. The oil company says it has contracted a firm to conduct a hydrological study to develop a retention pond system.

"Activities conducted during the study included review of existing topographical data for the site, condition assessment of existing temporary site drainage system, review of historical rainfall intensity, duration and frequency data for flood forecasting and modelling drainage in the project site. This was a prerequisite to designing the proposed solution - a retention pond system," said TotalEnergies Spokesperson Stephanie Platat.

"Currently, two retention ponds are being constructed at the CPF to hold 102,516.5 cubic meters and 279,384 cubic meters of water.

We plan to later release the water through the existing drainage channels at a controlled pace to avoid damaging neighboring land," added Platat.

Platat said TotalEnergies intends to implement livelihood programmes in two phases. "The first to ensure food security after relocation, moving onto delivery of additional programmes to improve and diversify livelihoods".

"The first phase for food security is tailored to the specific livelihood setting of the Project Affected Persons (PAPs) and informed by their preferences. The food security programmes reflect the predominance of agricultural livelihoods along the pipeline route," she said in an e-mail, adding that "the programmes include land preparation for cultivation (clearing, soil improvements and tillage); and main crop improvement - crops to be confirmed for specific areas".

Dickens Kamugisha, the Chief Executive Director of African Institute of Energy Governance (AFIEGO), who was part of the legal team that sued TotalEnergies in 2023, accused Uganda government of "failing to conduct proper environmental assessment of the project", saying "that is why people are facing floods".

"The environment assessment is questionable. The people who did it were hired by government – and as a citizen of this country, I know our government has a history of being corrupt when it comes to profiting from projects," he said.

Tony Achidria, the country's National Environment Management Authority spokesperson however says: "Environment assessment was transparent and the report was shared with the public because there was nothing to hide. Those saying EACOP is causing floods are wrong because climate change affects everyone globally. Almost everywhere, people are failing to grow food because of this crisis," he said, adding: "The good news is that EACOP will use some of the best eco-friendly technologies to limit carbon emissions."

If completed, EACOP will be the longest heated crude oil pipeline in the world, spanning 1,443km to transport waxy crude oil from Tilenga and Kingfisher in Uganda through Tanzania to the Tanga Port before it is taken offshore. Studies have projected that it will have the potential to pump out 34 million tonnes of carbon into the atmosphere each year.

In recent years the EACOP has faced constant pressure from climate activists who have repeatedly called upon investors not to inject funds into the project, arguing that the "carbon bomb" would destroy the fragile ecosystem and increase greenhouse gas emissions, exacerbating the climate crisis.

The majority of investors have since pulled out of the EACOP project that needs an estimate $5 billion to complete. Uganda and Tanzania equally share 30 per cent of the project's stake while the China National Offshore Oil Company has the remaining 8 per cent.

Photo Credit: Aveline Kitomary

Victoria Mweri, a resident of Mkoka Village, Kongwa District in the Dodoma region, in a sunflower farm that survives on irrigation.

Climate change effects open women's eyes to beauty in irrigation farming

By Aveline Kitomary | avekitomary@gmail.com

Farming was fun in the 1990s for one Victoria Mweri, a retired primary school teacher. It was until rain patterns became unpredictable that she opted to venture outside the box.

After a series of crop failures following unfavorable changes in the rain patterns, the resident of Mkoka village in Tanzania's Dodoma region collaborated with more than 20 village mates to champion irrigation-aided farming.

The woman, who is raising four grandchildren, started farming in 1996 when she moved to Mkoka village.

"Back then it would start raining in November or December. With time, it started to rain in January or February, after which prolonged dry seasons followed. This made farming unsustainable," she said.

When it began to rain in December 2023, Ms Mweri was anxious, not knowing whether to take this as the rainy season. She wondered how long the season would last, and if the rainfall would be adequate for farming.

Now she blames the recurring crop failure and resultant food insecurity in Mkoma village on climate change. "This is why small-scale farmers now plant crops such as peanuts and millets that take shorter time to mature. They also tend to be more drought-resistant," she says.

She says water levels at the river they relied on to irrigate their farms reduced in 2023, causing chaos. "We, sunflower farmers who irrigate, were accused of depleting the river's water. So we have a schedule to irrigate only every fortnight, yet sunflowers require a lot of water," she said.

Ms Mweri's team is however unperturbed. The members plan to try more crops and apply drip irrigation, which will ensure efficient and more effective use of water. She says more women are adopting modern farming options, and have some income even when it takes too long to rain.

Ms Mweri compliments the farming with sale of seeds. She uses the proceeds to support farming in subsequent seasons, and is committed to teaching women about modern farming. "I share the knowledge I have with my community. Many farmers use tractors, and there is significant involvement of women in farming. They need to reap more," she says.

Vicy Msamba, a climate change expert, describes the women's efforts as resilient farming, which involves resolve to withstand effects of climate change by choosing seeds, crop types, and ensuring adequate soil preparation that leaves biodiversity intact. She suggests maximising rainwater harvesting, even as farmers buy water for irrigation. Besides, she recommends proper crop storage techniques to preserve yields for income generation and food security.

Ms Msamba says women are the first victims of climate change because they are extensively involved in farming activities; from land preparation to seed planting. Men, she says, mainly focus on proceeds sale. The expert says women are psychologically affected by crop failure, and that they lack access to information and miss out on opportunities for workshops and media coverage, hindering their progress.

Photo Credit: Aveline Kitomary

Victoria Mweri in a sunflower farm.

She says climate change is a reality, and, after observing how crops are destroyed in the fields, she thinks utilising technology and water harvesting techniques will help farmers to adapt. "We continue to educate women and provide information on how to cope with these changes."

Charles Ogutu, the Executive Director of the Tanzania Agricultural Markets Development Trust (AMDT), says they have allocated necessary funds to improve agriculture and innovation, and will extend to more regions.

"Our main goal is to ensure any farmer is aware of climate change when planning to farm. They need to consider information, technology, and new methods that can help them avoid crop failure," he says.

This includes using crops that are resilient and take a short time to mature, besides various other techniques to conserve water.

Mr Ogutu says crops such as beans greatly contribute to Africa's food security. "No crop requires rain; all crops need moisture, and water brings moisture.

If farmers rely on rain, they will incur losses or may harvest when rain does not come on time or to the expected amount," he stressed.

He says his organisation encourages farmers to use available water sources such as wells, trees, and lakes efficiently. Ogutu says they provide education through partners to help farmers understand and use technology such as drip irrigation. Some farmers have even dug their wells and seen positive change.

Additionally, the team empowers research institutions to produce seeds that can withstand climate change and reach farmers.

"Irrigation farming is about delivering water to where the farmer is instead of waiting for rain. Even if they are not close to rivers, they can use irrigation channels, and drip irrigation, which involves using drops and a sprinkler system from above," he says.

One of the challenges mentioned by Valeria regarding climate change is unaffordable clean energy. The Tanzanian government plans to promote use of clean cooking energy locally.

During the COP28 climate talks in Dubai last year, Tanzania's President Samia Suluhu launched a programme allowing women to use clean energy.

Badru Abuluu, the Director of Gender Development at the Ministry of Community Development, Gender, Women and Children, said the clean energy programme will begin in Tanzania and is projected to benefit about 80 per cent of the country by 2033.

He said the government would endeavour to plant more trees and preserve water sources to ensure water availability even without rainfall.

Tanzania now holds pollution and nasty plastic bulls by the horn

By Halili Letea | leteahalili@gmail.com

Photos Credit: Halili Letea

Tanzania has reiterated its resolve to increase efforts to achieve Net Zero and other climate goals. The country featured at the COP28 Multilevel Action Day, marked on December 06, 2023 in Dubai. The event was graced by at least 40 ministers and hundreds of environment stakeholders from around the world.

Speaking at the event that emphasized the pivotal role of cities, which are responsible for 75 per cent of global greenhouse gas (GHG) emissions, in mitigating climate change, Dr Selemani Jafo, Tanzania's Minister of State in the Vice President's Office (Union and Environment), said the country acknowledged the need for a sooner Net Zero achievement and thus ensured it featured prominently in its latest Nationally Determined Contribution (NDC).

"The problem (GHG emissions) is huge, especially in urban areas, but thanks to our 2004 Environmental Act and the 2019 policy that were reviewed in 2021, we are trying," said Dr Jafo after his return from the Dubai climate talks.

Discussions focused on innovative strategies, waste management, transport, water, buildings, and the environment, underscoring the need to urgently address emissions in urban landscapes. Tanzania's active participation at the event also signaled its commitment to collaboration with like-minded nations in pushing for sustainable solutions.

The minister said parts of the $19.2 billion budget NDC submitted in 2021 and designed to be implemented for six years would be reviewed. The document highlights the country's aim to promote environmentally sound waste management practices that support reuse, reduction and recycling, besides promoting waste to energy technologies.

Youth sift through garbage for recyclable stuff at a busy dumping site in Bagamoyo region, one of the places Dr Bahati Mayoma of the University of Dar es Salaam conducted his study, focusing on waste pollution and management.

Dr Selemani Jafo, the Minister of State in the Vice President's Office (Union and Environment), when he addressed journalists on Tanzania's take on COP28.

Back in Tanzania, the University of Dar es Salaam assistant lecturer in the Department of Aquatic Pollution and Ecotoxicology, Dr Bahati Mayoma, says manufacturing and incineration of waste in cities is responsible for emission of GHG, mostly carbon dioxide and methane, into the atmosphere.

The lecturer referred to a United Nations Environment Programme (UNEP) study showing that methane traps more heat in the atmosphere per molecule than carbon dioxide, and is responsible for more than 25 per cent of the current global warming.

"This makes it 80 times more harmful than carbon dioxide for 20 years after it is released. Cutting methane emissions by 45 per cent by 2030 could help us meet the Paris Agreement's goal of limiting global warming to 1.5°C."

Dr Mayoma says waste is the third most common man-made source of methane, aided by bacteria breaking down organic matter in landfills or dumping sites.

With a 61 million population, Tanzania generates an estimate 12.1 million to 17.4 million tonnes of solid waste yearly. Meanwhile, plastic waste per annum is estimated at 0.84 million to 1.21 million tonnes. Less than 4 per cent of this is recycled. The common disposal methods are dumping, burying and burning.

Photo Credit: Halili Letea

A dumping site in Bagamoyo region in Tanzania which has been of interest to researchers such as Dr Bahati Mayoma of the University of Dar es Salaam.

Dr Mayoma says a study they did showed plastics account for up to 75 per cent waste. Plastic bottles and bags form 40 per cent of the latter. "This is due to their life cycle. Most of the other organic waste can easily be treated," he said, citing the study done in 2021, covering eight lakes and ocean regions of Kigoma, Mwanza, Kagera, Dar-es-Salaam, Mbeya, Songwe, the Coast and Mara.

The scholar says most identified brands using bottles or food packaging and three manufacturers make up 60 per cent of identifiable waste.

Enock Tumbo, a Natural Resources and Environment Conservation Officer from Dar es Salaam City Council, says nearly 96 per cent of the 319,000 tonnes of plastic waste generated in Tanzania is mismanaged, threatening the country's diverse wildlife.

"The ministry has taken several initiatives, including imposing a ban on plastic waste in June 2021, which has been enforced effectively by the National Environment Management Council (NEMC) and local governments," said Mr Tumbo, who works closely with the NEMC.

Director of Human Dignity and Environment Care (Hudefo) Sarah Pima says building capacity and increasing awareness on the contribution of waste to GHG emissions is important for local communities and leaders.

Ms Pima, who also participated in the Multilevel Action Day in Dubai, says: "From the experience we learn in other countries, especially in COP28, to achieve a Waste to Zero Initiative, we need to provide education at all levels, and the government needs to imitate Extended Producer Responsibility (EPR)".

She says EPR will create awareness in community and among policy makers to come up with strategies that give responsibility for cleaning the environment to everyone, especially plastic producers and other groups.

"The legal framework in the country does not have that power, which is why nowadays there is a lot of plastic product waste. But even though our country lacks a law to hold producers accountable, we educate the community on how to store and sort waste because, although on a small scale, some recycle waste, especially in urban areas," she says.

Their focus has been on communities in Dar-es-Salaam, Dodoma, and Lindi regions. They focus on alternative use of some waste, such as charcoal and ornaments. They have established community groups in those areas.

Ms Pima also points out negative effects of waste landfills found near residences in cities, citing fire outbreaks and environmental and air pollution. Mr Jafo said the government was working on finding investors in the waste value chain. "We encourage investors to grab the opportunities, including that in another form of carbon market.

So far, we have 33 companies and groups that want to invest in the waste value chain, most in energy. The NEMC is reviewing them," he said.

Concerning plastic bags and bottles found in Tanzanian streets despite a 2019 ban, Dr Jafo said: "There are thousands of small machines for making plastic bags, and they produce them at night. Although we have seized most of them, there are still many. I urge them to obey the law."

Dr Jafo said most plastic bottles could be recycled, but the problem is with the coloured ones. "We have issued three to four-month notice to the producers to find ways to recycle them. We don't want operations to stop abruptly; that is why we have given them time. After that, we will know what to do."

He said they planned to review the environmental policies to hold producers accountable, but they would announce that latter.

Photo Credit: Michel Nkurunziza

Farmers carry vegetables grown using solar powered irrigation.

Sunshine now saving Rwandan farmers from ravages of prolonged drought

By Michel Nkurunziza | nkurumaik25@gmail.com

The year 2021 was weird for Jane Batamuliza and other farmers from the Eastern Province of Rwanda. The province had faced drought and degraded ecosystems before, but 2021 came with an exacerbation of the problems, besides hailstorm that primarily impacted farming.

"That year drought lasted longer than usual, from May to November. Most maize, beans, and other crops in farms that had no irrigation withered. What followed was days of heavy rains. For the first time I saw hailstones. They destroyed crops that had survived the drought. It was double disaster," said Ms Batamuliza.

As a result, farmers who expected about five tonnes of maize harvest only got three at most, she said. Today, solar-powered irrigation is saving many farmers in this drought-hit province. Farmers in the rural Jarama in Ngoma District of the Eastern Province have since accumulated wealth worth more than $15,800, thanks to solar-powered irrigation.

The ecosystem in Eastern Province, with a 3 million population, has a huge potential as a fruit basket for Rwanda, but was threatened by prolonged drought.

Increasing adaptation finance to afford technologies such as solar power was Rwanda's and Africa's priority during negotiations at the COP28 talks.

The groups started small in farmer field schools in 2019 before becoming a cooperative named Tuzamurane Kigoma in 2021. The government-supported cooperative secured 3 hectares on which solar-powered irrigation was enhanced. The cooperative comprises 163 members, of whom 144 are women.

According to Therese Kansayisa, the cooperative president, before the project interventions, the farmers recorded cases of malnutrition in children. "We started growing vegetables. However, we lacked water. We resorted to watering cans. It was not effective. We had to fetch water from the wetland using jerry-cans and carry them on our heads up to the hillside. With the irrigation, we are no longer recording cases of malnutrition as food productivity has increased," she said.

Ms Kansayisa says they started using diesel pumps, and later solar-powered ones, to eliminate fossil fuel use in irrigation. "The diesel ones could not pump water for irrigating a big part of the land on the hillside. The solar-powered irrigation is currently covering all the hectares we have, including those on the hillside. We also save money to ensure the solar power facility's maintenance," she said.

The yields per hectare, Kansayisa says, have increased from 30 per cent to 70 per cent. The cooperative grows different types of vegetables, fruits, and maize and does rabbit rearing. It also got an affordable cold room made from locally available materials to store vegetables for up to seven days before they are supplied to markets.

Jeanne D'arc Mujawamariya, the Rwanda Environment Minister, who once steered gender and family promotion, says only 11 per cent of women-led households use irrigation in agriculture.

Photo Credit: Michel Nkurunziza

This makes them more vulnerable to climate shocks. Lower adoption of smart climate practices exacerbates vulnerability to climate change effects in women-headed households compared to those headed by men. Statistics show that only 11.8 per cent of women-headed households adopt irrigation, compared to 78.3 of men-headed ones in Rwanda.

Experts recommend support and training on climate agriculture, considering that 64 per cent of women farmers are still involved in subsistence agriculture.

To phase out fossil fuel use in the agriculture sector, and effectively cope with drought, the government will add an 1,050 hectares to the small-scale irrigation scheme, according to Jerome Hitayezu, Head of the Irrigation Programme at Rwanda Agriculture and Animal Resources Development Board.

A section of the 3 hectares that the Tuzamurane Kigoma Cooperative secured to enhance solar-powered irrigation.

Photo Credit: MESHA

Experts recommend support and training on climate agriculture, considering that 64 per cent of women farmers are still involved in subsistence agriculture.

Mr Hitayezu says the government has subsidised solar-powered irrigation interventions on 646 hectares, in addition to solar-powered irrigation projects funded by partners and the private sector.
The country has estimated that solar-powered irrigation could reduce its carbon emissions by 10 per cent as at 2030.

According to Rwanda's Nationally Determined Contribution, focusing on years 2021 to 2030, the use of solar water pumping systems for irrigation within agricultural production to replace diesel pumps for the period needs $285 million. Another $24 million will be spent on developing climate-resilient crops, while $109.6 million could go to expanding crop and livestock insurance.

The investment is expected to come from the government, private sector, and external sources of funding and reduce dependence on imported fossil fuels while increasing food security. The move will also increase the size of land under irrigation.

At least 500,000 hectares (40 per cent of the country's arable areas) can be irrigated. However, only 10 per cent is currently irrigated. Rwanda targets to irrigate 102,284 hectares by end of 2024.

According to RAB, the percentage of solar-powered irrigation is small compared to the total irrigated area, given that since 2015, the demand increased, and by 2021, at least 1,200 hectares had been irrigated using solar power.

The solar-powered irrigation was increased by a 75 per cent subsidy at the time.

At COP28, Rwanda joined countries with a pledge to triple the world's installed renewable energy generation capacity, of which solar power is part, to at least 11,000 GW by 2030, taking into consideration different starting points and individual national circumstances.

Rwanda aims to have 60 per cent of its energy come from renewable sources such as hydropower and solar by 2030.

Photo Credit: Aghan Daniel

The growth of factory farming has led to increased demand for meat and significant costs to climate, environment, health and billions of animals caught up in cruel factory farms

Sweet and sour: How lucrative intensive animal agriculture is fanning climate catastrophes

By Milliam Njeri | n.milliam@yahoo.com

Meat is a delicacy for many. But did you know that intensive animal agriculture or factory farming is contributing to at least 11 per cent of the global greenhouse gasses (GHGs)fuelling climate change?

These grueling statistics were released during the COP28 climate talks by the World Animal Protection (WAP), an animal welfare organisation on a mission to end animal cruelty and suffering.

Factory farming refers to a modern system that involves mass production of livestock, poultry, and other animals for food.

The primary goal of factory farming is to maximise efficiency, output, and profit by raising large numbers of animals in confined spaces, often using intensive and highly mechanised methods.

Key characteristics of factory farming include confinement of animals in small spaces, which limits their movement and natural behaviors; animals being kept at high population densities, allowing for large-scale production; animals fed specialised diets to promote rapid growth and efficient conversion of feed into meat, milk, or eggs; breeding programmes employed to select animals with traits desirable for production, such as fast growth rates, high egg or milk yields, and efficient feed conversion; and focus on a single species (such as chickens, pigs, or cows) with a possibility of specialising in one aspect of production, such as egg-laying or meat production.

According to the report dubbed "How factory farming emissions are worsening climate disasters in the Global South", factory farming releases vast quantities of GHGs across the supply chain, as it is energy intensive, relies on significant quantities of fossil fuel manufactured fertilisers and drives deforestation, compromising a vital carbon sink.

"Factory farming continues to expand around the world in response to urbanisation, a growing population, and increasing demand for meat. But this growth comes with significant costs to our climate, environment, health and billions of animals caught up in cruel factory farms," reads the report.

According to the report, the Global North's factory farms are responsible for $8.65 billion worth of damage in recent disasters in Africa, Asia, and South America. Unless governments change direction, the continued support for the expansion of factory farming will inevitably contribute to the rise in global GHG emissions and therefore the increase in severity and frequency of climate-induced weather disasters impacting the Global South.

"By 2050, the economic costs associated with climate-driven disasters globally could exceed $1 trillion annually, as the impacts of climate change intensify with factory farms liable for over $100 billion of that cost," the report read.

Dr Victor Yamo, the World Animal Protection's Humane and Sustainable Agriculture Campaigns Manager, said that while attribution science is still in its infancy, their research has found that in 2021, GHG emissions from factory farms contributed an estimated 11 per cent of global GHG emission.

Besides, factory farmed emissions from 34 Global North countries contributed about 4.3 per cent of global GHGs.

"There is increasing recognition that the climate-related impacts of producing more than 80 billion land animals for food annually increases the frequency and impact of climate-related weather events around the world," he said.

Dr Yamo said factory farming not only subjects animals to cruelty but also releases a large proportion of GHGs into the atmosphere, worsening heat waves, wildfires, floods, and drought. The GHGs associated with factory farming include carbon dioxide, methane, and nitrous oxide.

Because of this farming, swathes of wildlife habitats are also destroyed to plant crops for animal feed. This has led to the killing of wild species and the release of more carbon. The journey from the factory farm to the dinner plate pumps around 6 trillion tonnes of emissions.

"Factory farming not only causes suffering to billions of animals and the destruction of wild habitats. It is undermining food security around the world. Land that could be used to grow crops for humans or protect wildlife is instead used to plant crops to feed factory farmed animals. It is simply a wasteful, destructive food chain," said Tennyson Williams, Director for Africa at World Animal Protection.

According to the report, factory farming is set to surge in Africa, driven by an expected 30 per cent rise in meat demand. This will not only increase factory farming emissions and contribute to worsening climate-related disasters, but also replace the sustainable, agro-ecological pastoralists and their diversified independent farming systems.

"If nothing is done and factory farming gains route in Africa, African countries will have to spend $53 billion annually by 2030 to adapt to the climate crisis," the report details.

Photo Credit: Miliam Murigi

Tennyson Williams, Director for Africa at World Animal Protection.

The organisation wants governments to impose a 10-year moratorium on new factory farms and halt flawed food system's rapid global expansion. It demands finance for Adaptation and Loss and Damage for smallholder farmers in the Global South.

Besides, the organisation wants a phase-out of the most polluting industries – whether fossil fuel or cruel factory farming responsible for growing intensity and frequency of climate-induced disasters.

"Animal cruelty and climate change are interlinked. Until we get rid of animal cruelty in farming, climate change will worsen. Factory farming poses a core obstacle in achieving the targets laid out in the Paris Agreement and casts a dark shadow over the prospect of a climate-safe future," said Mr Williams.

Dr Yamo urged governments to hold the factory farming industry accountable. He called for an end to support for factory farming systems and the continued industrialisation of livestock systems, which make a significant contribution to GHG emissions and global heating.

Additionally, there is a need to establish national plans to support a just transition from industrialised livestock production towards agro-ecological systems that produce sustainable plant-based foods and fewer farmed animals in high welfare environments.

"Governments need to withdraw subsidies for industrial meat and dairy and redirect them to plant-based foods in ways that support small-scale farmers. Animals in factory farms should be spared the worst forms of suffering," said Dr Yamo.

Photo Credit: Temwa Mhone

Rose Thuboyi (right) and her grandchildren eat their only meal for the day. She has been a victim of multiple cyclones.

Why Malawi needed the Loss and Damage fund enforced a little earlier

By Temwa Mhone | derickmhone@gmail.com

Rose Thuboyi, a resident of Ngondo Village in Nsanje District of Malawi, has survived seven major climate-related cyclones since 2019. The elderly woman says it is the Cyclone Freddy floods, which hit the country on March 11, 2023, that reduced her to a beggar.

"The floods destroyed my house and swept away everything in it. I lost livestock too. This happened as I struggled to recover from Cyclone Ana, which occurred in January 2022," she says.

The cyclone also worsened hunger for the 71-year-old woman and her two grandchildren, as it washed away five bags of maize. Even their farmland turned into a river.

On March 11, 2023 the relentless downpour triggered flooding in the hugely deforested Shire Highlands, causing silted rivers to burst their banks.

Cyclone Freddy dumped on Malawi's Southern Region the equivalent of six months' worth of rainfall in six days, according to estimates by the International Meteorological Organisation. Mulanje, Thyolo, Phalombe, Zomba, and Chiradzulu were some of the districts that suffered the burden of the unyielding downpour.

The floods disrupted access to some areas as the roads were also damaged.

According to the Department of Disaster Management Affairs (Dodma), the cyclone affected more than 2.2 million people in Malawi, displacing 659,278, and killing 679. At least 530 people were declared missing.

Almost a year later, Thuboyi and her two grandchildren mostly eat once a day and depend on alms, a tricky situation as humanitarian aid for the survivors has stopped.

Their ordeals are climate change-related and highlight how the poor in the least developed countries suffer the worst effects of climate change fueled by emissions from wealthy nations.

The United Nations Research Institute for Social Development Crises of Inequality 2022 flagship reports that the poor suffer the worst consequences of climate change in a "poverty-environment trap."

Post-disaster needs assessments by the government of Malawi and its partners estimated the loss occasioned by Cyclone Freddy at $506.7 million and the total cost of recovery and reconstruction at $680.4 million.

"The country faces financial constraints in managing disasters," says Dodma spokesperson Chipiliro Khamula. "Recovery and intervention needs are higher than the available resources."

The cyclone worsened poverty in Malawi, even before it recovered from the 2022 Tropical Cyclone Ana, which affected a million people and displaced 190,000, causing 46 deaths.

The estimated loss from Cyclone Idai in 2019, which killed 60 people, was $220 million. Despite the 2019 post-disaster needs assessment by the government of Malawi, which estimated that the recovery would cost $370 million, the disaster department only received $80 million.

In 2023, Malawi struggled with the impacts of Cyclone Freddy, despite President Lazarus Chakwera's appeal for external interventions.

The floods and landslides washed away and buried thousands of hectares of crops that were ready for harvest in April, exacerbating food shortage for over 3.8 million people.

The operalisation of the Loss and Damage Fund at the COP28 was therefore a welcomed move for Malawi and others at the frontline of the climate crisis. African Civil Society Organisations and climate campaigners welcomed the development.

Power Shift Africa Executive Director Mohamed Adow commended COP28 President Al Jaber for getting the Loss and Damage Fund operationalised on the first day of the talks. "This was a game-changing move," he said.

Photos Credit: Temwa Mhone

A flooded road after days of downpour during Cyclone Freddy in Nsanje, Malawi in 2023.

A marooned village in Nsanje, Malawi, after days of unprecedented rainfall that led to the displacement of thousands, with women and children rendered more vulnerable.

Julius Ng'oma, the Coordinator of Civil Society Network on Climate Change in Malawi, said there was need for a quick flow of funds to address loss and damage associated with impacts of climate change in least developed countries.

"The establishment of the funds is encouraging to African countries, as they are the ones that suffer the most from climate-induced disasters. It is a big win for Malawi too, which has seen the worst effects of climate change. The country needs support to build back," he said.

With the 2023 United Nations Environment Programme Adaptation report indicating that up to $387 billion is required annually for developing nations to adapt to climate-related disasters, Mr Adow said the initial Loss and Damage Fund pledges were inadequate.

Global Initiative for Food Security and Ecosystem Preservation Director Mike Terungwa said the pledges sounded good, but remained political statements.

"It would be great if specific time frames could be included for many of the pledges that were made eight years ago at the Paris Agreement. These pledges should not turn into emission or pollution permits from the countries pledging," he said.

Meanwhile, as wealthy nations keep pledging for the cause, Thuboyi in the southern tip district of Malawi only wishes she had benefitted from the fund by last year to build back better from the recurring impacts of the cyclones.

Photo Credit: Njeri Murigi

A woman moves from a flooded home with the little belongings she could rescue after heavy rains pounded Madogo Ward in Tana River County.

More nations urged to join in efforts to restore resilience for flood, drought victims

By Milliam Njeri | n.milliam@yahoo.com

Only a few days after the Loss and Damage fund was operationalised at the December 2023 climate talks in Dubai, Kenya secured a financial boost of $316,000 from the Scottish government.

The money is expected to help communities in arid and semi-arid areas deal with losses and damages occasioned by the climate crisis.

"We hope that this Scottish government's funding to enable and support communities to address loss and damage inspires similar action from other governments," said Sebastian Tiah, the Interim Country Director, Oxfam International, Kenya. The announcement made during the COP28 talks came when Kenya experienced deadly El Nino rains. The resultant floods had wreaked havoc and caused unprecedented destruction of property and sources of livelihood, just when Kenya was recovering from a prolonged drought season.

According to the latest United Nations Office for the Coordination of Humanitarian Affairs (OCHA) and the Kenya Red Cross Society reports, more than 95,000 households had been impacted by December 2023, with over 45,000 people displaced and at least 71 people killed.

Thousands of homes had been washed away or marooned and farmlands submerged, with up to 17,000 acres destroyed and 13,500 livestock killed.

The three-month grant, to be managed by Oxfam International, Kenya, will help build the resilience of affected communities, who continue to disproportionately bear the brunt of cyclic climate change-related emergencies that they have least contributed to. A total 4,000 households will be targeted in the programme that was set to begin in January 2024.

"This fund will specifically be used to rehabilitate and upgrade critical strategic water systems damaged due to overuse during drought periods, or in conflict, in Isiolo and Samburu Counties.

The fund will additionally help communities to address economic losses and damages to household's livelihoods through community-managed group cash transfers, while simultaneously alleviating non-economic losses due to the conflict created by the economic losses and damages induced by climate change," Mr Tiah stated.

Oxfam is expected to work in collaboration with the Arid and Semi-Arid Lands Humanitarian Network (AHN), under its localisation programme framework to roll out the project and reach the most impacted families under the scheme. AHN is a 30-member platform, established in 2019, and operates within 10 ASAL counties. It promotes a locally-led humanitarian system within the regions.

"We are glad this funding has come when the coping capability of communities in the Kenyan Arid and Semi-Arid regions has been stretched beyond limit because of the cyclic shocks caused by climate change. It is a grant in the nick of time. We hope that more countries will heed to our appeal for Loss and Damage funding and commit more resources to supporting climate-impacted communities whose numbers keep growing in the face of myriad challenges resulting from climate extremes of both floods and drought," said Ahmed Ibrahim, the AHN Convenor.

Meanwhile, 300 households in Madogo Ward, Tana River County, who are policyholders of Britam climate insurance have started to receive payouts to compensate for the effects of floods that displaced many.

Photo Credit: Njeri Murigi

A man attempts to move to a less flooded area after the El Nino rains pounded Tana River County in Kenya last November.

The insurance company has processed $86,760 in compensation for the losses resulting from flooding in Upper Tana. The compensation will alleviate the immediate challenges faced by the policyholders.

"As floods pose a significant threat to low-income communities, our hearts go out to those affected by the recent disaster. However, the good thing is, amidst the hardship, the vulnerable communities will find solace because of our climate insurance solutions that are actively contributing to their resilience... Together we stand stronger, working towards a more resilient future," said Mario Wilhelm, Swiss Re Head of Middle East and Africa, Public Sector Solutions.

The 300 households were insured under the Britam Flooding Insurance Policy. The policy was launched in May last year to enable vulnerable households recover from losses caused by flooding in the country's largest river basin.

Oxfam partnered with Britam in Kenya and global reinsurer Swiss Re, to launch an Index-Based Flood Insurance (IBFI) product to cushion small-scale farmers living along the Tana River in Tana River County from adverse effects of catastrophic floods.

The IBFI product was developed using data modelling and satellite imagery to predetermine flood thresholds and provide coverage at an affordable cost. Oxfam funded the $65 per year premiums for each of the 300 vulnerable households for the flood insurance policy. Each household will receive $290 payable in three installments.

The policy covers damage to property such as buildings, furniture, and appliances; loss of income due to business interruption, and loss of lives or crops and livestock.

Community-led adaptation actions saving lives, but progress not tracked

Photo Credit: Susan Ndunda

A community water project in Kenya's Vihiga County.

By Susan Ndunda | susannanjinia@gmail.com

Undulating hills and valleys with streams flowing from Northeast to Southwest into Lake Victoria characterise the general Vihiga County topography. However, the rough terrain, which also harbours significant quarrying activities, does not support agriculture, as the area has little water. This in a country where the agriculture sector contributes approximately 33 per cent of Gross Domestic Product, (according to Food and Agriculture Organisation), and employs more than 40 per cent of the total population and 70 per cent of those in rural areas.

Jane Mtange from Buhani village blames Vihiga's water problems on the rocky landscape. "This area experiences long dry spells. Women walk more than 5km to get water," said Ms Mtange.

To mitigate the problem, community leaders in Buhani village in Mgoma Ward sought funds from the county government to put up a water reservoir for horticulture. Their proposal was successful.

Now the county supports raising of tanks and installation of solar panels used to pump water to various farms and homesteads. This helps the community to build resilience and adapt to climate challenges. So far over 150 families have been irrigating their beans, bananas, and vegetables farms as a result of the initiative.

The climate change kitty is, however, not peculiar to Vihiga. It has been established in all 47 counties under the Financing Locally-led Climate Action (Flloca) initiative. "Counties cannot rely on support from donors, as we don't know when they will give money.

So, from our county budget, we allocate money for the kitty yearly and work with locals to help combat climate change effects," said Dr Wilberforce Ottichilo, the Vihiga Governor, and Chair of the Climate Change Committee at the Council of Governors, and the country's Lake Region Economic Bloc (LREB).

In an interview with 'Sayansi' at the Kenyan pavilion, on the sidelines of the COP28 talks, the governor said Kenya witnessed drought for three years, followed by El-Nino rains. He said locally-led climate adaptation in LREB, and countrywide would be the only solution to climate impacts.

He said his county expected a $877,742 grant from World Bank to support locally-based adaptation projects through Flloca. The money is expected to boost several ongoing locally-led adaptation projects in areas such as Ebusiekwe, Mwibona, Sabatia and Hamisi.

Richard Misigo, the Maragoli Hills Community Forest Association Secretary and a member of Ward Climate Change Committee, says the past negative human activities in the Maragoli Hills, including encroachment and felling of trees for wood fuel, timber, charcoal, or construction worsened the effects of climate change, including irregular rain patterns and prolonged drought.

"Rain came in seasons that initially were dry, with prolonged drought when locals expected rain. Many a time it would be floods destroying houses, sometimes causing deaths. And since the area is hilly, we had massive erosion destroying farms," said Misigo.

Since rain patterns have changed and become unpredictable, Dr Ottichilo advocates smart farming through irrigation, and harvesting of water. He says: "The latest IPCC (Intergovernmental Panel on Climate Change) report shows Africa warming faster than the rest of the world. If unabated, climate change will have adverse impacts on African economies and societies, and hamper growth and wellbeing."

To restore the forest ecosystem at Maragoli Hills, the county collaborated with the community and offered tree seedlings. The trees grow under the watchful eye of the county, while residents hope they will reverse climate change effects, besides having predictable rain patterns.

"The climate change kitty came in handy, as it also supports beekeeping. The community received 160 beehives and developed apiary at the lower and upper parts of the hills. Some already harvest honey, which earns them some money that supplements income from farming," explained Mr Migosi.

Dr Ottichilo says there are several locally-based adaptation projects in other counties. However, despite positive impacts of the climate change interventions on the locals, they cannot be measured.

"Locally-led adaptation methods are doing tremendous work, but lack indicators to measure and report the effectiveness of the methodology in addressing the intersectional vulnerabilities, including linking to climate finance, and lessons to the National Adaptation Plans and NDCs."

The Paris Agreement requires that such successes be measured as adaptation programmes are carried out, with impacts on vulnerable communities such as women, youth and people with disabilities.

"The preliminary work done by Africa Research Impact Network (ARIN) and other institutions has shown that there are a few adaptation projects undertaken in Africa, but evaluation efforts have not shown whether they are succeeding or not. So it would be nice to have key indicators to help us monitor success," says Dr Ottichilo.

Photo Credit: Susan Ndunda

Vihiga Governor Dr Wilberforce Ottichilo waters a tree seedling in the Maragoli Hills, in Kenya's western region.

In recent years, locally-led adaptation has been widely recognised as an effective, efficient and equitable means of delivering climate action in Africa. Emerging locally-led adaptation practices indicate that vulnerable small-scale farmers are not often prioritised for adaptation interventions due to lack of frameworks and indicators to capture and report their relevance and impacts.

Charles Tonui, the Engagement and Research Policy Dialogue Coordinator at ARIN, says that while there is evidence to demonstrate that use of local adaptation metric has recorded some successes in Kenya and other African countries, progress remains slow due to a poor understanding of communities and their gender roles.

"As climate financial support for locally-led adaptation such as Kenya's World Bank-funded Flloca become increasingly linked to results, there is urgent need to develop reliable metric and management tools to be used to monitor progress and reporting as agreed in the Paris Agreement. This was also important for the Global Stock Take and development of methodology for Global Goal on Adaptation from the Global South," he said.

Mr Tonui says already the IDRC-funded Step Change project Locally-led Adaptation Metric for Africa (LAMA), 2023-2026 aims to use the latest innovations in gender intersectionality analysis and metric development to co-produce adaptation metric with stakeholders, including the vulnerable Small-Scale Farmers (SSFs) among others in the 14 counties in Kenya's LREB and replicate the lesson in Benin.

The experts recommend working with communities to co-develop and test locally-led adaptation indicators that are inclusive and account for the vulnerabilities of different social groups and contexts, attract public and private funding for adaptation (developing bankable projects with clear result areas) and enhance the clarity of local voices in climate policy by linking with the National Adaptation Plans and NDCs.

Santiago Alba-Corral of IDRC says measuring indicators is important and will help to establish successes and relevance of the work done, which is key for decision making. "We need to align to local priorities and local-based approach that will give us a framework on how to make communities more resilient to climate change," said Mr Santiago.

How climate mobility affects women and girls who set out to search for adaptation mechanism

Photo Credit: Daisy Love

Women demonstrate in the streets of Nairobi to express need for their prioritisation in the Africa Climate Week Talks in September 2023.

Francis Mureithi | mureithifrancis1964@gmail.com

Days after the global climate talks in Dubai in 2023, the push for climate mobility and gender to protect the most vulnerable from disaster impacts is intensifying. The message could not be clearer - while commitment grows, action continues to lag, particularly in developing countries, yet the consequences of climate change increase burden for women and girls.

The latest analyses of trends have shown how gender shapes the causes, experiences, and consequences of migration in a changing climate.

Meanwhile, evidence has shown how socially constructed gender norms influence movement patterns and affect who moves and who stays as the effects of climate change like floods, drought, and heat waves increase by the day.

A joint study on women, gender inequalities and climate-induced migration in East Africa by the High Commissioner for United Nations Human Rights and the United Nations Environment Programme states that globally, environmental change is expected to have increased impact on internal and international migration.

Forecasts of the number of people who will migrate either internally or internationally by 2050 due to climate change vary from 25 million to 1 billion, with 200 million being the most widely cited. Most of this mobility is expected to be internal migration.

To address the emerging concerns, the UN Decade of Action to Deliver the Sustainable Development Goals (2020-2030) has called for more inclusive approaches to resolving global challenges, including gender inequality and climate change.

A study by the International Development Research Centre (IDRC) provides clear evidence of what should be fairly obvious – women's participation and leadership are key to addressing climate change and migration issues.

Women in East Africa tend to carry the burden of domestic care and work and have fewer opportunities to influence decision-making to mitigate and cope with climate change impacts. Climate change leads to resource scarcity, making these tasks increasingly difficult and dangerous.

Women's socio-economic position and traditional role as caregivers limit their movement to adapt to climate change. Many have suffered discrimination and gender-based violence. They have not had equitable access to resources, services, information, employment, and decision-making processes.

In most of Kenya's 47 counties, such as Garissa, Lamu, Turkana, West-Pokot, Tharaka-Nithi and Elgeyo-Marakwet, thousands of women and girls are affected by climate change and forced to travel long distances for daily supplies.

They have less time for paid work despite being the primary food, water and fuel provides. Besides, their safety is compromised. In rural East Africa, where dependency on subsistence farming is high, women are critical to food security. There is, however, no reliable data on the number of women affected by climate-induced migration in East Africa.

World Bank's Groundswell report predicts that East African sub-region could see up to 12.1 million migrants on the move by 2050. IDRC states that extreme weather events affect the livelihoods, production, and security of people globally.

IDRC Internal Displacement Monitoring Centre found that an average of 21.5 million people were forcibly displaced due to sudden weather-related hazards each year between 2008 and 2015.

World Bank estimates that up to 216 million people may be forced to migrate within their own countries by 2050. "The impacts of climate change on six regions highlight that climate migration "hot spots" will emerge as soon as 2030 and intensify by 2050, hitting the poorest parts of the world hardest," stated IDRC in a statement at the COP28 climate talks in Dubai.

Between 3.3 billion and 3.6 billion people live in climate hot spots such as the Sub-Saharan Africa, which accounts for 86 million internal migrants, 19 million more in North Africa, and 40 million migrants expected in South Asia.

"Adopting a more gender-responsive or sensitive approach will foster women's important role in leading sustainable transformation," says Ms Wessam El Beih, IDRC's Regional Director for the Middle East and North Africa.

She added: "Climate and mobility are complex and multifaceted issues that require coordinated and comprehensive actions. Mobility due to adverse climate change compounded by other drivers — including conflict, pandemics, and economic crises — complicate the challenges."

Photo Credit: Daisy Love

A woman protests in Nairobi, Kenya, during the 2023 Africa Climate Summit that they claimed left out the voices of those disproportionately affected by climate change, including women.

"We need to invest research efforts in documenting and understanding short-distance and in-country mobility for different groups. Long-term migration is triggered largely by perceived environmental risks and economic opportunities," said Ms Wessam.

She said women were disproportionately affected by the impacts of climate change. "As caretakers, women can be mobilised as key agents of change and leaders in climate action, adaptation, and mitigation. Unplanned and unsupported mobility could compound the inequalities and exclusions that many of those vulnerable to climate change already face," said Ms Wessam.

Ms Baboki Kayawe, a Botswana-based journalist covering education, health, agriculture, gender, development, water and climate change, says migration affects women and girls more than it does men and boys. "The hardest hit are women and girls in rural areas, whose households are mostly female-headed," said Ms Kayawe.

She added that more than 300,000 women in Malawi were displaced, and had the least access to resources, forcing them to migrate.

"This often leads to increased sexual exploitation cases, poor health and lack of education," says Ms Kayawe.
According to UN High Commissioner for Human Rights Michelle Bachelet, when women are displaced, they experience a greater risk of gender-based violence (GBV), including sexual assault, human trafficking, and forced child marriage.

"While they sleep, wash, bathe or dress in emergency shelters, tents or camps, the risk of sexual violence is a tragic reality of their lives as migrants or refugees," Ms Bachelet says.

"Compounding this is the increased danger of human trafficking, and child, early and forced marriage, which women and girls on the move endure," added Ms Bachelet.

Ms Adrili Jilda, a refugee from South Sudan living in Uganda, says climate disruption adds to existing stressors driving displacement. "Targeted actions are needed to ease the climate adaptation burden for women, especially caregivers and female-headed households," says Ms Jilda.

Localising adaptation research important in reinforcing community resilience, say experts

Photo Credit: Francis Mureithi

Panelists at an IDRC and IOM event during the 2023 climate talks in Dubai. The session explored current and future climate induced mobility, impact on vulnerable populations, gender equality, and the role of academic research in finding solutions.

By Baboki Kayawe | kaybaboki@gmail.com

Benin's coastal state has faced the Atlantic Ocean's wrath countless times for decades. The billowing tides are said to have intensified after the proliferation of man-made dams and deep-water ports that wounded the entire Beninese shoreline in the 1960s. Coastal erosion poses a host of pressures to communities, as strong wave action; coastal flooding interferes with economic activities and puts human health at risk.

Not knowing when the sea would get angry, and the fact that increased flooding, rainwater runoff, salination, and other changes exacerbate existing risk factors for outbreaks of waterborne diseases, kept communities on the edge. "We can't trade or do anything during overflows, but knowing in advance when the ocean would misbehave helps to physically and mentally prepare and stay away from danger," said one resident of Cotonou.

Addressing extreme hydrological patterns around Lake Nokoué and Cotonou town, where a local market bursts to life, save for flood days, was the launchpad for an early warning and response system for climate sensitive-waterborne diseases initiative. This is focused on quantifying the risks of waterborne diseases more precisely and differentiating the most affected groups.

The intervention is implemented under Climate Adaptation and Resilience (CLARE); a partnership between the International Development Research Centre (IDRC) and the Foreign, Commonwealth and Development Office of the United Kingdom.

"There are many successful projects, but the Benin one comes to mind right away because it has had an immediate impact. The community is now able to control malaria," said Santiago Alba-Corral, the Director of Climate Resilient Food Systems at IDRC, during an interview on the sidelines of the COP28 in Dubai.

Alba-Corall said an adaptation programming model was used, activating resilient mind sets by taking the community through the process. "This is adding to their already existing coping mechanisms and strengthening the new landscape of climate change," remarked Alba-Corral. In Southern Africa, a synthesis of African researchers on climate change, led by professors at the University of Cape Town, under a trans-boundary network called BAOBAB, is making headway.

Photo Credit: Baboki Kayawe

IDRC's Director of Climate Resilient Food Systems, Santiago Alba-Corral highlighting the benefit of localised and gender-sensitive climate adaptation research.

"The project looks at mobilising, providing technical and capacity strengthening to support African-led trans-disciplinary themes to synthesise existing data, because sometimes it is not about research. We must look at the research that exists and translate it to human realities.

The project looks at mobilising, providing technical and capacity strengthening to support African-led trans-disciplinary themes to synthesise existing data, because sometimes it is not about research.

"It is going to be supporting researchers at the postdoctoral level to look at existing literature, identify the climate change risks, and see whether they could be translated into policy action. The translation of knowledge remains a huge challenge, that is how to translate it for everybody to understand and use it," he said.

Most critically, CLARE aims to bridge the earlier disconnect of the climate adaptation agenda, whose emphasises was more on the physical and natural models, neglecting the human perception of the different impacts of climate change, yet people were at the centre of exposure to vulnerabilities.

"We are looking at the connection between both aspects to understand the human factor. In other moments the projects are looking to increase the response to potential major crisis such as floods, while some projects investigate research needs to inform the national adaptation plans," Alba-Corral elaborated.

This research localisation intervention, motivated by that research production, was highly global, yet the spaces between the local, municipal, regional, and national levels where crucial variations exist to identify the different needs were neglected. Inequality, especially by gender, is critically important to the work that CLARE does, because "women are more affected than men," said Alba-Corral.

"The policies, the technology, the solutions that we develop as part of our responses in climate adaptation and mitigation need to understand different needs, especially the gender dynamics because otherwise, they will not have an impact," he said.

CLARE was launched in 2022 in Sharm El-Sheik during the COP27 talks.

Participation in the initiative was based on calls to submit proposals, with actual work having started in 2023..

The power Congo wields in efforts to achieve fossil fuel nonproliferation and avert climate crisis

Photo Credit: Prosper Heri

Miners busy deep inside the Congo Forest, where several mineral deposits have been confirmed to exist, with international firms eyeing the same for trade, but offering less that the precious items' value.

By Prosper Heri | prosperheri@gmail.com

The world has a target of 2050 to reach Net Zero emissions, which will be achieved by promoting clean energy. Due to its vast mineral wealth, the Democratic Republic of Congo is essential in green revolution and much efforts have to be made to encourage the country to contribute to a halt or massive reduction of greenhouse gas (GHG) emissions.

According to the International Energy Agency (IEA), despite many pledges and efforts deployed by governments to tackle the causes of global warming, carbon emissions from energy and industry have increased by 60 per cent since the UN Framework Convention on Climate Change (UNFCCC) was agreed on in 1992.

During COP28 in December 2023, more than the 190 parties agreed with the recommendation of the first Global Stock Take (GST) to ratchet up climate action before 2030, in keeping the global warming limit of 1.5°C within reach.

Some experts who closely followed the outcomes of the COP28 say this could be the "beginning of the end" of the fossil fuel era.

In the way of energy transition, electricity will play a key role across all sectors, from transport and buildings to industry. This will require huge increases in electricity system flexibility, such as batteries, demand response, hydrogen-based fuels, and hydropower for reliable supplies.

The world turns its gaze to several riches essential for energy transition and the planet's safety.

The Democratic Republic of the Congo is crucial as it harbours deposits of minerals such as cobalt, lithium, uranium, lithium, nickel, manganese and graphite, which are key for energy transition.

"The DRC should be the country leading to form industry renewable energy in Africa due to its raw materials and riches as a driver of energy transition," says Fadhel Kaboub, founder of Global Institute for Sustainable Prosperity and Senior Advisor at Power Shift Africa.

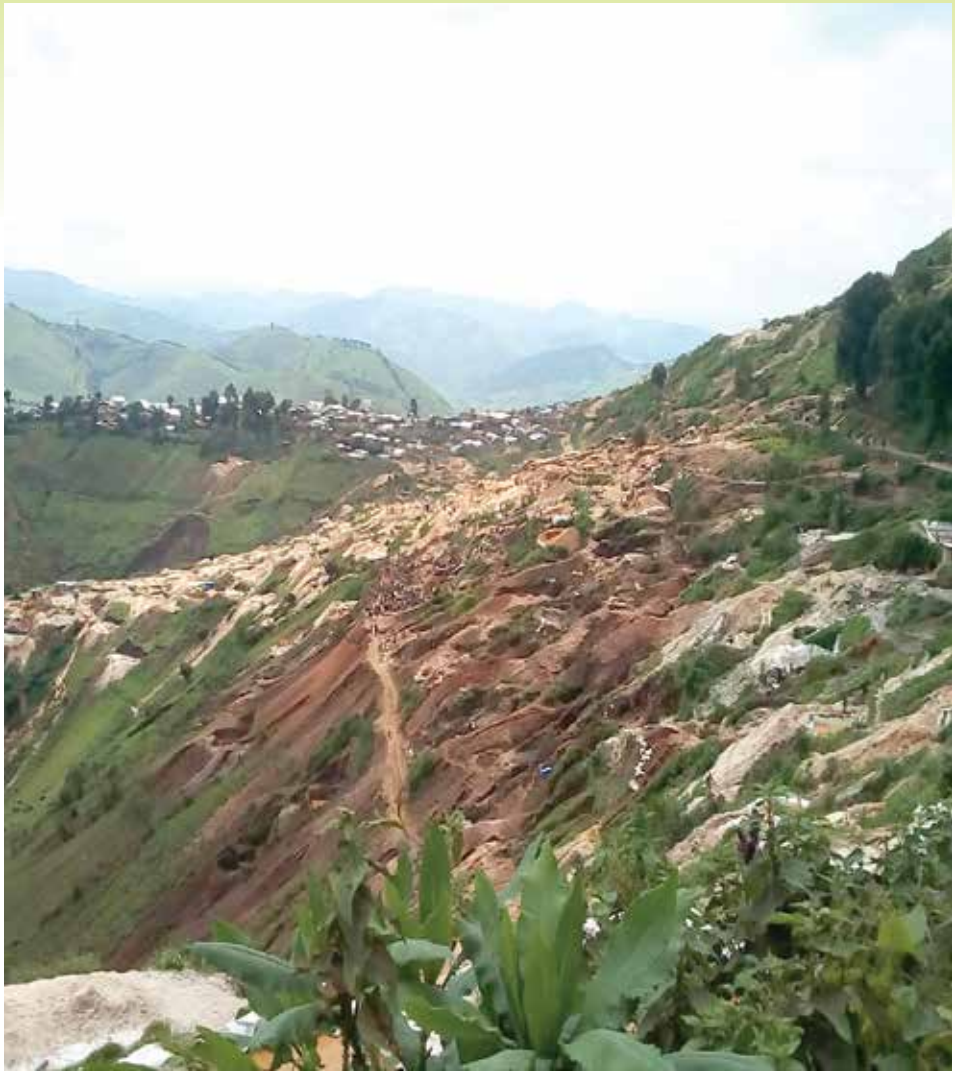
Cobalt is a critical mineral for electric batteries and is linked to important economic uses. An increased shift to electric vehicles will mean more demand for cobalt, a trend likely to be noticed with the nearing of 2040, when most vehicles sold are projected to be electric.

In September 2023, Julien Paluku, the Congolese Minister of Industry, revealed in New York that DRC's goal now was to create a value chain locally to transform minerals.

"We need $30 billion to develop the electric battery project. This amount came from the first feasibility study carried out for the installation of the first manufacturing plant for battery and electric vehicle precursors in Haut-Katanga in the DRC," he said.

He says the fund will help lead DRC to reach its desired financial target for such projects between 2035 and 2040.

Photo Credit: Prosper Heri



A section of an eroded and mined area within Democratic Republic of Congo.

He underscored the need for the study to be presented to all the Americas and other industrialists to mobilise interested partners to come to the DRC to develop the giant project.

Despite its natural resources, the DRC faces many challenges, including unemployment among young people, who constitute the majority of its population.

Young climate activists demand that the Congolese government create jobs and ensure young people benefit from them.

"The energy transition that is taking off from renewable energy sources constitutes a great way to get Congolese youth out of underemployment and poverty if only political decision makers involve educated and competent youth," claims Crispin Ngakani, a climate activist based in Bukavu.

Nearly 70 per cent of the world's cobalt is mined in the DRC and the country is the leading cobalt producer in the world. That is why it has all interests to reinforce its governance system to grab all benefits from the likely energy transition.

Dady Saleh, a professor in economics based in Goma, says Congolese authorities should put in place a complete neo-mercantilist industrial system. He blames the state for "mortgaging" resources by granting them to investors who offer less than the actual value of the minerals.

"We have predators who sell off strategic minerals from the DRC at low prices. We have ministers and other authorities who go looking for investors abroad and take the opportunity to make their share through commissions. This is a monumental mistake. We can make investors here at home. Congo must build billionaires.
As we are talking about strategic minerals, we also need strategic decisions," he says.

"Nearly 70 per cent of the world's cobalt is mined in the DRC and the country is the leading cobalt producer in the world. That is why it has all interests to reinforce its governance system to grab all benefits from the likely energy transition."

COP28: Global Stock-take aside, African ministers push industrialised North to increase funding for climate action

Photo Credit: Njeri Murigi

Rural community members wade murky waters in Kenya's coast after a flash flood. African Environment Ministers want more money sent to the continent to aid climate action.

By Violet Nakamba | nvwambanji@gmail.com

Africa is endowed with immense natural capital encompassing its vast and diverse ecosystems, fertile land, mineral resources, and freshwater bodies. It is also a continent at the forefront of the climate crisis, with extreme weather episodes, from prolonged drought, to floods and heat waves. The climate crisis has also borne water scarcity, with negative effects on environment, health, economy, and livelihoods, to mention a few.

The African Ministerial Conference on the Environment (AMCEN) has since its establishment in 1985 been instrumental in the fight against climate change. During the COP28 climate talks in Dubai, AMCEN presented its case on the way forward concerning climate action in Africa.

During the AMCEN meeting to prepare for the COP28 High-Level Segment that took place on December 7, 2023, in Dubai, key focus areas were addressed. They included the need to operationalise the Global Goal on Adaptation (GGA).

AMCEN President and Minister for Planning and Development in Ethiopia Fitsum Assefa Adela urged developed-country parties to enhance their delivery of provisions of climate finance, including financing for Adaptation, to demonstrate progress in increasing scale and enhancing access to affordable resources.

"We reiterated the importance of establishing the mechanisms needed to ensure that Africa receives its fair share of provisions of support and flows of investments that are reflective of Africa needs and resources and deliver on African just transition pathways," Ms Assefa said.

AMCEN emphasised that the first Global Stock-Take (GST) done during the Dubai fete reflected Africa's special development circumstances and provided policy space necessary for the continent to achieve sustainable development and a just transition to low-emission and climate-resilient development.

According to AMCEN, there is a need to build Africa's resilience to climate change impacts through early warning systems, infrastructure development, and sustainable land management practices.

Ms Assefa said Africa ought to reduce greenhouse gas (GHG) emissions by transitioning to renewable energy, improving energy efficiency, and adopting sustainable agriculture practices. "Africa needs to mobilise the necessary financial resources for climate action, through development of innovative financing mechanisms. It should strengthen its capacity to address climate change through education, training, and research, with capacity enhancement," Ms Assefa added.

She called for collaboration between African countries, developed nations, and other stakeholders to support climate action, and encouraged investment in nature-based solutions through carbon sequestration.

Ethiopia has invested in nature-based solutions through its Green Legacy Initiative - a flagship project by Prime Minister Abiy Ahmed. Through the initiative, 32.5 billion of the target 50 billion trees have been planted.

Photo Credit: Njeri Murigi

A flooded area at the Kenyan coast. Such disasters have destroyed property, infrastructure and forced people out of their homes besides exposing them to water-borne diseases.

"The initiative reconnects people and nature and provides a platform for mobilising people to invest in nature to build a sustainable future, reducing desertification, reclaiming degraded land, forest sector development, greening and renewal of urban areas, and integrated water and soil resources management," Ms Assefa said.

The initiative contributes to global environmental agendas, including the Paris Agreement on climate change, the targets on land restoration, and the newly adopted Global Biodiversity Framework, the 2030 Agenda for Sustainable Development, and Agenda 2063: The Africa We Want.

She says by investing in nature-based solutions, Africa can simultaneously address climate change, enhance biodiversity, improve livelihoods, and promote sustainable development. Ms Assefa said she looked forward to a strengthened AMCEN that adequately provides strategic guidance and leadership in addressing the triple planetary crisis of climate change, biodiversity loss, and pollution, besides advancing Africa's interest in the global and regional multilateral agenda.

Collins Nzovu, the Minister of Green Economy and Environment in Zambia, said Africa would not agree on anything unless its top priorities, such as the GGA framework, were met. "If we are serious about saving lives, livelihoods and protecting ecosystems, then the GGA framework must have ambitious, time-bound targets with clear means of implementation support," Mr Nzovu said.

He said Africa would not agree that the GGA is low in ambition by having only process-based targets, but that this is about outcomes and saving lives. He said the GGA outcomes must address thematic and dimensional targets on equal footing and be measurable and time-bound to enable progress tracking.

"We note the critical importance of the GGA in the GST, which must assess collective progress on implementation. The GGA outcome must have strong language on the GST," Mr Nzovu said.

"Despite the strain on our budgets and the increasing burden of debt, our governments have committed significant domestic resources for adaptation. Only scaled-up, adequate, and predictable international public finance can close the widening gap. Means of implementation is the cornerstone for realising the GGA and its framework," he said.

Mr Nzovu said Africa cannot accept a GGA framework without means of implementation from developed countries for developing countries, especially on the targets.

"We demand a standing agenda item on GGA and further work on metric and indicators for tracking progress, including inviting input from the Intergovernmental Panel on Climate Change (IPCC) at a workshop and a longer-term taskforce for adaptation beyond the GGA framework," Mr Nzovu said.

He said the GST outcome must recognise Africa's sustainable development and poverty eradication imperatives that are consistent with Agenda 2063."The GST outcome must promote equity and fairness in the allocation of policy space, and ensure that the energy transition will be just, equitable and orderly. As such, the transition should be premised on differentiated pathways to Net Zero and fossil-fuel phaseout," he said.

Outside the GST, COP28 delivered historical negotiated outcomes to operationalise the Loss and Damage Fund, securing $792 million in early pledges, providing a framework for GGA, and institutionalising the role of Youth Climate Champion to mainstream youth inclusion at future COPs. The COP28 President Dr Sultan Al Jaber said during the close of the conference that parties worked hard to secure a better future for people and the planet.

No longer whining: Indigenous crops offer relief to Zimbabwean farmers in climate-messed areas

Photo Credit: Gabriel Ingubu

Mary Sarange tending to her sorghum farm. In Zimbabwe, agricultural production relies primarily on rainfall, with smallholder farmers in marginalised areas contributing over 70% of food production.

By Farai Shawn Matiashe | matiashefarai@gmail.com

Joyce Mapuka could not hide her disbelief when her immediate neighbour had a bumper harvest on land only 2km from hers in Mashava, Zimbabwe. The 29-year-old mother of three later learnt that she needed to change her farming method at the land about 327km from the capital Harare.

In 2017, Ms Mapuka joined the Shashe School of Agro-ecology. She now grows sorghum, groundnuts, bambara nuts, and finger millet that are more drought-resistant than the type of maize she previously held on to. Initially, she would borrow seeds from other farmers. Now she has a seed bank that she replenishes every time she harvests.

"I stock seeds. Buying is expensive and you are likely to miss the indigenous varieties. This will be useful even for future generations. Our seeds are reliable, as they bear no chemicals," Ms Mapuka said.

She added: "We once had poor quality millet that did not grow to the desired height, and neither did it produce much. We learned to trust our varieties."

The Shashe farming area, just like most parts of Zimbabwe, experiences the effects of climate change. It is hot and mostly dry, with reduced rainfall frequency, sometimes leading to livestock deaths. "These indigenous grains still do well even with less rainfall," says Ms Mapuka.

As part of agro-ecology, she is also into livestock, horticulture, and gardening. Everything is interlinked and recycled at her farm, which is the size of four football pitches.

"I do not spray the crops. I use traditional methods like ashes mixed with maize cobs to deter insects. I do not use fertilisers. I use manure made from chicken droppings and cow dung mixed with crop residues. It is highly effective in vegetables and these drought-resistant crops," she says.

Ms Mapuka says some chicken droppings are used to feed catfish and breams. Crop residues and grains are used to make feed for goats, cows, and pigs.

Zimbabwe has been championing the growing of indigenous crops countrywide. The government even supports smallholder farmers with input packages and technical advice.

During the COP28 in Dubai last year, the government showcased agro-ecology and indigenous grains at the Zimbabwe pavilion, and enlightened many on how critical it is in providing sufficient food, with minimum contribution to greenhouse gas (GHG) emissions.

This is why agro-ecology concepts like the use of manure instead of fertilisers and the recycling of farm waste are critical in reducing the causes of climate change.

Photo Credit: Gabriel Ingubu

A farmer holding slenderleaf vegetables. Farmers have resorted to indigenous crops for better yield and soil quality.

"In Zimbabwe, agriculture production is mainly rain-fed and smallholder farmers in marginalised areas contribute to more than 70 per cent of food production, yet they lack the financial capacity to purchase synthetic inputs," says Simba Guzha, a regional project manager at Voluntary Service Overseas (VSO), a charity organisation that funds and advises Shashe School of Agro-ecology.

"This therefore means that affordable and less resource input farming practices like agro-ecology are important to enhance agricultural production and increase food security at the household level," he says.

Photo Credit: Farai Shawn Matiashe

Some of the produce from the farms in Shashe farming area in Masvingo. Farmers have resorted to rely on indigenous crops for better yield and soil quality.

Mr Guzha says in Mashava, most soils are loamy, sand to sandy, which are prone to acidification, leaching, and poor structure, and can barely support plant life. As a result, use of organic fertilisers and green cover crops that bind the soil helps to replenish them and enhance microbial activity that supports plant life while sequestering carbon dioxide from the atmosphere. "Soils rich in organic matter are good carbon sinks," he says.

Ms Mapuka sells the excess farm produce to the Grain Marketing Board and markets in the nearby Masvingo town.

"I clothe and feed my family after selling the farm produce. I have also joined a money-saving scheme known as Mukando in Shona, where we have to save money and share it among us at the end of the year," she says.

Joyce Kuchicha, another smallholder farmer from Shashe, says she harvests better when she grows drought-resistant crops. "I earn a living through farming. With drought-resistant crops you will never go wrong," the 41-year-old mother of six told this writer.

Ms Mapuka says she would appreciate more access to markets for their produce. "We need to improve on market linkages for us to realise our full potential as smallholder farmers in this community," she says.

"I clothe and feed my family after selling the farm produce. I have also joined a money-saving scheme known as Mukando in Shona where we have to save money and share it among us at the end of the year." – *Joyce Mapuka, Zimbabwean farmer.*

Africa: Bring funds closer to help tackle drought and floods cycles

Photo Credit: Agatha Ngotho

Mariam Hassan from Maramtu village, Bangale sub-County in Tana River County house was destroyed by the floods. She is among those who had to seek for temporary shelter in the IDP camps in Tana River County.

By Agatha Ngotho |angotho@gmail.com

As the world shifted focus to Abu Dhabi for the global UN-led climate talks, many a home in Africa were reeling from the pain, shocks and losses inflicted by the El Nino rains that had caused flooding.

According to data from the United Nations for the Coordination of Humanitarian Affairs (OCHA), 120 people were killed by the El Nino rains in Kenya in 2022 and 545,515 people displaced as at December 8, 2023. In addition, over 17,600 acres of land were destroyed and 13,400 livestock deaths recorded.

Tana River, Garissa, Wajir and Mandera counties were the worst hit, with women and children most affected.

The counties worst-hit by the El Nino were Lamu, Tana River, Garissa, Mandera, Wajir, Homa Bay and Kitui, with women and children most affected. Many ended up in camps, deprived of proper access to water and sanitation, among other basic needs.

Mariam Hassan from Maramtu village, Bangale sub-County in Tana River County suffered the effect of the heavy rains.
Prior to this, she had also been a victim of a prolonged drought that cost him several head of cattle besides crop failure. The floods destroyed and marooned her home, occasioning her relocation to an internally displaced people's (IDP) camp.

"I used to sell hay in Garissa market, but the floods cut off the roads, curtailing transportation. Even so, the rains have made pasture available for everyone, and taken away my market," she told this writer at the time.

Mariam also sold charcoal, but with the damaged roads, it is not easy to transport the product.

The widow relied on $81 cash transfer - a locally-led multi-purpose cash response to affected communities in Kenya spearheaded by the Royal Norwegian Embassy in Nairobi.

She would spend the cash on food and school fees for her seven children. "I paid Sh4,000 ($29) for my child in Form One and Sh10,000 ($72) for another one in Form Three," she said, all the while hoping to save some to repair her damaged house and return home later.

At the time, the project benefited at least 2,564 households that were either food insecure, malnourished or going through climate shocks in the Arid and Semi-Arid Lands. At the IDP camp, Mariam said, toilets were few, and many people opted for Bushes, increasing risks of waterborne diseases.

Mariam Abdi, 23, said she would sell charcoal in Garissa town but had to quit as the floods made the roads impassable.

"The cash transfer has been a blessing. I provide for my children and will spare some money to repair my house and build a toilet," she said. About 15 households shared dilapidated toilets in the camp, according to her. "Children defecate in bushes".

Fatuma Juma lived in an IDP camp in Garissa Township after her house was destroyed and livestock killed. She however missed out on the cash transfer programme. "We have been provided with toilets but we do not have food. Men have to go look for casual jobs while women wash clothes for people in towns to survive," she said, adding: "Life is tougher than it was when there was drought. Food is more expensive and the little we get is not enough to feed our family."

Garissa Township MP Major Dekow Barrow said there were 16 IDP camps in Garissa Town and that about 7,000 households were affected, especially when River Tana broke its banks. "We have some major challenges in the camps, including food scarcity, shelter and health issues.

Schools are opening and most of the affected are school-going children. Another challenge is how to take these people to restart their lives," said Mr Barrow, adding: "These are communities whose farms and homes were destroyed.

We are working with donor partners and other stakeholders to assist and hope there will not be another wave of rain that aggravates the situation."

Yet this problem also required a long-term solution because it recurred. To this, Mr Barrow said: "As leaders we have tried to get a long-term solution. One of them will be river bank protection."

Several Intergovernmental Panel on Climate Change (IPCC) reports have indicated the likelihood of higher risks, especially in the Global South, where adaptation limits are increasingly being overstretched as the frequency of the climate disasters as a result of untamed global warming increase.

The first day of the 28th Conference of Parties (COP28) to the United Nations Framework Convention on Climate Change (UNFCCC) in Dubai passed the operalisation of the Loss and Damage Fund, which had been established during the COP27 talks in Egypt. That the World Bank hosts the Fund and becomes its trustee for the first four years has remained a contentious matter, especially between developed nations and the Global South. Several negotiators want the Loss and Damage finances, as well as the Adaptation funding directed towards rural communities who are hardest hit by climate change.

Such are equally the pleas of Mr Barrow, who says he speaks for many local leaders and communities. He wishes such funds as Loss and Damage, as well as Adaptation could be easier to access by communities at the frontline of climate change, like the hard hit Northern Kenya, where resilience has also been compromised.

"We are worst hit by impacts of climate change, with a vicious cycle of drought and floods as a result of global warming and destruction of natural habitats.

Photo Credit: Agatha Ngotho

23-year-old Mariam Abdi was impacted by floods. She used to sell charcoal in Garissa town but the business was discontinued after the roads were cut off by floods.

The fund should be channeled to organisations that address the issues locally," he said, adding that women and children were disproportionately affected, including during disease outbreaks.

"Women are also the most affected by sanitation issues in the camps. We have also reported cases of gender violence, especially in handling of young girls by men in these camps. We have addressed this with the County Government to ensure they provide security to women in distress so that no one takes advantage of the situation," the MP said.

In Africa, the International Development Research Centre (IDRC) has undertaken a climate adaptation project for the last 15 years and invested more than $500 million. The Locally-led Adaptation Metrics for Africa (LAMA), which is funded by IDRC, Canada, is ongoing in Kenya and Benin, and seeks to support the measurement of the relevance and effectiveness of local adaptation interventions. The focus is on gender inclusive initiatives, not forgetting people with disabilities, the fisher folk and small-scale farmers.

LAMA further seeks to collect data and information on local adaptation frameworks to enable communities to access funds that are responsive to their circumstances and adaptation needs.

Vihiga Governor, Dr Wilber Ottichilo, says adaptation is an important component of climate change for the Global South. "This is because we do not have the mechanism or the know-how, hence adaptation is an area of interest. We need to have a system on how to measure success in order to be able to know whether adaptation is having an impact in alleviating the negative impacts of climate change to the vulnerable communities, (particularly women, youth and people living with disability). This has been lacking," he added.

Dr Ottichilo says that according to the Paris Agreement, it is clear that we need to measure successes of the adaptation programmes. "The project is going to set benchmarks on which future monitoring and evaluation of the impacts of adaptation initiatives from various development partners and individuals are going to be assessed," he said.

Such are the prayers of the suffering communities in the ASAL areas, which have endured cycles of drought and flooding, each coming with devastating effects.

Dubai, city of lights setting the pace on energy access for all citizens nationally

Photo Credit: Lameez Omarjee

The trees in Jumeirah Village Circle in Dubai.

By Lameez Omarjee | omarjeelameez@gmail.com

Words of the Ethiopian taxi driver, Hakim*, while he drove me to Dubai Mall, hit hard. I told him I had been reporting about COP28, which was being held over two weeks in the United Arab Emirates (UAE). He was pleased to hear that I, a journalist, would be telling the stories that matter to Africans at the global climate talks. "The Europeans talk about electric vehicles, but we in Africa can't think of that. We don't even have electricity," Hakim said.

More than 600 million people in sub-Saharan Africa lack access to electricity, according to the International Energy Agency (IEA). Up to 970 million in Africa lack access to clean cooking energy, and rely on burning biomass.

This was such a contrast to Dubai City, where power shortage is unheard of. The city's skyscrapers are all lit up. Their exterior light features glow in rhythms or patterns for branding. Supermarkets are adorned with fairy lights and the same is true for the palm trees. The road network looks ablaze with the street lighting.

The lights are matched by the sound of construction work. When you lie to rest you hear workers hammering. The same sound wakes you up in the morning. The abundance of electricity drives the economy's growth.

According to data tracked by the International Renewable Energy Agency (Irena), 100 per cent of the UAE's population of 9.44 million access electricity, and 95 per cent use clean energy to cook. In South Africa, the situation is different.

In September 2022, the country's power utility Eskom asked businesses to turn off unnecessary lighting in an attempt to battle an energy crisis.

For many years, electricity supply has been far below what the country needs as a result of failing coal-fired power stations, which are nearing the end of their life and breaking down. While Eskom is implementing a rigorous maintenance programme at some power stations, there are still unforeseen breakdowns which create energy deficit. As a result, rotational power cuts, locally referred to as load shedding, are implemented.

Last year was considered the worst, with over 330 days of load shedding. This had a crippling effect on the country's economy. The South African Reserve Bank estimates that the domestic economy loses between $10,646,530 and $47,909,420 every day for power cuts that last between six and 12 hours. This affects business hours and has forced business owners and households to use diesel generators and rooftop solar PVs.

The South African National Energy Regulator recently indicated that investments in solar PV generation by businesses and households between July and September 2023 amounted to $606,852,643.

The power outages affect most South African sectors, including food prices, with that of vegetables increasing 20 per cent year-on-year in November 2023. Not all households are resilient to these impacts.

Photo Credit: Lameez Omarjee

A view of the Dubai city at night.

"The rationing is killing us because whenever it rains, we make a fire outside," said Veronica Betani, a resident of Hamburg, on South Africa's east coast. Betani is a seamstress for the Keiskamma Art Project, which supports vulnerable women in their families living in Hamburg.

Most households in Hamburg are women-headed. They face impacts of climate change such as heavy rainfall that damages their homes and causes flooding. On the other extreme, heat makes it difficult to grow food crops.

The Keiskamma Art Project recently completed a tapestry called Umlibo (pumpkin vine), in Xhosa.
The tapestry shows the impacts of climate change on the community, and they want this message to spread, as a pumpkin vine grows.
The artwork also maps out a future that is more climate-resilient and can achieve the Paris Agreement goal of limiting warming to 1.5 degrees Celsius, failure to which disasters will be frequent. Umlibo was on display at the South African pavilion at COP28.

Looking at the embroidered artwork, you can see the future Hamburg, with wind turbines and solar PV that generate clean energy.

"Those solar panels should be planted everywhere so we can reach that 1.5 degrees Celsius," said Betani.

South Africa's existing energy mix is dominated by coal-fired power stations (75 per cent), followed by oil (14 per cent) and renewable such as wind and solar PV at 6 per cent, according to Irena data.
The coal-fired power stations are also a major driver of South Africa's greenhouse gas emissions. Part of the country's commitments to reduce emissions involve decommissioning coal-fired power and rolling out more public renewable energy projects.

A public programme to bring renewable energy on board stalled in 2016. Government rebooted the programme in 2021. Two years on, new utility-scale projects are yet to start feeding power to the national grid.

A lot of shopping goes on at night in Dubai

The UAE's energy mix is also dominated by fossil fuels. Gas accounts for two-thirds of the UAE's power, followed by oil, which is less than a third. The remaining is provided by coal (2 per cent) and renewable energy (1 per cent), according to Irena.

Photos Credit: Lameez Omarjee

The Umlibo tapestry on display at the South African pavilion at COP28. It shows the impacts of climate change on the Hamburg community, and the climate-resilient future they hope for.

Residents of Hamburg envision wind turbines and other renewable energy sources to provide electricity.

Hamburg residents encourage use of renewable energy sources like solar PV.

While it is evident that electricity is an important driver of economic growth- and that the reliance on fossil fuels for power persists, nearly 200 parties at COP28 agreed to transition from fossil fuels in a "just, orderly and equitable manner," to achieve the Paris Agreement goal of net zero emissions by 2050. (Net zero means that the greenhouse gasses emitted are matched by those removed from the atmosphere). The decision has been lauded as a historic breakthrough.

"For the first time in three decades of climate negotiations, the words fossil fuels have ever made it into a COP outcome. We are finally naming the elephant in the room. The genie is never going back into the bottle and future COPs will only turn the screws even more on dirty energy," said Mohamed Adow, the Power Shift Africa Director.

"Some people may have had their expectations for this meeting raised too high, but this result would have been unheard of two years ago, especially at a COP meeting in a petrostate. It shows that even oil and gas producers can see we are heading for a fossil-free world," he added.

Parties also agreed to phase down coal power without technologies to remove emissions. The exit from fossil fuels is to be complemented with the tripling of global renewable energy and double energy efficiency by 2030.

Perhaps this landmark decision at COP28 is evidence of Africa having a say in the climate talks. Electricity will determine Africa's economic future and that power will increasingly come from renewables, according to the International Energy Agency (IEA). "Africa is home to 60 per cent of the best solar resources globally, yet only 1 per cent of installed solar PV capacity," according to the IEA.

There is massive potential to use renewable energy to meet Africa's energy needs. For South Africa, the same is true. For now, the priority is energy access. Imagine if African cities could also be lit up like Dubai, a symbol of economic growth, and how much better would it be for our climate future if that power is clean. *Not his real name.

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IDRC · CRDI
International Development Research Centre
Centre de recherches pour le développement international

Canada

THE MESHA TEAM AT COP28

Prosper Heri Ngorora
DRC

Temwa Mhone
Malawi

Susan Ndunda
Kenya

Zanji Valerie Sinkala
Zambia

Milliam Murigi
Kenya

Francis Mureithi
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THE MESHA TEAM AT COP28

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