COMPETITION ON CIRCULAR ECONOMY

NAIROBI 2023

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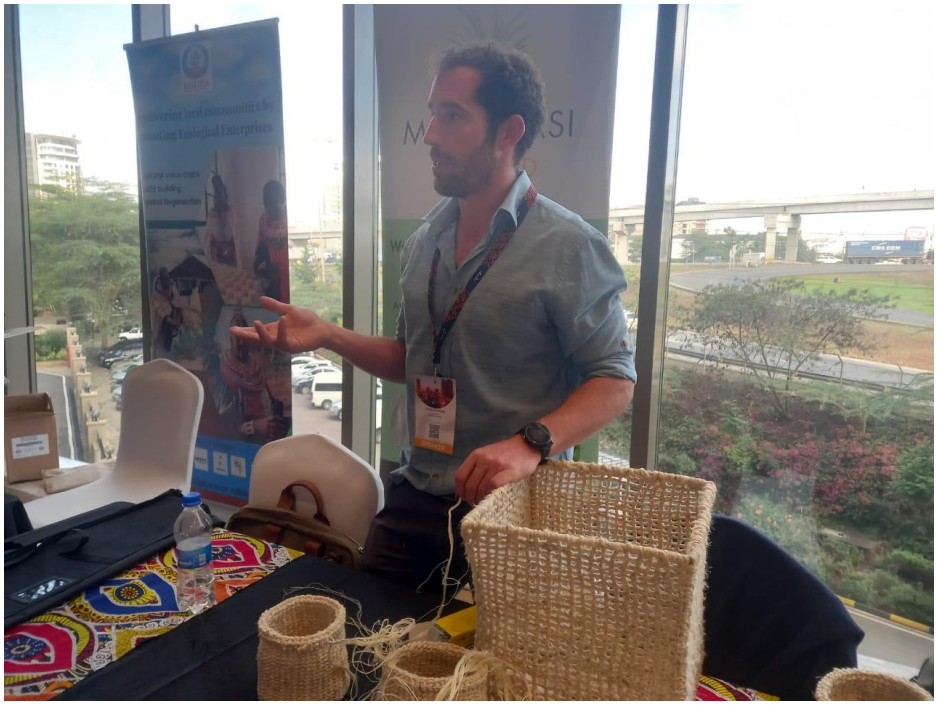
Checky Abuje (Kenya) ; Experts Advocate for an innovative and collaborative approach to Circular Economy ; Africa Science News, November 16, 2023.

To access the article : https://africasciencenews.org/2023/11/16/experts-advocate-for-an-innovative-and-collaborative-approach-to-circular-economy/



Stakeholders and experts in the circular economy transition paradigm have called on the African continent to embrace collaborative and innovative approaches to ensure compliance in the transition from linear to circular economy redesigned towards economies that spearhead inclusivity across the continent.

However, low technology absorption, policies, and regulations frameworks remain a hurdle in adopting a common legal instrument both at the regional as well continental levels.

“African continent needs regenerative and collaborative local approaches to the process of Circular Economy, defending the African Indigenous culture as a cornerstone in realising

meaningful transition," said Dr Ndidi Nnoli-Edozien, the chair of the Africa Circular Economy Innovation partnership.

Speaking during a five-day journalist training on circularity in Nairobi Kenya, the South Africa charter on Africa Circular Economy network Ntobeko Bayana underscored the narrative that circularity has been the way for Africans and challenged the continent to revert to the older ways of doing things. "Africans as a people have to go back to the older ways of doing if the Concept is to succeed in Africa," remarked Ntobeko through a virtual address.

The workshop attracted Science journalists from Ghana, Uganda, Ethiopia, Kenya, Nigeria, Rwanda, and Tanzania.

He reiterated and regretted the resource waste that comes with a linear economy globally, noting that circular economy is all about resources management as opposed to wastage management, pointing out that one-third of food is wasted globally resulting in financial loss of USD 1trillion annually whereas marine plastics cost the globe upto USD 2.5trillion per year.

However, the challenge of the legal framework, policies, and regulations around circularity remains big both at regional and continental levels. According to Rosa-Nduati Mutero, an Advocate of the High Court of Kenya, a strong regional legal framework will play a pivotal role in accelerating the paradigm shift around the circular economy to enhance compliance.

Mutero who is also the managing partner at ALN Kenya, urged the East Africa Legislative Assembly to expedite and approve the legal draft governing Circular Economy in East Africa that is before it. Europe has taken more than ten years to galvanising its workable legal framework to support the circular economy.

Hector Guerra underscored the essential role the media plays in ensuring the public gets a grasp of the dynamics of the circular economy in the African context and challenged the journalists to take the lead role in sensitization and public awareness campaigns in the entire chain of circularity in Africa.

Sarah Natoolo (Uganda) ; industries circular ; UBC Radio, News Hour Programme, 21st November 2023.

To access the report : https://drive.google.com/file/d/1CaWy3wGQB7-vhHG34ypuwc_eE4hmBF75/view

Natoolo Circular industries Nairobi three 21 November 2023

Countries in the East African community have been challenged to have a joint law on waste management as a move to control pollution and related effects.

Each country has to give full participation in matters and affairs of developing the circular economy that aims at reducing the waste burden.

The circular economy ensures sustainable consumption and production patterns of waste that may be re-used.

Natoolo industries Circular Investment 21st November 2023

Circular economy promotes re-use and re- recircle plastics and non plastics.

Experts During the Circular Economy annual conference that also combined Africa 21 Media meeting in Nairobi, still suggest that the more you re- use , the less impact.

It is up on that fact , that the Principal Associate | ALN Kenya Huldah Ateka calls for a joint law in the region on environmental issues.

Ateka said that , countries must think of re-using plastics for income.

She empathized that , countries need to exhibit commitment and enforcing circular economy.

Dr George Njenga, the USAID strategic partnership program officer , he noted that , Currently, only 7.2 percent of used materials are cycled back in our economies.

Noting that , a number of women have benefitted.

[Glen Wilson] is a Programme Management Officer with UNCTAD, working on trade and circular economy , and manufacturing pollution themes. said countries must work on the heavy burden of plastics that is a threat to nature.

Good funding can anchor the circular economy, and a number of products can be made from plastics.

Financial institutions are committed to fund countries .

It is the materials around us, that can support the circular economy.

People giving views on supporting the circular economy.

Ends.

Muhydeen Jimoh (Nigeria); "Poisonous ponmo" and Nigeria's untapped recycled tyre ecosystem"; News Agency of Nigeria, December 15, 2023.
To access the article : https://nannews.ng/2023/12/15/ponmo/

At Dei-Dei abattoir, located on the outskirts of Abuja, a thick smoke is billowing continuously. Idris and other sweating young men work energetically, hauling large chunks of hide skinned from slaughtered cows into the smearing fire fuelled with tyres and plastics.

Under the heat from the sun and fire, they are assisted by Aisha and a group of women whose dresses have turned black from regularly working in the smoke.

Aisha and her team are washing the chunks of hide in equally blackened water and getting them ready for the market as vans take turns to load their portions.

As the fires go down, more tyres and plastics are hauled to further fuel the inferno as the butchers work to meet the large demand in the ever-increasing *ponmo* market.

Cooked cow hide, otherwise known as *ponmo* in Nigeria is a favourite meat enjoyed by millions of Nigerians. Many migrants to Nigeria have also fallen in love with it.

It is considered a taboo in some parts of the country to have a proper meal without a slice of *ponmo*.

However, researches have shown that *ponmo* may turn out to be poisonous if it is processed by burning with tyres or plastics-generated fire as is the practice in many abattoirs across Nigeria.

The U.S. Agency for Toxic Substances and Disease Registry (2012) revealed that "tyre derived fuel" (TDF) contained several heavy metals such as lead (Pd), zinc (Zn), and Copper (Cu) that could be carcinogenic when exposed to consumers over a long period.

The Veterinary Council of Nigeria (VCN) also warned against consumption of such meat, stressing that it could contain cancer-causing chemicals from the burnt tyres.

"The more we eat those meats roasted with tyres, the more we are prone to health risks.

"There are alternatives and healthy ways of de-skinning meat rather than using tyres. Burning tyres contaminates the meat, degrades the environment and pollutes the atmosphere," Dr Fadipe Oladotun, an official of VCN told the News Agency of Nigeria (NAN).

This writer's visit to major abattoirs in Abuja, which include: the Karu, Dei-dei, Kubwa and Gwagwalada abattoirs, showed that in spite of the health risks associated tyres and plastics-processed ponmo it remains is a common practice.

At Karu abattoir, tucked in the outskirts of Abuja, the unavoidable welcome by the stench of filthy environment occasioned by years of burnt tyres and plastics.

The pollution is palpable even to the most skeptic of environmental contamination.

Isa Adamu said he has been involved in the business of roasting slaughtered animals with tyres for no fewer than five years.

According to him, they burn scrap tyres to roast the meat because he tyres are cheaper sources of fuel, though they are not entirely ignorant of environment and health implications.

"We use these tyres for the meat because it burns sharp sharp and the used tyres are cheap to get around, so it makes our work easier," he said.

Adamu said he was aware of the environmental hazard of this practice, but claimed he was not aware it could contaminate the meat and be carcinogenic.

The NAN investigation also shows this is the practice is rampant in Abuja, due to weak effort by the authorities to address it.

A Professor of Environmental Science at Addis Ababa University (AAU), Seyoum Leta, who said the practice also obtains in some African countries, stressed the need to stop this harmful practice.

He said doing so would not only safe potential cancer cases but also reduce emission of Greenhouse Gas Emissions (GHG) from those abattoirs.

"Burning scrap tyres will have not only health effects it will also largely contribute to greenhouse gas emissions and hence climate change with its implications for climate change.

"This practice releases what we call SOx, NOx, VOC and PM which are precursors of GHGs. Burning this resources is also a waste of resources as this can be recyleable material," he said.

Leta told NAN that a number of alternatives can be explored by Nigeria, such as biomass based briquettes which are eco-friendly.

"Biomass-based briquettes are generally considered green technology compared to petroleum-based fuel such as tyres, so this is a good alternative in this regard," he said.

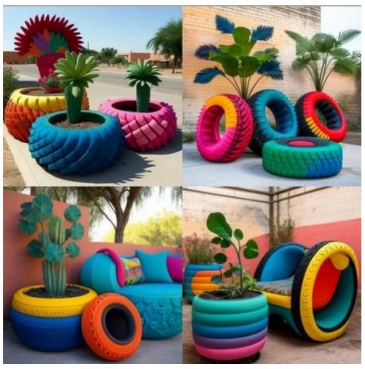
The don advised Nigerians to embrace recycling of scrap tyres into beautiful furniture, shoes, mats and tiles.

Katharina Elleke, Project Designer, FlipFlopi Project Foundation, an East Africa-based NGO that built a sailing boat from recycled plastics in Kenya emphasised the need for Nigerians to embrace recycling plastics and tyres.

“We are East Africa’s circular economy movement that built the world’s first 100% recycled plastic sailing dhow.

“We use heritage boat building and waste-plastic innovation to create public engagement and drive policy action to ban all single use plastics and ensure all other plastics are part of a circular economy,” she said.

Elleke said African countries, including Nigeria, can tackle plastic pollution, through an effective plastic recycling system and keying into the circular economy model.



Recycled tyres for eco friendly furniture and horticulture

The Managing Director, FREEE Recycle Limited, Ifedolapo Runsewe said with Nigeria generating over three million scrap tyres annually, a lot more needs to be done to tackle the environmental/health challenge they pose.

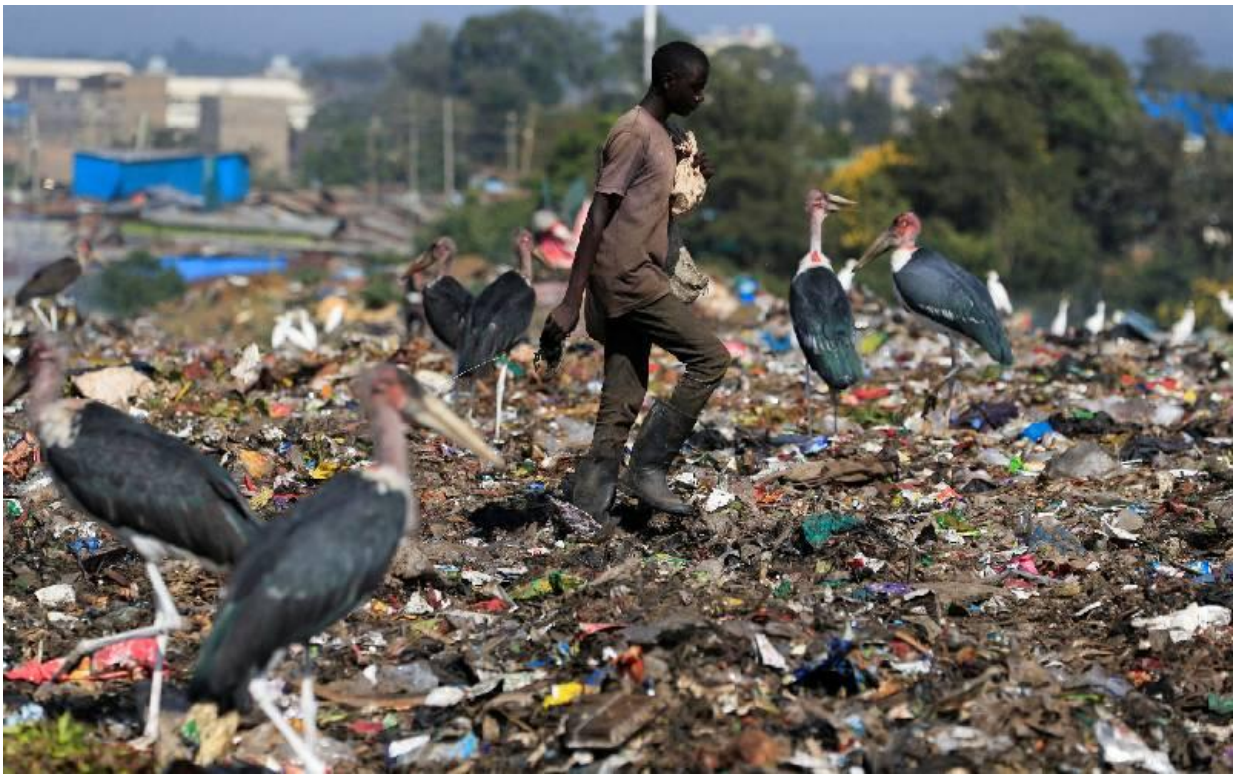
She said that recycling of such tyres would go a long way in reducing environmental pollution and boosting Nigeria’s economy.

Sustainable environment stakeholders say all hands must be on deck in creating awareness and right investment in tyre recycling, while stepping up sensitisation and sanctions against burning of tyres.

They say this will engender good health and economic wellbeing of Nigerians. (NANFeatures)

Henry Owino (Kenya) ; Kenya's Climate Action: Transforming Waste Materials Into New Resources To Reduce Environmental Pollution ; Talk Africa, December 19, 2023.

To access the article : https://www.talkafrica.co.ke/kenyas-climate-action-transforming-waste-materials-into-new-resources-to-reduce-environmental-pollution/

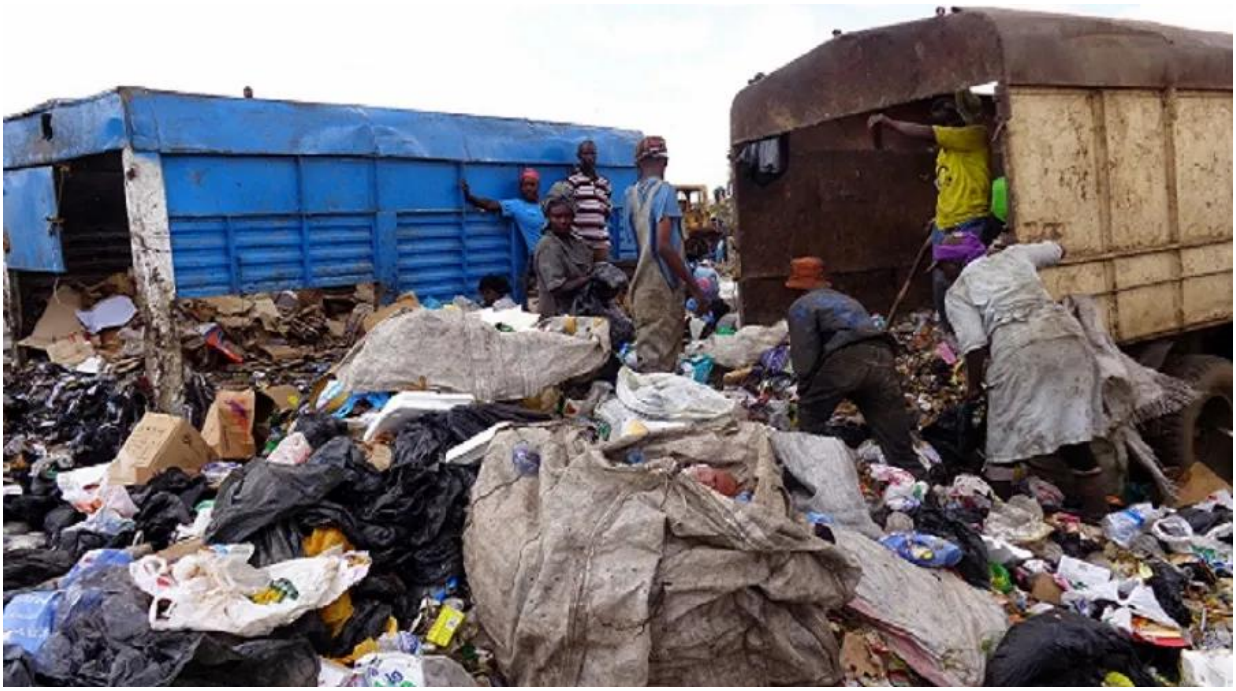


Human, birds and animals compete for salvaging food remains at Dandora dumpsite

Nairobi, Kenya: Kenya's efforts to mitigate environmental waste cannot be overdramatized or exaggerated. The evidence is based on various innovations and technologies transforming waste materials into new resources within a loop and without losing anything.

Environmental waste is unwarranted disposal of mass or energy into earth's natural resource pool such as water, land and air that results in long- or short-term detriment to the atmosphere and its ecological health to negatively impact the living beings and their life both quantitatively and qualitatively.

Being a very broad topic, we narrow this down to focus specifically on organic waste or wet solid waste matter and its effects on the atmosphere.



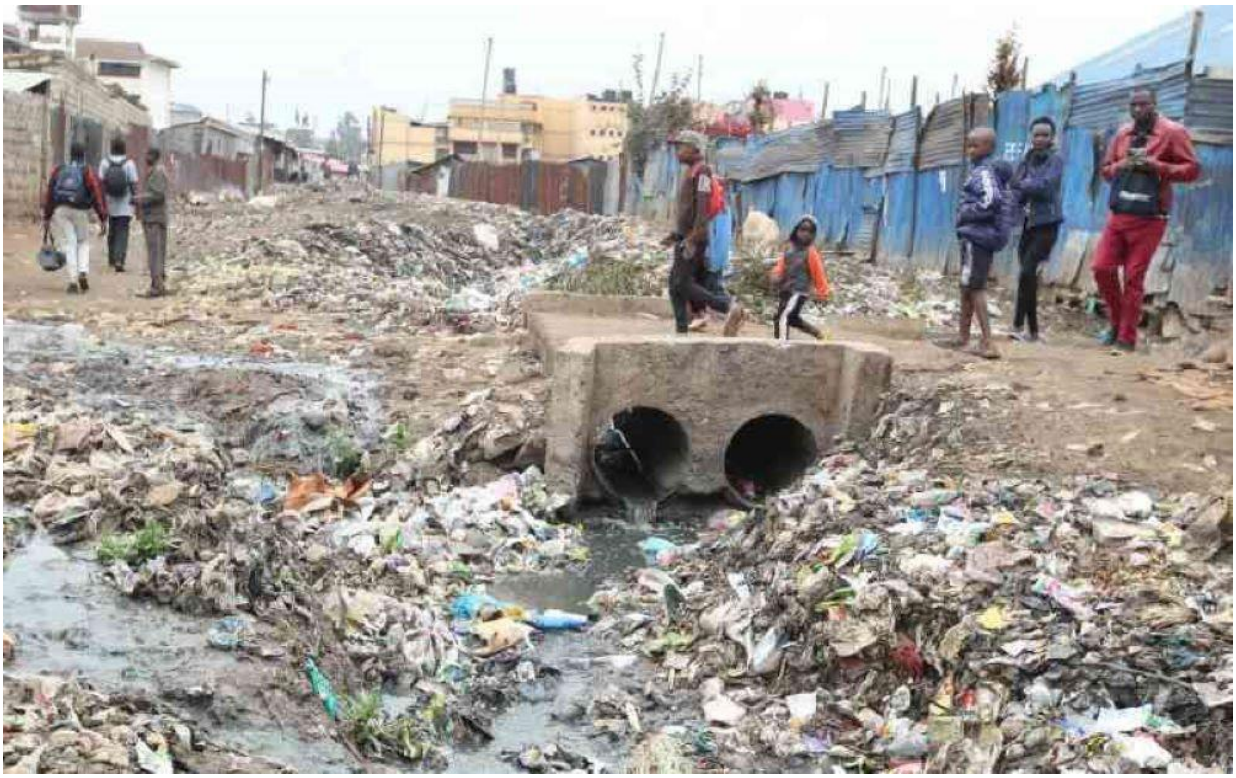
Garbage-pickers collects garbage from truck dumping waste

Therefore, organic waste is any material that is biodegradable and comes from either a plant or an animal. Biodegradable waste is organic material that can be broken into carbon dioxide, methane or simple organic molecules.

The simplest types of organic molecules are hydrocarbons, compounds that contain only hydrogen and carbon atoms. However, most organic molecules contain other elements, such as oxygen, nitrogen, sulfur, and phosphorus among others which are essential nutrients for plants or crops.

It is estimated that Kenya generates between 3,000 to 4,000 tons of waste per day, the majority of which originates from urban areas. According to the World Bank, the country's capital, Nairobi generates between 2,000 to 2,500 tons of waste daily, of which 80% is organic and 20% is in plastic form.

Majority of these waste collected end up in dumpsite with very minimal recovery if any through recycling, reusing or transformed into a form which can yield an economic or ecological benefit. The major setback here is poor waste management, coupled with rising urban pressure which have heightened the risks of environmental degradation especially in the capital city of close to 6 million inhabitants.



Waste Management Procedure

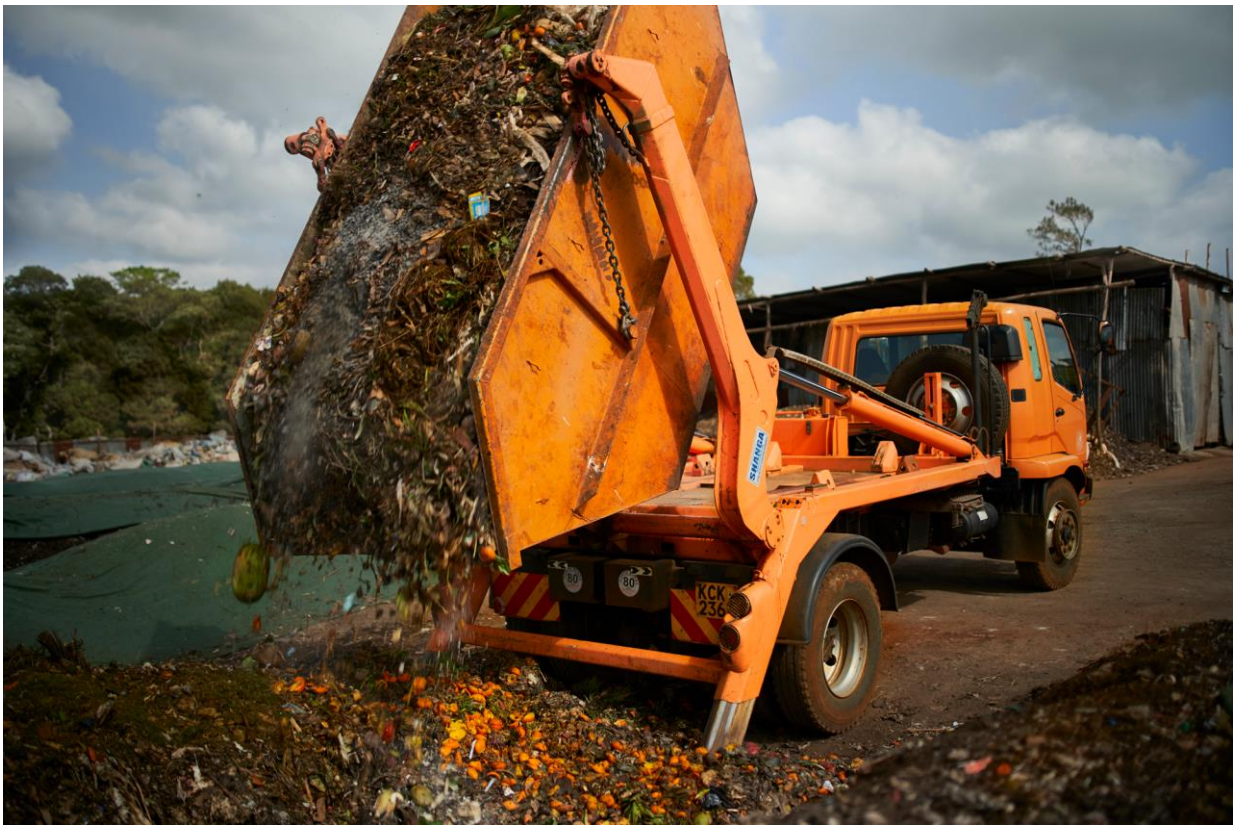
The introduction of the Sustainable Waste Management Act, 2022 under the Ministry of Environment and Forestry in Kenya is currently changing the situation. The National Environment Management Authority (NEMA) has been mandated to oversee its implementation to the letter either through stick or carrot.

Dr. Ayub Macharia, Director NEMA who is also in charge of Environmental Education and Awareness says Kenya's Constitution 2010, devolves waste management as a function of the County Governments. So, the 47 counties in Kenya led by governors are responsible for waste in their counties.

Dr. Macharia clarifies that NEMA is in charge of national policy formulation and coordination to ensure the system is running and counties are functioning. This should be consistent with the new law on sustainable waste management.

"The Sustainable Waste Management Act, 2022, requires NEMA to generate waste that is not contaminated from homes, estates, offices, markets, learning institutions among others. The waste should be separated into organics and dry synthetics in at least two distinct litter bins for collections and disposal not at dumpsite but to recyclers," Dr Macharia explained.

Therefore, Environmental Waste Management is the process of handling and disposing of waste safely. The waste should be sorted right from its originating source before pickers or collectors transport it to the recycling companies.



Tipper truck turning organic waste at cycling site for processing into organic fertilizer

Private Sector organizations in Kenya are at the forefront in implementing this new law by actually practicing it in various counties. It has since been known as a circular economy model where resources are managed instead of managing waste.

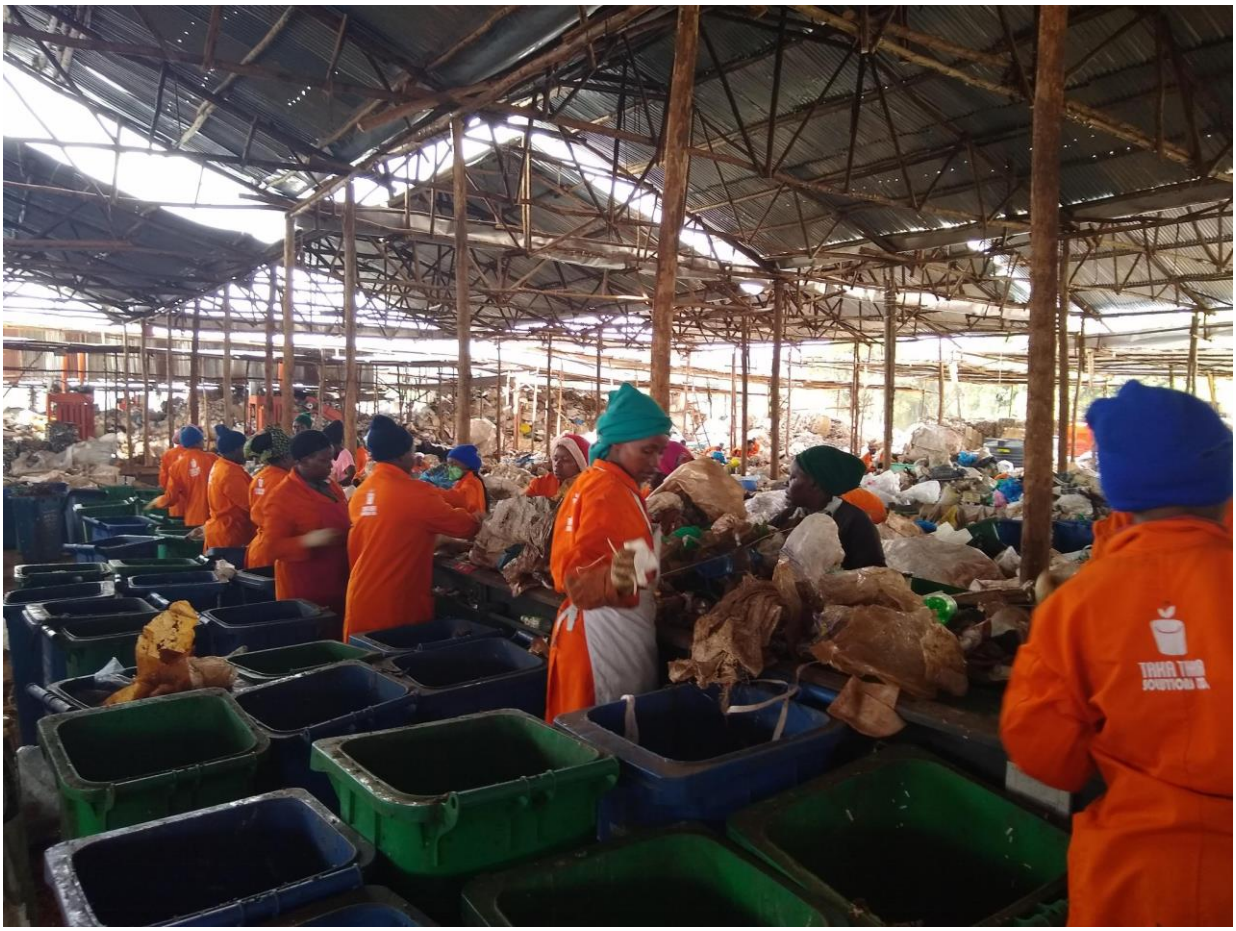
Loss and Waste Management in Supply Chain

According to Winnie Yegon, Food Systems Analyst, Food and Agriculture Organization (FAO), to grasp the issue of food waste, it's important to understand it from a supply chain perspective. From production and packaging to distribution to retail and to the consumer. Food waste occurs on every level of the supply chain, and with chains growing longer by the year, waste increases in every stage.

Yegon says food loss and waste are distinct but that food that is intended for human consumption and ultimately it wasn't consumed.

Food “loss” occurs before the food reaches the consumer as a result of issues in the production, storage, processing, and distribution phases. Food “waste” refers to food that is fit for consumption but consciously discarded at the retail or consumption phases.

“The difference between food loss and waste is where it occurs in the value chains, that is actions it takes right from the farm up to the disposal of the food. For instance, from farm to retail is known as food loss while from retail to the final consumer level is what is termed as food waste,” Yegon explained.



Employees at Taka Taka Solutions sorting waste for regenerative resource

And if food goes to the landfill and rots, it produces methane—a greenhouse gas even more potent than carbon dioxide. She said about 8% -10% of all human-caused greenhouse gas emissions could be reduced if we stop wasting food.

In Kenya, the food loss and waste are between 30% to 40% which is not consumed hence detrimental to the environment. It has been said and published that food we waste globally could actually feed up to 2 billion hungry people.

Dr. Christopher Mutungi, Senior Researcher, Food Program at World Resources Institute (WRI) says when food goes to the dumpsites as waste, it is responsible for 8% to 10%of greenhouse gasses, specifically methane.

Dr. Mutungi discloses that presently, the Food Safety Management System (FSMS) requires companies not just to be certified in terms of safety and quality of their products but on policies and mechanisms that they have in order to reduce food loss and waste within their supply chain.

“This policy requires companies to audit themselves. For instance, Brookside, Kakuzi just to mention but a few companies by April 2024, must review their systems and demonstrate that they are actually reducing food loss and waste within their food supply chain,” Dr. Mutungi revealed.

This new policy is not just within the company alone but it has to reach out down to the farmers as well, the company it is working with.

Using organic fertilizers for urban farming

For small scale farmers or small and medium enterprises (SMEs) are encouraged to enter into food processing techniques and decamp from relying on primary production to minimize loss and waste. It is also the best way to control glut in some areas for supply to other parts of the country with severe shortage.

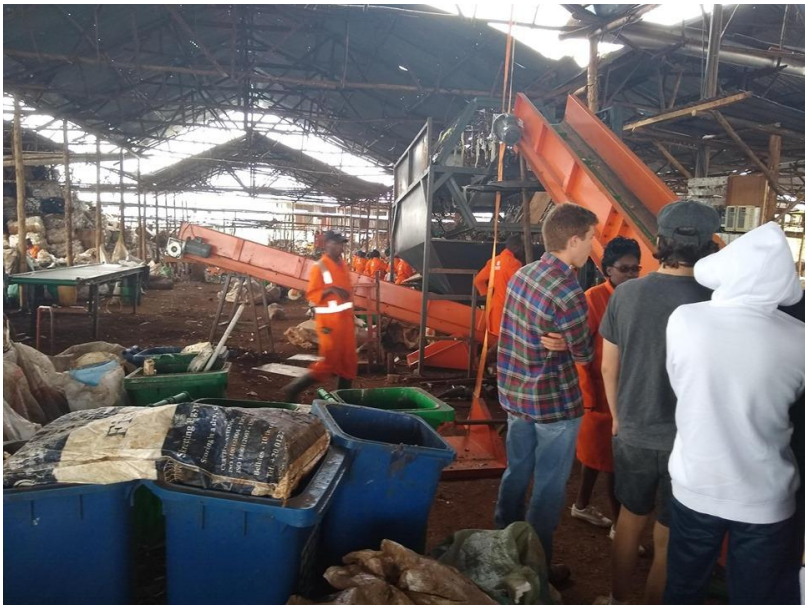
Turning Organic Waste into Resources

Taka Taka Solutions is one such private organization regenerating organic and plastic waste into new resources. Organic waste being the highest wet solid matter disposed of from various premises, emits between 8% to 10% of methane- a greenhouse gas responsible for climate change.

According to Dr. Macharia, Nairobi County alone generates approximately 3000 tons of waste daily of which 1,800 tons (60%) are organic waste while about 1,200 tons (30%) are dry synthetic waste. The data may vary a little bit but the facts remain the same that organic waste are just too much in Nairobi.

It is for this reason that I sorted to know how Taka Taka Solutions company is turning the high volume of organic waste in the capital city into a beneficial resource.

According to Joharie Kisiangani, Marketing Representative at Taka Taka Solutions ('Takataka' means 'waste' in Kiswahili), since its inception in 2011 it has developed to become the largest waste management company in Kenya. The organization now serves more than 20,000 households and handles 70 tons of waste per day.



Taka Taka Solutions staff processing waste in factory plant

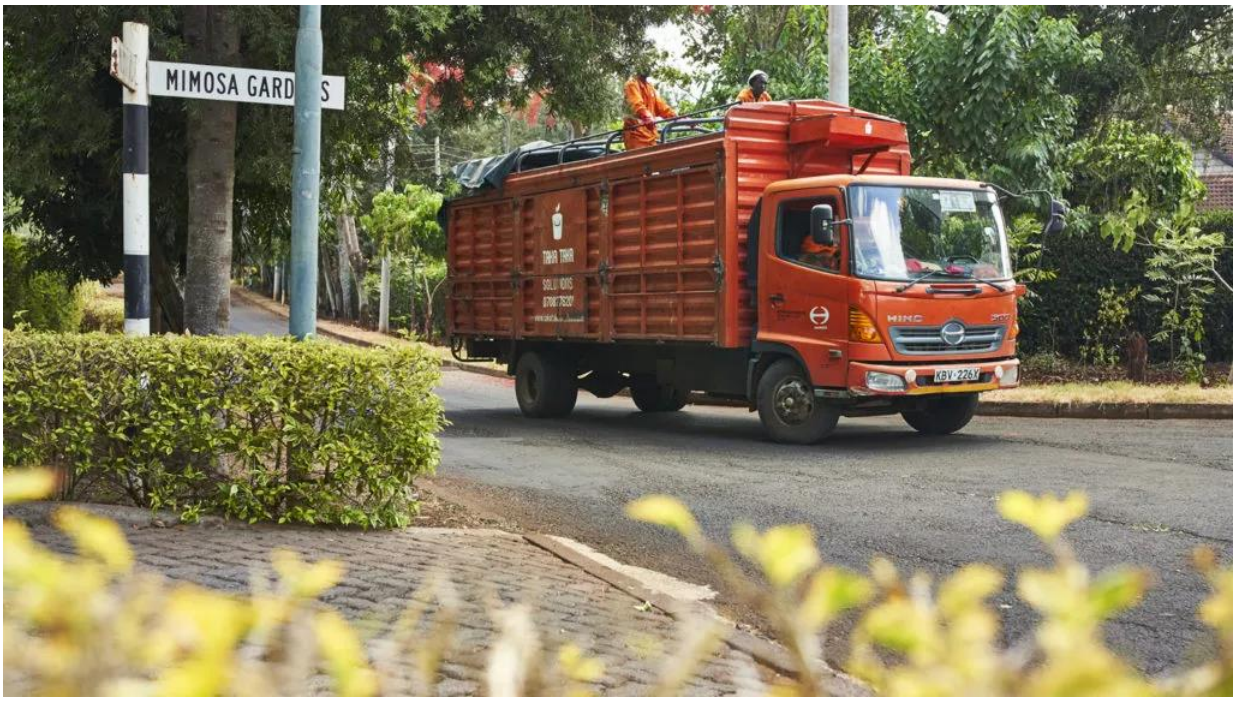
Kisiangani says the organization operates; a composting facility, three sorting sites, a recycling plant, and two waste buy-back centers. With over 400 employees directly earning their livelihoods from the company and at least 1000 waste pickers its rate of separation and recycling is over 90%, which is one of the highest recycling rates in the world.

“TakaTaka Solutions is an integrated waste management and recycling approach which has today become a state-of-the-art waste management value chain. It is a full circular economy from providing much needed services to creating jobs,” Kisiangani affirms.

Thus, TakaTaka Solutions is a Kenyan waste management company active in five aspects of waste management; waste collection, sorting, composting, plastic recycling, and buying back waste from waste pickers.

Every day the company fleet of trucks drives out collecting up to 60 tons of waste daily from residentials, industrial and commercial clients. This is in addition to sourcing 30 tons from six waste pickers at its buyback centers across the country. The organic waste is then taken through various processes turning them into organic fertilizers targeting smallholder farmers.

To effectively make the operation succeed, the company is partnering with rural households, apartments, businesses such as malls, schools, hotels, retail- shops, industries, recyclers industries, local plastic manufacturers, farmers both small and large-scale, urban households, and waste pickers to collect and deliver the new resources.



Truck from Taka Taka Solutions collects waste from households for regenarative purposes

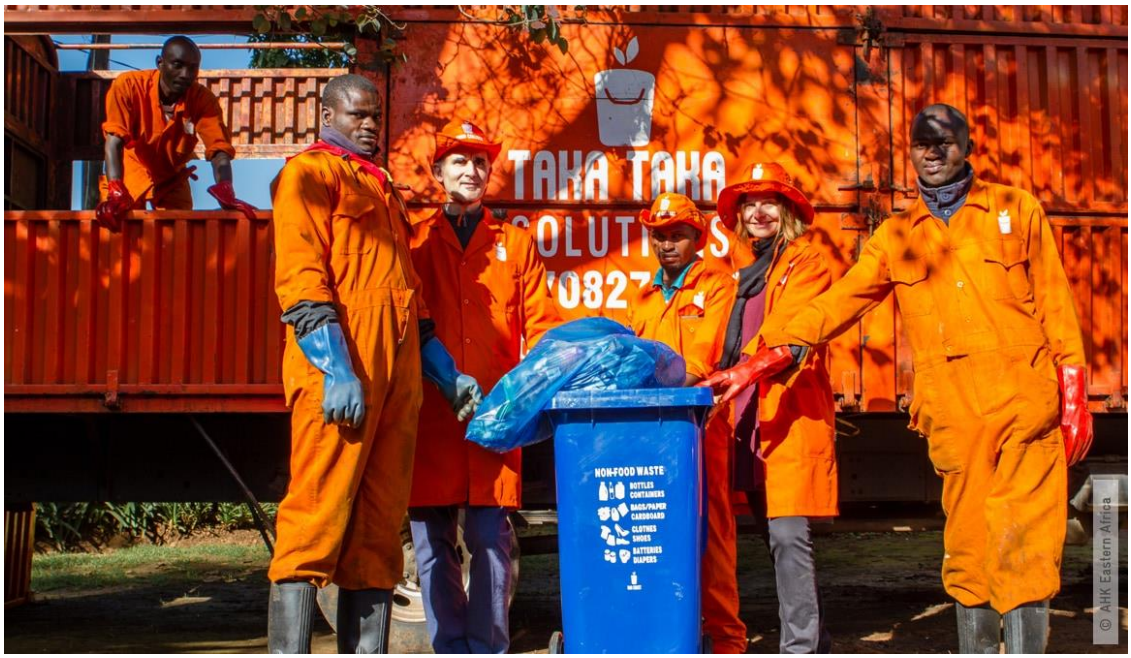
According to Kisiangani, the two most common ways to process organic waste sustainably are composting and anaerobic digestion. Composting is a simpler and cheaper process in terms of sustainable financing and policy models for municipal composting.

“Our waste collection service is for any type of waste producer, while sorted recyclables are used by third-party recycling industries. Processed plastic materials are used by local plastic manufacturers to make new plastic products. And the compost is used by Kenyan farmers to improve their soil fertility and we also sell compost to urban households practicing kitchen gardens,” Kisiangani explains.

Tractor working on organic waste Solutions, aims to transform Kenya’s organic and plastic waste value chain for good. In addition, the project ensures a second life for 95% of waste collected directly from Nairobi households and businesses.

Dr. Macharia affirms that recovery of food loss and waste led by private companies is helping in reduction of organic waste. For instance, in Nairobi County, it has been at Dandora, Kisumu County at Kachok, Nakuru County at Giotto dumping site while Mombasa at Mwakirunge garbage dump just to mention but a few.

As a result, the Ministry of Environment and Forestry estimates that by 2040, there will be no dumpsites and thus complete reduction of methane emission into the atmosphere hence minimizing global warming.



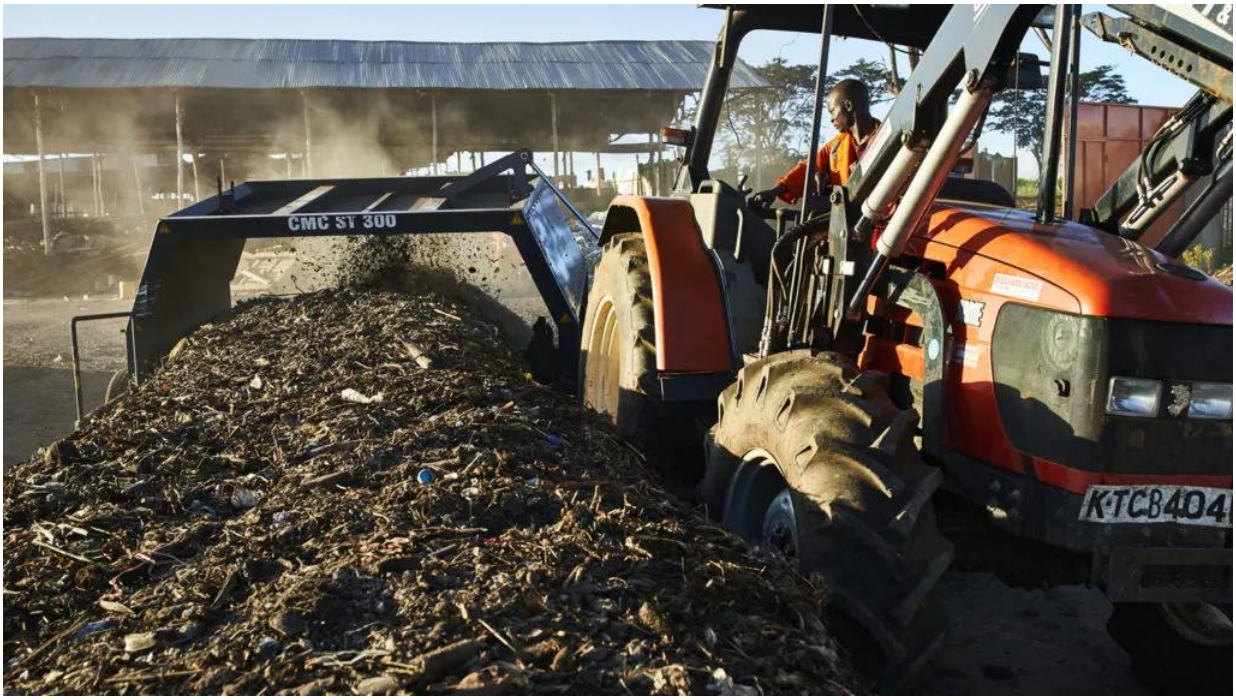
Taka Taka Solutions staff showcase sorted waste in bins from commercial clients

Alternative Organic Waste Recovery

Prof. Jane Ambuko- Professor of Horticulture, University of Nairobi says Kenya produces enough food to feed the population but the leaks cut across. It starts from the farm, transport, storage, all the stages of the supply chain there is concession to the final users.

“People talk about food waste but don’t factor in the efforts, resources that have gone into producing that food. Consider the farmer who put his effort, energy, time and financial resources that has gone into producing that food,” Prof Ambuko posed.

She finds it painful seeing tomatoes being fed to cows as waste, may be due to overproduction or lack of market due to poor roads. So, governments should also play its role of constructing good roads including feeder roads to the farms to minimize food loss and waste that emits methane.



Tractor working on organic waste

Moses Nyoro, Director, Food Banking Kenya (FBK) admits there is a lot of food loss and waste along the entire supply chain. It starts from farmers, to distributors, retailers even to consumers in the households.

Nyoro discloses that FBK collects 60 tons per month of food which otherwise could have gone to waste. People now understand there is an organization that collects food from families with excess of it.

According to Nyoro, the information on food recovery has spread far and wide and people are realizing the importance of avoiding food wastage. In fact, it has helped in reducing food waste found in dumpsites, litter bins among other garbage areas known as waste yards.

Nyoro reveals that statistics show a lot of gases being emitted into the atmosphere is specifically from Agriculture wastage. So, the element of connecting with agriculture stakeholders and networking or collaborating with other recycler companies to ensure food recovery is very important.

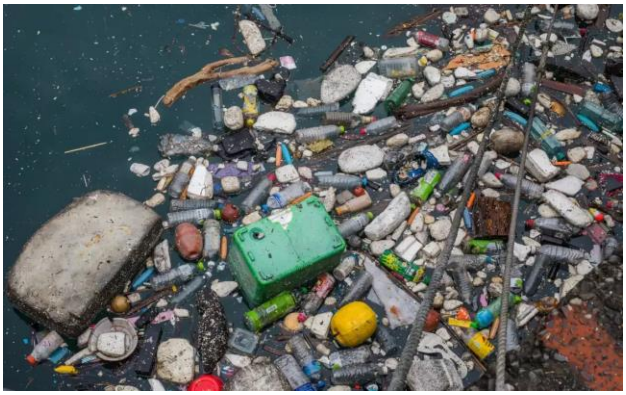
CLIMATE LENS

News from Climate, Energy & Sustainability

Lina Mwamachi (Kenya) ; Kenyan Children Turning Tide on Plastic Pollution ; Climate Lens News, 19 December 2023.

To access the article : https://climate.co.ke/kenyan-children-turning-tide-on-plastic-pollution/

This is Jayden, not his real name, a young boy in Kongoni primary school in Taita Taveta County, speaking on the importance of keeping the environment free of plastic materials to safeguard humans, livestock, and wildlife.



Jayden, a pupil at Kongoni Primary, explains the importance of fighting single-use plastic. Credit Lina Mwamachi

[audio, see link]

UCHUMI MZUNGUKO – LINA 20 11 2023 – SIFA FM NEWS

Cooperation amongst multiple stakeholders, society, donors and sponsors of different environmental projects alongside private sectors, is paramount in order to attain goals aligned with Circular Economy.

Speaking during the 8th edition of the Annual Circular Economy Conference

held in Nairobi, Kenya, on the 9th of November 2023, Chief of Party, USAID Strategic Partnership Doctor George Njenga, said cooperation, enough funds and resources plus proper planning, will enable and effect circular economy process more so to dealing with plastic waste management.

Insert: Professor (Unity)

Jayden and other pupils and teachers from 31 different primary schools in the vast Taita Taveta county had gathered on this particular day to clean up the environment of plastics along the Tsavo West National Park. They all gathered alongside other stakeholders and leaders.

Jayden says it's their mandate as members of a school club called Wildlife Club Members to clean the environment by collecting plastic wastes and nylons weekly from their school compound.

On this particular day, over 100kg of plastics, bottles, and metals were collected during a clean-up exercise organized by Lions Bluff Douglas Mwashi, operations manager.

Mwashi cites that they decided to involve school-going children in the initiative to brew up a crop of conservators who will change the environment for now and future generations, ensuring doing away with single-use plastic.

[audio, see link]

VYAMA VYA USHIRIKA – LINA – 21 11 2023

Society at large has been advised to embrace cooperative societies, as one way of achieving wealth and enabling the process of recycling, reusing and re-using of materials again and again to protect environment.

Speaking to Sifa fm, during the 8th edition of the Annual Circular Economy Conference, Chief of Party, USAID Strategic Partnership Doctor George Njenga, said cooperatives will robustly increase capacity of adding value to food commodities as well as other materials, for the benefit of every one and environment.

Insert: Rais USAID (Youth and Cooperatives)

But why involve school-going children? Purity Manyatta, a liaison officer at the Lumo Conservancies, elaborates on the involvement of school children in cleaning the environment and managing plastic litter as key to pushing for a cleaner and safer environment away from plastic pollution.

[audio, see link]

Women Involvement in Enviromental Issues

Coastal Kenya Programe Manager, WWF-Kenya, Dr. Asma Awadh, says in WWF, they are engaging directly more women in different matters concerning environment, in order to enlighten more women and society about programs like Circular Economy.

Dr, Awadh says if more women are involved in different campaigns and projects regarding environmental issues, it will help in reaching the goals pertaining to Circular Economy and dealing with environmental issues, most importantly dealing with the issue of single use plastic, where women play a very vital role of directly involving in collecting plastics.

Insert: Dr. Awadh (Women Involvement)

Indeed, it’s a bottle for a book program that Purity says will continue every year to buy stationery for pupils in the area and safeguard their education.

In replica research conducted by Water Journalists Africa, a local organization in western Uganda, the Kazinga Channel schools project sows seeds of plastic waste management in young people through school conservation clubs.

Through these clubs, the pupils, their parents, teachers, and villagers in the sub-counties of Lake Katwe in the Kasese district and Katunguru in the Rubirizi district collect used plastic bottles that are later recycled into plastic shelters for saplings (growing trees) and trash bins. The remaining are burnt from the four incinerators built by this organization.

Plastic Pollution in Figures

Global plastic pollution remains unabated, with recent UNCTAD figures revealing that the international plastic trade will hit a record of 1.2 trillion USD in 2022.

Despite increased awareness and environmental campaigning, a recent report highlights a record 139 million metric tons of single-use plastic waste in 2021 and hazardous waste generated, a 6 million metric ton increase from 2019, as explained in the data below from Our World in Data.

https://ourworldindata.org/grapher/hazardous-waste-generated-per-capita?region=Africa

Strides in Africa

Africa stands at a critical juncture in its development, facing unprecedented economic growth and environmental challenges, particularly the increase of single-use plastics.

While African countries have initiated conversations on legislation, the approach remains decentralized, with some nations forming national laws and others collaborating on a harmonized regional system, as seen in East Africa with the draft single-use plastics bill tabled before the East African Community legislative assembly.

According to data from Our World in Data, the Sub-Saharan Africa region is responsible for 8.9% of globally mismanaged plastic waste (plastic that is either littered or inadequately disposed of).

As the world population and economies have grown, the global production of materials, such as plastics, paper, and aluminum, has increased significantly.

The data alludes that without proper waste management systems, this growth in consumption leads to a significant increase in mismanaged waste, leading to pollution of ecosystems such as rivers, lakes, and the ocean.

What Way Ahead

Flip Flopi Program Manager, Ms. Davina Ngei says pollution is everywhere, and plastic, one of the most visible representations of our footprint, is currently dominating community, policy, and media attention.

She adds that mismanaged plastic waste is, unfortunately, a familiar sight – piling up on streets, covering estates, clogging sewers, littering our parks, and lining the beaches.

Solutions like recycling plastic bottles and remodeling and reusing to make chairs, dhows, and beds, although temporary solutions to curbing plastic pollution, Ngei counts as simple solutions to managing the menace.

Flip Flopi Project, a collective of global change-makers and the number one innovator, built the world's first recycled plastic sailing dhow, bringing color and hope to the plastic pollution movement.

Ali Abdallah Alias, Ali Skanda, is a Lamu resident and one of the pioneers of the Flip Flopi project, and the brains behind the making of the sea dhows, including the vast plastic sailing ship in Lamu Island. He decided to forgo everything and immersed all his efforts in marine and environment conservation.

Abdallah says that the environment is vital to our daily lives and is one way to help curb climate change due to dirty emissions from incinerated plastics and other fossil fuels.

To watch the video : https://youtu.be/Q9bs-acNfHs

Ali Abdallah Environment Conservator -Flip Flopi – Lamu Island – Video Credit Lina

Among other players who are also inventing less destructive and sustainable solutions to managing plastic pollution is Tetra Pack, which has redesigned a new carton packaging for their commodities, including water, milk, and others, as seen in the clip below.

Tetra Pack repackaging – Credit Lina Mwamachi

Nevertheless, all efforts by different stakeholders and innovators, including Taka Taka Solutions, BAUS Taka Solutions, Mananasi Fibre, and more, are geared towards achieving one goal: to try to end single-use plastics and find simple solutions to managing plastic pollution.

Henrique Pacini, an economist at the United Nations Conference on Trade and Development in Geneva, UNCTAD, where he works on trade and circular economy, says it's essential to care about plastic pollution, citing that it is time for the world to rethink other adaptable ways and usage of nonplastics materials to replace plastics.

Pacini says governments should negotiate to rethink and set rules that multiple nations will agree upon to become an international treaty against plastic pollution, including control, taxation, and more on the use of single-use plastics.

To watch the video : https://youtu.be/-itAUMKynII

According to the economist, countries need to agree collectively on simple long-term solutions because plastic pollution isn't a problem of one person but affects everyone globally, and it's a collective thing that will require effort from all players.

The Single-Use Plastics Dilemma in Africa

The continent's rapid growth has led to an uptake of SUPs for various solutions, including packaging and service ware. These materials, designed for convenience, end up causing severe environmental degradation, often ending up in landfills, water bodies, and open spaces. The negative impacts on wildlife, soil fertility, and water quality are evident, affecting urban and rural communities.

We are now faced with an overwhelming supply of cheaply made plastic, most of it unnecessary. We use plastic for only a few minutes (think of a packet of crisps), but it takes hundreds of years to break down.

Unsurprisingly, communities that historically have wasted very little are now wasting plastic. After all, what can you do with soda bottles, soap sachets, and sweet wrappers? Where should you throw them when you live in an area that lacks basic waste management infrastructure?

According to scientists, as many unique ideas as we have to recycle and reuse this 'waste,' there will never be enough to stem the growing tide of new plastic created every minute, adding that there is a need to put a stop to the overproduction of plastic and then figure out what to do with the hundreds of millions of tonnes littering our land and sea.

According to the UN Environment Programme, "one million plastic bottles are purchased every minute" worldwide. Half of these are designed to be thrown away after a single use.

Is there a solution?

The answer is simple: Inaction over plastic pollution is catastrophic, and the consequences are severe in different ways. A 2019 study published in the Environmental Science and Technology journal found that an average person eats at least 50,000 microplastic particles annually. Most of these particles were found in rivers, oceans, soil, and air.

Further, the study warned that people who take water only through bottled sources may be ingesting an additional 90,000 microplastics annually, compared to 4,000 microplastics for those who consume only tap water.

However, improving waste management practices can also help us reduce the amount of raw materials generated by recycling (although not eliminating) by managing the production of new resources.

Otherwise, experts allude that by protecting the world's ecosystems and our general health from plastics, we need to ensure that waste is managed correctly.

This story was compiled by Lina Mwamachi – Sifa Fm, through the help of Africa 21 and partners and data from Infonile and Our World Data.

Déo Cikuru (DRC) ; Plastycor a company involved in the waste recycling ; Mama Radio, Dec 20, 2023.

To watch the video : https://www.youtube.com/watch?v=S9ycmPwX43s

Plastycor collect plastic waste in the streets, from families, especially in Lake Kivu. This company transformed plastic waste into trash cans, flower pots, pedestal tables, sofas, and houses. Among her purpose, it's to avoid the plastic pollution, especially the lake Kivu, located at the east of the Republic democratif of Congo.

Lenah Bosibori (Kenya) ; Circular Economy: How a Kenyan firm is utilizing pineapple waste to produce sisal fiber ; Talk Africa, December 20, 2023.

To access the article : https://www.talkafrica.co.ke/circular-economy-how-a-kenyan-firm-is-utilizing-pineapple-waste-to-produce-sisal-fiber/

From Left, Lilian Ndungu and Agnes Kiloko arranging processed fibre to sun dry before going back to the machine for fine processing

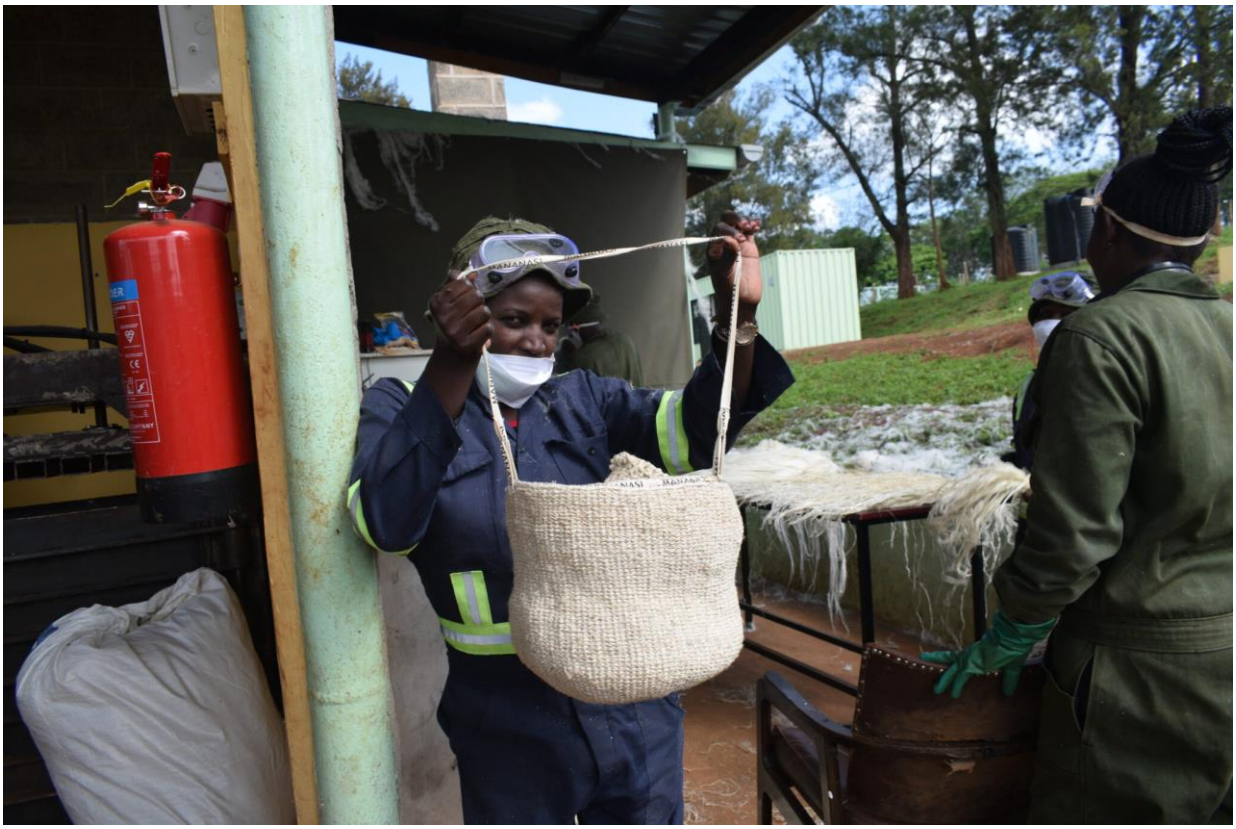
Kiambu, Kenya: In the beautiful landscapes of rural Gatuanyaga village located at the heart of Kiambu County in the Central region of Kenya, a remarkable change is happening, as a local firm is transforming waste from pineapples into fibres useful for textile and structural applications, similar to sisal fibers.

Surrounded by endless fields of pineapples, lush hills where pineapple farming is a way of life, this unique initiative is reshaping the community's future by providing job opportunities and taking care of the environment.

During my recent visit to the firm, Mananasi Fibre LTD, an organization transforming Pineapple plant Waste into a sustainable revolution in Kenya, I met a group of employees busy working despite the hot afternoon sun. Loyce Nafula is a women who is employed at the firm despite her physical disability. Nafula shares.

"My main work here is to make pineapple fibre baskets as I can't stand for long to operate the machines due to my disability," Nafula shared with Talk Africa.

Nafula adds that she has been tarmacking for so long looking for employment as many employers used to turn her down due to her disability. Luckily, she got one at the Mananasi fiber. "I have tarmacked for long looking for a job around this area which many people turned me down due to my disability but luckily I am happy here at Mananasi fiber," shared Nafula.



Loyce Nafula, an employee at the firm showcasing a wooden basket made from the fibre as a result of the pineapple waste

Nafula moved from Kakamega county in western Kenya and got married in Eastern parts of Kenya and due to poverty and high living expenses, Nafula was forced to look for a job and take care of her family.

“Life was extremely difficult because I only depended on my husband who also works as a casual laborer with little income that could not sustain our family of four,” Nafula said while holding fibre bags she had made from her current occupation.

Four months ago, Nafula heard that Mananasi Fibre was opening its doors in the area and she decided to try her luck in employment. Luckily, Nafula was one of the employees picked for the job as a bag maker.

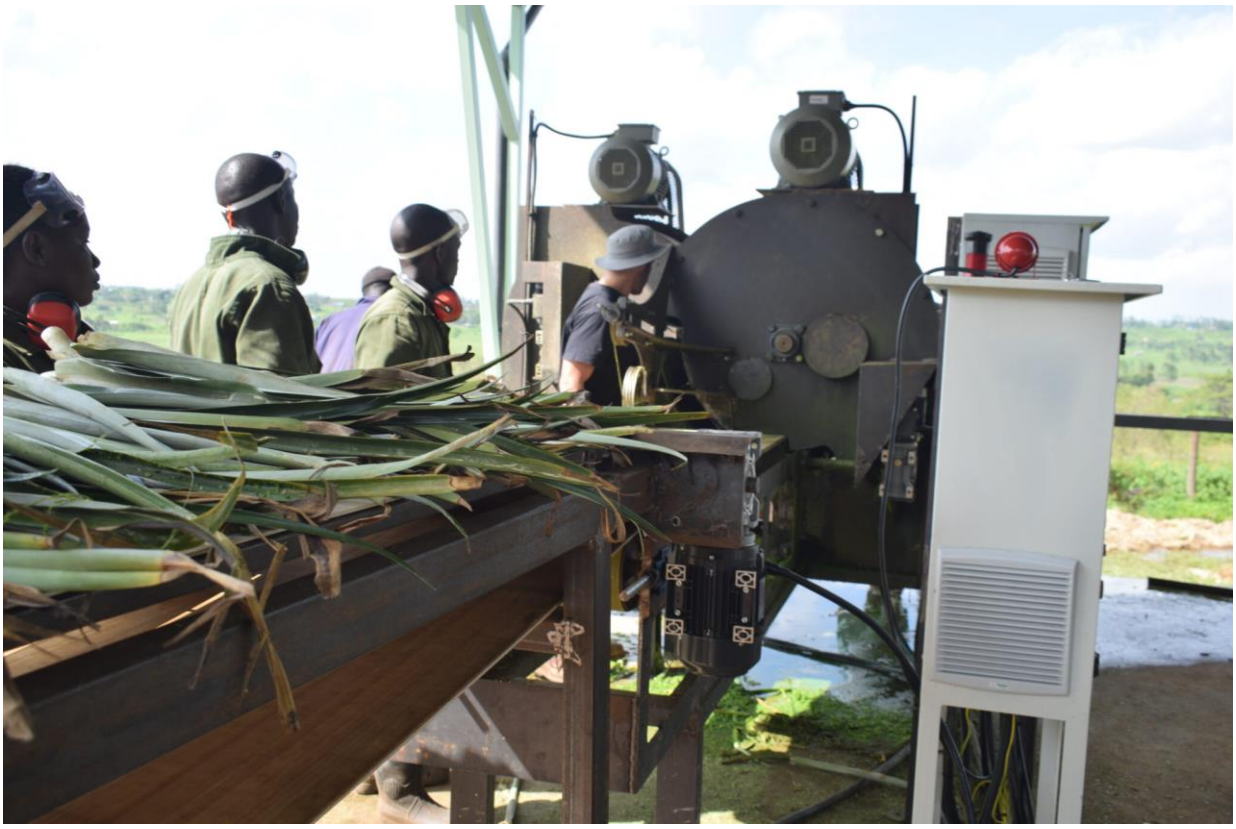
“When I came, I was scared because I didn’t know what I was going to do, I had no idea about machine operation and due to my disability, I could not stand for long. Luckily I was employed as a fibre basket maker,” added Nafula.

Evelyn Kerongo is another employee who has trained as a machine operator at the firm. She has also been working for two months and she looks forward to more employees to get job opportunities when the company expands.

“I earn 672 Kenya shillings ($4.32) per day, as this is just a start, I am hoping that our boss will increase the figure when the firm gets into full operations,” said Kerongo.

Our boss is a nice person, we have not faced any challenges so far apart from the dust from the machines, we know it is normal but we ensure that we put our protective gears on and take a lot of water and milk so that we are not dehydrated while operating the machines,” adds Kerongo.

Kerongo urges women to take any job opportunity around them and put more effort and energy into learning so that they can be independent and stop relying on their husbands.



Boyd-Moss, Founder and Mechanical Engineer, checking on the machine before comencing afternoon operations

Paul Mwangi is the assistant supervisor at the firm, he has also been working for two months and is looking forward to the company to start full operations so that he can earn more. “We are working hard, and looking forward to huge returns as the work progresses,” he adds.

Located about 60 kilometers from Nairobi’s Central Business District (CBD), Mananasi (Pineapple) Fiber LTD has been in operation for only four months but to a new visitor the firm looks older than the days it has been operating credits to coordination from employees and the founder.

Curious to know more, I met James Boyd-Moss, Founder and Mechanical Engineer at the firm busy repairing machines that kept on crashing down because they were just brought in and were still being fine-tuned for the operations. Moss shares the motive behind the firm.

“When I came here, this place was a kichaka (forest) Moss proudly repeated it as he enjoyed my interview in Kiswahili, as you can see, it is now looking like a fully functional factory,” said Moss.

Moss shares with me that it is an idea that came into his mind a year ago since he grew up in a sisal growing area and decided to copy it to his firm." I grew up on a sisal plantation so I took the sisal concept and applied it to pineapple plant waste," said Moss.

Currently the firm that is only four months old has made progress, apart from employing close to 30 people, the firm is looking at building up stocks to send to Ananas Anam an innovative company that repurposes pineapple leaves into the sustainable vegan textiles headquarter in London UK with subsidiaries in both the Philippines and Spain.

"We are in the commissioning phase so only producing about 1000kg per month, this should reach 10,000 kgs at full capacity," added Moss.

In Kenya, about 80,000 tons of pineapple waste is produced monthly. This waste is either eliminated through burning or decomposition, releasing tons of carbon dioxide and methane gas, which are greenhouse gases that contribute to climate change.

Environmental Impact

Moss says that the pineapple leaf fibers used to create the products are from agriculture waste which means that no extra land is required but plenty of water is consumed. The water is also reused as it is put in ponds waiting for a purifier to clean it for further use.

“This production requires a lot of water, currently we get our water from the river through the Delmonte pipes that pass through here. The beauty with our production is that it reduces the amount of pineapple leaves being burnt in the air by reducing carbon emissions from being released into the atmosphere,” said Moss.

Del Monte Kenya Limited is a Kenyan food processing company that deals with the cultivation, production, and canning of pineapple products.

In her remarks during the 8th circular economy conference in Nairobi, Linda Kosgei, the Head of Multilateral Environment Agreements (MEAs) in the Ministry of Environment, Climate Change and Forestry said the government has put in place new policies and legislations to promote sustainable waste management.

“The country’s policy has now shifted from the linear model to the circular model, as we all know, the linear model has been using products without reusing them thus generating a lot of waste,” said Kosgei.

In addition, Casper Edmonds, the head of Unit for Extractives, Energy and Manufacturing at the International Labor Organization (ILO) told African journalists in Nairobi during a recent training on Circular economy that Africa urgently needs to protect those who work in the waste picking industry.

“We urgently need to protect those who work in the circular economy today from the hazards they face, whether through fumes, dust or chemicals, we need to step up our work,” said Edmonds

While at Mananasi Fibre, Moss has really adhered to Edmond’s remarks as I could clearly see every employee fully protected from the dust, noise and even gloves to protect their hands from the waste as the photos clearly show.

A pile of pineapple waste awaiting production

Data by Kenya Pineapple Industry Outlook 2022-2026 shows that Kenyan consumption of pineapple is expected to reach 284,000 metric tons by 2026, growing at an average of 2.2% year-on-year. This is an increase from the 247,000 metric tons recorded in 2021. Since 2017, demand for pineapple has grown 2.3% year-on-year. In 2021, Kenya ranked 23rd, with Malaysia coming in first with 402,000 metric tons in Johor province alone in 2022. Brazil, India and the United States followed as number 2 and 3 respectively

The report further says that Kenyan production of pineapple is set to reach 303,660 metric tons by 2026, with an annual growth rate of 0.2%. Since 1966, production has increased 6.2% year-on-year. In 2021, Kenya came in 25th place. The Philippines, Brazil and China were ranked 2nd, 3rd and 4th respectively.

Extraction

After pineapple harvest, the suitable plant leaves which are left behind are collected in bundles and brought to the firm by a vehicle, the long fibers are extracted using semi-automatic machines, the fibers are then washed and sun-dried and during the rainy season, the fibers are dried in ovens.

The dry fibers go through a purification process to remove any impurities which results in a fluff-like material. They are then taken to the second machine to get the fine fiber that is exported to Ananas Anam, located in London, United Kingdom as raw material for making products like sanitary ware, baby pampers, clothes, shoes and many more.

Waste From The Waste

However, it's important to note that even in this process, waste is still generated. The challenge now lies in addressing and minimizing the environmental impact of the secondary waste produced during pineapple fibre extraction.

BALANCING THE BENEFITS OF UTILIZING PINEAPPLE WASTE WITH THE RESPONSIBLE MANAGEMENT OF BYPRODUCTS BECOMES CRUCIAL IN ENSURING A TRULY SUSTAINABLE AND ECO-FRIENDLY APPROACH TO THIS INNOVATIVE VENTURE. THIS IS HOW MOSS MANAGES HIS WASTE FROM WASTE.

"The idea is to produce organic or compost using the waste from the decortication process and the method that we will be using is aerobic static pile composting so it gets put into big piles with a pipe, feeding the bottom and then periodically you come and blow air down the pipe and that aerates the compost," said Moss.

At the moment, Moss says that they are commissioning machines and hence no big profit is being realized. "When it will be fully operational, we are hoping to produce 400 kilograms of fiber from the pineapple waste per day (2 shifts)," says Moss.

"We will be processing 2,900 tons of raw materials from the field per month, that is the stems, roots, leaves," he adds.

Currently, Mananasi Fibre relies on the waste from Del Monte but with time he says that the firm will be like an aggregation center for the smallholder farmers to bring their waste and get paid for it. There are ten additional industrial producers of pineapple around here," said Moss.

"If there are other smallholder farmers that want to commercialize to gain extra value from the plant, they would bring and get paid," remarked Moss as he checked on the machine that kept on breaking down, as they were still under active development and fine-tuning.

Challenges

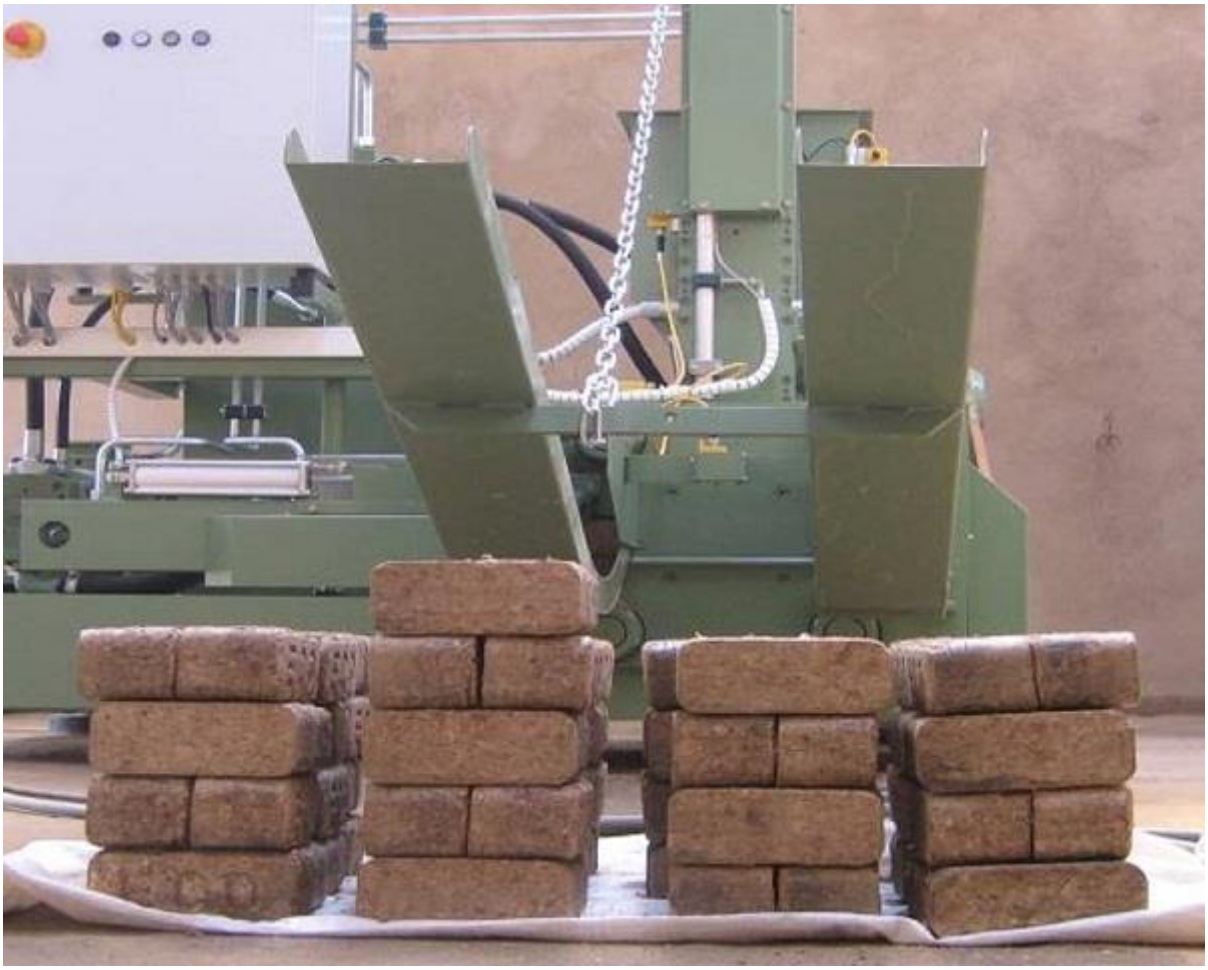
Moss says that pineapple leaves are very light as compared to sisal. “Pineapple leaf is like 60 grams and sisal leaf is like 1kg. A very great difference in weight and difference is size and the fiber content for pineapple is small, so the yields from the fiber extraction process are much more than that of sisal,” says Moss.

He says that another challenge is the regular breakdown of machines. “This machine keeps on breaking down. Me and my team of technicians work on the machines together, so maintenance knowledge is disseminated, since a lot of the time I am busy on other parts of the business and not around in the machinery site” adds Moss.

At the moment, the firm has employed close to 30 employees. “I currently have 30 employees and hope to increase them to 160 when the firm will be fully operational if everything goes as planned,” adds Moss.

Mananasi Fibre Limited is sponsored by the Sustainable Manufacturing and Environmental Pollution (SMEP) Programme, a joint initiative by the UK-FCDO and the United Nations Conference on Trade and Development (UNCTAD).

Johnson Kanamugire (Rwanda) ; Funding woes plague circular startups working to fix the waste crisis ; NewsPaper Africa, December 25, 2023.
To access the article : https://newspaper.africa/2023/12/25/funding-woes-plague-circular-startups-working-to-fix-the-waste-crisis/



Briquette production operations at Kigali-based COPED Ltd. The products serve as a substitute to wood and charcoal for cooking. PHOTO | COURTESY

Despite dominant stories of inaction on the worsening garbage disposal crisis across Africa's fast expanding cities coupled with the health and environmental dangers linked to pollution, all is not bleak.

There is a rise in the number of initiatives and innovative ideas by individuals or communities that promise to tame the crisis, but whether governments create a conducive environment

to allow scale up, or do the requisites to promote transition to circularity still divides opinions.

Entrepreneurs in the circular space across parts of Africa have been recycling or reusing a wide range of garbage into other products, from transforming food waste into pellets that serve as a substitute to wood and charcoal, to turning plastics and worn out clothes into reusable products at households and across sectors.

Others have dedicated their efforts towards cleaning up water bodies, among other social environmental activities.

Their collective work promises to minimize volumes of waste that end up at landfills and other locations in rural and urban parts of the continent where poor disposal foments pollution responsible for estimated 1.2 million deaths annually, according to World Health Organisation.

It has emerged, however, that their gains and potential to scale operations could be lost as they continue to grapple with little to no incentives or funding, not even from the waste management departments of governments and other public agencies whose mandate is to deliver a livable environment to the citizens.

This is more so in light of unmet commitments under the Sustainable Development Goals (SDGs) especially on the aspect of preventing waste pollution.

Challenging

Majority of circular startups battle multitude of constraints ranging from limited access to funding, inadequate policy frameworks to provide incentives, and limited demand for circular products, among others.

“It’s been extremely challenging raising funding beyond normal bank loans and that weighs down our efforts because interest rates are so high and there is no consideration given to the social and environmentantal impact aspect,” said Paulin Buregeya, head of COPED, a Kigali-based waste company.

“You cannot even mention the circular economy. It has to be a business that generates income and that has acted as a setback for social environmental initiatives by individuals,

women groups, youth and associations that had entered waste recycling at community level," he added.

Lack of support implies they cannot meet costs associated with routine collection, sorting and transportation of the garbage that range from paper, plastic, metals and organic materials for recycling.

Mr. Buregeya currently pins hopes in the government of Rwanda's green investment facility introduced a few months ago, allowing entrepreneurs in circular economy to access funding in terms of both grants and low interest financing.

Not alone

Flip flopi, Kenya-based East African movement working to end plastic pollution operated for six years without funding to support their activities around collection of the plastic garbage, operationalizing the recycling facility, as well as meeting others expenses like utility bills and paying workers.

The project is credited for riding East Africa water bodies off tonnes of discarded plastic waste that they turn into sailboats and other products as part of campaigns to inspire communities to embrace circularity.

"We've been running this project for almost six years without any funding. Sometimes we opted for crowdfunding or asking for donations especially in our clean up campaigns. We ask the people in the area where we are cleaning up what they can contribute… can you bring a rake, a basket, can you bring your workers to help us?" said Ali Skanda, co-founder and general manager.

They breathed a sigh of relief when the project received funding from the Sustainable Manufacturing and Environmental Pollution (SMEP) Programme, allowing the initiative to turn the aspiration of the big boat into reality, and since went ahead to build smaller boats and carry out regular waste collections.

"There's so many more organizations out there in Nairobi, and the whole of Africa has an enormous amount of these kind of projects struggling to scratch funding together. Collectively, they would change a lot if they got predictable government support. Even for us fundraising is still a full time job because the SMEP funding officially end in April next year," said Katharina Elleke, Flipflopi's program manager.

Holding manufacturers to account

Actors in the circular economy expect governments across Africa to consider these constraints in their design of circular economy action plans and roadmaps, and especially considering tax incentives, subsidies, and green procurement policies that can create a conducive environment for initiatives that promote circularity.

In particular, there are high hopes in the enforcement of the Extended Producer Responsibility (EPR) to compel producers to support work that goes into dealing with their products after use.

Margaret Kamau who works at African Development Bank's Climate Change and Green Growth Division says these efforts will be complemented by the Bank's business support programme for startups in circular economy which seeks to address challenges around developing bankable ventures that attracts capital for early stage financing to support their further scale up.

She said that the financial institutions still treat circular startups like other business firms when it comes to weighing credit risks, and the former barely understand the circular economy models.

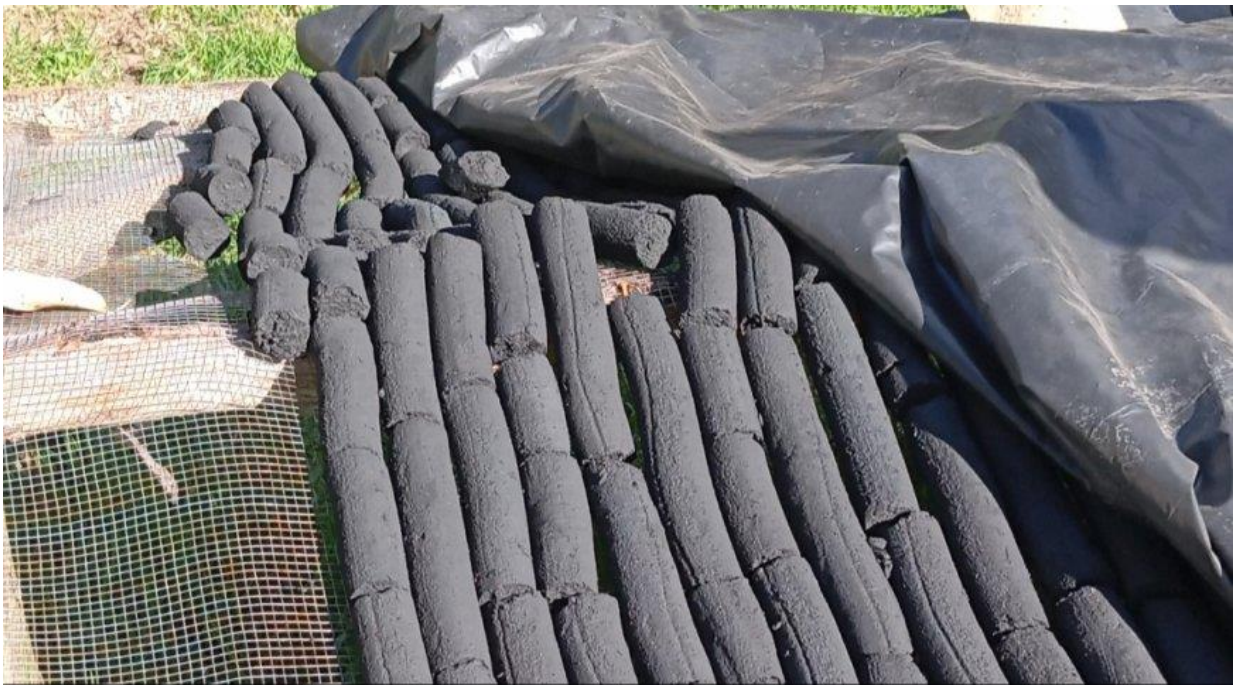
Their plight is worsened by limited commercialization make their products more expensive than linear ones.

"There is also need to strengthen market demand for circular economy products," she said.

Meanwhile officials say circular entrepreneurs with innovative models could come together and approach potential financiers.

Sharon Ambani Tamba (Kenya) ; Waste-to-energy: A Boost to Kenya's Transition to Clean Energy ; Story Spotlight, Dec 27, 2023.

To access the article : https://storyspotlight.co.ke/waste-to-energy-a-boost-to-kenyas-transition-to-clean-energy



At the heart of South Kabras Ward in Kakamega County of Western Kenya lies a lively upcoming town. The area that was once a dull village has been brought to life, thanks to the presence of one of the well-known sugar factories in Kenya.

Farmers in the area grow sugarcane to supply raw materials to the West Kenya Sugar Company. Several business people are trading goods and services to meet the needs of an increasing number of residents. The booming business environment has also led to improved infrastructure in the area.

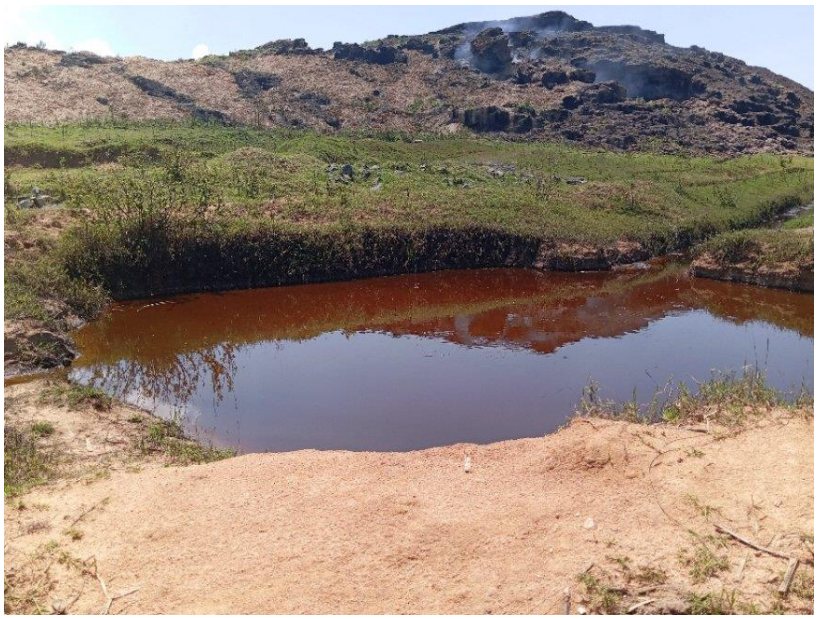
"Our youths have been employed to run operations in the factory. I have also raised my family using the income I get from growing and selling sugarcane to them. We are grateful for the company's presence amidst us," says Wafula Juma, a resident of Shiruma village.

While the people living near the factory acknowledge the positive socio-economic development it has brought, they confess to experiencing the other side of the coin. They

recall cooperating with the company by giving land where the bagasse would be dumped. However, they had very little knowledge of the aftermath. They are currently grappling with the disastrous environmental and health impacts brought by the huge mountains of disposed bagasse waste.

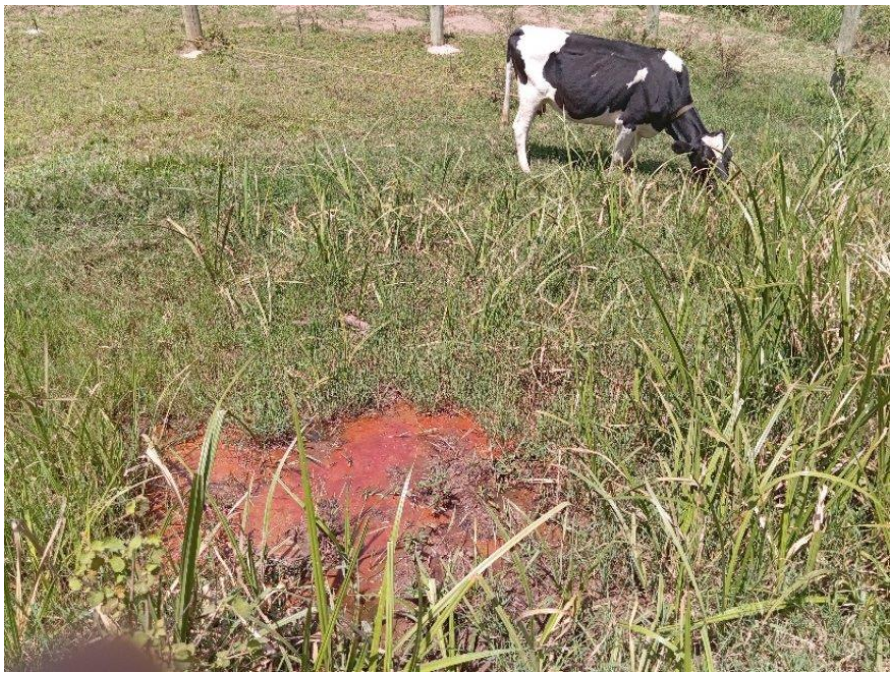
As one nears the dumping site, they are hit by an unwelcoming odour from the waste that has existed for many years. Plumes of smoke caused by random fires from the ignited dry fibrous residue increase with every blow of the wind. Livestock munch on the grass from nearby fields filled with darkened pools of dirty water.

“The once clean water sources are now contaminated. We can no longer use the water for domestic or agricultural use. Women are forced to walk for long distances to fetch water from the next village where the company drilled water. Our livestock have died from drinking the affected water, but we have nowhere else to take the remaining ones for grazing,” sadly noted Juma.



A pool of contaminated water near burning bagasse heap

“During dry months, fires strike from nowhere, as you can currently see the smoke coming from one of the heaps. Sometimes the smoke is too much that you can't see where you are going. When there is a strong wind, it blows the ashes and the solid particles in the air and into our houses. During the rainy season, the stench coming from the dump site is unbearable, making our stomachs bloat,” added Sammy Sakula whose land is adjacent to the site.



A cow grazing near affected water

There is more to the negative impacts of the bagasse waste mentioned by the two residents. According to the National Environment Management Authority's Kakamega County Director John Maniafu, the heaps of waste emit methane gas into the atmosphere. He says methane is among the top greenhouse gases that contribute to the increasing warming of the earth.

Maniafu also says that liquid leaching from the bagasse, once in contact with the soil and water reduces their pH level. This explains why the water in the surrounding area is unsafe to use. In addition, the affected soil has impacted the healthy growth of other foods and crops.

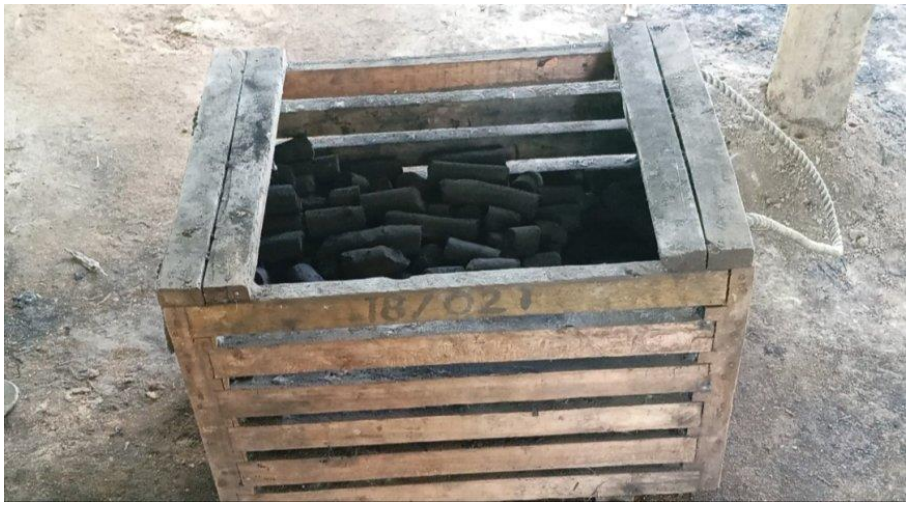
The environmental woes from bagasse waste are widely spread in Kakamega County as it is home to three major sugar-cane milling companies in Kenya. Every ten tonnes of sugarcane crushed is said to produce about 3 tonnes of wet bagasse. Maniafu says the rate of bagasse generated by the millers in the region is higher than the ability and the rate at which the companies manage the waste. He says this has contributed to the adverse effects on the surrounding ecosystem caused by the challenge of unmanaged bagasse waste.

In a wider context, Kenya's sugar production industry, made of over ten factories, is estimated to generate about 2.4 million metric tonnes of bagasse annually, a solid waste product of crushed sugar cane. While a portion of the waste (about 25 per cent) is utilised as a heat source in the factories, a larger volume is discarded in landfills or incinerated in open

air. The environmental consequences of this organic waste are profound, hence calling for an urgent sustainable intervention to curb the menace.

However, a beacon of hope emerges not very far from the affected community. An international non-governmental organisation, Eco2librium, has taken up the mantle of transforming this waste into a valuable clean energy resource. The organisation sources bagasse waste from West Sugar Company and then employs an innovative and technological process to create carbonized charcoal briquettes.

The journey from waste to energy begins with the collection and transportation of the bagasse from the sugar factory to the Eco2 site located in Ivakale village in Shinyalu Constituency. The bagasse is then sun-dried for 1 to 2 weeks to remove moisture from the residue. After that, the material undergoes a carbonisation process, where it is burnt in a kiln without oxygen, converting it into black charcoal dust. The dust is then mixed with a binding agent, water and soil. Subsequently, it is compressed using an extruder machine to form cylindrical eco-friendly briquettes.



Charcoal briquettes

The founders of the organisation initiated the process in 2017 to create sustainable solutions to environmental problems such as increased waste and deforestation while providing a livelihood to the community.

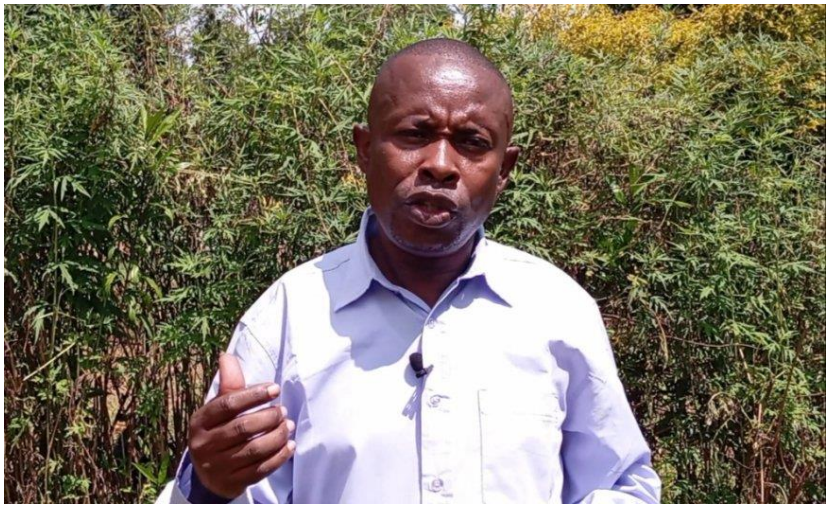
“People living around this area depend on firewood to cook. They cut down trees to source wood hence leading to deforestation. The organisation aims at protecting Kakamega Forest, the only tropical rainforest in the country. Therefore, we produce an alternative fuel for the

communities around here so they can stop cutting down trees," explains Jackson Mwanje, a production worker at the Eco2 site.

The project aligns with global efforts to combat climate change by curtailing the need to cut down trees for traditional charcoal production. This promotes Sustainable Development Goal 13; climate action.

Importantly, these briquettes play a pivotal role in promoting Kenya's transition to clean cooking energy. Biomass contributes a large share of Kenya's energy demand, with more than 90 per cent of rural households using charcoal, wood fuel and agricultural waste to meet their energy needs. However, most of these fuels are harmful to users' health and the environment. According to the World Health Organisation, about four million people globally are linked to air pollution from these dirty solid fuels.

Danson Ligare, an engineer and clean energy champion in Kenya, says it is essential to increase the use of clean fuels and technologies in the quest to curb the impacts of household air pollution emitted from traditional fossil fuels.



Danson Ligare, an engineer and clean energy champion in Kenya

"Charcoal briquettes fall under Tier 3 in the Multi-tier Framework developed by the World Bank to monitor the impact of clean cooking solutions. The renewable biomass fuel is a competitive and safe cooking fuel compared to wood and charcoal which fall in Tier 1. They minimise pollution and have increased burning time, making them reliable over non-renewable fuels," says Ligare.

“The process of making briquettes also helps in managing waste through a circular model of production. The amount of bagasse waste produced annually in Kenya is wanting. This calls for the government and other stakeholders to invest in such initiatives that solve the bulk bagasse waste that lies idle in landfills. We are also developing innovative ways of using other wastes such as municipal waste to produce briquettes that meet the fuel demand in the country,” he added.

Ligare, also part of the Kenya National Clean Cooking Strategy Committee, calls for the sustainability of the bio-energy sector in the country. He says that this is key to Kenya’s aspirations to achieving SDG 7 (affordable and clean energy) and Vision 2030 while contributing to the Paris Agreement, through the country’s Nationally Determined Contribution (NDC) as well as the Climate Change Act (2016).

Institutions and families, particularly women who are tasked with looking for firewood, are benefiting from this sustainable energy source, aligning with Kenya's commitment to embrace clean energy and reduce reliance on fossil fuels.

“Initially I used firewood to cook. Looking for firewood was very cumbersome as forests had been cleared. Also, the soot and smoke from firewood were not good for me and my family. However, I no longer have the burden of fuel ever since I was introduced to charcoal briquettes,” says Saida Nyangasi, a resident from Lurambi in Kakamega.

Saida also says briquettes have reduced the economic burden of acquiring other cooking fuels, as a kilo of briquettes goes for an average of 40 Kenyan shillings unlike a tin of charcoal which currently goes for double the price. This is efficient for families which are struggling with the current hard economic times.

Beyond the environmental impact, the initiative has become an engine for socio-economic growth as it contributes to achieving SDG 8. Mwanje is among the over 30 workers employed by the organisation to foresee the process from production to the assessment of the impact of the fuel on the end users. This has led to the socio-economic development of these workers and their families who depend on the project for their livelihood. In addition, Mwanje says the organisation provides safety for its workers at the production site by providing protective wear such as gumboots, masks and overalls.

The transformation of bagasse waste into carbonised briquettes not only addresses the environmental woes in Kakamega County but also embodies a sustainable solution with far-reaching implications. It exemplifies the power of innovation and circular economy in addressing global challenges, offering a blueprint for waste management, climate action, and the pursuit of sustainable development.

Victor Moturi (Kenya) ; From Waste to Wonder - Electronic circular economy in kenya ; Radio France Internationale, 27 December 2023.

To listen the report :

https://drive.google.com/file/d/1zR8IS_32sliQsQYFYi6LYNNg7PzYeq2k/view?usp=drive_link

In Kenya, electronic waste (e-waste) is increasingly becoming an environmental problem, growing at a rapid rate and its estimated at 51,300 tons annually. However, with the assistance of international waste recycling companies, young people in Kenya have started initiatives to turn electronic waste materials to other products such as watch frames, picture frames, key holders, necklines and more, increasing their income through a circular economy. Today, in the economic feature program , we focus on this sustainable economic system business in Kenya.

I am Victor Moturi.

Ambients, youths weighing e waste

Its 2pm o'clock , and in this bustling market of Ngara at the outskirts of Nairobi Kenya , young people are queuing up, holding in their hands some electronic waste to weigh and receive

payments. Some are offloading these wastes from vehicles. Electronic wastes such as motherboards, printers, broken televisions, refrigerators, and the like are brought here to be repaired and other recycled into various products. Jackson Soja and Joseph Saitabao are electronic waste collectors.

Bite…Back to back.

Jackson soja... ***"I have come to look for money; I've brought some waste sockets and motherboards. I've come to weigh them and get paid."***

Joseph Saitabao…..***"Here, we buy motherboards from damaged computers. Instead of letting them be dumped , we bring them here for recycling and make other products . We buy in different prices , with the lowest price being around Kshs 1000(USD 6.5), and the highest around Kshs 2000(USD12). Some of these electronic wastes are processed to extract gold, while others, such as titanium-containing metals, are boiled. Compnets such as Sackets ,I believe you've been in a matatu (public service vehicle) with booming music that's the result of these power sackets. Due to the lack of employment in Kenya, young people have turned to this business to earn a living.''***

Ambients ,,,sounds of e waste being sorted

The electronic waste, which has become a nuisance for environmental pollution, has now become a significant economic opportunity for innovative young people. They now make products such as wall clocks frames, picture frames, necklaces, banners, and others are repaired and returned to the markent. Eliud Mburu is one of the innovators .

Bite…Eliud Mburu,,,***"This is a faulty laptop screen; we collect them even when they are dirty and stained. We revive them by cleaning, making them shine again, and returning them to the market. The ones in white mode that are not broken but not functional are brought back to life. They are often used to make advertising displays. Doing this work not only provide us with a livelihood, but also contribute to environmental conservation."***

A few meters from Mburu's workshop, Hamfrey Mutegi is an expert in refurbishing damaged printers. Here, I find him dismantling electronic components and creating products such as fans and even radio transformers.

Bite, Mutegi..

These are among the machines we often acquire from individuals who may have either failed to use them, or they have become obsolete. For those that are non-functional, we open them

directly, remove some components, and place them in other machines.To understand how these machines work ,you have to be a skilled person.

Ambients ,,,sounds of e waste being offloaded from a lorry

In Kenya, especially in urban areas, electronic waste is becoming an environmental threat, estimated to be around 51,300 tons annually. However, innovations like these contribute to mitigating these impacts, transforming waste into a substantial income for creative young people hence contributing to economy growth.

Bite,,,,George Kiruku. An innovator,,,***"My name is Kiruku George, and I deal with renewable energy, specifically inverters, solar panels, and UPS. These are the devices we repair and refurbish to make them functional again, returning them to the market. If you have a faulty inverter for your home, I can repair it to make it work again or use its componet to make other things . My appeal is that instead of discarding waste, people like us can collect and repurpose these items for later use."***

Ambients ,,,sounds of e waste being offloaded from a lorry

According to the United Nations Environment Programme - UNEP ,the world generates 50 million tons of electronic waste annually, with a value exceeding $62.5 billion, which surpasses the Gross Domestic Product of many countries. However, only 17.4% of this waste is recycled and returned to the market. George Kimani is one of the workshop owners here;;

Bite…George Kimani,,,,,***"Our main task is to collect all electronic waste and then see how it can benefit someone instead of being haphazardly discarded in landfills. You know, when it ends up in landfills, it damages the environment and causes public health risks. It becomes advantageous for us and even for those who cannot afford to buy new machines but can afford second hand one. Personally, I focus on computers and laptops. If I go to an office,and find broken laptops computers , I buy ,repair and refurbish them , then sell them especially to universities."***

Initiatives such as circular economy have engineered the growth of the informal sector in Kenya and even in East Africa, providing innovators with an opportunity to showcase their expertise and become economically self-reliant. According to the International Carbon organization, more than 8 million jobs could be created through these economic initiatives and systems . Laurance Thuo is an electronic waste at the E-waste Initiative Kenya.

Bite …Thuo ,,,,***"We have something called innovation, and there's a lot of it here. We appreciate these young people we are training ,because they come up with innovative***

solutions. They create decorative items, earrings, chains, things to beautify homes, and also engage in arts all from e waste. So, when you create these items, you generate income. When innovating anything, even if it's a phone, we take and remove components like the mouthpiece and earphones, and the unused body parts to make other products . We send other components abroad for further processing, and then they come back into the circular chain. Some of these motherboards have high-value minerals like gold, which can be used to make various electronics. For example When using a phone, and its current is 2.2, it becomes consistent, and that's why you see these devices are very accurate."

Ambients, sounds of e waste offloaded from a track

According to the Sustainable Development Goals, specifically Goal 12, there is a need for developing countries to strengthen industries, innovation, promote businesses, and enhance waste management to reduce the impact of waste and e waste on developing nations by the year 2030.

Bite ,,Laurence Thuo..***"Circular economy principles are very much embraced here because you find a large number of middle-class and low-class people. Also, second-hand items are highly appreciated, especially those X- UK, which people say are of better quality. People have wholeheartedly embraced the concept of reuse, and even the government advocates for it. The world is moving in that direction, encouraging us to focus on reuse, and if not, to repair the items we already have. Here in Nairobi, we have over 5000 technicians, and we even make solar equipment from e waste components ."***

At the recently concluded Circular Economy conference , in Nairobi Kenya ,which brought together hundreds of stakeholders and innovators in recycling sector, waste recycling curriculum is needed in schools to prepare the next generation to be innovative and utilize the raw materials available. Dr. George Njenga is an economist and environmental expert at USAID."

Bite….Daktari George Njenga,,,shirika la USAID,

"For example , starting from nursery school level, the child needs to understand what plastic waste is. As they progress through school, they can learn to make items from bottle tops and other materials. They can be taught why plastic should not be used . However, it is important to begin with training the teacher because without training teachers, we cannot reach the child or student, so from the teacher, we can then extend the knowledge to families and communities."

Ambients …sounds of e waste being sorted

As young people continue to be innovative in Africa, there is a need for governments to create appropriate policies to enhance this creativity, increase employment, and boost the economy through electronic waste.

The end.

Doreen Ampofo (Ghana) ; Ghana's Silent Climate Heroes Risking Their Lives for Peanuts; Radio Ghana news (GBC), 5 January 2024.

To listen the report : https://soundcloud.com/doreen-ampofo/ghanas-silent-climate-heroes-risking-their-lives-for-peanuts?si=d2e37984b23c4bdcb110780c13940f9f&utm_source=clipboard&utm_medium=text&utm_campaign=social_sharing

Ghanaians have for decades repaired or remodeled their belongings at least twice before disposing them off. Torn dresses are kept for the ''Oy3adie y3's'' visit to be sewn. Electrical gadgets are taken to the "repairer' to bring them back to life while shoes are taken to the shoemaker to glue or sew them back to life. This is what has come to be known as the Circular Economy which many developed countries are vigorously encouraging their citizens to adopt due to the growing impact of climate change. The circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended. Agbogloshie is known to have one of the spots for recycling metal waste in West Africa, providing livelihood opportunities and quick cash business to approximately four thousand-five-hundred to six thousand informal workers and perhaps, indirectly, for another thousand 500 people. However, like many workers in the circular economy value

chain, there is the absence of decent work. Many of them earn peanuts despite inhaling hazardous chemicals from the waste they work with or work without protective gear, thereby putting their lives at risk. Doreen Ampofo in this report looks at providing decent work for this important class of people without whose work, Ghana will be sinking in a pile of electronic waste.

Yasmin Faisal Nila (Uganda); Balancing Act: Women, Decent Work, and the Circular Economy ; Glim, 9 janvier 2024.

To access the article : https://glimafrika.com/balancing-act-women-decent-work-and-the-circular-economy/

“Just imagine all this pile being taken back to the city?” Mary Grace Nakirya points out gazing at the towering pile of plastic bottles ready to be given another shelf life. We stand on the premises of Acacia Foundation Limited, a recycling company situated in Kisenyi, one of the country’s largest slums, located a short distance from the bustling city center.

“This heap gets bigger because every day it is reduced by tonnes, not killogrammes but tonnes, when they take it to the recycling plant. ” Her voice is tinged with wonder and concern.

Right on que, a rumbling track enters the premises eliciting a flurry of activity as waste sorters swiftly pack and load the plastic bottles on to the big truck.

“It is a lot plastics, a lot of bottles” Grace observes. “And what you see here is just the sorted portion. There’s residue, the non-PET, that we have to manage separately. So these people that are doing this job as lowly as it may look, they’re doing a very big job.”

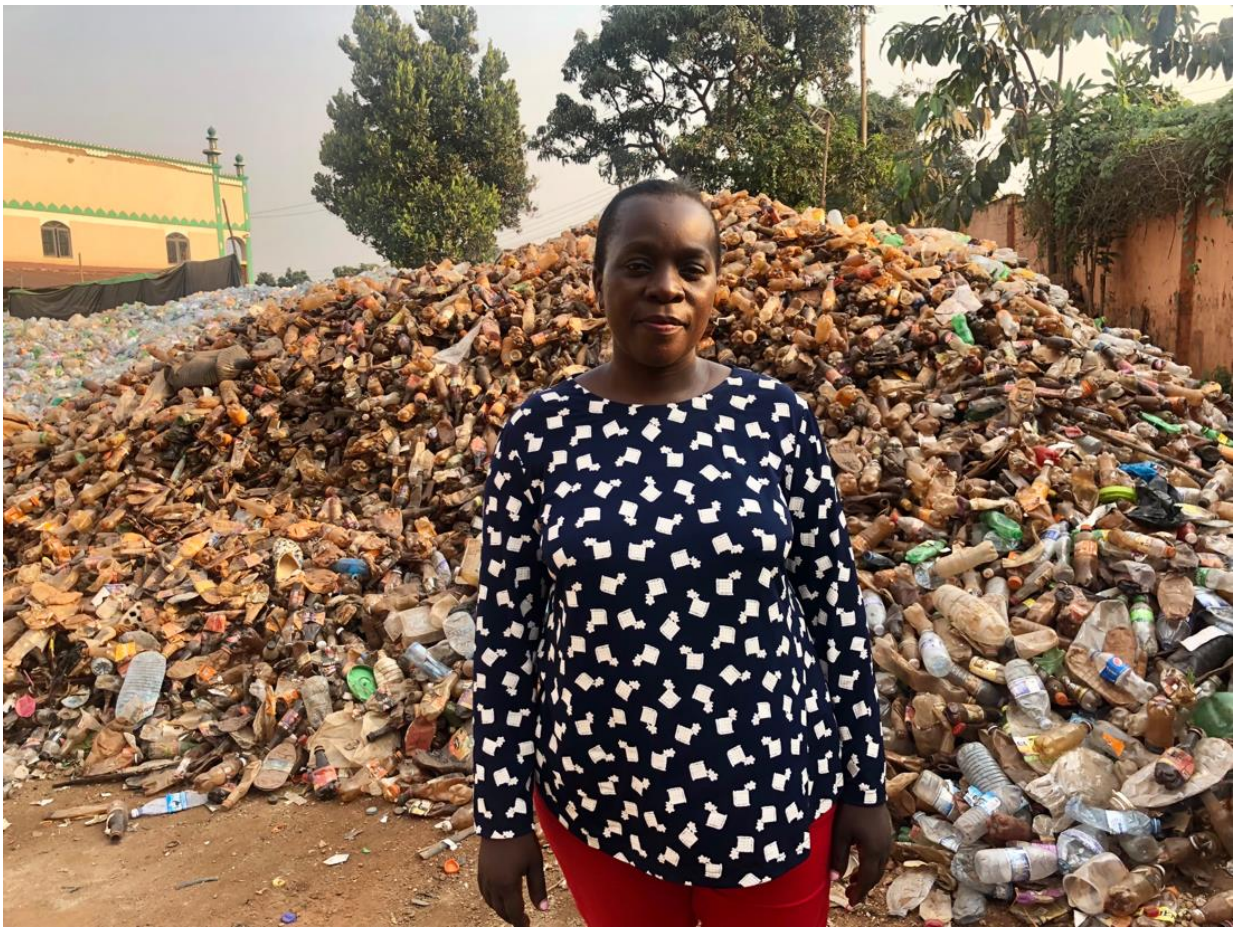
The waste accumulated here has been gathered from various trading centers, towns, and cities, primarily by women and former street children.

Grace cut her teeth in the recycling industry two years ago. The 41 year old Marketing graduate says when she walked into the company’s doors and interviewed for a Marketing Managerial position, they were hesitant to hire her, citing no woman had ever held the position. She has since proven her competence through tangible results and is overall contented with the job .

However, operating at the nexus of waste collectors, sorters, and recycling companies, Grace witnessed the stark contrast between her reality and that of the female collectors. While women have entered the realm of the Circular Economy, they often find themselves relegated to low-paying, hazardous positions.

According to the 2023 Global Circulatory Report by the International Labor Organization, the transition to a circular economy is expected to generate approximately 8 million new jobs worldwide. But the pressing question remains: will women partake in these new job opportunities, transitioning into higher-paid, more secure roles requiring enhanced skills and education?

Though Grace earns a decent wage, she empathizes with her counterparts in lower ranks, acknowledging the challenges they face.



“This is a dirty business where you have to collect bottles from the dirtiest places you know, the trenches the waste bins, landfills, dump sites, with no protection whatsoever. No gloves, no boots. So at the end of the day, when you look around you find that if a person tells you that my work is collecting bottles, just look at their fingers, they are usually swollen with nails about to drop off. it is very dangerous kind of work for human health. They lack equipment, protective gear, yet they need it but they can’t afford them. They have to go with what they have.”

Banura Khalil, a 38 year single mother of two says she was forced to join waste collection after her husband abandoned her. Without education, her options for employment she says were limited.

“This is a type of employment where you don’t need any kind of skill. You don’t need any kind of experience. As long as you can pick the bottles and deliver them they give you the way and give you immediate cash.” She says. However, its a tough dirty industry with barely any decent returns. She says she takes two months to collect a tonne of bottles that fetches her less than 150USDs.

Transporting the bulky bottles to the collection centres has been a huge hurdle. Without any housing facility to her name, she was forced to set up a temporary structure next to the collection store. “I let the children sleep in the temporary structure with the bottles. Some times I have to stay awake in the night to keep the bottles from being stolen by the other people interested in the business.” She laments.

Besides decent housing, with her meager income, she has no access to health insurance and treatment when she falls sick. “When I fall sick, I feel I am losing a day because a day without collection means a day without a meal.”

Speaking to during a journalist workshop for East and West African journalists organized by Africa21 and the United Nations Conference on Trade and Development (UNCTAD)

Casper Edmonds. Head of Unit; Business and human rights Coordinator at the International Labour Organization in Nairobi says there’s need to have policies and laws that protect these women, especially those working in the informal sector, as absence of law to protect them leaves them vulnerable to exploitation.

“There’s lack of adequate data on informal workers. We need to find out what is going on at the global, regional, country level and then we need roadmaps, we need them interms of legislations and policies that are implemented in practise.”

“These policies have to be for specific industries where there are more jobs generated in the Circular Economy and then we urgently need to protect those who work in the Circular Economy today and the hazzards they face whether its, fumes, dust, or chemicals, we need to step up our work on safety and health of workers. And through all this, we need to ensure that the Circular Economy becomes just and right spaced with much greater attention to fundamental principles of rights.” He adds.

In 2019, Uganda passed the National Environment Act that among other things includes the Extended Producer Responsibility regulation (EPR). The act mandates companies that manufacture, sell, or import PET products and packaging to bear the financial and physical responsibility of the products throughout their lifecycle. Uganda, like many other African countries are currently drafting their EPR regulations. With its operationalization, companies will be required to form Producer Responsibility Organisations (PRO) tasked with recruiting recyclers and subsidizing recycling in the country.

The member firms will pay a monthly levy to the PRO which Grace suggests could be used to improve the conditions of these workers.

“Since they are responsible for most of the plastic in the environment, I think they should mobilize and educate these people on how to protect themselves while handling this plastic and also provide them with protective gear.”

“I would also propose that the purchasers of these bottles buy them at a higher price to enable these people earn a little more than they do such that they either grow their business or be able to sustain themselves decently to have a decent kind of shelter, decent health care and decent lifestyle.”

The Circular Economy is projected to enhance women’s employment opportunities. As Grace looks to climb the career lader in the recycling industry, she remains optimistic about women leveraging the Circular Economy’s potential. “Women should consider this as normal and respectable as any other job,” she affirmed.

Casper emphasizes the need to learn from past mistakes and ensure the Circular Economy promotes fair working conditions and equality. With support from policy makers and organizations, dreams like Grace’s could be realized, offering opportunities inherent in the Circular Economy.

“Our institutions are only as good as the leaders within them. If we don’t provide women with better opportunities, we’re neglecting half the talent pool.”

Albert Oppong-Ansah (Ghana); Innovative new businesses tackle Ghana's growing plastic menace ; Ghana News Agency, 10 January 2024.

To access the article : https://gna.org.gh/2024/01/innovative-new-businesses-tackle-ghanas-growing-plastic-menace/

Kpeshie (G/R), Jan. 9, GNA – This time of year has always been a nightmare for Mavis Adjare.

Seasonal floods have been disruptive for the 45-year-old who makes her living collecting plastic waste and selling it to recyclers.

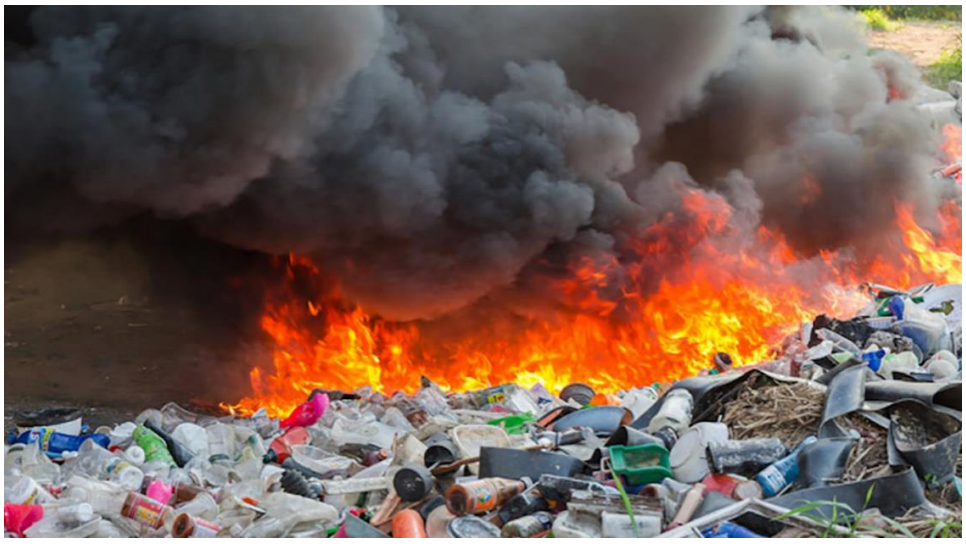
This year that has changed. Mavis picks 100 kilogramme bags of plastic waste easily here at the confluence of the Kpeshie River and the Atlantic Ocean.

Until mid 2022, the mother of three says, the onset of rain or hot weather threatened her livelihood and the future of her children. Mavis used to comb lorry stations and Accra suburbs -Tseaddo and Teshie – for plastic waste. Now she picks the plastics with ease.

"All I see is plastic waste of different shades, colours and sizes, swimming through the Kpeshie Lagoon into the sea," Mavis says with joy.

The task of clearing the vast amounts of plastics and other waste that wash onto beaches here has been a major concern for operators of some of Accra's most popular leisure facilities – the Labadi Beach Hotel and the La Bomah Beach – located along the shore.

The waste, 80 per cent of it plastic, is often collected and set ablaze at the shore- a major worry for the Environmental Protection Agency (EPA), which says the practice is a growing source of air pollution in Ghana's capital.



The Kpeshie Lagoon is just one of the many lagoons along Ghana's 550-kilometer coast through which tonnes of waste plastic leaks into the sea.

Nine per cent of the nearly one million metric tonnes of plastic waste generated in Ghana annually leaks into the ocean, according to the Ministry of Environment, Science, Technology and Innovation (MESTI).

It leaks because so much of Ghana's plastic waste – nearly 90 per cent – is not properly disposed, clogging up stormwater drains, rivers, and streams and ending up in the oceans, according to a 2020 report by the World Bank.

Many collectors, including Mavis, have joined associations that coordinate their activities to turn 'waste' to cash to enhance their livelihoods.

But plastics in the oceans and rivers are impossible for collectors to reach meaning they miss out on income. They also miss out on income when plastics are burned.

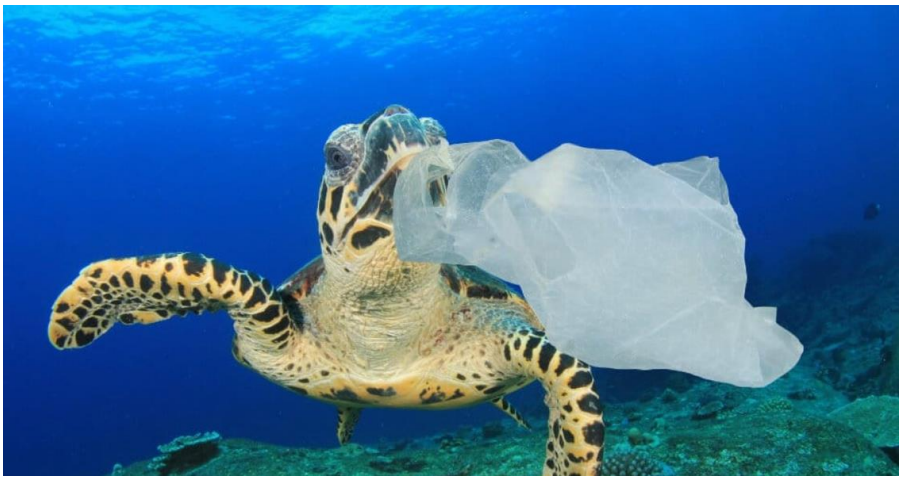
Elvis Oppong, president of the Plastic Waste Collector Association, says only 20 per cent of plastic bottles and 70 per cent of water sachets are retrieved by the Association.

"Due to lack of space, the majority of the bottle plastics waste are burnt while others go into the marine bodies," Oppong says.

Plastic waste is now a major global problem. A recent analysis by charity Tearfund found that plastic waste is spiraling out of control across Africa.

It predicts that Africans will discard 116 million tonnes of waste annually by 2060 – a sixfold increase from 2019. This is driven by demand for plastic within sub-Saharan Africa.

Plastic waste destroys drainage systems and adds to air pollution but it also threatens food supplies. It has killed so much fish and sealife that many fisheries are on the brink of collapse.



The United Nation Environmental Programme estimates that Ghana's contribution to global marine debris is as much as 260,000 metric tonnes every year, or one to three per cent of the global total.

UNESCO's International Oceanography Commission pegs plastic and microplastics in the ocean at about 50-75 trillion pieces.

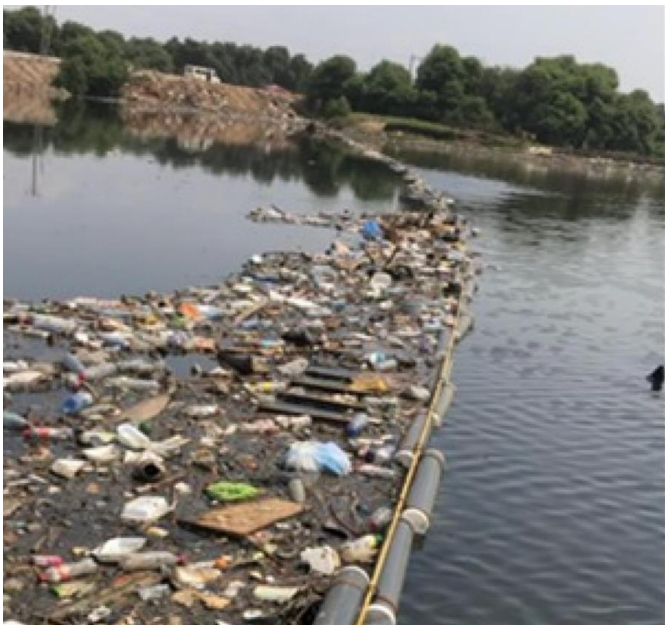
The yearly economic costs of plastic in the ocean are estimated to be between $US6-19 billion globally.

New Innovation collects waste from rivers

A new pilot project launched here in Kpeshie seeks to help solve the problem. Riverrecycle, a Finland-based organization, is working to remove plastic waste from the world's waterways while enabling the most affected communities to prosper in a circular economy.

In January 2022, the company and its partners – Beach Clean Up Ghana Limited and Ambitious Africa – began collecting plastic waste from the Kpeshie Lagoon.

The organisation created a "trash boom" — a floating barge stretched across a river – to capture plastic waste as the currents take it downstream. The boom consists of floats made from standard plastic piping, attached to wire mesh barriers that resemble fencing.



The mesh barrier extends into the water to capture pieces of plastic floating below the surface. It is anchored by ropes to the bank of the river.

Mr John Adelegan, who leads the implementation, explains that every river is unique. The team must first gather information to specifically design the plastic recovery system for this river.

There have been setbacks – the system was damaged by large floating logs and stumps – but the team redesigned it and has seen improved results.

“The changes include the use of steel piles and concrete blocks to make the system more resistant to erosion, high-density polyethylene pipe instead of polyvinyl chloride and a second floater to ensure float even if one floater is damaged,” Mr Adelegan explains.

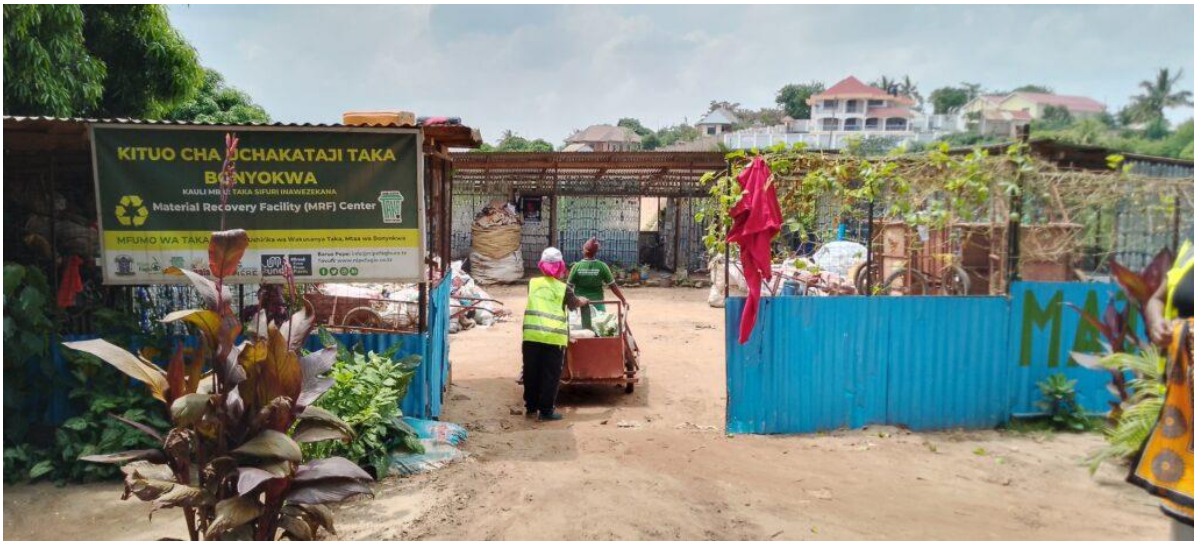
The project is providing both permanent and casual jobs to nearly 200 people. The majority are women – mostly engaged in collecting discarded plastics and factory work. Mr Adelegan says the project has signed an agreement with fisher folks to clear heavy objects that block the recovery system.

For the first three months, the system collected 30 tonnes of low value (single use) plastics and polyethylene terephthalate (PET). The low value plastics are recycled into boards, which are used to produce furniture, a substitute for wood while the PET is shredded into flakes for export.

With a broad smile, Mr Adelegan says already two leading beverage companies have placed orders to buy plastic boards for their partners.

Jenifer Gilla (Tanzania) ; Dar es Salaam Waste Warriors: Turning waste into opportunity ; Habitat Media, 10 January 2024.

To access the article : https://habitatmedia.co.tz/dar-es-salaam-waste-warriors-turning-waste-into-opportunity/



Even before the Waste to Zero initiative was launched at the COP28 Climate Change conference in December 2023, an inspiring group of women in Dar es Salaam have been spearheading an approach that is tackling the waste crisis in that city by transforming waste into opportunities.

The women are members of a cooperative in Kimara which collects, sorts and repurposes waste for recycling. The Kimara women's cooperative is a member of the Nipe Fagio (give me a broom in Kiswahili) organisation, an initiative started ten years ago to address the problem of waste management in the city.

It is estimated the city produces over 5,600 tons of waste daily. Less than 40% of this waste is collected. When it is collected, it is all mixed up and ends up in one location— the Pugu Kinyamwezi dumpsite, located nearly 35 km from the city centre. The dumpsite was planned to be constructed as an engineered landfill site with all the pollution control mechanisms in place in the mid-2000s.

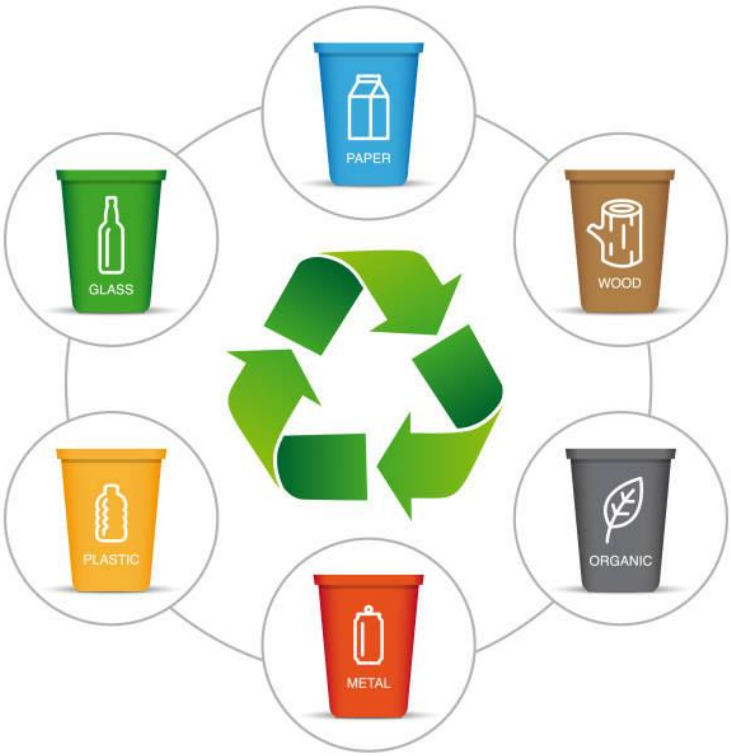
However, due to funding constraints, these plans failed at the construction and resulted in what it is today, an open dumping site without any fencing, barrier layers, soil cover, leachate and gas collection or treatment systems. Most of the garbage is either dumped illegally, buried or burnt and when it rains, it clogs the waterways contaminating soil and increasing urban air pollution. Open dumping of solid wastes is also a major health and environmental threat to communities surrounding city dump sites.

Numerous studies have shown the severe impacts of open dumping of solid waste on the environment, public health and climate change. These range from soil degradation and contamination of water sources as hazardous chemicals leach into the ground. This, in turn, disrupts ecosystems and poses a threat to biodiversity.

Open dumps become breeding grounds for disease vectors, leading to the spread of infectious diseases such as cholera and respiratory illnesses, especially among communities living near such dumpsites who are exposed to harmful toxins and pollutants. Additionally, the release of methane, a potent greenhouse gas even more dangerous than carbon dioxide, from decomposing organic matter in open dumps significantly contributes to climate change, worsening global warming.

An August 2023 report by the Global Climate and Health Alliance said landfills and wastewater make up about 20 per cent of global anthropogenic emissions. Anthropogenic emissions are pollutants or substances released into the air, water, or soil as a result of human activities. These emissions come from various human-related sources such as factories, vehicles, power plants, and other industrial processes.

Examples of anthropogenic emissions include carbon dioxide from burning fossil fuels, pollutants from industrial processes, and waste disposal. Essentially, anthropogenic emissions are human-made contributions to environmental pollution.



Reducing human-caused methane emissions by as much as 45 per cent, or 180 million tonnes a year (Mt/yr) by 2030 will avoid nearly 0.3°C of global warming by the 2040s. “It would also, each year, prevent 255 000 premature deaths, 775 000 asthma-related hospital visits, 73 billion hours of lost labour from extreme heat, and 26 million tonnes of crop losses globally,” according to this report by UNEP.

Climate change impacts are not “gender neutral” as women and girls experience disproportionate challenges from climate change. They depend more on, yet have less access to, natural resources. In Tanzania, like many other regions in the world, women bear a disproportionate responsibility for securing food, water, and fuel.

Women, as agricultural workers and primary procurers, work harder to secure income and resources for their families. At least 70 per cent of the 1.3 billion people living in poverty are women. In urban areas such as Dar es Salaam, 40 percent of the poorest households are headed by women. Women predominate in the world’s food production (50-80 per cent), but they own less than 10 per cent of the land.

It is in this context that the women of Kimara came together to see what they can do to address some of these challenges and at the same time, contribute to the wellbeing of their communities.

Rehema Tamimu, chairperson of the cooperative recounts how she and other women decided to come together to not only make their environment clean but to also make money out of waste.

“There used to be waste thrown all over the place. The mounds of garbage would stink. But we did not know what to do. When it was collected, it was just dumped. That is when we reached out to Nipe Fagio for help on how to deal with the problem,” she says. This training opened their eyes to the potential of waste as a valuable resource. “After getting the training and seed funding from Nipe Fagio institution, we are making money out of waste!, ” she adds.

Nipe Fagio provided the women with awareness training on the impact of waste on their environment, and how to safely separate garbage for recycling.

The women collect the garbage from households in their neighbourhood which is then stored at a decentralised centre where it is sorted and desegregated into four categories —organic, recyclable and domestic hazardous waste.

Organic waste is kitchen waste such as vegetables, fruits, and leaves while toxic or domestic hazardous includes such things as batteries, paint, old medicines and other chemicals. Recyclable waste includes such things as glass, cardboard, paper, plastics and metals.

Halima Muda, a member of the cooperative proudly explains how she and other members sort and segregate the waste which they then sell. Plastic waste is sold for recycling. The plastic waste is sorted according to density, melted and then mixed with sand to produce bricks,

paving blocks or tiles which have been used for the construction of affordable housing, public toilets and other buildings, especially in the rural areas.

Organic waste is transformed into fertiliser, which is eagerly sought after by gardeners. The women sell the organic fertiliser at Sh. 10,000 per kilogram. The fruit waste is fed to black soldier flies whose larvae are used as chicken and fish food.

The women sell the larvae at Sh5,000 per kilogram. The Dar es Salaam city centre and Nipe Fagio provide the women's cooperative with market connections to sell their products.

Halima also highlights the "double profit" generated by their initiative. They make money from collecting waste from households. For this service, they charge each household between Sh2,000 to Sh5,000 per month. They also make money from processed materials such as fertiliser and from the sale of recyclable waste which they sort such as plastics, paper, wood and other such products which are recycled into other products.

The co-operative makes Sh800,000 on average which is then shared among the members. They retain a percentage of their earnings which is then given out as loans and also to cater for their operational costs and taxes.

The initiative has transformed the lives of the women and their families as they are not only employed, but can count on having money to meet their basic needs. Halima says that cooperation has transformed her life for the better. Her weekly income has quadrupled since she joined the cooperative. She previously earned an average of Sh10,000 per week from collecting garbage from peoples' homes but she currently makes between Sh40,000 to Sh50,000 per week because she is able to 'add value' by processing the organic waste into fertiliser and animal feed.

Halima, who is a single mother of three, relishes her new found financial stability which has enabled her to meet her family's needs such as school fees and other essentials and also save some money. "This is something l never thought I would be able to do. Open an account and save money!," Halima says.

Her colleague, Anusiata Mapunda has opened a side business where she is raising chickens for eggs and meat. The extra income she makes from the business as well as the stability of having a regular income from the waste processing job means she is now able to pay school fees for her only child who is attending a government school.

“Before I used to collect only 10,000 per week, but since I joined this group and started selling bottles and making fertilisers and fish food, I earn Sh. 50,000 to 60,000. I can afford to pay for my son’s fee of Sh.300,000 per year for the Government English school,” she said.

The women not only earn a stable income but also contribute to keeping the streets clean and reducing health risks associated with waste mismanagement.

Waste picking is not considered to be ‘decent’ work particularly for women. Since waste picking is predominantly conducted by men, the members of the Kimara waste pickers cooperative society face unique challenges. These range from lack of modern work tools, health hazards during waste collection, and societal stigma. They also often face negative perceptions from the community, hindering their participation in waste management activities.

“Sometimes people think we are mentally unstable or are thieves and this makes our work of collecting garbage difficult,” says Sauda Salum

“When people see us wearing dirty clothes, and nothing to identify us for the work we are doing, people think we are strange or weird people. There was a day when I went out to collect waste from a household and they thought I was a thief because of the way I looked—dirty clothes and all. If we had proper equipment, especially protective clothing, we could avoid some of these challenges,” Sauda adds.

To create awareness about the essential services they provide, the women teach households how to separate their waste. They also provide them with different baskets or containers to keep the waste separate. This makes it easier for the women to collect the garbage and sort it for recycling or processing.

Nipe Fagio also conducts community awareness campaigns and encourages them to sort their waste. Wilyhard Shishikaye, Nipe Fagio’s Zero Waste System Coordinator, explains the organisation provides both technical and financial assistance to the cooperative. “Our goal is to empower communities to manage their waste effectively and contribute to a cleaner and healthier environment,” says Shishikaye.

Nipe Fagio conducts house-to-house education sessions on street waste collection and encourages residents to actively sort their waste into different categories: organic, recyclable, and hazardous.

Nipe Fagio also has decentralised material waste processing facilities where the collected waste— particularly hazardous household waste, is treated. The other recyclable waste such as paper, glass and plastic is also collected at these facilities for onward distribution to the recycling firms.

Shishikaye envisions a future where this zero waste system becomes part of the national strategy on solid waste management. “Imagine every street equipped with this infrastructure, diverting waste from landfills and transforming it into valuable resources and providing employment!”

Nipe Fagio’s ambition extends beyond the capital city. The organisation has already replicated the system in Zanzibar and Arusha, with plans to expand to other regions across the country.

Shishikaye notes that the government has already shown interest in the Nipe Fagio model. Through the Regional and Local Governments (TAMISEMI), they have invited the organisation to share its knowledge and expertise, paving the way for wider implementation.

The head of the Ilala District Waste Management and Cleaning Department, Rajabu Ngoda says their education and public awareness campaigns are geared towards making people see the opportunities of waste management instead of seeing waste collection as a burden.

And to encourage more people to exploit these opportunities, the government provides loans usually with a repayment of 10 per cent interest to interested youth groups, women and people living with disabilities. The funds are to help the waste pickers buy protective equipment and set up their waste processing such as fertiliser and animal feeds.

Sub-national governments and local authorities and municipalities are, under the Environmental Law, responsible for the collection, storage, sorting and transportation of waste to achieve the zero waste goals that the National Environmental Conservation and Management Council (NEMC) has set out.

However, most of the waste produced in the country is not managed and continues to pose a threat to the environment and present public health concerns. “For example, at least 96 per cent or about 319,000 tons of the plastic waste produced in Tanzania annually is not managed. This is despite the ban on the use of single-use plastic bags,” says Natural Resources and Environment Conservation Officer of the Dar es Salaam City Council Enock Tumbo.

He says community-driven waste management initiatives such as Nipe Fagio are important in bridging this gap. The council is also considering setting up a landfill site with pollution control mechanisms to partially address the problem of waste management.

The Waste to Zero initiative, as exemplified by the women of Kimara, not only addresses environmental and health challenges but also provides a sustainable solution to waste management. The success of this initiative highlights the transformative power of community-driven waste management, offering a model that can be replicated nationally to achieve cleaner and healthier environments.

As we envision a future where waste becomes a valuable resource, the stories of these women serve as inspiration, emphasising the potential for positive change through innovative and community-driven solutions.

Adrina Mariki (Tanzania) ; Simulizi namna taka za Plastiki zimekuwa mkombozi kwa Jamii ; January 12, 2024

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Ni rahisi kuidharua kazi ya chupa za plastiki (makopo), lakini wengi wao wanadai inawalipa na inawabadilishia maisha.Udadisi wa mwandishi wa Habari hii kwa baadhi ya akina mama na vijana waliounda kikundi cha pamoja huko Tabata mkoani Dar ar es Salaam ambao kazi yao kubwa ni kuokota chupa za plastiki kwaajili ya kuzirejeleza walisema Kuna ahuweni wanapata kupitia kazi hiyo.

Ni kikundi, kilichosajiliwa na serikali tangu mwaka 2021, kina wanawake 11 na wanaume 3 lengo lao kubwa ni kuokota na kukusanya chupa za plastiki kwa lengo la kuweka mazingira safi.

Kutokana na uzuri wa jambo hilo, mwandishi wa habari hizi alifika mpaka eneo wanakofanyia kazi kufahamu kwa kina kwanini waliamua kuunda kikundi hicho, na yapi hasa malengo yao kwa miaka ijayo, ni zipi changamoto wanazokumbana nazo.

Mwandishi wa habari hii alipofika kwenye kiwanda chao, aliona shehena kubwa ya lundo la chupa zilizopangwa kwa mtiririko na kwa makundi.

Wanakikundi hao baada ya kutambua ugeni uliofika ofsini kwao ni mwandishi wa habari ghafla nyuso zao ziligeuka kuwa na tabasamu mmoja kati yao akasikika akisema ‘bora mwandishi wa habari umekuja kilio chetu kiifikie serikali.

Shughuli kuu inayofanyika mahali hapo ni kukusanya chupa za plastiki zilizotupwa na watu baada kupata kinywaji au shughuli mbalimbali kisha wanazifikisha hapo kwaajili ya kuzichakata.

Mmoja wa Wanakikundi hicho, Rehema sanga, anasema awali kabla ya kuwa na ofisi hiyo walikuwa wanakusanya na kwenda kuzitupa kwenye dampo bubu na mitaroni baadaye walipata ufadhili ili kuboresha ufanyaji kazi wao.

“Tuliona uchafu ulikuwa umezagaa, watu wengi walikuwa wanatupa makopo hayo mengine ndani yanamikojo yanatoa uchafu na harufu mbaya baada ya hapo tukapata ufadhili kutoka kwenye taasisi ambayo kwa sasa imetuacha.

“Wakati mwingine tulikuwa tunakwenda kuyauza unaokota makopo mengi lakini unauza kg moja sh 300 ilikuwa hailipi lakini tangu tuunge hicho kikundi anagalau kwa Sasa tunapata chochote kitu” anasema

Rehema anaendeleza ufafanuzi wake kwamba walifanikiwa kubadili maisha kwa kiasi, lakini tangu mfadhili wao wa awali alipojitoa imekuwa chagamoto kubwa sana kupata kipato cha kukidhi mahitaji ya nyumbani.

Muokota makopo mwingine katika kikundi hicho, Halima mudi, anasema awali wakati wanaanzisha kikundi hicho walikuwa na maisha magumu baadaye wakatafuta mfadhili wa kuwajengea kibanda ili wapate sehemu ya kuhifadhia taka. Ameongeza kuwa kazi hiyo imebadilisha maisha kwa kiasi kwa kuwa awali alikuwa anashindwa kusomesha watoto wake, lakini baada ya kupata ufadhili waliweza kumudu.

Kwa upande wake Salama anasema malengo yao ni kuyafikia maeneo mengine ili kuhakikisha jiji linakuwa safi kama serikali inavyosistiza hivyo kwa sasa wanaangalia namna ya kuanzisha bishara itakayo waingizia pesa kama ikitokea wamekosa wafadhili ili waweze kusimama wenyewe kwa kuwa wanaipenda kazi hiyo kutoka moyoni.

Pamoja na kufanya kazi hiyo kwa kipindi kirefu Rehema anasema, viongozi wa eneo hilo waliofika na kutembelea kikundi chao ni Mbunge wa Jimbo hilo na diwani wa kata waliyopo.

Hata hivyo, anakiri wapo hatarini kupatwa na maradhi kutokana na kukosa vifaa muhimu kama gloves, na buti pale wanapookota taka na hivyo wanaiomba serikali na wadau wa mazingira kuwaangalia kwa jicho la tatu kwa kile wanachofanya kwenye mazingira.

Salama kinyamagoha, anasema tangu waanze kazi hiyo kwenye eneo wanalofanyia kazi wamefanikiwa kupunguza makopo kwa aslimia 90 akitofautisha na awali na kwamba maeneo yote wanakopita hakuna uchafu wa chupa unaozagaa.

MAHITAJI YA WANAKIKUNDI HAO

Waokota taka hao, ambao ndani yao kuna mchanganyiko wa kina mama na vijana wamewaomba wadau na serikali kuwasaidia eneo jingine kwaajili ya kukusanyia taka kwa kuwa eneo walilopo kwa sasa ni mali ya mtu binafsi na kwamba siku litakapohitajika watakosa mahali pakufanyia kazi na wanaweza kusitisha huduma hiyo ambayo ni muhimu kwa ustawi wa mazingira.

Vilevile, wanahitaji mkopo toka serikalini na tasisi za fedha zinazokopesha ili waweze kujiinua kiuchumi mmoja mmoja na kwamba wanasifa zote kwakuwa kikundi chao kimesajiliwa serikalini.

MAONI YA VIONGOZI WA SERIKALI

Mkuu wa Wilaya Ilala, Edward Mpogolo amekiri kuvifahamu vikundi vya waokota taka katika eneo lake la kazi na kusema kuwa Serikali imekuwa ikivisaidia vikundi vya namna hiyo kwa njia nyingi ikiwamo kuwapa mikopo. Amesema shughuli inayofanywa na waokota makopo imeleta matokeo chanya katika usafi wa mazingira nakussisitiza kuwa wanapaswa kuungwa mkono na serikali.

Mpogolo ameongeza kuwa ikiwa watanzania na wana Ilala wakikubali kwamba taka ni mtaji na sio uchafu hakuna mahali patakuwa pachafu kwa kuwa watazigeuza fursa kama ilivyo kwa waokota makopo walivyoigeuza fursa kazi yao.

“Leo hii, hakuna mtu anapiga kelele kuhusu chupa hata ukitupa barabarani ndani ya dakikaka 15 unakuta haipo imeshaokotwa, Kikubwa ni kuangalia namna gani wanapofanya kazi hiyo wanakuwa salama kiafya.

Tunacho wasaidia ni kuwapa elimu, kwa kushirikiana na taasisi nyingine, wale waliosajiliwa tunawapa mikopo ile ya asilimia kumi kama ni wanawake wanakwenda kwenye kundi lao,

vilevile walemavu na vijana, pamoja na kuwasaidia maeneo ya kuhifadhi chupa zao baada ya kuziokota kabla ya kwenda kuyeyushwa kiwandani.'' Amesema Mpogolo

Kwa upande wake Mkuu wa Idara ya Uthibiti Taka na Usafishaji Wilaya ya Ilala, Rajabu Ngoda amesema huwa wanatoa elimu kwa kina mama ya kutambua kama taka ni mali na inawezekana kuzigeuza fursa na kuapata fedha. Amebainisha pia kuwa huwa wanawapa elimu ya kuzitenganisha chupa za plastiki na taka za aina nyingine ili kufanikisha mchakato wa urejezaji.

Alipoulizwa kuhusu kuhusu mpango wa seriakli kukisaidia kikundi hicho, alikiomba kifike ofsisini kwao wakapatiwe mikopo kwa kuwa ipo mikopo ya serikali ambayo wanaweza kuipata ili kununua vifaa vinavyoweza kuwasaidia kwenye shughuli zao.

“kwa sababu wanakikundi na wamekisajili, kuna mikopo ya vijana, akina mama, walemavu ya asilimia kumi, kwa hiyo waandike andiko lao vizuri watu wa maendeleo ya ustawi wa jamii watawasaidia watapata mikopo na kukuza wanachokifanya” amesema Ngoda.

TRANSCRIPTION –

It is easy to ignore the work of plastic bottles (cans), but many of them claim that it pays them and it changes their lives. picking up plastic bottles for recycling, they said there is relief they get through that work.

It is a group, registered by the government since 2021, has 11 women and 3 men, their main goal is to collect and collect plastic bottles with the aim of keeping the environment clean.

Due to the beauty of the matter, the reporter of this news came to the area where they are working to understand in detail why they decided to create the group, and what are their goals for the coming years, what are the challenges they are facing.

When this reporter arrived at their factory, he saw a large shipment of piles of bottles arranged in rows and in groups.

The members of the group, after realizing that the guest who arrived at their office was a journalist, suddenly their faces turned into a smile, and one of them was heard saying, 'better that a journalist has come, let our cry reach the government.

The main activity that takes place in that place is to collect plastic bottles thrown away by people after having a drink or various activities and then they bring them there for processing.

One of the members of the group, Rehema sanga, says that before they had the office, they used to collect and throw them in landfills and later they got funding to improve their work.

"We saw that dirt was scattered, many people were throwing the other cans inside that were urinating and giving off dirt and a bad smell. After that, we got funding from an institution that has now abandoned us.

"Sometimes we used to go to sell them, you pick up a lot of cans but you sell one kg for 300 shs, it was not paying but since we joined the group, he is struggling. Now we get nothing" he says

Rehema continues her explanation that they managed to change their lives to some extent, but since their previous sponsor gave up, it has been a huge challenge to get an income to meet household needs.

Another can collector in the group, Halima mudi, says that initially when they started the group, they had a difficult life, later they looked for a sponsor to build them a hut so that they could have a place to store waste. He has added that the work has changed his life to some extent because he was unable to educate his children, but after getting funding they were able to afford it.

For his part, Salama says that their goal is to reach other areas to ensure that the city is clean as the government insists, so they are currently looking at how to start a business that will bring in money if it happens that they lack sponsors so that they can stand on their own because they love the work from the heart.

In addition to doing the work for a long time, Rehema says, the local leaders who came and visited their group are the Member of Parliament of the State and the ward councilor where they are.

However, he admits that they are at risk of contracting diseases due to the lack of necessary equipment such as gloves and boots when they collect waste and therefore they are asking the government and environmental stakeholders to look at them with a third eye for what they are doing to the environment.

Salama kinyamagoha, says that since they started the work in the area where they are working, they have succeeded in reducing cans by 90 percent, different from before and that in all the places they pass, there is no waste of bottles lying around.

NEEDS OF THOSE GROUPS

The waste pickers, in which there is a mixture of women and young people, have asked stakeholders and the government to help them in another area in order to collect waste because the area they are currently in is private property and that the day when it is needed they will have no place to work and they can stop the service which it is important for the well-being of the environment.

Also, they need a loan from the government and financial institutions that lend so that they can raise themselves economically individually and that they have all the qualifications since their group is registered with the government.

OPINIONS OF GOVERNMENT LEADERS

Ilala District Head, Edward Mpogolo has admitted to knowing the groups of waste pickers in his work area and said that the Government has been helping such groups in many ways including giving them loans. He said that the activity carried out by can collectors has brought positive results in the sanitation of the environment and emphasized that they should be supported by the government.

Mpogolo added that if Tanzanians and the Ilala people accept that waste is capital and not dirt, no place will be dirty because they will turn it into an opportunity just like the can pickers turned their work into an opportunity.

"Today, no one is shouting about the bottle even if you throw it on the street within 15 minutes you find that it is not there and it has already been picked up. The important thing is to look at how when they do that work they are healthy.

What we have to help them is to provide education, in collaboration with other institutions, we give those who are registered ten percent loans if they are women going to their group, as well as the disabled and young people, as well as helping them to places to store their bottles after picking them up before going to be melted in the factory. Mpogolo said

On his part, the Head of Ilala District Waste Verification and Cleaning Department, Rajabu Ngoda said that they always provide education to mothers to recognize if waste is an asset and it is possible to turn it into an opportunity and get money. He has also noted that they always teach them how to separate plastic bottles from other types of waste in order to make the recycling process successful.

When he was asked about the serial plan to help the group, he asked to come to their office to get loans because there are government loans that they can get to buy equipment that can help them in their activities.

"Because they belong to the group and have registered it, there are ten percent loans for young people, mothers, disabled people, so write your letter well, the social welfare development people will help them, they will get loans and promote what they are doing" said Ngoda.