

A woman with short dark hair, wearing a red long-sleeved shirt, is smiling at the camera. She is standing behind a gas stove with two silver pots on it. The stove is mounted on a wall. To the left of the stove, there are red pipes and a green pressure gauge. The background is a blue corrugated metal wall.

PROMOTING DECENTRALIZED RENEWABLE ENERGY SYSTEMS

Success stories from the Green & Inclusive
Energy Programme in Tanzania

2016-2020

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A NEW DAWN: RENEWABLE ENERGY STRATEGY IN THE OFFING

Despite having abundant renewable energy sources, Tanzania is yet to maximize on its green energy potential. The East African nation boasts many renewable energy sources including hydropower, solar, wind, tides and geothermal energy, as well as energy from biomass. The Power System Master Plan 2016 by the Ministry of Energy shows that electricity production from wind, solar and geothermal energy contributes only 3.8 megawatts (MW) to the national grid with more than 1,601MW. More than half of the electricity in the national grid is drawn from natural gas while hydropower contributed 40 percent to the grid as of April 2020, according to the 2020/21 Ministry of Energy budget.

Towards a National Renewable Energy Strategy

However, the journey towards increasing renewable energy consumption in Tanzania has started as the government in collaboration with energy stakeholders continue with preparations of having in place a National Renewable Energy Strategy.

Adoption and implementation of the National Renewable Energy Strategy will be a key step towards increasing the use of renewable energy in the country. Currently the Tanzanian government is implementing measures to increase investment in renewable energy, but

the pace will be higher when the strategy is finally adopted.

Minister for Energy, Dr Medard Kalemani said in April 2020 that the government will continue to collaborate with the private sector to ensure that off-grid communities are connected with renewable energy systems.

"In 2020/21 among activities to be carried out by the Ministry of Energy will be connecting customers in off-grid areas with renewable energy systems including public institutions, islands in the Indian ocean, Lake Victoria, Lake Nyasa, Lake Tanganyika and the Rufiji Delta,"

said Dr Kalemani when presenting the ministry's 2020/21 budget.

Renewable energy advocates suggest that plans like this can be easily realised when the renewable energy strategy is adopted and well implemented by all stakeholders involved.

Promising future

Though it is not certain when Tanzania will officially adopt the National Renewable Energy Strategy, the Ministry of Energy in collaboration with the private sector and civil societies have shown the interest to have the strategy in place in the nearest possible future.

Forum on Climate Change (Forum CC) as one of the key stakeholders, in consultation with the Ministry of Energy initiated the process of gathering inputs through a two-day technical working meeting from 10th to 11th June, 2020 in the capital city, Dodoma.

The meeting consisted of participants from the Ministry of Energy, the Vice President's office, the Ministry of Agriculture, Mzumbe University, non-governmental organisations and private companies with interest in renewable energy activities.

Forum CC's contribution

"Forum CC collected the inputs and provided them to the Ministry of Energy waiting for the consultative process of the National Renewable Energy Strategy to commence," says Executive Director for Forum CC, Rebecca Muna.

The initiative was part of Forum CC's five-year strategic partnership (2016-2020) with Hivos East Africa under the Green and Inclusive

Energy programme, which aims to see the world switch to green and inclusive energy systems by providing universal access through decentralised renewable energy.

Moreover, the project aimed at strengthening the capacity of national civil societies to effectively advocate in favor of green and inclusive policies on climate change issues with a particular focus on the energy sector.

National Renewable Energy Strategy focus areas

According to an analytical paper on the technical support to the Ministry of Energy through National Renewable Energy Strategy, the meeting studied and reviewed proposed policy initiatives and proposed five strategic areas for consideration into the strategy.

The proposed strategic areas include resource mobilisation, encouraging the adoption of renewable energy and scaling-up opportunities offered by energy technologies and institutional integrations. Others are recognising the potential impacts of energy security and diversifying energy portfolios as well as promoting and publicising renewable energy technologies. The paper was prepared by Forum CC and the Ministry of Energy.

The basis and identification of the strategic areas was guided by existing related policies, strategies and pointed out the challenges and gaps in the sector. Tanzania's National Energy Policy, 2015 recognises sustainable energy as one of the strategic interventions in the development of the energy sector to ensure affordable and reliable energy access and use.

Why the renewable energy strategy is needed now

Renewable energy in Tanzania is still underdeveloped despite longtime government plans to invest in wind energy and ongoing efforts to connect the rural communities with off-grid solar systems.

Moreover, existing power production tariffs provide no relief to customers to afford and opt for modern cooking equipment. It also hinders development of small industries.

It is thus evident that sustainable, reliable and affordable energy resources are required to help do away with energy shortage and energy poverty by developing the strategy that outlines plans to develop renewable energy.

Muna insists that the strategy is an emergency priority as energy is a core factor for development and adoption of sustainable energy is unavoidable. "The strategic plan takes consideration of how Tanzania exploits the potential of renewable energy and will assist in researching, budgeting and guidelines to ensure that all interventions on the energy mix are well implemented," she says.

Muna, who is a climate change advocate, notes that the strategy will bring the resources needed for the development of renewable energy in the country.

"The strategy will promote the use of clean and environmental friendly energy for cooking and lead to reduced cutting of trees, charcoal consumption and associated health challenges," she says.

Once adopted, the National Renewable Strategy will be a key instrument for implementation of the United Nations Sustainable Energy for All initiative (SEforALL), which Tanzania has endorsed.



FROM WASTE TO CLEAN ENERGY: HOW WOMEN GROUPS IN TANZANIA ARE SAVING THE PLANET

It's around 1pm and despite the scorching sun, Amina Bakari is busy cooking *ugali* (maize meal) as customers walk into her makeshift food joint at Tabata Muslimu, in Dar es Salaam. Using a small amount of charcoal briquettes, apart from *ugali*, which is a staple food in the East African region, Amina has boiled meat and made stew, an accompaniment to the *Ugali*.

The 43-year-old cooked all these dishes using a small amount of energy, thanks to the alternative charcoal. Alternative charcoal briquette is an upcoming clean cooking energy that is slowly replacing forest charcoal and firewood in the country.

"You can boil meat, roast it and cook *ugali* using the same charcoal you see in the stove," Amina says pointing at the stove with eight briquettes.

Amina's day begins with frying cassava for her customers' breakfast, after which she prepares food for lunch. She is among 11 women who have joined forces to form the *Fahari Yetu*

(Swahili for Our Pride) group, which among other things focuses on producing alternative charcoal.

The charcoal produced by *Fahari Yetu* helps many people who cook high energy-consuming foods like beans and meat.

"The normal charcoal burns too quickly. You need a lot of charcoal to cook beans but with these charcoal briquettes, I can boil beans, fry them and still cook *ugali* for my children.

Given my economic situation, this charcoal is the best," says Amina, a mother of three.

A few metres from Amina's food kiosk, ten other members of *Fahari Yetu* are busy

making briquettes. Two women are pounding coconut shells while another is softening the shredded pieces left by her colleagues.

A little distance away, three elderly women wearing face masks are filtering the residues from the pounded waste to get some smooth black dust. Minutes later, another woman appears with about 20 litres of cassava porridge, which she pours into the bucket with the black dust ready to produce charcoal briquettes.

Putting women at the forefront

Fahari Yetu is among six women's groups that have benefited from training by the Women Climate Caucus project, on how to make alternative charcoal to increase the use of clean energy.

Facilitated by the Forum for Climate Change (Forum CC), a civil society organisation fighting the impact of climate change with support from Hivos East Africa, the project aimed to rescue women from the devastating socio-economic impact of using traditional charcoal and firewood. The project was part of Hivos' Green and Inclusive Energy programme.

Forum CC's Executive Director, Rebecca Muna says the clean energy project concentrated on empowering women because cooking energy touches women directly in aspects of economy, health and socially.

"Apart from being the main users of charcoal, women are less informed and are also not involved in decision making," Muna says. According to her, the groups comprising between 10 and 40 members each, from Ilala

Municipality in Dar es Salaam, were given step-by-step training on how to make alternative charcoal briquettes.

The project has benefited people in Singida, Dar es Salaam and Dodoma as well as Non-governmental Organisations (NGOs) dealing with gender issues.

"They have acquired knowledge and skills on renewable and clean energy, how to increase their earnings and how to preserve the environment and benefit in their everyday lives," says Muna.

Leveraging waste to create clean energy

Fahari Yetu's chairperson, Warda Sera (42), says the group makes charcoal briquettes from food waste. They use banana, cassava and fruits peels as well as coconut shells, which are dried in the sun for a day or two before they are burnt ready for processing.

The use of waste in producing alternative charcoal not only creates clean energy but it also solves another problem facing the city, the ever increasing waste, which partly contributes to flooding by blocking the drainage systems.

Fahari Yetu buys waste from collectors at relatively cheap prices.

"Many people know us including a man who grates coconuts at the market. He sells us a sack of coconut shells for Tsh 3,000 (\$1.3)," Warda says.

Local authorities are appreciative of the initiative saying it has made the city clean and helped preserve the forests.

Msimbazi Street Chairman, Godfrey Kizigo, says *Fahari Yetu* has contributed immensely in keeping the street clean by recycling domestic waste, which would otherwise litter the environment.

"They are doing an amazing job. They have reduced waste and at the same time saved trees from being felled for charcoal and firewood," says Kizigo.

The group recently bought a Tsh 300,000 (\$130) waste-burning machine to help burn waste to the recommended standard in order to easily make the charcoal briquettes, Warda says.

"When the burnt waste cools, we pound it, filter it and make charcoal," says Warda who has been leading the group for two years now.

The group would be producing more charcoal were it not for its heavy reliance on manual production. However, now that *Fahari Yetu* has a machine, production takes only three days. The group produces more than 40 kilogrammes of charcoal in a month.

Baraka Machumu, the group's trainer says *Fahari Yetu* and others could efficiently produce alternative charcoal if they owned two machines to end their reliance on manual production.

Machumu, who is the founder of Green Conservers, says the groups need a mixing and a pressing machine worth Tsh 1.8 million (about \$773).

"They currently have a single machine and they are producing more than 40kgs. What if they had all the required machines? The story would be different," Machumu says.

Despite the challenges, the charcoal produced has been beneficial to both the women's groups and other users.

Amina, the food vendor at Tabata Muslim says her cooking energy costs have been slashed significantly after switching to the charcoal briquettes.

"Before, I used to spend Tsh 5,000 (\$2.15) per day for charcoal but today I spend Tsh 3,000 (\$1.3). The Tsh 2,000 (\$0.86) I'm saving is budgeted for other expenses, helping to raise my profit a bit," she explains.

Muna, the head of Forum CC, says the alternative charcoal has reduced carbon pollution in the world due to the decline in the use of firewood and charcoal.

A woman wearing a yellow patterned dress and a pink headscarf is sitting on the ground, cooking over a metal stove. A young child is standing next to her, holding a stick. The stove is made of metal and has a pot on it. The background shows a dry, open landscape with some trees and a dirt path.

HOW ECO-FRIENDLY STOVES ARE TRANSFORMING LIVES IN BAGAMOYO DISTRICT

Residents of Kidomole and Makurunge villages in Bagamoyo District, Eastern Tanzania, are taking a new life path after adopting the use of innovative cooking stoves, which use less firewood and are more efficient. The environmentally-friendly stoves, which are made of metal and galvanized materials, use two pieces of firewood compared with traditional ones, which use at least five pieces. The improved stoves are the outcome of a series of training sessions for the youth in the localities by Climate Action Network Tanzania (CAN Tanzania).

The training component on making environmentally friendly stoves, is part of CAN Tanzania's renewable energy project, which started in August 2019 and ended in August 2020.

The project was part of Hivos' Green and Inclusive Energy programme, aimed at meeting energy needs of women and men, for their daily activities and livelihoods by switching to renewable energy systems.

Maua Simba, who has been selling food at Kidomole village for 20 years, says she now cooks more food using less firewood, hence reducing operating costs at her restaurant.

"I now spend Tsh 2,000 (\$0.85) to buy firewood which lasts about 4-5 five days. Previously, I used to spend the same amount for firewood daily," says Simba, whose profits have since increased due to reduced firewood consumption.

The new stoves are more convenient, especially for women, who spend significant amounts of time looking for firewood in the forest and carry heavy loads over long distances.

"Things have improved. My children are happy because I can now afford to give them enough pocket money when they go to school," says Maua. She is among 20 residents of Kidomole village who were

given the improved cookstoves for free, to test their efficiency.

Salma Tamla, another Kidomole villager shares a similar story. The new cooking technology has made her life easier. Like the rest of the villagers, she too had been using traditional cooking stoves all her life.

The stoves, which are more efficient, also emit less smoke, therefore improving family health. Women like Salma can now spend more time with their families and engage in income generating activities.

"You can even cook in the living room with these kind of stoves," says Salma, also a beneficiary of the trial stoves. The stoves were made by a group of youth who received training from CAN Tanzania.

CAN Tanzania's project manager, Jophillene Bejumula says the training on improved stoves was an outcome of a study, which found that nearly half of the households in Bagamoyo District were unaware of the importance of clean cooking energy. Nine out of 10 of the households, rely on charcoal and firewood as basic sources of cooking energy.

"This training is part of an effort to encourage the people of Bagamoyo to abandon firewood and turn to clean and easy cooking systems," says Bejumula.

According to him, 10 trainees including four women participated in theoretical and practical sessions, which produced the pilot stoves. The training was meant to equip residents of Kidomole and Makurunge villages with the skills to tackle deforestation.

"We did training for five days and young people learned how to make good stoves

that have cut the use of firewood by almost 60 per cent," says Bejumula

Bejumula believes the stoves are the first step in enabling Tanzanians to stop using firewood and charcoal and focus on clean and safe cooking energy including natural gas and biogas.

Empowering women, changing stereotypes

To ensure maximum impact in the community, the training involved female youths as well.

Fabrication of improved stoves and other metal works have traditionally been considered to be a man's job. The training has helped reduce this gendered thinking for participants.

Mariam Omary, a resident of Makurunge village who participated in the training is happy with her new stove fabrication job, saying it has given her the confidence to engage in any productive activities regardless of her gender.

"I used to fear touching electrical items... I thank God that I now have the courage and confidence to do so. I now earn an income through this job, which helps me meet family expenses," Mariam says adding that "doing the job takes a lot of courage."

If these new stoves are utilised by everyone, they will not only help reduce energy costs but they will also help Bagamoyo and Tanzania in general find a lasting solution to deforestation and climate change.

According to the 2017 National Environmental Statistics Report by Tanzania's National Bureau of Statistics

(NBS), deforestation is estimated to be at 372,000 hectares per year, threatening the survival of forests covering more than 48 million hectares of Tanzania's land.

Controlling charcoal and firewood usage at home and in commercial activities will help improve animal and plant life systems, reduce soil erosion, stagnant air production and conserve water resources.

Jobs for young people

The innovative stoves making training has gone beyond its original objective of reducing deforestation. The metal fabrication skills are helping trained youth to employ themselves and generate income.

Ramadhan Rajabu (40), a beneficiary, says the stoves are easy to make and so young people can produce many stoves and sell them to the community, while at the same time preserving the environment.

Rajabu can make three stoves a day and sells one stove at between Tsh 30,000 (\$12.87) and Tsh 35,000 (\$15), depending on the size of the stove.

Swalehe Chingwa (23), also a training beneficiary, plans to open a small factory to make innovative stoves. However, he needs capital and further training to realize his goal and to make enough stoves to satisfy the readily available market.

Local authorities agree the stoves will reduce deforestation, especially in the future given the high population growth rate, which creates more demand for the eco-friendly cooking energy.

"I call on the people of Kidomole to continue taking care of the environment so we can continue living well in our area. We should preserve the natural vegetation in Kidomole village," says the village chairman, Mrisho Some whose village has more than 2,000 residents.

"I call on the people of Kidomole to continue taking care of the environment so we can continue living well in our area. We should preserve the natural vegetation in Kidomole village"

Mrisho Some, village chairman

A photograph of a woman in a white floral shirt and red shawl writing in a notebook outdoors. She is surrounded by other people, including a woman in a colorful patterned shirt in the foreground and a man in a blue shirt in the background. The text "RENEWABLE ENERGY JOURNALISM IMPROVES QUALITY REPORTING IN TANZANIA" is overlaid on the image.

RENEWABLE ENERGY JOURNALISM IMPROVES QUALITY REPORTING IN TANZANIA

When she joined the media industry as a proof-reader in 2012, Jennifer Gilla, never thought she would one day become one of the outstanding renewable energy reporters in Tanzania. Although her job at the Swahili daily, *Nipashe*, involved polishing stories to meet the required language standards, Jennifer always wanted to go out to cover climate change stories. However, as a proof reader she did not have the chance.

“The renewable energy journalism fellowship opened doors for me to live my dream of becoming a good journalist,” Jennifer, who has published dozens of articles on renewable energy and climate change, says. “I now feel more confident to write stories that contribute to improving lives in rural areas.”

Fellowship

The 33-year-old writer was among the first 20 journalists enrolled in the Renewable Energy Journalism Fellowship (REJF), which ran from December 2018 to July 2019. The fellowship, which has so far run two cohorts was conducted by a digital media and technology company, Nukta Africa, in collaboration with Hivos East Africa, and the Energy Change Lab for the first cohort. The second cohort also included collaboration with the Journalists Environmental Association of Tanzania (JET), all under the Green and Inclusive Energy programme.

The six-month programme aimed to empower journalists to investigate energy-related problems, analyse data, and generate good evidence and solution-based stories which would create more interest in renewable energy reporting and consumption.

REJF was created to create awareness on benefits of clean energy and build a sustainable team of journalists with interest in covering the industry.

Fellows were trained on how to create good renewable energy story ideas, data and digital journalism, solution-based journalism, gender issues as well as fact checking, to help them avoid publishing wrong information.

Opening up more opportunities

"Since I completed the fellowship last year, I have been getting more learning opportunities on renewable energy and climate change within and outside the country," Jennifer, a linguistics graduate shares.

She was among three journalists from around the world and the only one from Africa, selected to cover the United Nations Climate Change Conference in Bonn, Germany in 2019. Jennifer expects to attend another climate change and renewable energy meeting in Geneva later this year.

Editors now have confidence in her and have let her specialise in renewable energy, gender and climate change reporting. This has inspired Jennifer to enrol for a postgraduate diploma in journalism to meet the government's requirement for practising journalists. The Media Services Act, 2016 requires practising journalists to at least hold a diploma in journalism.

The REJF fellowship, which has benefited many journalists has acted as a bridge between media and Civil Society Organisations (CSOs) in advocating for green and inclusive energy.

"The fellowship has helped me build a strong network of renewable energy sources as well as journalists, both locally and internationally," says Jennifer.

Alfred Zacharia, a fellow who attended the second fellowship intake, says he can now write good renewable energy stories. "I see a big difference in me now," says the journalist with *The Citizen* newspaper.

Alfred says sources have since been cooperative given that they are confident in the journalists' ability to cover the sector.

Prestigious awards

As a result of the training, some journalists have bagged awards through stories they developed during the fellowship, a sign that renewable energy stories have started gaining the public's attention.

In 2020, Sauli Gilliard, a journalist with the Daily News was recognised as the best journalist in the open category of the Excellence in Journalism Awards Tanzania in 2019, through his story on how solar-powered street lights in Lindi, Southern Tanzania, have helped women increase their income and security at night. The story was among hundreds of stories produced during the fellowship.

Stakeholders commend increased renewable energy coverage, which they say is good in creating awareness on the importance of the industry.

"There are more high quality stories on renewable energy than ever before. Fellows have personalised the reports, working hard to ensure they feed society with quality stories with an impact on people's lives," Sisty Basil, Executive Director of Elico Foundation notes.

Partners who have successfully implemented the project confirm that stories published by

fellows have started yielding positive impact in the community.

Maphosa Banduka, REJF Project Manager at Nukta Africa gives an example of a story written by an REJF fellow, which prompted authorities and partners to take action, after a faulty solar-powered oven was commissioned to a women's group in Kisarawe District, Eastern Tanzania. The oven meant to help the women generate income through a bakery, failed to operate a few months after use and was due to be replaced after the story was published.

Maphosa says stories with impact like this one are among reasons for starting the fellowship because renewable energy projects were previously not given priority in the media. "We wanted to show achievements and challenges facing the industry so that opportunities and actions could be taken," says Maphosa.

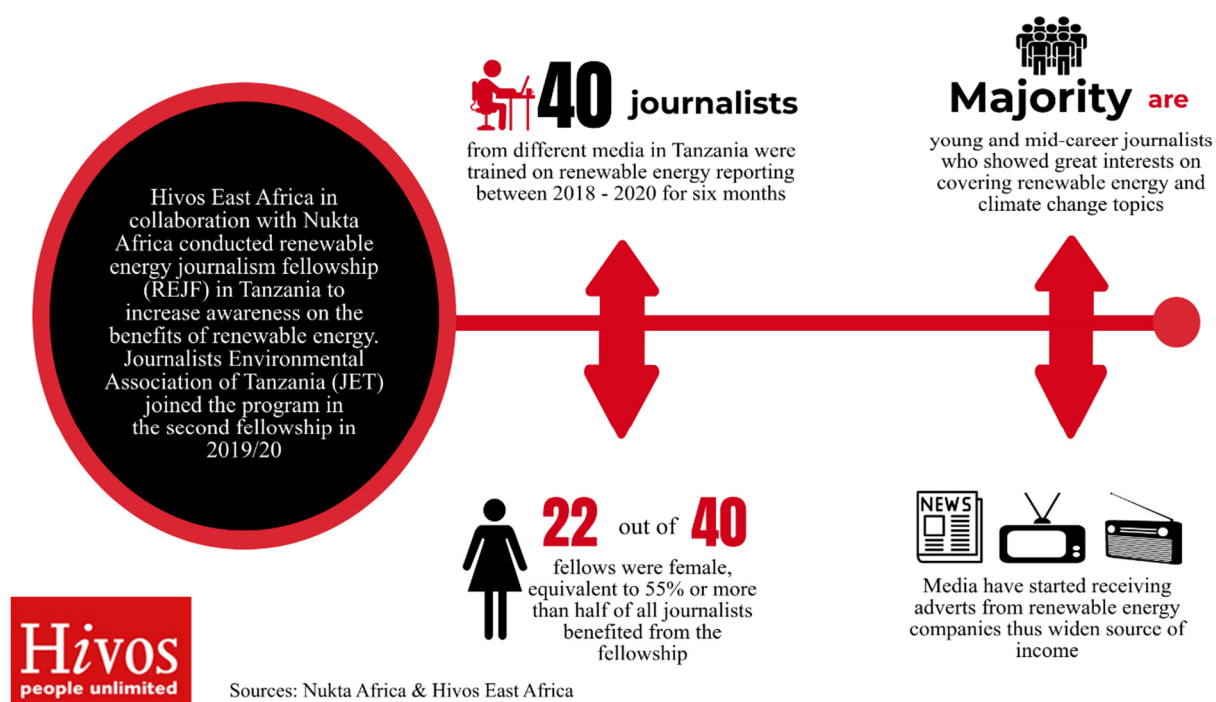
Over two fellowships lasting six and eight months respectively, 40 journalists from different parts of the country were trained and mentored in renewable energy reporting in the last two years. The journalists have helped build a key network of media professionals. Nearly 60 percent of the fellows were female.

About 350 journalists applied for the fellowship but due to financial constraints and programme design requirements, it was hard to accommodate all.

Conducted between December 2018 and June 2019, the first fellowship involved four major components, an energy safari, a master class, a field reporting trip and mentorship. A session was held with editors prior to the fellowship kickoff to sensitise editors on the importance of renewable energy reporting.

INFORMATION IS POWER

Journalists empowered on renewable energy reporting in Tanzania



During the second fellowship that began in December 2019 to July 2020, Nukta Africa, Hivos East Africa and JET implemented a journalism bootcamp, a master class, two reporting trips and a mentorship programme.

Fellows had the opportunity to visit mini-grids in Kitumbeini village, Arusha and Dongo in Kiteto, Manyara, and northern Tanzania to immerse on the lives of rural dwellers connected to mini-grids and those who are not.

JET Executive Director, John Chikomo says members have increased their knowledge on renewable energy reporting, which has helped influence improvement of policies and laws guiding the industry.

"Based on the skills and opportunities explored during the fellowship, we have incorporated renewable energy in our 2021-2025 strategic plan," says Chikomo.

Maimuna Kabatesi, Hivos East Africa's GIE Project Manager, says raising public awareness on decentralised renewable energy (DRE) in a politically neutral way, contributes to the understanding of the linkages between energy and other sectors. It also contributes to more transparency.

"Media can set the agenda, act as a watchdog on renewable energy policies and show policy makers the real impact of DRE issues and climate change," says Maimuna.



GENDER ACTION PLAN RAISES HOPE FOR INCLUSION OF TANZANIA'S WOMEN IN ENERGY SECTOR

In a bid to achieve the Sustainable Energy for All (SEforALL) Initiative, in December 2018, Tanzania published the gender action plan that among other things aims to promote gender equality and women's empowerment in the energy sector. The SEforALL gender action plan (GAP) is among the steps that the East African nation has taken after committing itself to the UN global SEforALL initiative in 2012, when the global action agenda was officially endorsed.

As a strategic tool for gender response, the gender action plan, according to the Minister of Energy, Dr. Medard Kalemani, "aims to guide all stakeholders in designing and implementing SEforALL initiative, while promoting gender equality and women empowerment".

A step closer to a more inclusive energy sector

Before this GAP, Tanzania had already developed crucial SEforALL implementation instruments including Action Agenda (AA) and Investment Prospectus (IP) since 2016, Dr Kalemani says.

"Bearing in mind that gender is an integral part of the SEforAll initiative, the GAP will act as a guiding tool on how to mainstream gender in the implementation of the initiative in

Tanzania by providing equal opportunities to both women and men in accessing and controlling sustainable energy services as an essential right for development," Dr Kalemani says in the gender action plan published at the end of 2018.

Tanzania is one of many countries globally that has recently implemented several ground-breaking energy projects, but not all these projects had a gender lens during the planning and execution stages.

The development of the gender action plan is an output of many stakeholders' inputs including state and non-state actors such as the Tanzania National Gender and Sustainable Energy Network (TANGSEN), a local NGO promoting gender inclusivity in sustainable development of renewable energy in the country.

TANGSEN worked closely with the Ministry of Energy in creating awareness and initiating capacity building on gender integration to government officials and other energy institutions as well as advocating for the enlightenment of gender in the energy sector.

"This action plan would not have been possible without the gender technical support from [TANGSEN], who collaborated with the ministry of energy to conduct gender gap assessment prior to the preparation of the gender action plan," Dr Hamisi Mwinyimvua, Permanent Secretary in the Ministry of Energy says in the document.

Supported by Hivos East Africa through the Green and Inclusive Energy programme which advocates for achieving universal energy access through promotion of sustainable and decentralized energy sources, TANGSEN managed to create awareness about the importance of promoting gender in the energy sector. The awareness has contributed to the development of the GAP and later on, a ministerial Gender Committee at the Ministry of Energy.

"The 2018 GAP aims to solve various matters such as issues of clean cooking, sustainable energy and issues of gender in energy. The

action plan was created to help government work on matters related to gender," TANGSEN's Programme Officer, Thabit Mikidadi says.

According to Mikidadi, the GAP necessitated the formation of a Gender Committee, a body in the ministry with the goal of ensuring that the ministry is able to implement gender actions among others, the SEforALL GAP.

"The creation of the committee is not our direct influence but the result of our work. After having the awareness-building session with the ministry, the ministry saw the importance of having the gender committee," Mikidadi says.

Among other objectives the GAP aims to enhance institutional capacity on integrating gender issues as well as promoting women employment and economic empowerment in the SEforALL initiative.

Why gender matters in the energy sector

Mikidadi says the establishment of the GAP has helped to bring up gender matters into the wider picture than ever before.

"We also had capacity building sessions with local government officials. We have reached out to district council officers and councilors who we taught about energy matters in relation to gender," says Mikidadi.

There are many things that the local governments can do when it comes to energy planning, Mikidadi says. However, because the energy sector is not represented at the local government level, most of the plans and projects are implemented at the national level

because only ministerial and national energy institutions' officials have the capacity.

"There may be plans to build a school but electricity installation may not be in the plan, for example. So we taught the local government officials to consider opting for alternative ways like solar power if their localities are not yet on the national grid," says Mikidadi.

Awareness creation also focused on cooking energy. Instead of telling people to stop using charcoal and firewood, which are the most used sources of cooking energy in Tanzania, Mikidadi advises educating the public on improved and cleaner cooking technologies like stoves, which suit all income levels.

In Tanzania traditionally, women are household managers responsible for food preparation thus they are the ones who bear the burden of unfriendly cooking practices. According to the 2017/18 Household Budget Survey, nine out of 10 households headed by women on Tanzania Mainland (91.6%) are using firewood and charcoal for cooking, almost similar to households headed by men.

Wider reach, wider response

Mikidadi says he is happy to see that many organisations, institutions and the government are implementing and also seeing the importance of considering gender matters in their operations, especially the energy sector.

"Our great expectation for now is to launch the gender action plan as an awareness raising campaign so that it can reach the people and other energy stakeholders. You never know who else may want to take part in implementing what the gender action plan suggests," says Mikidadi.



PLANTING THE SEED OF CHANGE: LEARNING HOW TO MAKE CHARCOAL BRIQUETTES, ONE GROUP AT A TIME

At around 11 am at Mgeule Street in the outskirts of Dar es Salaam, a group of ten people are in a room, listening attentively to a female trainer. In the room are different equipment and materials used in making briquettes such as boxes, water buckets, a cooking stove, cassava, a mortar and pestle.

The purpose of gathering here is to learn how to make and use charcoal briquettes. Tausi Hassan, the trainer is taking the group through the charcoal briquette making process. The Mgeule Street residents in Buyuni ward, Ilala Municipality have learnt that they can produce cheap cooking energy using domestic waste such as used boxes and charcoal dust among others.

“We are here to train people to understand clearly the opportunities in charcoal briquette production at family and community level,” the 36-year-old trainer says.

Tausi is a product of an immersive capacity-building programme conducted by Tanzania

Gender Networking Programme (TGNP) with the support of Hivos East Africa. She is a member of the *Sauti ya Jamii* group in Kipunguni Ward, whose members were trained to make charcoal briquettes in October 2019.

In the series of training sessions that Tausi and colleagues received, most of the participants were women who wanted to adopt simplified clean and safe cooking energy instead of the traditional charcoal and firewood, which are destructive to the environment.

Tausi and fellow group members were eager to learn about the charcoal briquettes and how to manufacture them. Later on, members

started teaching others how to make the briquettes.

"After the training, I started utilising the skills I acquired...now I can make charcoal briquettes on my own, which we use for cooking at home," Tausi, who no longer uses traditional charcoal and firewood, says. Using charcoal briquettes has helped Tausi reduce cooking energy costs as the briquettes are more efficient than the traditional charcoal, which burns out too quickly.

The breadwinner in a family of eight people, Tausi says her cooking energy budget has gone down from 40,000 Shillings (\$17) per month to an amount she describes as "almost equal to zero". This has inspired her to train others to make the cost effective charcoal briquettes.

Since she attended the training last year, Tausi has become a clean energy ambassador, spreading the skills and knowledge to other people in the city. She convinces those who are ready to listen to be part of the environmental conservation initiative to reduce deforestation and improve people's lives.

"I have been training fellow women on the importance of using charcoal briquettes because it is our responsibility to keep the environment safe while using clean energy," says Tausi, adding that "if people are enlightened, it will be easy changing their mindsets to adopt the use of charcoal briquettes."

Tausi's *Sauti ya Jamii* group has trained many other groups in the commercial capital to

make and use the new technology in a bid to reduce high consumption of traditional charcoal and firewood. More than three-quarters of households in the city of nearly six million people use charcoal and firewood for cooking.

Selemani Bishagazi, *Sauti ya Jamii* group leader, says more than 550 people in the city and neighbouring regions have been trained on how to make charcoal briquettes.

"We want people to start using charcoal briquettes that they make themselves. People need to establish small charcoal briquette factories for their daily use," says Bishagazi, who like Tausi attended the TGNP training on charcoal briquettes production. His wish is to see trained persons developing the knowledge into big initiatives. He however mentions lack of capital and modern machines as the obstacles.

TGNP, which designed and provided training to various groups says the briquette making training conducted in three phases benefited at least 90 people.

The training has shown positive results because the 90 trainees are now sharing the skills with other groups, TGNP Program Officer, Jackline Mwanyika says.

Why charcoal briquettes?

Unsustainable charcoal and firewood production for domestic and industrial use contributes largely to deforestation, threatening the environment.


These driving forces are depreciating the country's ecosystem assets and as a result the

benefits of forests such as regulating water run-off, reducing soil erosion, capturing and carbon sequestration are to a certain extent impaired. According to The National


Environment Statistics Report, 2017, the deforestation rate in Tanzania is estimated at 372,000 hectares per annum.

How charcoal briquettes trainings are changing Dar es Salaam

Hivos East Africa in collaboration with Tanzania Gender Networking Programme (TGNP) conducted a training on charcoal briquetting as solid waste management to change ways of using costly and unhealthy energy to simplified clean and safe energy

 **90** participants

from community groups in Ilala Municipality in Dar es Salaam were trained to produce alternative charcoal briquettes from home wastes in October 2019

 Majority of them were women who wanted to save cooking energy cost and environment

Notable impact from the training

- After the training, some community members from Kipunguni ward knowledge centre became champions and ambassadors of producing alternative charcoal briquettes
- 500+** Trainees were trained by Kipunguni knowledge centre in a bid to raise awareness of safe cooking energy and reducing deforestation in Tanzania
- Majority of trainees have stopped using traditional charcoal and adopted alternative charcoal briquettes as their main source of cooking energy at home and in their businesses
- They started conversation with some banks to get capital for establishing small industries with modern machines to produce high quality briquettes as way of creating employment and income

Hivos
people unlimited

Source: Tanzania Gender Networking Programme (TGNP) & Kipunguni Knowledge and Information Centre

Briquettes making process

The training on charcoal briquettes production provided by TGNP and Hivos East Africa sparked the desire among *Sauti ya Jamii* members to spread the knowledge to community groups in the city as a way of creating employment opportunities and at the same time conserving the environment.

The group has specialised in the production of two types of charcoal briquettes using used boxes and charcoal dust. To make charcoal from used boxes, one has to first shred the boxes into small pieces and remove any

nylons before soaking the shredded pieces in water for 24 hours.

The soaked pieces are then folded into small balls and dried in the sun before they are processed into briquettes.

Opportunities in making briquettes

Making briquettes is an opportunity for women and the youth to employ themselves by establishing small factories, dealing in the production and supply of charcoal briquettes. These will help reduce the use of traditional charcoal while making income.

Aziat Juma, who recently received charcoal briquettes making training, plans to start a small briquettes factory to create employment opportunities for young women in Buyuni ward.

"We are going to put what we have learnt into practice. This is an opportunity to save our environment and improve our lives," says Aziat, who is the founder of *Mabinti* Safe Space Organisation, a women's group advocating for the use of clean energy.

TNGP's Mwanyika says after completing the first phase of spreading knowledge to the community, the organisation is now looking forward to enabling trained groups to get funds to make the initiatives sustainable. "We are looking forward to linking the pro-active groups with banks to get loans for purchasing high quality machines to simplify alternative charcoal production. This will enable the groups to earn money while at the same time protecting the environment," she says.

