Climate Change: Amplifying vital voices from marginalised communities

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

The association emphasises on rural journalism and communication.

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

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

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

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Cover Photo
Forestry Principal Secretary, Ephantus Kimotho Kimani, FAO Nature Resource Management Coordinator, Phillip Kisoyan and FAO Kenya Representative, Carla Mucavi pose for a photograph with a signed agreement with the Kenya Forest Service on the protection and user rights of Kirisia Forest.

Photo Credit: Agatha Ngotho

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Climate action by marginalised groups needs more media and public attention

Whenever there are environmental disasters caused by climate change, such as droughts and floods, marginalised groups and minority communities are hit harder than any other groups. By their nature, certain social groups are particularly vulnerable to crises. Such groups include female-headed households, children, persons with disabilities, indigenous peoples and ethnic minorities, landless tenants, migrant workers, displaced persons, sexual and gender minorities, older people, and other socially marginalised groups.

According to the World Bank, as the impacts of climate change mount, millions of vulnerable people face disproportionate challenges in terms of extreme events, health effects, food, water, and livelihood security, migration and forced displacement, loss of cultural identity, and other related risks.

To add salt to injury, these low-income and disadvantaged communities contribute least to greenhouse gas emissions, are most vulnerable to climate change impacts, but often benefit the least from climate actions and bear the brunt of social costs. This is what World Resources Institute calls the “triple injustice”.

The media is furthering this injustice and marginalisation by how they cover climate change and their effects on the world, with most reports focusing on government agencies, non-governmental organisations and international organisations meeting in big hotels and restaurants to discuss policy. In most reports where the marginalised groups appear, they are often portrayed as victims of climate change. Even when this happens, their voices on what should be done to alleviate the situation are rarely heard.

Yet, the reality on the ground is that these vulnerable groups are engaged in life-changing, innovative initiatives in their efforts to mitigate and adapt to climate change effects. They do this either on their own by forming small groups or through support from various organisations keen on empowering the vulnerable to create a lasting impact on their communities.

A case in point is the support by the Worldwide Fund Nature Kenya (WWF-Kenya) in the Voice for Just Climate Action (VCA) project. In this project, WWF-Kenya is funding locally led climate action programmes through community-based organisations, results of which cannot be understated. WWF-Kenya is not the only international or national organisation doing this at the grassroots level.

However, nothing much is heard about such initiatives as the voices of marginalised and vulnerable are muzzled in the mainstream media, further disenfranchising them. This is therefore a call to all media, mainstream or local, to raise the voices of these groups to enable them take on a central role as creators, facilitators and advocates of innovative and inclusive climate solutions. Their inclusion is crucial for effective and lasting climate responses. The will also create awareness of how climate change affects vulnerable/marginalised groups and influence policy on how all cadres of society can be engaged in fighting the climate change crisis.
Stephen Ndwiga spent all his savings and sold almost everything he owned as he sought treatment for colon cancer.

After years of fighting the disease, he went back home with nothing to offer his family of three children.

However, his fortunes began to change for the better when he joined Kyeni East Perfoder, a group of people living with disabilities (PLWDs) that grows tree seedlings for sale in Kiangungi village, Embu County.

“It was such a boost to join this group because it has given me a chance to redeem myself and get back on track. I had nothing to share with my family until I embraced the group’s idea of tree seedling cultivation,” says Ndwiga.

The group has been in existence for six years and the members say their aim is to rescue the county and the world from the severe effects of climate change.

“We wanted to be identified as resourceful individuals within the community and to do away with the feeling of guilt among some of us who felt they had no value in society,” says Martha Njeri, the group secretary.

The group first established as a self-help group in 2017 with an aim of uniting the PLWDs within the village and contributing to the development of the country. The membership consists of people with disabilities and those taking care of loved ones who live with disabilities.

The 27-member group initially wanted to do table banking for self-sustainability but eventually settled on growing tree seedlings to also build their community and contribute to the country’s environmental conservation.

Group Chairman Taratisio Nyaga says they started with over 5,000 seedlings of different species but the project soon collapsed due to lack of enough resources and support.

However, motivated by Kenya’s constitutional target of attaining a 10 per cent tree cover, the group picked the pieces after a few months and started the project again.

“I learnt of Kenya’s ambition to have at least 10 per cent tree cover by 2030 and this awakened my urge to ensure our efforts as a group were appreciated. It was an opportunity to develop our passion and join the country in safeguarding our environment against the negative impacts of climate change,” she says.

She says the idea of each member having their own tree nurseries brought some hope and 2019 they made their first sale, which to them was the greatest milestone.

Kenya’s tree cover target has since shifted to 30 per cent by 2050 as was pronounced by former president Uhuru Kenyatta in the year 2022 and Nyaga says they will keep up efforts and contribute towards achieving the target.

According to the Kenya Forest Service (KFS) National Forest Assessment Report of 2021, Kenya surpassed the 10 per cent tree cover target and currently boasts of at least 12.13 per cent.
According to the report, Embu County is at position six with a tree cover of 29.63 per cent behind Nyeri (45.17 per cent), Lamu (44.06 per cent), Vihiga (35.92 per cent), Kirinyaga (30.39 per cent) and Meru (29.95 per cent).

Daniel Gathiru, Programme Assistant at the National Alliance of Community Forest Associations (NACOFA), which is funded by the Worldwide Fund for Nature-Kenya (WWF-K) in the Voices for Joint Climate Action (VCA) project, promises to collaborate with Kyeni East Perfoder group in helping it realise the common dream of environmental conservation and improving livelihoods.

"Such a great project from a group of people is highly welcomed. In majority of the places we’ve held our meetings, we barely find a group made of only PLWDs. This is good news because we have been advocating for the PLWDs to stand on their own for more benefits," he says.

Mr Gathiru urges the group to send a proposal to NACOFA for funding.

Embu Governor Cecily Mbarire plants a tree at a past event. She said her administration will plant five million trees by the end of her first term in office.

“The Alliance promotes such groups and their projects through funding upon receiving and approving their proposal,” he says.

The WWF-K’s VCA project aims to raise the voices and capacity of underrepresented or marginalised groups to enable them take on a central role as creators, facilitators and advocates of innovative and inclusive climate solutions.

The mission is to create awareness of how climate change affects vulnerable/marginalised groups such as pastoralists, women, children and people with disability and efforts to alleviate these effects, says WWF-K.

The National Climate Change Action Plan 2016-2022, provides for the establishment of the County Climate Change Fund (CCCF) to finance climate projects identified and prioritised by local communities.

Each of the 47 counties in Kenya has a tailored County Climate Change Act (CCCA) that establishes the CCCF to address their unique climate change situations.

County Environment Chief Officer Nicholas Ngeche says the devolved unit is committed to acting against climate change through promoting group and individual projects working towards realising their ambitions.

“We’re championing climate action and group venturing into tree nurseries are among those we are placing at the forefront,” says Mr Ngeche.

Embu East Sub-county Environment Officer Maureen Kinyua says the department has secured a place for PLWDs in their ward committees to ensure their input is fully appreciated.

“PLWDs are very crucial people within our community as well as important contributors in the fight against the climate change. Soon we’ll be training ward committees on how to create awareness among the people on climate change and I can assure you there’s a good percentage of representation of PLWDs within the committees,” she says.

Embu Governor Cecily Mbarire will support special groups by purchasing their seedlings towards achieving her target of planting one million trees each year for the next five years.

In the meantime, the Kyeni East Perfoder Self-help Group will keep selling its tree seedlings to individuals and institutions such as schools as it awaits support from the county government and other groups such as NACOFA.

“We urge our government to consider such groups that have already shown some efforts in mitigating the dangers of climate change,” says Margaret Njoki, a member of the group.
More than 20 years ago, along the lush southeastern coast of Kenya, the area known as Vanga Bay was home to a mangrove forest spanning 10,942 acres. But some 44 acres of mangroves have been lost every year for the past 25 years, totaling 1,114. Due to extensive destruction of mangroves, an already vulnerable community has been left exposed to extreme changes in weather patterns because mangroves’ complex root networks are known to serve as a buffer to strong waves, high winds and storm surges for coastal communities.

“We are vulnerable to recurrent floods from heavy rains in April and October, and the rise of the sea level,” says Harith Mohamed Suleiman, a member of a community at the forefront of promoting mangrove conservation and restoration.

Indigenous communities along the Vanga Bay coastline include the Digo, Duruma, Shirazi, Wapemba and Wagunga peoples.

“We also have floods and high tides when River Umba, which flows from Usambara Mountains in Tanzania, overflows into the Indian Ocean,” says Suleiman.

The overharvesting of the trees destroys the mangrove forest’s capacity to act as the first line of defence against Indian Ocean-related catastrophes. Studies by the Kenya Marine and Fisheries Research Institute (KEMFRI) show that mangrove forests offer multiple benefits related to both mitigating and adapting to climate change.

Mangroves absorb three to four times more carbon than tropical upland forests and reduce the debilitating effects of floods, and their complex root networks are known to serve as a buffer against strong waves, high winds and storm surges for coastal communities.

Today, indigenous communities along Kenya’s coastline are at the forefront of protecting mangroves and the community-led efforts to protect, conserve and preserve mangroves in the transboundary area of Kenya and Tanzania are particularly critical.

Research by KEMFRI shows that “the transboundary mangroves cover an estimated 11,906 hectares; 55 per cent being in Kenya and 45 per cent in Tanzania. The hotspot for loss and degradation of mangrove in the transboundary coverage area is Vanga in Kenya with a loss of 27 hectares per year.”

The Vanga community now seeks to reverse this trend by ensuring that all mangroves, at the shore, mainland and the boundary between the two East African nations, are effectively and efficiently managed.
“We have three villages in Vanga Bay – Vanga, Jimbo and Kiwegu – all occupied by indigenous communities. Over the years, we have experienced changes in climate and livelihoods due to cutting down of mangroves. Our fish began to disappear and we experience a lot of flooding to an extent that our small children cannot go to school,” says Mwanamvua Kassim Zara, a member of the Vanga Bay Community Forest Association.

The three villages are protecting transboundary mangrove within a larger umbrella organisation known as the Community Forest Associations of Vanga, Jimbo and Kiwegu (VAJIKI).

VAJIKI is partnering with the Kenya Forest Service (KFS) through Kenya’s Forest Conservation and Management Act of 2016, which promotes community participation and aims at halting further degradation and deforestation of mangroves over a period of 20 years.

“VAJIKI operates under the Vanga Blue Forest Community Based Organisation (CBO), which is behind the original idea to improve the management of transboundary species of mangrove. The CBO belongs to the Vanga Bay community, so every effort is coming from us, the community members,” Suleiman says.

Due to destruction of mangroves, he says floods begin on the Tanzania side of the border and gain massive momentum, wreaking havoc on the Kenyan community.

The cross-border reforestation project will span the east African coastline, ranging from Diani in Kenya to Tanga in Tanzania, over 140 kilometres to the south.

This community’s efforts to protect mangroves all-around, experts say, are critical to Kenya’s national climate adaptation and mitigation efforts.

According to Prof. Jacinta M. Kimiti, an associate professor at South Eastern Kenya University’s School of Environment, Water and Natural Resources, the Vanga Blue Forest project fits within Kenya’s Nationally Determined Contributions (NDCs) to achieve the Paris Agreement’s goals to reduce greenhouse gas (GHG) emissions.

The plan focuses on avoiding losses to precious natural resources, in this case the mangrove forest, and achieving economic, social and environmental benefits. It affirms that mangroves are central in combating climate change and conserving biodiversity.

Kenya has committed to abate GHG emissions by 32 per cent by 2030.

Since the first NDC was submitted, Kenya has gathered enough scientific information to identify mangroves as a pillar, culminating in a National Mangrove Ecosystem Management Plan 2017 to 2027 to boost Kenya’s contribution to limit global warming.

As such, the Ministry of Environment and Forestry identifies integrating the use of nature-based solutions and the implementation of a national mangrove action plan into national and county development plans as a pillar towards meeting the emission reduction targets.

**This community’s efforts to protect mangroves all-around, experts say, are critical to Kenya’s national climate adaptation and mitigation efforts.**
The media have been asked to facilitate voices of the marginalised communities in their quest to keep climate change at bay.

In doing so, a consortium of civil society organisations from Kenya said that such groups will articulate their priorities for building resilience to climate change hence make great strides in saving Planet Earth. Led by the World Wide Fund for Nature – Kenya (WWF-Kenya), the organisations noted that the media stands at a pedestal position to amplify the voices of the hitherto unheard quarters.

While addressing members of the Media for Environment, Science, Health and Agriculture at the 75th Media Science Café in Nairobi, the CSOs said that media stands out in setting the agenda for the masses to participate actively in the fight against climate change.

Zain Kassam from WWF-Kenya said that henceforth, it was key to include the marginalised communities in climate change adaptation and mitigation.

“Their inclusion is crucial for effective and lasting climate responses. It is also crucial, and because the climate crisis is also a societal challenge with ethical and human rights aspects occurring alongside a number of inequalities based on gender, socioeconomic class, race, ethnicity, nationality, ability, sexual orientation and age,” she noted.

She added that The Voices for Just Climate Action (VCA) programme, which has brought together the CSOs, is a lobby and advocacy programme implemented by the World Wide Fund for Nature (WWF) Netherlands, SouthSouthNorth (SSN), Akina Mama wa Afrika (AMwA), Slum Dwellers International (SDI), Fundación Avina and HIVOS under the Dutch Ministry of Foreign Affairs’ five-year strategic partnership: “Power of Voices”.

“The anticipated long-term impact of the project is a civic space where civil society voices are present and heard on climate change,” said Kassam.

She said some of the expected project outcomes are mutual capacity strengthening for co-creating alternative scaled climate solutions; agenda setting and movement in climate action through amplified story telling; and joint lobbying, advocacy to make policy and financial flows responsive to locally-shaped climate solutions.

MESHA, added Kassam, contributes to the objectives of the VCA project through working with Kenyan journalists to amplify the voices of marginalised groups negatively affected by climate change.

Bob Aston from the Arid Lands Information Network (ALIN) said counties should set aside at least two per cent of their budgets for locally led climate action, in line with the National Climate Change Action Plan 2016-2022, which provides for the establishment of the County Climate Change Fund (CCCF).
“Nakuru County and several others have already set aside two per cent of their budgets for locally led climate action. This fund is meant to finance climate projects identified and prioritised by local communities,” said Aston.

Aston added that through the project, ALIN, working the government and other partners, have established 55 Ward Climate Change Planning Committees (WCCPCs) within Nakuru County government. Members and partners also trained sub-county administrators, environment officers, civil society organisations and community Trainer of Trainers drawn from the 55 wards on how to keep climate change at bay.

ALIN also developed story maps that show site specific adaptation pathways based on identified climate hazards and ecosystem threats.

Modester Lynn of Kenya Climate Change Working Group (KCCWG) said their interventions for marginalised groups is to achieve access to climate information, community based adaptation, sustainable livelihoods, gender sensitive interventions, disaster risk reduction and advocacy and policy change.

According to Daniel Gathiru of National Alliance of Community Forest Associations (NACOFA) has secured a buy-in from 10 out of 12 CFAs across Nakuru County through several meetings held with the community.

NACOFA’s achievements, he noted, have not been without challenges. For instance, two forest blocks – Baraget and Marioshoni – whose local communities are mostly of the Ogiek origin did not have operating Community Forest Associations. He said they are also having difficulties in making the private sector interested in working with communities on climate change matters.

For Clean Cooking Association of Kenya (CCAK), Brian Murumba observed that the network was out to improve knowledge and skills of women and youth on climate-friendly entrepreneurial ventures through capacity strengthening and co-creation in green entrepreneurial activities.

Their work has also been to increase consumers’ awareness for enhanced adoption of climate-friendly clean cooking solutions within Kilifi County at the Coast through social behaviour change awareness initiatives; and to support collaborative policy and improved budgetary allocation for clean cooking for the County through advocacy.

Murumba said their key achievements included engagement with ministries of National Treasury, Energy, Environment, Health and Industrialization, the Council of Governors, and parliamentary committees on finance and planning, health and energy in support of fiscal incentives lobby; awareness creation; and private sector capacity strengthening.

Adaptation Consortium, according to Shadrack Mutua supports county governments to mainstream climate change into development and planning through the County Climate Change Fund (CCCF) mechanism.

He outlined the components of the mechanism as public fund managed at the discretion of the county government; county and ward climate change planning committees; climate information services and participatory planning tools; and monitoring, evaluation, reporting and learning.

He said the Fund was piloted in five counties of Wajir, Isiolo, Makueni, Kitui and Garissa where over 100 climate investment projects were carried out.
Nakuru wards to start reaping from climate change fund

By Francis Mureithi | mureithifrancis1964@gmail.com

Nessuit and Mauche wards in Nakuru County will soon start benefiting from the County Climate Change Fund after undergoing intensive training by the World Wide Fund for Nature (WWF-Kenya), Slum Dwellers International (SDI) and the Arid Lands Information Network (ALIN).

Nakuru County is following in the footsteps of Kajiado, Baringo and Makueni counties, which have vibrant, operational Ward Climate Change Planning Committees.

The Ward Climate Change Planning Committees (WCCPCs) were tipped on Participatory Climate Risk Vulnerability and Capacity Assessment (PCR-VCA).

“Our 2023 plan is to build the capacity of Nessuit and Mauche Ward Climate Change Planning Committees on the development of climate change proposals in order to benefit from County Climate Change Fund and Financing Locally Led Climate Actions (FLLoCA),” says Bob Aston, ALIN’s Project Officer.

“We also support CSOs engagement in the development of the Nakuru County Climate Change Action Plan 2023-2027.”

The committees will oversee the implementation of the funded climate change response projects as provided for in the Nakuru County Climate Change Fund Regulations, 2022.

The county government has allocated two per cent of its annual development budget to address climate action. About 70 per cent of this amount is earmarked for projects proposed by WCCPCs.

Of the 12 WCCPC members, nine are community representatives, including youth, women, persons with disability, and special interest groups.

The Ward Climate Change Planning Committees are an important avenue for implementing locally-led climate actions as they coordinate and mobilise communities and other stakeholders in the ward to design and implement climate change response activities.

“Development of Nessuit and Mauche Ward level climate action and investment forms part of our priority plan as we want to support communities to achieve food security and a safe environment through the provision of practical and usable information using ICT,” says Aston.

ALIN has stepped up its efforts to improve the livelihoods of communities in East Africa through the delivery of knowledge and skills on sustainable agriculture, and adaptation to climate change using modern technologies.
How community fights climate change through forest associations

By Francis Mureithi | mureithifrancis1964@gmail.com

People with disability in Nakuru County are working through community forest associations to fight against the effects of climate change.

Daniel Gathiru, a member of Menengai Community Forest Association, which is affiliated with the National Alliance of Community Forest Associations (NACOFA), says his community is integrated with people with disability in a bid to strengthen the fight against climate change.

"Disabled persons living within a perimeter of five kilometres from the forest boundary are highly affected by climate change because of their disabilities. People with blindness or the physically challenged cannot go to collect firewood yet they need water, food and energy," says Gathiru.

"That is why we incorporate them in our strategies to combat climate change to address the unique challenges they struggle to overcome daily."

Menengai Community Forest Association, which is domiciled in Kiamaina Ward, has a membership of more than 700 out of which 50 are persons with disability. Gathiru, who is also a climate change representative from Kiamaina Ward, is optimistic that in the next five or 10 years the Ward Climate Change Planning Committees will be a game changer in the 55 wards in Nakuru County.

"These committees will turn around the lifestyles of the most vulnerable people at the grassroots as they will have an opportunity to leverage issues related to climate change and upgrade their livelihoods.

Stephen Obama, who represents people with disability in the Barut Ward Climate Change Committee, says he has many roles in the committee, including resource mobilisation, steering the committee as the chairperson, organising training sessions for community members and stakeholders within the ward, besides identifying projects that could fight climate change and improve livelihoods.

Mr Obama says his expertise and experience on matters of climate change is an added value to the committee.

"I try to make it easy for the committee to implement adaptation measures that affect members with disability," he says.

The impact of climate change on persons with disability in Barut is evident as many have been displaced and their livestock swept by floods.

"Many members border Lake Nakuru National Park and when the water levels rose, at least five persons with disability were displaced and they have never returned home," says Obama.

People with disability are also not able to do fishing in the overflowing waters due to insecurity and harassment.

"Some families of disabled persons have broken down as the breadwinners have no other source of income as they cannot do fishing," said Mr Obama.

Despite the challenges, people with disability in the Barut ward have identified projects along the River Njoro catchment where they plant trees and do biogas projects.

"Sand harvesting along River Njoro has affected people with disability as they cannot walk freely while those with albinism are affected by direct sunlight as there are no trees to shield them," says Obama.

A tree planting exercise organised by the Kenya Forest Service. Various communities have initiatives against climate change.

Their level of reliance on forests for firewood as a source of energy will dip as they will get money to develop alternative sources of energy," he says.

"The planning committees will transform into a big business empire as they will get the money that could be used to make energy-saving jikos, value addition in fish farming, climate-smart agriculture, beekeeping and tree nurseries, and this will translate to more money in their pockets and more food on their tables."
As Africa continues to address climate change challenges, an expert is advocating for expanded marginalised group and civil society involvement in climate action programmes.

According to Lynn Modester, an officer at the Kenya Climate Change Working Group (KCCWG), marginalised groups should be fully incorporated in climate action programmes for maximum impact at the community level.

Ms Modester identified marginalised groups as communities, individuals and groups experiencing social, political and economic discrimination and exclusion.

“Marginalised groups include ethnic minorities, women and girls, as well as people with physical and mental disabilities. This marginalisation or disadvantage exists because of unequal power relationships across economic, political, social and cultural divides,” he says.

Involve marginalised groups in climate action for maximum impact, expert advises

By Omboki Monayo | omboki2725@gmail.com

She was addressing a Media for Environment, Science, Health and Agriculture (MESHA) media café on the Voices for Just Climate Action (VCA) project funded by the World Wide Fund for Nature Kenya (WWF-Kenya).

KCCWG has rolled out a number of community-based programmes via the VCA initiative to expand and clarify community perspectives on confronting the threat posed by climate change.

“VCA project activities included training on climate policy reviews, collection of statements on ongoing policy development, training of policymakers and advocating for policy reforms. It also covered climate financing opportunities like Financing Locally-Led Climate Action (FLLoCA) programme and administrative requirements for access to the funds,” Modester says.

Kenya has received funds from the World Bank towards the FLLoCA programme. The government intends to apply part of the proceeds for payments under the contract for mapping out civil society organisations (CSOs) involved in climate change adaptation and mitigation activities at county and sub-county levels countrywide.

Through funding from Diakonia, KCCWG prioritised and executed a three-part series on the link between gender and climate change between October and December 2022.

KCCWG provided Kajiado County communities with access to climate information.

“We engaged the communities on the COP27 climate change conference and why they needed to be involved and heard,” said Modester.

“We also taught them the basics of local adaptation, such as planting trees for environmental conservation.”

Modester explained that the series was designed to widen the local debate on the gender issues around climate change.
“The sessions were aimed at amplifying the gender dimensions in the climate change discussion,” she said. “We advocated for gender sensitive interventions.”

As part of its membership, the organisation has incorporated a youth and marginalised working group.

During community engagement, it soon became apparent that there was a need for youth and women’s involvement in climate action.

“We realised climate action efforts could not succeed without women and youth, and made this a key pillar of our engagement with the community,” said Modester.

KCCWG also informed the community groups on the need to adopt sustainable livelihoods that would enable them to live in harmony with nature while making a living.

“We taught community members the basic concepts of pursuing sustainable livelihoods, including reforestation in areas where trees had been cut down for charcoal and fuelwood,” she said.

KCCWG officials trained civil society organisations (CSOs) and county government officials to fast-track the operationalisation of climate change legislative frameworks at county and national levels.

We trained county staff on climate change and gender mainstreaming, as well as its impact on gender, livestock, communication and environment. Beneficiaries included departmental heads,” Modester explained.

The efforts resulted in greater climate action awareness among county officials.

“A key outcome of the training was the provision of necessary knowledge, skills, and tools for the different department officials. It gave them better understanding on the impact of climate change and showed them how to develop and implement sector-specific climate action policies and programmes to effectively address climate change, particularly in the County Integrated Development Programmes (CIDPs),” she said.
KCCWG also trained CSOs to expand their capacity to contribute to the climate change conversation at various levels, including at COP27.

At a high-level breakfast meeting, key decision makers met to deliberate on the policy gaps standing in the way of effective gender mainstreaming.

KCCWG focused on training CSOs to recognise and speak out on climate action funding needs and opportunities for the benefit of local communities.

Training included advocacy and policy change, as well as the need to make proposals on expanded FLLoCA allocations for community climate action projects.

“We enhanced CSOs capacity to meaningfully participate and influence climate change agenda at county, national and international levels. This included training on joint lobbying and advocacy to make policy and financial flows responsive to locally shaped climate solutions,” said Modester.

As part of the COP27 preparations, Modester’s team also trained CSOs on climate finance tracking and reporting. This included staging a mock conference to give them a feel of what the actual deliberations would look and sound like.

“During the simulation, we trained CSOs representatives to COP27 on the expected proceedings to maximize their influence and delivery at the forum, especially on loss and damage funding. Deliberations included mock sessions or role play on negotiations to familiarise them with the conference processes,” she said.

She said the training was necessitated by “recently low and non-meaningful CSO participation in the United Nations Framework Convention on Climate Change (UNFCCC)”.

Preventing “dangerous” human interference with the climate system is the ultimate aim of the UNFCCC.

A total of 198 member states have so far acknowledged the 1994 convention as signatories.

KCCWG also guided the development of a simplified manual on UNFCCC and climate diplomacy.

“The low impact involvement in the UNFCC has mainly attributed to limited understanding of the processes.

The manual will be used as a training guide on UNFCCC and climate diplomacy,” Modester said.

“A total of 198 member states have so far acknowledged the 1994 convention as signatories.

KCCWG was part of preparations for national participation in COP27. It also took part in the conference.

“We helped prepare Kenya’s COP27 position paper. We additionally held side events where we were engaged as panelists on key areas of adaptation for marginalized communities,” said Modester.

“At COP27, we presented CSO and marginalized groups’ needs and priorities. We also had an exhibition booth to showcase our work in the areas of climate change.”

Photo Credit | Francis Mureithi

MESHA Secretary Aghan Daniel (standing), science editor Kiundu Waweru (right) and K24 reporter Tabitha Munyiri during a media science café in Nairobi.

A total of 198 member states have so far acknowledged the 1994 convention as signatories.
The media have been urged to portray women and other marginalised groups as change agents and not just victims of climate change.

Media trainer Kiundu Waweru said the marginalised groups are doing a lot within their capabilities towards mitigation and adaptation to climate change, and their efforts deserve favourable media coverage.

“News must not always be bad. More emphasis is now on solution journalism (Sojo) and you must learn the ropes and practise it,” said Mr Waweru.

He was speaking during a training organized by Media for Environment, Science, Health and Agriculture (MESHA) in Nairobi where he took the journalists in attendance through a short, refresher course on solution journalism.

Mr Waweru took the journalists through the five commandments of Sojo, which are “response, how it works, insights, limitations and impact”.

Hellen Miseda, a science editor at Standard Group, urged the journalists to write impactful climate change stories by breaking down the science into simple narratives that can easily be understood by the masses.

“Every science story must have a character, conflict and conclusion. Inasmuch as climate change is complex and difficult to communicate, the journalists must strive to make their stories personal, local, relatable and solvable,” said Ms Miseda.

The journalists can do, she said, by applying a number of strategies, including being simple and straightforward, telling the local story from a global issue, shunning sensationalism and taking the human rights angle.

Miseda defined marginalised groups to include women and girls, indigenous peoples, rural dwellers, ethnic minorities, people with disability, pastoralists, and migrants and refugees.

“Marginalisation, also referred to as social exclusion, occurs when certain groups of people get denied access to areas of society – rights, opportunities and resources. These people could be marginalised economically, politically or socially,” she said.

She said climate change disproportionately affects the marginalised groups, as it amplifies the dire situation that they are already facing. As, she urged, journalists must tell the stories of how these groups are affected and give more emphasis on what they are doing and the support they need to get out of the situation.

Miseda encouraged journalists to always infuse data journalism in their reporting and use multimedia platforms to tell their stories in order to reach a wider audience.

One of such multimedia techniques is podcasting, which MESHA Secretary Aghan Daniel said every journalist must strive to incorporate in their reporting in the current era of social media and the internet.

Aghan said podcasting involves five key steps. First, he said, the journalist must present the idea to their editor and wait for the feedback.

“Do not start working on your podcast before your editor approves your idea. Once you get the greenlight, come up with five questions for your experts and share the same with your editor,” he said.

Aghan said the podcast should have a catchy name that reflects and gives an insight into the overall project. He added that a podcast must have summaries that are “on point” and put into three to four sentences.

Finally, the podcast must have an intro, main content or interview and outro, he said.
The Dundori Community Forest Association (CFA) in Nakuru County nurtures indigenous and exotic tree seedlings and sells them to earn a living. Apart from earning a living, the CFA’s aim is to restore the Dundori Forest under the Plantation Establishment and Livelihoods Integration Scheme (PELIS), which has seen over 500 hectares of the forest recovered over the last 20 years.

Dundori CFA Chairperson Peter Njoroge says the association was formed as a response to the drying up of Dundori River, on whose water they depended for farming and domestic use. The forest was diminishing as a result of logging, thus degrading the catchment.

“We depend on the river for our water. Its drying up meant that we would starve. We then organised ourselves and took up the responsibility to conserve it,” says Mr Njoroge.

Moses Mwaura, a member of the CFA, says due to reduced rainfall following a change in weather patterns, they sometimes buy water to maintain the seedlings as they cannot afford the high cost of setting up water harvesting structures.

“When the climate has changed. We do not receive as much rain as we used to but compared to other parts of the country, we can say that we are better off. Had we not taken the initiative to save our forest decades ago, we would be starving with no one to turn to,” says Mr Mwaura.

Community Forest Associations (CFAs) play a vital role in the preservation of forests, which they depend on for their livelihoods. Deforestation, encroachment and excisions are among factors contributing to irregular rain patterns in the country.

Daniel Gathiru, Programmes Assistant at the National Alliance of Community Forest Associations (NACOFA), which is funded by the Worldwide Fund for Nature-Kenya (WWF-K) in the Voices for Joint Climate Action (VCA) project, says over the years the government has been trying its best to conserve forests but has been largely unsuccessful.

“It’s now becoming a reality that the only way for it to succeed in its endeavour to plant and conserve trees is by engaging communities living near forests,” he says.

This necessitated the development of the National Climate Change Action Plan 2016-2022, which provides for the establishment of the County Climate Change Fund (CCCF) to finance climate projects identified and prioritised by local communities.

Each of the 47 counties in Kenya has a tailored County Climate Change Act (CCCA) that establishes the CCCF to address their unique climate change situations.

Nakuru, for example, has already established the Fund under section 46 of the County Climate Change Act 2021 whose coordination and oversight is done by a steering committee chaired by the governor.
However, the Fund is yet to be implemented due to a delay in the formation of Ward Climate Change Planning Committees whose mandate is to coordinate and mobilise communities and other stakeholders at the ward level to design and implement climate change response activities and to oversee the implementation of the projects under the Fund.

"By the time the new regime was taking over, formation of the committees was at around 70 per cent. Currently, they have already been appointed formally," says Nakuru County Environment, Energy, Climate Change & Natural Resources Chief Officer Kennedy Mungai.

“We have also set up the Fund, which will require the county to set aside at least two per cent of its development budget for climate action. The Fund will receive an estimated Ksh60 million in the 2023/24 financial year."

When the Fund is implemented, it will benefit people like Mary Muthoni and her group, who want to start a briquettes business and promote clean cooking, but have not been able to do so due to lack of funds.

“My husband, who was the breadwinner of the family, died three years ago, leaving me and my children dependent on a three-quarter-acre plot of land to survive. I was involved in an accident in July 2015 and injured my spine. This limited me in many ways because I couldn’t till the land,” says the mother of four.

“I was forced to lease half the land and pay someone to cultivate the remainder. Crops have done poorly over the last two years due to the lack of rain. Harvests were only enough for us to survive on,” says Muthoni.

However, in 2021, she attended a sensitisation workshop on the CCCF, where she got the idea of making briquettes with the hope of conserving the environment and getting a better livelihood. After the workshop, Muthoni did some research on the briquettes project and quickly mobilised more women from her Gwakiongo village in Nakuru County to draft a proposal that was sent to the ward climate change planning committee.

She now hopes to get the funding from Nakuru CCCF to implement her women’s group project and end her community’s high dependence on charcoal and firewood for cooking.

Mr Mungai says his department is moving with speed to ensure the fund is up and running before the end of the financial year in June.

“I expect that the funds shall reach the wards by early May at the latest. Disbursements shall be given to wards on a rolling basis."

We’d love to roll out the funding together for all the 55 wards; however, doing that may delay the implementation of projects from wards that submitted their proposals first,” said the Chief Officer, who is also chairperson of the planning committee.

The VCA project aims to raise the voices and capacity of underrepresented or marginalised groups to enable them take on a central role as creators, facilitators and advocates of innovative inclusive climate solutions."

The mission is to create awareness of how climate change affects vulnerable/marginalised groups such as pastoralists, women, children and people with disability and efforts to alleviate these effects, says WWF-Kenya.

This story was first published in The Star Newspaper
The Mijikenda Kaya forests are small patches of forest land that extend between 10 and 400 hectares on the coastal plains of Kenya.

The Kaya forests play a key role in the Mijikenda religious sphere, their beliefs and practices as they are regarded as the ancestral and sacred homes of the Mijikenda people.

However, in recent decades the forests have been shrinking in number and size. Human activities, including industrial demands for natural resources, cutting down of trees for firewood and Charcoal burning and a growing population in need of farmland are claiming the Kaya forest land.

But some women in Rabai Sub-county, Kilifi County, have recognized the threats to the forests and the importance of protecting them to ensure the future of their cultural and biological treasures are preserved. They have stopped cutting down the trees and are using clean cooking methods by recycling waste and making briquettes and biogas.

Ms Chiringa says people have been cutting down trees and not replacing them. She urges people to take advantage of the rains and plant at least 100 trees in their homesteads.

“We have been told that the long droughts we are experiencing now are because we have been cutting down trees. Long ago I could not to see my neighbours in the other village because this place was fully covered in trees, but now I can see everything from where I stand,” she says.

Chiringa says she used to cut down trees and use them as firewood. But she is now an ambassador advocating for people to stop cutting trees and instead use clean cooking methods to mitigate the effects of climate change.

“I used to cut down trees and use them as firewood, but after the training I stopped and now I use briquettes for cooking,” she says.

She says the technology they use helps them to produce strong briquettes, which last for more than two hours when cooking.

“This technology helps us take care of our environment and preserve the trees.”

Catherine Ngome from Chang’ombe village is a member of Mama Tosha Women Group, which has 19 members. Ms Ngome’s home borders the Kaya forests. She says it is easy for her to access the forest and cut down trees for her use, which she did many times.

But she says since she got the knowledge of making briquettes, she has stopped going to the forests to look for firewood.

Ngome is asthmatic, but she says since she started using the briquettes she has not been experiencing frequent attacks.

“Women have been suffering in silence from the smoke while using firewood. I am asthmatic and I used to experience the attacks every now and then when using firewood because of the smoke. But since I started using briquettes’ the attacks have reduced,” she says.
The women say their biggest challenge is that the briquettes-making machine is expensive. They hope that in the future they will be able to acquire more machines and make enough briquettes for their own use and for sale to earn a living.

The CCAK trains women in Kilifi and Kwale counties on how to use easily available waste, especially from the coconut tree, to make briquettes. This is done under the Voices for Joint Climate Action (VCA) project funded by the Worldwide Fund for Nature (WWF-Kenya).

According to the 2019 census, Kilifi County has 298,472 households with an average household size of 4.4 persons. The population relies on wood fuel for their energy needs, and this has led to destruction of forests in the county with a total forest cover of 7.2 per cent by 2015.

Wilfred Baya, the Assistant Director of Energy in Kilifi County, says they have trained more than 100 youth and women in the six sub-counties to embrace clean cooking methods, especially the use of briquettes and biogas.

Baya says culture has been a big hindrance to the adoption of clean cooking methods.

“The old cooking methods produce a lot of smoke, which affects the health of women and they end up getting diseases like tuberculosis. So we saw it fit to come up with clean cooking methods, which are healthy and at the same time conserve the environment,” he says.

According to Baya, since they started the project in 2018, the rate at which trees are being cut has reduced by 10 per cent.

He says the Energy Department is in the process of developing a clean cooking policy and the County Energy Bill, which will enable them to control the rate of deforestation and encourage people to do more afforestation.

Bernard Fulanda, an associate professor in marine science and a climate change expert, says if a household fully adopts the use of clean energy, the amount of carbon emission will be reduced by 100 per cent.
A detailed climate vulnerability and ecosystem assessment study for Nakuru County has strongly recommended that multiple stakeholders and partners should avail adequate financing for research work on climate. A raft of recommendations proposed by the researchers could be a game changer if implemented and could see the county regarded as one of the food baskets in Kenya regains its lost glory as the number one food producer in Kenya.

The research was conducted by Arid Lands Information Network (ALIN) an international NGO that facilitates information and knowledge exchange to and between extension workers or infomediaries and arid lands communities in Kenya, Uganda and Tanzania.

ALIN in close collaboration with the Nakuru County Government, through its Department of Environment, Energy, Climate Change and Natural Resources with support from the World Wide Fund for Nature (WWF) Kenya through the Voices for Just Climate Action (VCA) Programme singled out agriculture, manufacturing, tourism, and the service sector as the main economic drivers.

Other recommendations include the need to support farmers at different levels of uptake of adaptation practices in building capacities for farmers to increasingly implement adaptation practices.

The county still lacks a policy and the researchers now want Nakuru County to develop an evidence-based and context-specific policy approach to climate change as part of its County Climate Change Action Plan (2023-2027).

At the same time stakeholders should adopt a process of making climate projections and scenarios fit for purpose for end-users at the ward and farm level.

There is also a need to include policymakers and the financial sector in Nakuru County’s climate adaptation planning while policymakers must address climate change and ensure that farmers can access finance and benefit from other support programs to apply adaptation measures.

There is a gap in the climate information among most residents and the change agents and end users need to downscale and simplify the climate information for use through extension services at the ward levels.

However, it was reported during validation that the Nakuru County extension services department had launched a call centre to diversify the delivery of extension services to the farmers.

The newly launched Ward/local/landscape-level multi-stakeholder committees should take a new approach to facilitate the implementation of identified practices.

“Landscape/farm-level and agroecological-based climate and landscape smart practices (CLSPs) need to be implemented to enhance agricultural systems’ resilience in Nakuru County,” said the research report.

The researchers observed that there is a need for the inclusion of climate change champions in Nakuru County who will work with all groups of people, including indigenous communities, women, youths, the disabled, and the elderly, to help conserve natural resources.

Tree planting in Nakuru: Researchers are calling for more funding to help the cause of climate change in the county.
The agricultural sector entails cash crop production such as wheat, coffee, pyrethrum, tea, floriculture, ranching, and apiculture, while main tourist attractions and activities include National parks, forests, and lakes.

70 percent of the total land in Nakuru County is highly agriculturally productive. Most households depend on agriculture, and a significant number of farmers have an average land holding of 0.77 hectares; however, 49 percent are poor, while 36 percent of the country’s population are food poor.

Half of the county’s population does not have access to healthy and nutritious food. Smallholder agricultural production is mainly under rain-fed conditions, with weather fluctuations impacting productivity.

Significant changes in the climate are expected between now and the end of the century, while many smallholder farmers are ill-equipped to cope with climate-related risks.

Therefore, it is evident that Nakuru County’s agriculture systems are highly vulnerable to the impacts of climate change. Accumulating evidence of climate change threatens to adversely affect agricultural production and endanger the County from achieving food security and nutrition.

The elevation of the area primarily controls the climatic conditions for Nakuru County. Climate vulnerability assessment confirmed that climate change-related hazards and the associated risks for agricultural production across sub-counties in Nakuru County are a particularly high and increasing trend.

The strong link between adaptation scores and the adaptation index implies that the identified practices are responsive to identified risks.

However, the low values across farmers call for enhanced farmer support to ensure implementation.

Agroecology is an important driver for enhancing sustainable food systems and the progressive realization of the right to adequate and safe food in the context of the constitution of Kenya 2010.

Half of the county’s population does not have access to healthy and nutritious food. Smallholder agricultural production is mainly under rain-fed conditions, with weather fluctuations impacting productivity.

Based on the described results, the site-specific utilization of agroecological-based climate and landscape smart practices (CLSPs) profiles offers promising options for designing more resilient agricultural systems in Nakuru County.

The key to adaptation is to make complex climate information accessible in a relevant, simple, and actionable way through the development of climate story maps.

Although there are still uncertainties about the impacts of climate change on the specific wards and value chains, the information facilitates a discussion on the agricultural sector’s future development across sub-counties in Nakuru County.

Adaptation to climate change will require cross-disciplinary solutions that include developing feasible narrative scenarios that describe possible mitigation and adaptation paths for a just transition to low carbon and resilient climate future for Nakuru County were developed based on management practices implemented by farmers.

However, its potential and integration into research, policy, and practice are limited. Farmers mainly implemented practices that supported efficiency, recycling, regulation, synergies, diversity, and resilience, while practices that supported the co-creation of knowledge, human and social value, and responsible governance dimensions were the least integrated across the sub-Counties.

Ms Grace Karanja, an official attached at the Climate Change Unit at the Nakuru County government describes the report as critical reference in the war against the vagaries of climate change in the devolved unit.

“We must know each stakeholder implementing the report findings and recommendations to avoid duplication. It is advisable the parties concerned to have a working engagement with the devolved unit for a smooth implementation. We need to work with stakeholders so that we can tell them the county plans and where we are at the moment so that we can fast-track other recommendations that might not be taken care of,” said Ms Karanja.

She added: “This report will greatly help during the implementation and working groups that forms the climate change ward committees in the 55 wards in the county. It be used as check and balance by the ward committees for evaluation and assessment to see whether they are on the right track to adapting to climate change in their respective wards.”

WWF Kenya said it supported ALIN as VCA is keen to see how the best available scientific information can be able to inform the climate actions in Nakuru County.

“One of the major concerns particularly at the county government level, is the lack of adequate and appropriate climate change information and knowledge and the lack of data available to researchers, planners, policy-makers and the public. Increase in communication between scientists, decision-makers, CSOs and communities and improved networks for information exchange and capacity building at the local level to provide accurate information for risk assessment,” said Jacqueline Kimeu, Energy and Climate Change Coordinator at WWF Kenya.

Ms Kimeu observed that the 13 pathways identified by the report, show the scenarios for just transition for Nakuru County.

“The scenarios are a powerful tool that will allow policymakers, academia, CSOs, FBOs, youth, women, indigenous communities among others to explore possible climate futures and how they are shaped by our collective actions. This will help to address Sustainable Development Goals 7, 12, 13 and 15,” she concluded.

This story was first published in the Daily Nation.
Kirisia Community Forest is unique in its own rights. It is perhaps the only forest in Kenya where the community voluntarily moved out to pave way for conservation.

The community is already reaping the fruit of these conservation efforts. As the country experienced the recent drought and pastoralists in the Arid and Semi-Arid Lands (ASAL) areas were counting losses from the death of livestock, members of Kirisia Forest had enough water and pasture for their animals.

“Our conservation efforts paid off and during the three-year drought period, we did not report any livestock deaths due to drought,” says Douglas Leboiyare, Chairman of Kirisia Community Forests Association (CFA) in Maralal, Samburu County.

Kirisia Community Forest stands on 92,000 acres in the Samburu heartlands about 360km from Nairobi via Nyahururu.

Squatters had moved to the forest years ago due to climate change related challenges, which led to massive destruction of the forest.

Mr Leboiyare says people started moving into the forest in search of grazing fields and water.

“With time, the number of people living in the gazetted forest increased and they started destroying it. There was rampant cutting down of trees and the few rivers that were there started drying up, making effects of drought more severe,” he says.

Leboiyare says they had encroached the forest and the rivers had dried up and there was no pasture.

“To cope with drought, pastoralists would migrate with their livestock to as far as Mount Kenya and Pokot areas in search of pasture and water for the animals. This was always a challenging period for the pastoralists because it was not a guarantee that they would come back with their livestock. Sometimes the livestock would die along the way for lack of water and due to bandit attacks,” he says.

Eventually, Kirisia Forest, which is home to a rich habitat of unique flora and fauna, was at the brink of extinction due to massive destruction.

The forest has also been termed as a hotspot for biodiversity by the Food and Agriculture Organisation (FAO).

But thanks to the concerted sensitisation efforts by FAO, Kenya Forest Service, Samburu County Government and other State agencies, the community that had encroached the forest accepted to voluntarily vacate to pave way for conservation.

Leboiyare says once the community agreed to move out, conservation of the forest started with support from various development partners and government agencies.

Apart from cushioning the community from severe droughts, the conservation efforts have also helped to reduce cases of insecurity in Kirisia area.

The community has come up with zones in the forest. So, during the dry period, they have designated areas to graze and do bee keeping. They also have various water points where the animals can drink water for a certain period.

This planning has ensured not only that the livestock have foliage but also that the community members have a livelihood.

Such has been the success of the communities’ conservation efforts that Leboiyare took a flight for the first time in his life to Rome, Italy, last year to receive a global conservation award.
He says they now have a management plan that they can use to continue with protection of Kirisia Forest and benefit the community.

“We have signed an agreement with the Kenya Forest Service (KFS) and now have the user rights on the forest. This is a legal document that we will use in collaboration with the forest service to extend our efforts in protecting the forest,” says Leboiyare.

Conservation of the forest has brought out other farming opportunities for Kirisia community such as bee keeping, which has seen the birth of Samburu Bee Keepers.

Silvina Lentrkan, a processor at Samburu Bee Keepers, says they are a community-based enterprise that buys unprocessed honey from beekeepers in Kirisia Forest.

“We buy the raw product, process, pack and sell to supermarkets, hotels, retail shops and individuals,” she says.

The over 1,200 members pay a registration fee of Sh500 (USD 3.6) to enjoy the benefits of the venture.

Lentrkan says they sell the finished product at Sh800 (USD5.7) per kilo, 500 grams of honey goes for Sh400 (USD 2.9) and 250 grams at Sh250 (USD1.79). The profits are shared among the members.

“Besides the honey process, we also process wax. We make this from the waste we get after processing honey. We sell the wax at Sh600 (USD 4.3) per kilo. We also add value to the wax and make body creams and candles,” she says.

Forestry Principal Secretary Ephantus Kimotho Kimani says Kirisia Forest is a model in Kenya on community forest conservation.

He says the agreement allows the community to take care of the forest as they use it in a sustainable way.

The PS says such conservation efforts will go towards increasing the country’s forest cover, which is currently at 12 per cent. The target is to do five billion trees in the next five years and an additional 10 billion trees in another five years.

“This is the 15 billion trees that will take us to the 30 per cent target we are aiming at by 2032,” says Mr Kimani.

Phillip Kisoyan, FAO Nature Resource Management Coordinator, says about 30,000 acres of Kirisia Forest was degraded.

“We had over 10 settlements all over the forest, which means about 10,000 people were actually living in the forest,” he says.

Kisoyan says at first it was not easy to start the conservation work while the people were still there.

“There are guidelines in terms of placement of people in the forest so we consulted the community elders to talk to the community about aspects of conservation,” he says.

Traditionally Samburu people had been conserving this forest for generations by using traditional managing systems but the degradation started when the government gazetted the forest and removed the role of the community.
“Our entry point was to go back to the elders to consult with them on how to manage the situation on conservation of the forest. We did a lot of sensitisation and negotiation and eventually those who had settled there voluntarily moved out of the forest, which is unprecedented here in Kenya,” Kisoyan says.

In most forests there have been forceful evictions.

Kisoyan says from there on FAO and KFS started building the capacity of the CFA, first on governance so that it becomes a responsive organisation using a democratic programme.

“We re-elected the officials and trained them on leadership. We also came up with livelihood activities like bee keeping and ecotourism and also had a grazing plan for the pastoral community,” he says.

Forest associations key in conservation

Daniel Gathiru, project assistant at the National Alliance of Community Forest Associations (NACOFA), says community forest associations play an important role in safeguarding the forests.

“I say Kenyans are used to event planting of trees and when everyone has left, there is no one to nurture those trees. “More often we do not designate people responsible for taking care of the seedlings in the forest. After a few months you only have less than 40 per cent of trees that have matured,” says Mr Gathiru.

“As we gear towards the target of 15 billion trees in 10 years, there is a need to bring on board the experience and knowledge that community forest associations have and use them to maintain the seedlings once they have been planted.”

He says in each forest, there is a community living adjacent to it. The Forest Act 2005 brought on board communities living adjacent to the forest to participate in forest conservation, and the Act requires them to form associations.

The Community Forest Associations (CFAs) are governed by the Act, which helps them to partner with Kenya Forest Service (KFS) in conservation of forests. They are also governed by the Participatory Forest Management Plan, which enables KFS stations countrywide to come up with an agreement and partner with communities living adjacent to forests in conservation.

He says NACOFA has also been involved in policy formulation and is currently pushing through the Cost and Benefit Sharing Bill at the Senate.

“The Bill looks at how revenues of natural resources trickle down to the communities. It is all about sharing of resources. We are building the capacity and trying to ensure that when it goes to Parliament, it is passed into law,” he adds.

Gathiru says last year NACOFA received funding from Worldwide Fund for Nature (WWF-Kenya) to implement a project dubbed Voices for Just Climate Action (VCA) with the aim of amplifying the voices of marginalised communities for climate action.

“We targeted Nakuru County and brought together 12 CFAs drawn from various forest stations in the county. The reason was to form a network so that they can amplify their voices together,” he says.

He says bringing together the 12 CFAs under the VCA project enhances communities’ voices and increases their strength for climate justice.

“We shared with the 12 CFAs our intention of forming a network and they agreed to the idea. They acknowledged that it is important for them to come and work together in addressing their challenges. Each forest station nominated members and currently we have a network in Nakuru County called the Nakuru Community Forest Association Network,” Gathiru says.

He says they have also linked the network with relevant stakeholders.

“Previously, it was difficult for an individual CFA to have a courtesy call with a partner, but it is easy for them to approach as a network. Their issues have started getting attention from various stakeholders and the county is now beginning to listen to them,” he says.

He says NACOFA will also come up with memorandums that will be used to guide the network while connecting them to various partners to help in achieving their goals.

Gathiru says NACOFA has also been involved in policy formulation and is currently pushing through the Cost and Benefit Sharing Bill at the Senate.

“This story was first published in The Star Newspaper

Douglas Leboiyare, Chairman of Kirisia Community Forests Association (CFA), in Maralal, Samburu County.
Forest initiative turns widows and the disabled from beggars to earners

By Anne Atieno | annatieno1996@gmail.com

Nelson Omondi walks slowly as he inspects a tree nursery with seedlings that are ready to be transplanted and are waiting for a buyer to give them a new home, as the rainy season begins to peak.

He carefully removes a few weeds that are growing in the nursery and steps back slowly to admire the results of his hard work. The tree nursery is located next to the Mirema forest in Macalder, Nyatike sub-county.

Mirema forest was on the verge of extinction as a result of massive deforestation by locals. It is easy to see the passion Omondi, a 59-year-old father of three, has for the plants as he carefully tends to them.

Omondi is also a person with disability (PWD), and barely six years ago he was begging for help from well-wishers to help him feed his family. Erratic rainfall patterns that led to crop failure only worsened his condition as his family used to depend on farming as their livelihood.

The devastating effects of climate change have rendered parts of Nyatike, where Omondi hails from, to be clustered under the country’s arid and semi-arid regions.

“I had to drop out of Form Three to find ways to fend for our family. We could not even afford school fees,” he says.

His fate, however, changed in 2018 when he received news that a group of volunteers and environmental enthusiasts had embarked on an exercise to rehabilitate Mirema hills and restore its forest cover.

Omondi joined the initiative and has been a member for five years now.

“I did not know I could find hope in tree planting and earn a penny from it while also contributing to the protection of the environment that has undergone massive degradation,” he says.

He says despite the challenges he was facing, it always pained him to see the destruction of forests in Nyatike as residents sought alternative means of survival by burning charcoal for sale.

“Although I cannot do heavy work because of my weak leg, I wanted to be part of this initiative and engage in something that could make a difference in my community,” Omondi says. The environmentalists work under the banner of Nyatike Mirema Community Forest Association with an aim of reversing the negative trend of environmental destruction that was gaining roots in the region.

The Association has a total of 111 members, of whom 38 are women including 30 widows. Through the initiative, Omondi learnt how to take care of tree nurseries and also plant trees.

He says after becoming a key member of the initiative, he was charged with the responsibility of looking after tree nurseries. He also sells tree seedlings at Sh10 each.

“We did not have trees in our compound and the whole place was dry,” says Omondi, adding that after being environmentally conscious, he has also planted trees in his home which they use as medicine and fuel from trimmed branches.

He is not alone; Rose Akumu from Magharibi village in Macalder, who suffered a stroke in 2015 says she was forced to close her business which involved a lot of travelling.

The stroke affected the left side of her body and left her disabled. The incident happened barely two years after she had lost her husband.

Unable to undertake any other activity, Akumu started planting tree seedlings at her home with the help of her children.
The mother of four, who is also a widow, says the area was barren as the streams they relied on for water had dried up completely.

Now, Akumu says she has been able to earn a living as she makes money from the venture. Akumu is also part of a community group involved in tree planting in exchange for money.

“I wanted to depend on myself because I could not continue begging. I also wanted to ensure that our community gets rain so that we get food,” she says.

While some of the people living with disabilities plant tree seedlings independently, others have joined the community Nyatike Mirema Community Forest Association to learn how to develop tree nurseries.

They sell most of their tree seedlings locally but have also been receiving orders from organisations and county governments in South Nyanza who are keen on boosting forest cover.

Caren Atieno, a widow with seven children, says she does not regret joining the community group which has helped her earn a living and educate her children.

Atieno says through table banking, the group keeps savings from the sale of seedlings. Thus she is able to borrow money to pay school fees for her children.

Atieno has four children in secondary school and university, whom she manages to provide for with proceeds from the tree nursery as well as a separate business of selling pruned branches for food.

The budding entrepreneur who lost her husband four years ago, says she joined her neighbours to learn how to grow tree seedlings after she realised that sitting at home would not help her.

“I also try to get other widows like me on board because being part of this initiative helps us share ideas and it beat loneliness,” says Atieno.

William Odhil, an environmentalist, says they have been keen to inspire more people to plant trees.

He said they first placed all their efforts in the revival of Mirema Hill forest which was adversely affected by human activities as people cut down trees to settle and burn charcoal.

By the year 2000, Mirema Hill had been reduced to shrubs, and streams with sources from the hill had dried up.

An exercise to rehabilitate the forest started in 2018 and just five years after the revival process began, Mirema forest has come back to life.

The community in Macalder can now plant twice a year as compared to before when they would only plant once. Not only that, they can also get water from the streams which have sprung back to life.

“We have institutions coming to learn here because they know where Mirema forest was and is now,” he says.

Besides Mirema Forest, the CSO has revived 10 hills including Tigra, Got Keyo, Got Kogalo, Nyalgwena, Got Kwach, Omgane, Got Bim, Raga, Winjo and Nyabomo.

Data from Global Forest Watch shows Nyatike had 1.83Kha (thousands of hectares) of tree cover in 2010, extending over 1.5 per cent of its land area.

In 2021, it lost 154Mha (million hectares) of tree cover, which is equivalent to 52.7kt (kilotons) trillion of carbon dioxide emissions.

From 2001 to 2021, Nyatike was found to have lost 222 hectares of tree cover, equivalent to a 14 per cent decrease in tree cover since 2000, and 55.0kt carbon dioxide emissions.

In the Lake Region Economic Bloc (LREB) 11th summit meeting that was held in Migori county last week, governors from 14 counties led by Kisumu Governor Anyang’ Nyong’o who is the LREB chair, recognised that climate change is a real threat to food security and nutrition.

The governors committed to investing in climate change policies and legislation to support the response as they promised to set aside two per cent of their budgets for climate change activities, aside from harmonising climate change policy for the Lake Region Bloc.

Daniel Gathiru, an official at the National Alliance of Community Forest Association (Nacofa), says they have been making efforts to amplify the voices of vulnerable groups in the CFAs and visiting them at their locations.

“While the marginalised groups have come from not being given attention to being listened to,” says Gathiru, while acknowledging that there is low awareness of policies when it comes to the village level.

Migori County Environment Executive (CEC) Rahab Robi said they will plant 5,000 more trees at Mirema forest this season in partnership with members of the community and the national government.

Robi said they are targeting vulnerable groups in civil society organisations (CSOs) who will be identified through an awareness programme.

She further noted that they will reserve 30 per cent of funds for the purchase of their trees, as the county plans to roll out a massive exercise of greening Migori county.

This story was first published in The Standard.
Despite the ongoing severe drought in northern Kenya, Marigat Sub-county in Baringo is dotted with lush green vegetation that seems not be affected by the dry spell.

This vegetation is Prosopis Juliflora an exotic plant that was introduced by the government in the area years ago as a windbreaker.

However, the pastoralist communities of the Illchamus, Tugen and Pokot do not want the plant in the area. Locally known as mathenge, plant cannot allow vegetation to thrive where it grows. As a result, it has cleared grasslands and tree cover, leaving the pastoralists with nothing to feed their livestock on and exacerbating deforestation.

The animals cannot feed on it either, as it is poisonous. The sweet pods or fruits of mathenge interrupt digestion in goats and cows, leading to death by starvation.

“The dry seasons are becoming more frequent and longer. Our rivers are drying up and we have to travel longer distances to feed our livestock. We are losing our animals to both drought and mathenge,” says Samwel Montorosi, a resident of Salabani village.

Hannah Sakamo, a pastoralist in Eldepe village, says the community has lost too much to both drought and mathenge.

In this regard, the community is now reclaiming their land from the jaws of the invasive enemy by re-introducing native vegetation, embracing and expanding agricultural areas and grasslands.

The expansive Marigat Sub-county is one of 23 Arid and Semi-Arid (ASAL) regions whose vulnerabilities are multiplied and exacerbated by the most severe drought in the last 40 years.

However, the community is now ready to take climate action in line with Sustainable Development Goal 13 to build resilience against climate change and adopt sustainable practices to save their livelihoods.

To do this, Simon Choge, a senior researcher at Kenya Forestry Research Institute (KEFRI), says the community must first subdue mathenge.

Removing mathenge and replacing it with food crop and grassland, he says, is a climate change mitigation measure.

Choge says studies have shown a serious negative impact of mathenge invasion and grassland degradation on soil organic carbon in sub-locations within Marigat.

To progressively increase soil organic carbon and improve soil health, he says removing mathenge is a priority for it does not inter-crop.

Livestock is a lifeline for the pastoralist community. They are similarly vulnerable from the effects of four consecutive failed rainy seasons.

Baringo is one of Kenya’s nine arid counties. As such, Marigat is characterised by severe living conditions, with little annual rainfall of between 150 and 550 millimetres and very high temperatures.

Choge says at the heart of the community’s vulnerabilities is climate change, land degradation and the dominance of a most invasive species that has choked the environment, blocking climate adaptation and mitigation efforts.
Government data shows that across Kenya’s Arid and Semi-Arid regions (ASAL) spanning over 23 counties, the prolonged dry spell claimed an estimated 1.5 million livestock and brought down the cost of surviving livestock by less than 40 per cent.

“Mathenge has very deep roots that reach the sub-surface water. It consumes a lot of water and dries out all other vegetation. It dominates the environment, making it impossible for native plant species to grow,” he says.

Water stresses from effects of mathenge and climate change spell doom for the indigenous community.

In 2006, Montorosi was one of 800 members of the community who sued the national government for introducing Prosopis Juliflora without conducting an environmental impact assessment.

The court case led to the 2008 declaration that mathenge was a noxious weed, highly harmful to the environment.

Since then, the community has worked with government researchers to find sustainable solutions to the mathenge menace for it is impossible to build climate resilience without removing the ever-green, prolific and environmentally harmful invasive weed.

“We are changing our way of life. We are now removing mathenge and growing native trees such as acacia and planting crops,” Montorosi explains.

Choge says controlling mathenge is in line with the new National Strategy for the Management of Prosopis Juliflora.

He says, “Mathenge thrives on dormant land. By turning to agriculture, the community is removing a plant that consumes a lot of water and, giving way to the diversification of livelihoods as a way to adapt to effects of climate change and biodiversity loss.”

Research and practice show that it is impossible to completely eradicate Prosopis Juliflora once it dominates an area. The plant can only be controlled, hence the national strategy to manage it as opposed to eradication.

“We have seven charcoal production associations that are helping us to earn a living from mathenge and this is motivating the community to continue removing mathenge to grow food and animal feed,” Montorosi says.

Sakamo says women and youth have taken a lead in embracing agriculture and researchers such as Choge are at hand to advise on the most resilient plants to grow in the arid area.

She says the community started with activism to get the attention of the government and has now evolved to community associations that have led to steps in the right direction.

“Farming is becoming very common in the area. We are planting grass, maize and vegetables. The world is changing and we must change or be destroyed by drought,” Sakamo says.

She says while there are big chunks of land in the area, difficulties in manually removing prosopis thickets means that thus far, the community is farming on an average of three acres of land. But she is quick to add that this is the beginning to bigger and bigger agricultural land.

Scientists such as Choge says the community has taken positive and forward moving strides to reclaim their land and build sustainable practices against devastating effects of climate change. Staying on this track will progressively and increasingly strengthen the community’s capacity to be climate resilient.
A cross the open plains of Lching’ei Village in Samburu County, a herd of goats roam the scape, nibbling at tiny twigs of stout acacia shrubs scattered across the expanse. Further afield, manyattas – dome-shaped temporary pastoralists shelters made of mud and sticks – dot the village like overgrown ant-hills.

Not far away, Hellen Nasha Lelegwe’s one-acre farm rolls by with rows of leafy sukuma-wiki and amaranth intercropped among maize, with napier grass seated on the edges of the farm.

The veggies, says Mrs Lelegwe, have been an important source of food and nutrition for her family and fellow villagers, particularly during the searing drought that tore the region’s food security apart. She grows a variety of vegetables, ranging from sukuma-wiki, cabbages, onions, tomatoes, saget, African nightshade (managu), green pepper to sweet potatoes.

In most villages in the larger Suguta Mar ward in Samburu Central where Lelegwe lives, the aftermath of failed rains is evident; pastoralists possessing a handful of livestock, and men have migrated as far as Isiolo and Laikipia in search of pasture and water for their livestock, leaving women to head households.

The women, abandoned by their husbands, are at the core of family life and the economy of the villages. They have a key role in food production, animal husbandry and raising children.

With nearest water sources running dry, food production has slowed and livelihoods have worsened. What now worries the community most is the ripple effect on their nutritional status.

“Dry seasons are now progressively getting worse. This time, our livestock have perished and left us with nothing,” Lelegwe narrates while weeding her plot. Her family lost 17 cattle and over 100 goats to the drought.

Pirauni Lebarleiya is an agro-pastoralists who used to help his wife water their vegetable garden planted on gunny bags before drought set in and pushed him and the cattle to as far as Isiolo County in search of pasture and water.

“I used to go for water in the dam with my motorcycle to water our vegetables. When drought set in, I took all my sheep and goats to Kilimon area. And later moved with 25 cattle to Ngarantare (Nanyuki-Isiolo border) and later proceeded to Sieku in Isiolo in search of water and pasture. I only came back with three cows,” says Lebarleiya, gazing at his empty Kraal. He lost the rest of the cows to the drought.

Lebarleiya reckons that his farming activities have reduced following prolonged drought. Currently, he is preparing a comeback with new vegetable seedlings to transplant in new gunny bags. He used to grow cabbage, sukuma wiki, managu, onions, among others.

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**Malnutrition Prevalence in Kenya**

<table>
<thead>
<tr>
<th>Year</th>
<th>Child malnutrition by sex</th>
<th>Child malnutrition by residence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boy are more malnourished than girls</td>
<td>Urban 32%</td>
</tr>
<tr>
<td>2020</td>
<td></td>
<td>51%</td>
</tr>
<tr>
<td>2021</td>
<td></td>
<td>49%</td>
</tr>
<tr>
<td>2022</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2023</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Global, 1 in 10 people are hungry and undernourished

Between 702 and 828 million people are hungry and undernourished

970,000 Children below 5 years facing acute malnutrition

142,000 Pregnant women and lactation mothers facing acute malnutrition

1 out of 5 Children below five years are stunted

Number of children facing acute malnutrition 2020-2023

<table>
<thead>
<tr>
<th>Year</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000,000</td>
<td>750,000</td>
<td>500,000</td>
<td>250,000</td>
<td></td>
</tr>
</tbody>
</table>

Source: Global 2022 Nutrition Report, KDHS, 2022 Report

Compiled and designed by Clifford Akumu
Classified as an Arid and Semi-Arid area, Samburu is a water scarce county, and the situation has been getting worse due to the frequent and prolonged bouts of intense drought.

According to the March 2023 Drought Early Warning Bulletin produced by the National Drought Management Authority (NDMA), Samburu County was in the alarm drought phase.

The report further indicates that the majority of villagers accessed water from boreholes and wells. Boreholes and wells were relied on by 40 and 30 per cent of the households, respectively.

Mrs Lelegwe is part of a 30-member Sipat Women Group (formerly Beans Growers Women Group) who have sought out new farming methods to respond and adapt to the changing weather patterns and save their village.

She is practising climate-smart agriculture to diversify her source of livelihood, from solely depending on livestock keeping to other income generating activities like agro-pastoralism.

Until the women group received training on kitchen garden, multi-cropping, seedbed establishment among many other climate smart farming techniques, Mrs Lelegwe and other members of the group engaged in businesses and traditional small-scale farming.

But income from their farming was low and produce did not yield enough profits to sustain the activity.

In 2022, Caritas Maralal engaged an agronomist to train the women group on climate-smart agriculture under the WWF-Kenya’s Voices for Just Climate Action (VCA) funding programme to strengthen indigenous communities’ response and adaptation to climate change.

The VCA project aims to raise the voices and capacity of underrepresented or marginalised groups to enable them take on a central role as creators, facilitators and advocates of innovative and inclusive climate solutions. The mission is to create awareness of how climate change affects vulnerable/marginalised groups such as pastoralists, women, children and people with disability and efforts to alleviate these effects.

“I partitioned the farm as per the lessons from our training and I must admit, the harvest has been plenty and lasted longer than the previous harvests. I’m able to sell to my neighbours and other business people in Longeiwan and Suguta markets and restaurants in Maralal town,” says Mrs Lelegwe.

The aim of the livelihoods diversification programme across the pastoralists region was to rehabilitate farmland in an environmentally sustainable way, and ensure households have a supply of fresh vegetables for food security and nutrition, says Coleta Nyaenya, the programmes manager at Caritas Maralal.

“Women farmers who planted indigenous vegetables recorded improved intake and growth from their children as compared to when they only fed them on porridge (locally known as Kitegen),” Nyaenya says.

“No now the women have become entirely independent. They are now able to sustain their households during drought periods even when their husbands migrate in search of water and pasture for the livestock.”

4.3 million million Kenyans are food insecure

2.7 million million are in crisis phase

2.5 million million livestock dead

Source: Humanitarian Network
But in Samburu, as is the case in many parts of ASAL regions, women and children are disproportionately affected by the drought, which has increased their vulnerability to food security, ill health, violence and drastically reduced their access to nutritious food.

According to the ‘2022 State of Food Security and Nutrition in the World’ report by the Food and Agriculture Organisation’s Agrifood Economics Division, the number of people affected by hunger globally rose to as many as 828 million in 2021.

In Kenya, more than 37 million people representing over 80 per cent of the population cannot afford a healthy diet, which has particularly negative nutritional consequences for women and children.

According to a recently released report by Integrated Food Security Phase Classification (IPC), at least 970,000 children below five years and 142,000 pregnant women and lactating mothers are suffering from acute malnutrition.

Nationally, one out of five children below five years are stunted, meaning they are short for their age, with a majority living in rural areas, according to the 2022 Kenya Demographic Health Survey (KDHS).

Kepha Nyanumba, consultant nutritionist at Crystal Health Consultants Limited, says kitchen garden farming promotes food and nutrition security.

“It ensures people have access to sufficient, safe and nutritious food that meets their dietary needs and preferences,” says Nyanumba. “It plays a key role in fighting the nutritional deficiencies associated with food scarcity.”

This oasis on the border with Amaiya village has had a fair share of challenges in the quest to grow and consume indigenous vegetables. Until Mrs Lelegwe started irrigating her plot of land using pipes, she used to fetch water from Logorate dam, 500 metres away, to water her crops.

“I started farming in 2019 on half an acre. I planted green pepper, onions, sukuma wiki and tomatoes,” she says.

She would later expand to one acre. “I later bought pipes for irrigation through the help of World Vision. I also bought a generator at Sh35,000 after selling maize from my farm that I used to drain water from the dam and irrigate the field.”

Several kilometers away in Lorrok village, Porro ward, Miriam Lekarabi, 32, has tasted the fruits of climate-smart agriculture.

She says, “Last year I planted sukuma-wiki which I sold at Porro market at Ksh50 (US$0.37) a bunch. I also harvested two full sacks of potatoes, which I sold at Ksh3,500-4,500 ($26-33),” says Lekarabi who belongs to Mayian Village Savings and Loans Group.

Lekarabi and Lelegwe’s practice of climate-smart farming has led to improved living conditions and they are now beginning to put back power in women’s hands and halt the climate migration.

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**Samburu county water sources (March 2023)**

<table>
<thead>
<tr>
<th>Source of water</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shallow wells</td>
<td>10%</td>
</tr>
<tr>
<td>Rivers</td>
<td>20%</td>
</tr>
<tr>
<td>Springs</td>
<td>20%</td>
</tr>
<tr>
<td>Pan and dams</td>
<td>10%</td>
</tr>
<tr>
<td>Traditional river wells</td>
<td>30%</td>
</tr>
<tr>
<td>Boreholes</td>
<td>40%</td>
</tr>
</tbody>
</table>

*Source: Samburu County Drought Early Warning Bulletin 2013, NDMA*
Livestock keepers turn to grass farming to restore degraded landscape

By Milliam Murigi | n.milliam@yahoo.com

If you had visited Rev Haron Suyianka’s livestock farm in Isinya, Kajiado County, sometime back, you would have found a huge number of emaciated livestock.

However, things have changed. Today, his farm has healthy cows and goats.

“I used to keep a large herd of livestock because it is the norm in this community. There was a time I had about 200 goats and 70 cows. However, it reached a point I could no longer manage the large numbers because of the increasing fragmentation of the grazing lands,” says Rev Suyianka.

He decided to reduce the numbers and embrace a zero-grazing system. However, he still could not feed his animals as required because the area started receiving less rainfall, and droughts became more frequent, harsher, and unpredictable, thus limiting the amount of grass that was growing.

Upon realising that things were getting worse, Suyianka opted to grow grass on his 20-acre piece of land, rather than wait for it to regrow, in a process known as grassland restoration.

He started by planting native grass. But its production was not good enough because of the changing weather patterns. The soils were also so degraded that his farm could barely sustain a blade of grass.

Grassland/rangeland restoration is one of the nature-based solutions (interventions that protect, restore or sustainably manage nature) that is being advocated for not only in Kenya but also across the world. This is because most rangelands are degraded by overgrazing and drought.

Grassland restoration includes sustainable management practices like controlled grazing of livestock, keeping sustainable livestock herd, re-seeding grasslands, establishment of micro-water pans to store water, and planting grassland trees and shrub species.

“I was a bit lucky because I could harvest some grass from the farm after planting using fertiliser. However, my neighbours were not this lucky. I witnessed a good number of them losing their entire flock because of climate-induced disasters,” says Suyianka.

As he was on the verge of giving up, the Kenya Agricultural and Livestock Research Organization (KALRO) and SNV Netherlands Development Organisation introduced the Integrated & Climate Smart Innovation for Agropastoralist Economies and Landscapes in Kenya’s ASALs (ICSIAPL) project in Kajiado County.

They were looking for pastoralists to train on how to improve the performance of livestock through the use of improved and climate-smart forages. Suyianka was lucky to be among those trained.
They were trained about different varieties of high-yielding and nutritious fodder crops that are suitable for that ecological zone; how to plant, manage and harvest them as well as how to feed the animals after harvesting. After that process, those trained were able to make a decision on which varieties to choose.

“We went through the approach of having a demo farm. At the demo farm, which happened to be Suyianka’s farm, we planted 10 different varieties of grasses and legumes at the same time. They were all weeded at the same time and when they were ready for harvesting, farmers came to see and were taught about the varieties,” says Bernard Korir, KALRO Bachuma Center Director.

After the training, Suyianka chose to be growing boma rhodes, Cenchrus ciliaris, sugargraze, and nutrifeed grass varieties. For legumes, he chose Dolichos lablab (locally known as Njahi) because of its high crude protein content.

Today, Suyianka and 20 other farmers who have embraced these varieties in Isinya have bales of these crops stacked in their stores. They no longer go for long walks to look for pastures for their livestock. The prolonged droughts have not affected their source of livelihood because they now have enough feed for their livestock.

“The good thing about having a healthy grassland is that you not only get enough forage from these ecosystems but also such ecosystem provides a habitat for wildlife and livestock.

Healthy ecosystems are also important for sequestering and storing carbon as a climate change mitigation method,” says says Makutsa.

According to WWF, grasslands are one of the least protected and most at-risk ecosystems on the planet despite their unique biodiversity and relevance for vital ecosystem services like food production, water security, climate mitigation, and livelihoods. Conservation efforts have mostly focused on forests, with the impacts of deforestation widely recognised.

However, considering that these non-forest landscapes play a critical role in a healthy planet, conservation must go beyond forests.

The value provided by neglected natural ecosystems like grasslands and savannahs should be fully recognised and prioritised in conservation and development efforts.

Suyianka says the restored grassland gives him more than 5,000 kilos of grass in a good season. This is despite the fact that he still relies on the rain to grow the grass. The good thing is that improved varieties require less water and mature faster than the native variety.

The introduction of the njahi crop on his farm also helps improve soil fertility through nitrogen fixation, and he uses the plant as fodder because of its high crude protein content.

Suyianka is one of 6,000 pastoralists from Kajiado, Narok and Taita Taveta counties reached by the ICSIAPL project. Since 2021, KALRO and SNV Netherlands Development Organisation have been working together with pastoral communities to implement this project.

“This project aims to increase the resilience of agro-pastoralists and SMEs against climate shocks by the adoption of improved forage seed technologies and upscaling of appropriate grazing and feeding innovations. It also aims to increase the capacity of county governments to implement climate resilient integrated landscape management strategies and plans to support agro-pastoralist communities,” says Julius Rono, the project manager.

Funded through the Delegated Cooperation by the European Union and the Ministry of Foreign Affairs/DGIS of the Kingdom of the Netherlands, the project hopes to reach 10,000 agro-pastoralist households who will progressively realise a living income through improved production and marketing of animal feed and fodder.

“Once you have enough feeds for your livestock, you can sell the excess. From the sale of the excess grass, I have been able to buy a five-acre piece of land. I am hoping to increase the acreage under legumes in the future and incorporate other legumes such as cowpeas, and Lucerne among others. I will also start irrigating the farm,” says Suyianka.

According to Korir, increasing the resilience of pastoralists from the arid and semi-arid areas is a good move because higher temperatures, more variable rainfall, and an increase in extreme weather events will severely affect the pasture and water resources that are so critical for pastoralists.

“Pastoralists are among the groups that are most threatened by climate change. That is why in times of climate change, they need as many additional options as possible to adapt their grazing methods to the new feed, water, and weather conditions,” says Rono.

This story was first published in People Daily
With two jerricans strapped at the back of her bicycle, Veronica Musembi cycles for about five minutes to get to Nzoila watering point, about five kilometres from River Ngai Ndethya in Makueni County. In record four minutes, she fills her gallons and the mother of three is ready to cycle her way back home.

“Water is now close to our homes. There are no longer queues and there is enough for everybody,” says Musembi as she loads her jerricans.

On the opposite side, about seven kilometres across the river, Michael Mbindyo who is the caretaker at Mitamboni water kiosk is supervising the locals, some with animal pulled carts to fetch water.

The easy access to water for both domestic and livestock use is a big break from the past for the area residents who used to camp in dry river beds for hours on end under scorching sun to look for the precious commodity.

“It was a life of misery. There were always long queues at the rivers where we would spend hours digging wells and crawling on the blistering sand in search of water. There was never enough and it could take even up to five hours to fill two jerricans,” Musembi explains.

She adds that water borne diseases were common place since they would share their wells with animals, both domestic and wildlife.

Her sentiments are echoed by Cyrene Mwania who recalls the battering life of walking for over 30km westwards to River Athi, a permanent river, which would be their only source when all the seasonal rivers dried up and where they would brave menacing crocodiles.

“Searching for water was a full time occupation. There was little time to do anything else but today, life is easy. It is easier to plan when to get the water and to and attend to other activities,” Mwania who operates a vegetable kiosk at Nzoila market says.

The source of water for the two kiosks is the same; a giant sump tank built next to a sand dam at the confluence of River Ngai Ndethya and River Kambu.

Villagers overcome water insecurity after decades of dry spell

By Philip Muasya | phillip.muasya@gmail.com
The concrete water sump is placed several metres deep at the bed of the river and installed with giant pipes that are connected to diesel powered generators to supply water to the two water kiosks.

From the underground river tank, the water is then pumped into two 10,000 litre plastic tanks where the locals access it for a small fee.

At Mitamboni water kiosk, the users pay Sh10 for four jerricans while at Nzoila kiosk which is farther from the river, they pay Sh5 per 20 litre jerrican. There are also troughs for livestock to drink from.

Mostly however, some locals prefer to water their animals right at the river where pools of water have formed, thanks to the sand dam which acts as a water storage. Munini Kiooko, 50, is one such livestock keeper who herds her cattle every evening to drink from the river.

“In the past when the river dried up, the animals would go for weeks without water ... they were always emaciated but nowadays they can drink all they want,” Kiooko says, describing the initiative to restore the river as a miracle that has benefited both humans and livestock.

She says that in the past, the two rivers were ugly features of protruding rocks as sand cartels pulverized the area scooping sand for sale. Wells produced little water, she says.

“We now know the value of sand in the river in relation to water security. We cannot allow uncontrolled sand harvesting because it will kill the rivers,” she states while watching her cows gorge themselves.

“Classified as an arid and semi arid area, Makueni is a water scarce county, and the situation has been getting worse owing to the frequent and prolonged bouts of intense droughts.

Obadiah Muumbi, the Chairman of Mtito Andei Ward Climate Change Planning Committee, at the confluence of Rivers Kambu and Ngai Ndethya where there is a sand dam water project.

But for the community in Mtito Andei ward, they had to find a solution from within. Through the ward climate change planning committee, they mooted the idea of a sustainable water project that would cushion them from the hazards of recurrent droughts.

Obadiah Muumbi is the chairman of the 11-member committee, which draws its membership from the three locations of Kambu, Kathekani and Mtito.

The committee was formed in 2013 by Anglican Development Services Eastern (ADSE), the development arm of the Anglican Church of Kenya (ACK), a member of the Adaptation Consortium (ADA), which for three years trained the residents on the concept of climate change and its impacts.

Mr Muumbi says that during the training, they would visit other counties such as Kitui, Marsabit, Isiolo and Garissa to see the climate devastation and borrow ideas on adaptation and mitigation.

The committee was then tasked to train other members of the community and help them identify a need which they wanted addressed.

Water security topped their agenda and that is how Ngai Ndethya water project was conceived through participatory vulnerability capacity assessment for climate change.

“We wanted to have a water project that cuts across the ward and proposed two distribution lines from the sump tank to two water kiosks to shorten the distance travelled to fetch water,” Muumbi says, adding that the project – funded by the UK government at Sh7 million – now benefits about 4,000 households, including five schools, three dispensaries and a church.

The ward climate change chairman says that with future funding, their plan is to replace the diesel generators with solar power system to pump water at reduced cost while also reducing carbon emissions.
“This is a great initiative which has proved to be a key solution to water insecurity in this area. If it was possible, we would have such a project every few kilometers downstream,” says Muumbi.

Some of the locals such as Musembi use the water as an income earner. She sells a jerrican for Sh15 (USD 0.1) to Sh20 (USD1.2) at the nearby markets, thus making a tidy amount to take care of her family’s needs.

The ease and convenience of water access during dry season has also resulted in improved sanitation and the emergence of kitchen garden farming where some grow vegetables.

Sam Mwendwa, the project officer at ADSE, says the formation of ward climate change planning committees and training on climate information has enabled the communities to build their resilience to climate change in a more coordinated way.

“The ward committees identify needs through community participatory approaches (Participatory Vulnerability Capacity Assessment – PVCA). This process enables community members to identify their vulnerabilities and come up with action plans to address the climate related vulnerabilities,” Mwendwa explains.

Makueni County Assembly was the first in the country to pass Climate Change Fund Regulations in 2015. This paved the way for enactment of Climate Change Fund Board, according to the County Executive Committee Member (CECM) for Environment and Climate Change, Dr Sonia Nzilani.

“The board ensured that we could, from then on fundraise from partners and even seek donor support to promote climate change activities instead of relying on the exchequer,” Nzilani says.

With 30 ward climate change committees spread across the county, Nzilani says the county government has sensitised the residents on the hazards of climate change through routine trainings, which revolve around adaptation, resilience and mitigation.

Farmers are encouraged to grow drought resistant crops such as sorghum, cassava and millet for drier areas such as Kibwezi, Kambu and Mtito Andei to ensure food security. The locals are also trained on modern methods of farming, terracing, water harvesting and agro-forestry especially along the rivers.

“The committees are trained on proposal writing and some have secured sand dams and tree seedlings from partners,” she says, citing two sand dams at River Kiboko.

Noting that two percent of the county’s development budget is allocated to climate change activities, the officer says the county government’s commitment is to construct more sand dams and harvest surface run off for water security as opposed to boreholes which she says end up depleting underground aquifers.

According to International Rescue Committee (IRC), about 28 million Kenyans lack access to safe water, where severe drought is projected to leave about 5.4 million people without adequate access to water and food between March and June 2023.

This story was first published in The Standard
From the top, Masue rock, which stretches several metres, provides a scenic view of Sultan Hamud and other neighbouring towns along Mombasa Road in Makueni County. In another life, the massive, winding rock would be a tourist attraction of sorts. However, until 2014, the residents of Masue village in Mbitini ward knew nothing but torment from the rock, especially during the rainy seasons. Heavy torrents of water from the rock would gush downwards at top speed, tearing into people’s farms and leaving in their wake untold destruction of homes and farms. Additionally, the runoff water from the rock would break the area into ugly gullies, big enough to swallow even an elephant. Whether it was during the dry or rainy season, the locals had nothing good to look up to. In dry season, they would face the sad reality of water scarcity, forcing them to camp at the seasonal River Muoni where they dug wells to compete with livestock and wild animals. Few months after the rains, the river would dry up, plunging the locals into a life of misery. Yet when the rains came, they would be displaced from their homes and farms by fast flowing waters from the rock, occasioning massive soil erosion.

Having resigned to their fate, the residents aptly nicknamed their village wa-Ngiti, loosely translating to a place of dog’s life. “The rock was like a curse to us then. But today we are happy it is one of the main sources of fresh water for us,” says Rose Kimilu, a resident.

In 2013, a team of 11 people from Mbitini ward was organised by the Anglican Development Services Eastern (ADSE), the development arm of the Anglican Church of Kenya (ACK), which is a member of the Adaptation Consortium (ADA), and for three consecutive years, they were trained on the concept of climate change, its impacts and how to adapt and mitigate against the same.

Peter King’ola, is the vice chairman of the 11-member Mbitini ward climate change planning committee who says after the training, they were commissioned to identify a community project within their locality.

He says that through Participatory Vulnerability Capacity Assessment (PVCA) for climate change, the community prioritised the construction of a catchment to harvest water from the rock with twin distribution lines to feed the entire village and also stem the terror caused by the rock.

“Together with other members of the community, we identified Masue rock as our key focal point. We wanted a project that would address water insecurity in our area while at the same time addressing the damage caused by the rock during rainy seasons,” King’ola says, explaining how the idea of the rock catchment was born.

The technology behind the rock catchment is simple; a three-feet concrete wall has been constructed at the bottom of the winding rock where the rain water is collected and directed to a V-shaped embankment that is fitted with an extended giant metallic pipe. It is through this pipe that the collected water is directed to a 250-cubic-metre concrete tank constructed a short distance away from the rock.
This tank then drains – through gravity – to two other 150 cubic metre tanks erected separately about a kilometer away from where locals access the water in kiosks. The water project has served both the locals and institutions such as Masue AIC Day and Boarding Primary School, which established a boarding section due to the ready availability of water. Other schools benefiting from the project are Masue Secondary and Kasuvi Primary.

“Currently nobody goes for a kilometre looking for water. Whenever it rains as it is currently, we are assured of clean and fresh water,” says King’ola, sentiments echoed by Damaris Ndulu who describes the rock water project as a huge relief.

The ward climate change committee has also been training the locals on conservation of indigenous trees and planting of new ones as well as terracing to combat soil erosion.

The tree project around the rock has not only helped to kill the gullies but also provided an opportunity to some farmers such as Daniel Maweu to start bee keeping projects and fruit farming a few metres below the rock, something that was unthinkable in the past.

“I want to put up 200 beehives here because the environment is good for bees. The trees will provide the much needed nectar and water is available,” says Maweu who has also planted pixie oranges on a two-acre farm.

The once neglected wa-Ngiti village is now a place of abundance and good life where schools and churches thrive and promising farms sit side by side. Slowly, the name has changed from wa-Ngiti to now Masue village.

Mutuku King’oo is the chairman of the sustainability committee that is currently managing the water project and says the rock has the potential to harvest millions of litres of water.

With more storage facilities, King’oo says the rock catchment would ensure availability of water from one rainy season to the next.

Currently due to high demand, the water is depleted within three months during the dry season, forcing the locals back to the seasonal rivers, or as in the case of the schools, buying from private water companies.

“Our future plans are to expand the project in order to serve more people and for a longer period. We are looking for support to acquire more water tanks,” King’oo says.

The immediate help would most likely come from Makueni County government where its Chief Officer for Environment, Natural Resources, Mining and Climate Change Japeth Mutuku says they are working with the county residents in addressing climate change adaptation priorities, building community resilience, and fostering sustainable economic growth.

“As a county government we are committed to the sustainability of both donor-funded and county government funded projects to turn around the people’s lives,” assures the chief officer, adding that the 30 ward climate change planning committees spread across Makueni County receive regular trainings to build people’s resilience to climate change.

“Capacity building is our key priority area, thus we are giving total support to the sustainability of community projects such as Masue rock catchment,” Mutuku says.

Figures from the International Rescue Committee (IRC) show that about 28 million Kenyans lack access to safe water. IRC also projects that severe drought currently ravaging parts of the country will leave about 5.4 million people without adequate access to water and food between March and June this year.

*This story was first published in The Standard*
A diverse carpet of green welcomes the visitor to the tree seedling production centre in Masalani Ward, next to Ijara Township, Garissa County.

A local climate action group, Global Nature Conservation (GNC) set up the nursery in 2021.

“We have set up a tree seedling production centre in Masalani Ward. If a certain species does well in our area, we collect the seedlings so that we are able to restore it,” says GNC Chief Executive Madina Hussein.

The group has also ventured into the growing of drought-tolerant crops to provide food during the dry and rainy seasons.

“We grow green grams, lime and vegetables that can grow in the region,” says Ms Hussein.

She reveals that the climate justice lobby was established to address the ever-present challenge that climate change poses to vulnerable groups in the region.

“Climate change affects all of us differently. However, women, youth and vulnerable groups in Ijara, Garissa County, are disproportionately affected and bear a heavy burden despite playing a vital role in climate change mitigation and adaptation,” she says.

Hussein attributes the situation to the patriarchal society model, which the communities in the region are built upon.

“Because of the patriarchal setup of society, the vulnerable groups are excluded from leadership. They are not given an opportunity to contribute to project design, policy implementation, training, technology, resource sharing and decision making on matters of climate action,” she says, adding that it leaves them without a say on important matters affecting their community.

“This means they have to accept policies and decisions made for them. We want to advocate for inclusive, gender-just climate action and ensure that the right people are part of Voices for Climate Action (VCA).”

The group, funded by the Worldwide Fund for Nature Kenya (WWF-Kenya), also trains vulnerable group members to participate more effectively in the county’s 15 ward climate change committees.

“We build the trainees capacity to enable them lead the community in designing, planning and implementing climate action programmes as members of the ward climate change planning committee members,” says Hussein.

“They also act as a link between the community, government and development partners on climate change mitigation and adaptation programmes. These committees will play a key role in developing participatory climate risk assessment for the wards because they have the required geographical information of the climate action needs.”

GNC has also turned its spotlight on the youth, who will carry and eventually hand the conservation torch to the next generation.

A total of 200 women have been trained to lobby for climate action funds at the county level.
The trained community members are now able to speak out more clearly on specific matters touching on climate action funding.

“Members of ward committees have also been trained to carry out lobbying on FLLoCCA [Financing Locally-Led Climate Action] funds. They also present views on behalf of the community and wards during consultations with the government on development projects geared towards building climate resilience,” says Hussein.

“Thanks to the sensitisation we carried out, women, youth and people with disabilities were well represented during the third County Integrated Development Programme (CIDP) public participation session.”

For the last two years, GNC has been engaging communities on the need to conserve the indigenous acacia trees. Hussein admits that there is widespread cutting of the iconic trees that play an important role in the ecosystem, including providing food for giraffes and other wild animals in the region.

Charcoal burning, she says, drives the demand for the hardy, drought resilient acacia trees.

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“In Garissa, 99 per cent of the people use charcoal as domestic fuel. It comes from the acacia trees that are endemic to the area, particularly the acacia totallis species, which takes 100-200 years to fully mature,” says the climate justice activist.

Kenya has committed to replanting five billion trees by 2030.

According to Dr Kariuki Muigua, an environmental law scholar, policy advisor and dispute resolution expert, Kenya’s Draft National Forest Policy of 2015 acknowledges that communities will have to be involved in efforts to achieve 10 per cent forest cover.

“To achieve the national forest cover target of 10 per cent of land area, the major afforestation effort will have to be in community and private lands,” he wrote in a March 6, 2022 article on www.thelawyer.africa.

“The policy emphasises that participatory management and sound conservation practice has potential to improve forest protection, management and growth by involving relevant non-state actors and local communities in planning and implementation,” he goes on.

To help stem the charcoal burning tide, GNC has also taken a stand against environmental degradation by pointing out the benefits of planting more trees as opposed to cutting them down and making some species extinct.

“We advocate against the cutting down of acacia and other indigenous trees. This is because they could be medicinal, fruit producing or valuable for many other purposes, including carbon sequestration, which helps reduce the effects of climate change,” says Hussein.

“We also educate the communities on the importance of biodiversity by avoiding the introduction of invasive species such as potiphera mathenge that has the ability to sicken and even kill livestock when eaten.”

Apart from the planting of trees, GNC has also taught the 200 community members how to practice bee keeping.

“Weekkeeping is one of the nature-based solutions that can secure additional sources of income for our people,” says Hussein.
Juliana Fondo is a livestock farmer in her Mikomani village home in Rabai Sub-county at the Kenyan Coast. She keeps cows, chickens and goose.

The cow dung from her six cows is gold to her. She uses the waste to run her biogas stove, which she uses for cooking.

“The biogas has made my work easier, it is very clean, no inhaling of smoke and I can cook anytime without fear that it will run out. It can be used for eight hours of non-stop cooking for my family of five children,” says Ms Fondo.

“If each homestead had this type of clean cooking method, we would not have much destruction of our forests.”

Fondo says the Ministry of Energy in collaboration with the County Government of Kilifi installed the biogas plant for her. She says many people visit her to learn about the project and she receives at least two guests every month.

She says the biogas digester took one month to be built at no cost to her since it was a pilot project.

Before venturing into using biogas, Fondo says she would spend many hours looking for firewood and charcoal. At times she had to buy trees and turn them into wood fuel, a practice that was very expensive.

However, for the five years she has been using biogas, she has all the time to engage in other house chores, never spends money in buying firewood or charcoal and also saves trees.

Fondo says many people have at least one or two cows in her neighborhood but lack the knowledge of how to make the biogas. She urges the county and national governments to create awareness to everyone who keeps cattle.

“If the government helps people build the biogas, then the trees we are planting won’t be cut down for firewood and charcoal, hence conserving our environment,” she says.

Fondo says it pains her to see women walk into forests to cut down trees for firewood. The destruction, she says, has led to the long droughts experienced in the country.

“I plant trees and advocate for people to do so. I spend sleepless nights when I imagine that our kaya will one day disappear due to human activities, and that we shall have nothing to show our future generations,” she says.

“When we plant trees we will get rain and enough food, and when the community has food, children will go to school and we will live a happy life.”

Selina Juma from Makobeni village is the chairperson of Chauringo-Makobeni Dairy. The group specialises in livestock keeping.

Ms Juma says she used to walk for six hours to the nearest Kaya forest to look for firewood, an exercise which she says was not only wasting her time but also exposing her to the risk of sexual and gender based violence on her way to the forest.

However, thanks to Climate Action Plan, she now has a small digester to make biogas using cow dung from her two cows.
“This biogas is a very important thing to me, even my husband cooks for himself when I’m away without any problem. You also don’t destroy the environment by cutting down trees,” she says.

Ms Juma, who is in her early 60s, says the use of biogas has kept her fit and healthier because she does not do a lot of tiring household chores such as fetching firewood, fetching water and inhaling smoke while cooking. Instead, she gets a lot of time to rest.

“If women get relief from walking for long distances to look for firewood and water, many of us will always look young, healthy and live long. I urge women to invest in biogas and stop cutting trees so that we can conserve our environment,” she says.

One of the challenges the women encounter when using biogas is lack of water for mixing the cow dung. Due to climate change and the resultant long droughts, the cows also cannot get enough grass to feed on. This means they produce very little waste.

To make biogas, the women collect cow dung from the zero grazing units, then put it in a mixing chamber, where it is mixed with water and crushed using hands into finer particles.

The dung is then allowed into the digester with a gas holder, where bio waste undergoes anaerobic digestion to produce a methane gas, which is flammable.

The gas is then piped into the house where it is used for cooking and lighting.

Finally, a tank collects the waste that has been used to produce the methane gas. This waste is referred to as slurry, which is used as fertiliser.

According to the Poor People’s Energy Outlook 2019, on average households in Kenya spend five hours 16 minutes per day collecting and preparing fuel and cooking. Switching to clean cooking solutions reduces the duration by 37 per cent to three hours 18 minutes per day.

The Director of Energy in Kilifi County, Wilfred Baya, says they have trained more than 100 youth and women in the six sub-counties to embrace clean cooking methods, especially the use of biogas.

“Since we started the project of training and urging people to use clean cooking methods in 2018, the rate at which trees are being cut has reduced by 10 per cent,” says Mr Baya.

Clean Cooking Association of Kenya (CCAK) Communications Officer Brian Murumba says recycling of cow dung into biogas helps in reducing energy costs for a family.

The CCAK is one of the CSOs funded by Worldwide Fund for Nature (WWF-Kenya) to implement locally led climate action under the Voice for Joint Climate Action (VCA) project.

Murumba says they have so far engaged more than 70 women in Kilifi County who are being trained on clean cooking methods, including the use of biogas.

“One main objective of recycling waste into energy generating commodity whether for cooking or lighting is to cut carbon emissions and improve the livelihoods of families,” he says.

Prof Bernard Fulanda, an associate professor in marine science and a climate change expert, says clean cooking helps in reducing carbon emission.

“The carbon emissions can be reduced in varying quantities from household to household depending on how they use the clean renewable energy. Some can cut up to 100 per cent but on average it can be reduced by 60-70 per cent,” says Prof Fulanda.

This story was first published by Radio Rahma.

Women from Mwamutsunga Village in Rabai are trained on how to make briquettes.
Gilbert Ombok and his family had always heavily depended on firewood for cooking. His wife, Grace, always moved into the forest around their home in Migori County, Western Kenya, in search of firewood.

However, this was until Ombok got trained on how to produce clean energy in form of biogas, and he knew it was time to change his ways and adopt clean cooking at his home.

Ombok recalls that biogas production was part of animal husbandry training by the International Livestock Research Institute (ILRI) between June and September, 2016.

It was after the training that he took the bold step to shift to biogas, and since then they have never looked back.

Having saved some money, the 56-year-old topped up the savings with a loan and bought a biodigester, pipes and a cooker at a cost of Ksh165,000 (US$1,210).

"Since I had a lot of cow dung, I thought it wise to embark on biogas production because wood is not much available," he says.

Ombok then sank the 10,000-cubic-metre-capacity biodigester in a 20 by 20 feet portion of land behind his kitchen.

At the beginning, he used seven tonnes of fresh cow dung to fill up the biodigester.

He explains that after that, his 10 cows could produce five wheelbarrows of dung every day, which he fed into the biodigester in the first few weeks.

Currently, Ombok uses one wheelbarrow to make the biogas every day after he reduced the number of cows he keeps.

"The amount we produce is sufficient to help us cook throughout the day. It gives me and my wife time to run other errands, and when we return home tired, we get easy time cooking," he says.

To make the biogas, Ombok first collects fresh cow dung from the cow shed and draws enough water from his well.

"Making biogas needs a lot of water. One has to have a continuous supply of water," he says.

After collecting the cow dung, he pours it into a feeder and mixes it using a huge stick or his hands covered in gloves. He does the mixing until the cow dung forms a smooth paste before releasing it into the biodigester.

The biodigester, which has bacteria, breaks down the prepared cow dung and produces gas, which is channelled into a pipe, and slurry, which is drained to a collection point.
Before the gas is channelled to the kitchen, a tap is opened along the pipe to release water.

“We have a number of channels and we at some point have to separate water from the gas. The pure gas then goes to the kitchen,” Ombok explains.

He says that failure to release water from the gas collected from the biodigester results in a hissing sound when one is cooking.

Ombok says the biodigester can consume up to between one and eight wheelbarrows of cow dung per day.

“Since we started using biogas in cooking, we have cut costs of buying fuel and it is healthier than using firewood,” he says.

His wife says when she used firewood, she would suffer coughs every week and her eyes irritated out of the smoke from the wood.

“Since my husband installed the biodigester, I comfortably cook in the kitchen and no longer suffer frequent coughs,” says Ombok.

Ombok’s family has saved 60 per cent of what it spent before and is now safe from diseases caused by smoke.

According to the World Health Organisation (WHO), about 2.4 billion people worldwide cook using open fires or inefficient stoves fuelled by kerosene, biomass (wood, animal dung and crop waste) and coal, which generate harmful household air pollution.

In a 2020 report, the global health body says that household air pollution is responsible for an estimated 3.2 million deaths per year, including over 237,000 children under the age of five.

Furthermore, the combined effects of ambient air pollution and household air pollution are associated with 6.7 million premature births annually.

The WHO indicates that household air pollution exposure leads to non-communicable diseases, including stroke, ischaemic heart disease, chronic obstructive pulmonary disease (COPD) and lung cancer, with women and children bearing the greatest health burden.

Clean Cooking Association of Kenya (CCAK) Communications Officer Brian Murumba says as an association, they create networks and awareness to have more people adopt clean cooking methods.

“We want to mitigate climate change impacts on households,” Mr Murumba says.

He says clean cooking can reduce annual disease burden from 49 per cent to 20 per cent.

In November 2019 during a clean cooking forum, Kenya committed to achieve universal access to clean cooking by 2028.
Solar-powered kits give villagers access to safe, clean water for domestic use

By Mazera Ndurya | tnmazera@gmail.com

Taking a walk across Jimbo village in Kwale County at the Kenyan Coast, one does not fail to notice black gadgets out in the scorching sun in almost every homestead.

A closer look reveals a black container filled with water.

This is the Solvatten kit, a combined portable water treatment and heating system that has been designed for off-grid household use mainly in the developing world. It is an easy, innovative solution that provides access to clean, hot water to people worldwide.

Jimbo is one of the areas in Kenya and the world that has joined the long list of beneficiaries of a game-changing technology with the sole aim of helping vulnerable communities without reliable access to clean and safe water.

"As a mother, watching other women going through difficulties in accessing clean and safe drinking water, especially in developing countries, got me thinking and, using my background in biochemistry and DNA research, I started this project," says Petra Wadstrom from Sweden, the founder and innovator of the Solvatten technology.

"My travels took me to see the real poverty and women and children bearing the brunt of these hardships. The biggest problem was water."

After intensive research, Wadstrom made the first prototype of the kit in Stockholm from Sweden in 2002.

“It was a long process testing water from different sources in different parts of the world such as Nepal and Bungoma in Kenya,” she says.

She says renewable energy should be the number one source of household drinking water everywhere, adding that their work is to provide Solvatten kits to off-grid and low-grid settlements through partnerships with NGOs, health clinics and with the mechanisms of carbon finance.

The kits are given for free but in monetary terms Wadstrom says one costs about US$60 (about Ksh8,000).

“We give Swedish companies the opportunity to offset carbon emissions by purchasing high quality carbon credits. As the Solvatten kit reduces the use of biomass by more than 50 per cent, it mitigates climate pollution such as carbon dioxide (CO2) emissions,” says Wadstrom.

"The reduced dependence on biomass enables higher preservation of trees and ecosystem services, without claiming land areas. Users of Solvatten will hence help protect, restore and promote sustainable use of Kenya’s ecosystems while slowing down biodiversity loss."

Reduced outbreaks of water- and hygiene-related diseases have a positive impact on a country’s health, including increased life expectancy and decreased child mortality.

The Community Action for Nature Conservation (CANCO) is one of the organisations that have seen Jimbo village through the milestones witnessed.
In Jimbo, CANCO’s partnership entails improved access to safe water at household level but more importantly water that can be used in the processing and value-addition of fish – largely sardines.

“Matters of fish quality (quality control and quality assurance) require good hygiene and sanitation. Clean and safe water is an important input in ensuring that the quality and safety of fish is improved and not compromised.

“This in turn will enhance the marketability of the sardines as it is a requirement by Kenya Fisheries Services, Fish Marketing Authority, Kenya Bureau of Standards and Export Promotion Council,” says Hadley Becha, CANCO Executive Director.

CANCO is coordinating the Solvatten project in Kwale and Taita Taveta counties and trains the villagers on how to use the kits.

Hamida Ali Abubakar, a fishmonger in Jimbo village, is one of the beneficiaries of this technology and the training.

“Like most of the women in Jimbo, I deal in sardines. We buy directly from fishermen, wash, boil and dry the fish before they are ready for the market. This is time consuming and requires a lot of firewood,” says Abubakar.

“Before going to the beach early in the morning for the fish, we have to prepare the children for school. My children and elderly parents cannot use cold water for bathing, so I’ve been buying firewood at about Ksh150 (about 1 US dollar) every day for boiling water.”

Jimbo is known for its sardines that are consumed in the entire coast region and beyond. Interestingly, the work of handling the sardines that land at the port every day from the fishermen is left to women.

“As you are aware, the mortality rate and deaths of children under five years old is high in most of those counties with low access to safe water. As such, the Solvatten kits can contribute to reducing this. The technology is also healthy for those who use it because it is smokeless,” says Becha.

One key component of this technology is that it uses solar to treat and heat water. Through this technology, says Becha, communities will use less or little wood fuel and charcoal.

“As such it will not only protect the vegetation cover and woodlands and increase biodiversity, but will also reduce the greenhouse gases that cause global warming and climate change,” he says.

A Solvatten kit makes water safe and hot—up to 75°C/167°F. Water at this temperature has been freed of microorganisms and is perfect for a number of household and hygiene purposes, including cooking, hand washing, bathing, and cleaning.

Once the water has been purified, an indicator tells the user when the process is complete. The water cools down quickly in the shade and can be used for drinking. The kits can be used on partly cloudy days, but not during heavy rains or thick cloud cover.

Ultimately, Becha says, the adoption of Solvatten in Kenya will contribute to the Nationally Determined Contribution (NDC) under the Paris Agreement on climate action.

According to the United Nations Development Programme (UNEP), the objective of Kenya’s NDC is to lower greenhouse gas (GHG) emissions by 30 per cent by 2030.

CANCO’s main target is households with children aged 0-5 years old and the elderly.

Photo Credit | Mazera Ndurya

After solar heating the water to the required point, the women in Jimbo have different ways of storage. Some keep it in a shade to cool before using it for drinking and cooking. Here Mwanatumu is displaying water stored in a freezer ready for drinking.

“We aim to address issues to do with sanitation and hygiene in areas where the locals do not have access to clean and safe water [using water from wells, rainwater, shallow ponds and lakes].

The kits kill biological disease-causing organisms to prevent waterborne diseases such as dysentery, cholera, and diarrhoea,” says Becha.
Environmental groups have pledged to collaborate in an effort to increase tree cover in Kisumu County.

Speaking at Prof Peter Anyang’ Nyong’o Botanical Garden, the organisations said that henceforth they will work as a team to amplify their voices on environmental matters, including local control of forest resources.

Rebecca Akoth, the Director of Miya Ywech, said her organisation will work closely with and support environmental organisations across Kisumu City to conserve the forests.

“It is painful that environmental groups have failed to confront challenges as a unit. It is time we came together to address the ever-elusive environmental concerns for healthy living,” Akoth said.

Miya Ywech advocates for zero solid waste in the lakeside city.

Kisumu County City Manager Abala Wanga said he will put his weight behind enhancing a good working environment for the environmental groups.

With the new collaboration, he added, it would be possible to realise the required tree cover in the city.

Kisumu Environmental Champions, an organisation whose campaign is dubbed ‘Let Lake Victoria Breathe Again’, called on the youth to take advantage of the new collaboration to effect environmental responsibility.

Rahmina Paullete, the founder of Kisumu Environmental Champions, reminded the youth of their responsibility in protecting the environment. She lauded the County Government of Kisumu for a spirited campaign to restore the city’s beauty.

“We need to bring the youth together and support them in protecting our environment. The question we need to ask is, how do we create an environment where people can freely talk about issues affecting our environment?” posed Paullete.

Peter Okwiny, the Director of Shining Hope for Communities (Shofco), said the organisation will work closely with all stakeholders and support ‘Greening Kisumu County’ in order to achieve the key environmental goals. He said trees thrive because communities are holding onto them, hence a great call for unity in redeeming their place in society.

Okwiny said society has a moral obligation and a responsibility to protect the earth and its inhabitants for future generations. He observed that environmental pollution is an incurable disease that can only be prevented.

Okwiny urged stakeholders to unite and enlighten communities on the importance of planting and conserving trees.
“The environment is not our place of luxury; it is a necessity. The environment is everything. A healthy ecology is the basis for a healthy economy,” he said.

The latest tree planting campaign comes in the wake of new research that found out that many groups at the grassroots level in Kenya, especially women and the youth, participate actively and in large numbers in conserving forests and environment. In line with the new finding, there is a need to bring these people together and support their environmental activities in order to realise the call for a greener society.

Last year, a new finding by Organisation for Sustainable Environmental Protection (OSEP) established that the local women and youth groups were more concerned with environmental conservation than women and youth in the urban centres.

The organisation recommended to the government to empower more women in the village set ups to realise key environmental needs.

Speaking to Sayansi Magazine, Magnam Environmental Network Chairman Michael Nyaguti welcomed the move of greening Kisumu City and its environs but called upon lawmakers to amend the Kenya Forest Service Act to enable a close working relationship between the service and all environmental registered groups, including persons with disabilities, Community Based Organisations and self-help groups.

Magnam is a local network that champions environmental protection and conservation along the Lake Victoria region.

“Currently the Kenya Forestry Service only works closely with the Community Forests Associations, an engagement that is exclusionist, thus necessitating amendment. If the Act is amended, harnessing of the various groups’ synergy will guarantee increased effort through tree planting with an aim of improving our forest cover,” said Nyaguti.

“County governments need also to enhance funding for environmental conservation to include all these groups that do excellent work but are hardly recognised by the law.”

In Kenya, the concept of community engagement in environmental conservation was initiated by the late Prof Wangari Maathai who encouraged and empowered people in villages, especially women, to plant trees to protect water towers and increase forest cover.

Today, Kenya has several community forest associations (CFA) that work under the National Alliance of Community Forest Associations (NACOFA).

The CFA mechanism is established by the Forests Act of 2005 (sections 46 and 47, Forest Rules 41 and 42) to support the Kenya Forest Service (KFS) in its mission to protect, manage and enhance Kenya’s forest resources.

Under the CFAs, the communities use the forests sustainably as a source of livelihood thereby easing the pressure on the forested areas.

These associations also play a significant role in decision-making concerning land use and support government efforts in forest conservation.

The issue of conserving forests to keep climate change at bay has seen increased activists by various stakeholders in Kenya.

“Alliance for Science Executive Director Sheila Ochugboju said that forests are needed even in cities because they clean up the environment and give people places to go to.

“They are not just about beauty, there is a scientific rationale on why we need forests in urban places,” said Dr Ochugboju.

She added that the Alliance for Science will work closely with, and support community forest associations across Kenya to conserve forests.

The Alliance for Science is a global communications initiative based at the Boyce Thompson Institute, an independent nonprofit research institute affiliated with Cornell University based in the USA but with representation globally.

Dr Ochugboju was addressing a workshop organized by the Alliance and Network of African Women Environmentalists (NAWE) to mark this year’s World Environment Day in Karura Forest, Nairobi.

Dr Ochugboju emphasized the importance of achieving the Sustainable Development Goals (SDGs), expressing fears that the world is lagging in most of the 17 SDGs.

SDG 15 aims to “protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.”

“The SDGs are interconnected and we must look at them holistically. For example, without a healthy environment, you can’t have peace,” she said.

Additional reporting by Christine Ochogo.