



#Break
Free
From
Plastic

Zero Waste Stories from Africa



Acknowledgements

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500 Esther Roberts Road, Glenwood, Durban, 4001, South Africa
www.no-burn.org
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GAIA: GAIA is a global network of grassroots groups, NGOs, and individuals, in over 90 countries. The organisation envisions a just, zero waste world built on respect for ecological limits and community rights, where people are free from the burden of toxic pollution, and resources are sustainably conserved, not burned or dumped. GAIA works to catalyse a global shift towards environmental justice by strengthening grassroots social movements that advance solutions to waste and pollution.

www.no-burn.org

BFFP: The #breakfreefromplastic (BFFP) Movement is a global movement envisioning a future free from plastic pollution. Since its launch in 2016, more than 11,000 organisations and individual supporters from across the world have joined the movement to demand massive reductions in single-use plastics and to push for lasting solutions to the plastic pollution crisis.

www.breakfreefromplastic.org

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ASSOCIATION ZÉRO DÉCHET SÉNÉGAL

Supporting Senegalese
Restaurants Reduce
Their Plastic Waste

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ABOUT THE PROJECT

Association Zéro Déchet Sénégal is raising public awareness on zero waste with *My Zero Waste Restaurant* project. Their project helps Senegalese restaurants to reduce their plastic waste by proposing alternative solutions and federating them through three labels, namely: zero plastic bottles, zero disposable straws, zero coffee capsules. This project comes in response to increasing number of waste management issues and a lack of public education on zero waste.



Association Zéro Déchet Sénégal 2023



Country

Senegal



Organisation

Association Zéro
Déchet Sénégal



Zero Waste Project

My Zero Waste Restaurant
Project



Stakeholders

Restaurants, caterers, suppliers
of eco-friendly and zero waste
alternative solutions, customers,
and the Senegalese population.



Milestones

Number of waste items avoided
per year: 93,814 disposable
straws, 32,568 plastic bottles,
17,332 coffee capsules.

COUNTRY CONTEXT

Senegal is a West African republic on the Atlantic coast that shares borders with Mauritania, Mali, Guinea, and Guinea-Bissau (Awosusi & Aja, 2023).

Dakar, the capital city, is located on the Cape Verde Peninsula along the Atlantic coast and serves as the country's political and economic center (Awosusi & Aja, 2023). Senegal's population is estimated to be around 17 million people, adding to the liveliness of this diversified and geographically rich country (Awosusi & Aja, 2023).

17 Million

Population



Nationally Determined Contribution (NDC)

Senegal began converting its Intended Nationally Determined Contribution (INDC) into a full-fledged Nationally Determined Contribution (NDC) in 2016, per its commitments under the Paris Agreement (Ly, 2023). Transport, garbage, energy, industry, forestry, and agriculture were identified as important greenhouse gas emission sectors as a result of an extensive environmental evaluation.

There are two types of NDC commitments: adaptation and mitigation. Senegal has unreservedly committed to reducing emissions by 7% by 2030 (Ly, 2023).

7% By 2023

Emission
Reduction Target



WASTE MANAGEMENT SYSTEMS

“ **Most waste is incinerated, buried and landfill waste is not treated.** ”

–Momar Baby

For many African countries, the absence of source segregation at a city level, means that large quantities of mixed waste is sent to landfills every day. Association Zéro Déchet estimates that over 3,000 tonnes of waste is dumped everyday in the only regulated landfill in Dakar. This reality necessitates waste pickers spending hours at landfills searching for recoverable waste; it often exposed them to harsh elements. Public education on the subject of waste management is also needed in order for communities to be able to comply with zero waste principals. This includes how to segregate waste at source, how to reduce waste and avoiding littering.

MY ZERO WASTE RESTAURANT PROJECT

Zéro Déchet Sénégal's My Zero Waste Restaurant project started in February 2021, after the first zero waste restaurant was inaugurated in 2019, helping to raise awareness among nearly 10,000 visitors. In 2022, the project was also extended in Saint-Louis, and in 2023 they have started to develop the project in the Petite Côte. The aim of the project is to help Senegalese restaurants in reducing their plastic waste by proposing alternative solutions. Restaurants, caterers, suppliers of eco-friendly and zero waste alternative solutions, restaurants' clients and the Senegalese population are all considered stakeholders in the project. The three labels Zéro Déchet Sénégal uses to propose alternative solutions to Senegalese restaurants include zero plastic bottles, zero disposable straws and zero coffee capsules.



For plastic bottles alternatives: the project proposes the use of 19L water bottles for restaurants. These bottles are made from hard plastic without BPA. The containers, for an agreed value which can be recovered if the container is returned. This will allow the restaurant to have a refill station where they can fill up their glass bottles with this water.



For alternative solutions to disposable straws: the project proposes to carry out a no straw policy. “As a restaurateur, the best alternative to disposable straws is to serve drinks without straws or at the request of customers. The restaurant can provide reusable straws for certain types of beverage (cocktails, smoothies)”. Reusable and biodegradable straws are the ideal alternatives to plastic straws. Typha and bamboo straws can be reused for 2-3 months, then composted as they are plant based. Stainless steel and glass straws are also reusable options for restaurants.



For alternatives to coffee capsules: the project proposes coffee beans or directly ground coffee instead of coffee capsules. It can be bought in large packets (up to 1kg) or directly in bulk with its own containers in the case of certain suppliers. Zéro Déchet Sénégal also suggests that restaurants can also consider buying bulk sugar at the store in their own airtight containers rather than buying imported single-use sugar pods.

MILESTONES DURING THE PROJECT

Environmental Impact:

- 48 labeled restaurants.
- 80 labels were issued: 43 straw labels, 20 bottle labels, and 17 coffee capsule labels.
- Number of waste items avoided per year: 93,814 disposable straws, 32,568 plastic bottles, 17,332 coffee capsules.

Human Resources Impact:

The project established a new HR structure in 2023, this team includes a 'My Zero Waste Restaurant' coordinator, three labelling officers (Dakar, Saint-Louis, Petite Côte), small groups of volunteer members in each zone, and a communications officer. Furthermore, 80 association members have been trained since 2021 in the labelling process and alternative solutions to the waste targeted by the labels in the three action zones, with 30 actively participating members in 2023.

Economic Impact:

Cost savings for restaurants due to the switch to reusable alternative solutions (for example, Copacabana saved 1.1 million Fcfa per year, approximately \$1,870).



SUSTAINABILITY OF THE PROJECT

The project's next steps are to scale the project into three intervention zones, to capitalise on what has been achieved and to monitor the labelled restaurants. Through discussions with labelled restaurants and exchanges among the 'My Zero Waste Restaurant' team members, the association has identified two significant sources of waste production that restaurants are eager to address: waste generated by take-out sales (mainly single-use plastic) and organic waste.

“ We need funding to structure and train the current team, to mobilise more volunteers and to scale the project in our three intervention zones. As part of the advocacy role of the association, we also need to work together with alternative solutions suppliers so that more solutions are accessible and affordable for restaurants. In this way, the transition will become easier.

-Momar Baby



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CENTRE FOR ENVIRONMENT JUSTICE AND DEVELOPMENT

Integrating Old Town's Coastal Women in Zero Waste Initiative.



ABOUT THE PROJECT

The Centre for Environment Justice and Development's zero waste initiative is one that seeks to empower the local coastal women in Old Town, South-East of Mombasa Island Kenya. Through capacity-building, resourcing and relationship-building, CEJAD has empowered the local women to be catalysts for social and environmental change in Old Town, Mombasa.



Centre for Environment Justice and Development 2023



Country

Kenya



Organisation

Centre for Environment Justice and Development



Zero Waste Project

Empowering local coastal women in Old Town



Stakeholders

Waste-generating households, waste collectors, and the Old Town women's group.



Milestones

The local Women's group collect 100 kg of PET plastics per day.

COUNTRY CONTEXT

Kenya, located in East Africa, spans approximately 580,367 square kilometers and shares borders with Ethiopia, Somalia, Tanzania, Uganda, and South Sudan (Abdinur, Mwakimako & Ahmed, 2022). Its capital and largest city is Nairobi, while Mombasa is a significant port city.

As of August 16, 2023, Kenya's present population is around 55.2 million, with a mid-year estimate of approximately 55.1 million (Worldometer, 2023e).

55.2 Million

Population



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Nationally Determined Contribution (NDC)

Kenya communicated its INDC on 23 July 2015, which became its NDC following the ratification of the Paris Agreement. Kenya ratified the Paris Agreement on 25th December 2016, and it entered into force in January 2017, thus formalizing Kenya's commitment to addressing climate change under the Paris regime. The commitment extends to establishing sustainable waste management systems to address waste-related challenges.

Kenya boosted its emission reduction pledge to 32% by 2030 in the modified 2020 NDC relative to the same BAU scenario (Kenya NDC, 2020). This marks an increase in ambition and coincides with the country's 2025 milestone targets.

32% By 2023

Emission
Reduction Target



WASTE MANAGEMENT SYSTEMS



Other key areas of sensitisation were on false solutions to waste management, such as incineration.



Centre for Environment Justice and Development 2023



Centre for Environment Justice and Development 2023

“Plastic across its entire lifecycle places a tremendous burden on people.”

-Dorothy Otieno

In Kenya, there are multiple challenges caused by plastic. Some of these challenges include clogged drainages, the increasing burden on county governments to expand or relocate dumpsites, introduction of unsustainable methods of managing the non-recyclable waste such as chemical recycling and incineration, poor economic returns for waste pickers who provide free labor in the collection of these plastic items, lack of accountability from the industry, improper waste management infrastructure, waste dumping from developed countries, and the lack of waste separation at the point of generation as mandated by the Sustainable Waste Management Act (2022).

CEJAD'S ZERO WASTE INITIATIVE

The project in Old Town started in 2018 with support from the Canadian embassy through Canada Funds for Local Initiatives. The second phase of the project was later supported by the Australian Embassy. The zero waste model focuses on retrieving plastics from the Old Town community, especially the PET polymer, from entering the ocean environment. It also prioritises the capacity building of the local coastal women to run the zero waste initiative and conduct community sensitisation activities on plastics. The project consists of waste-generating households, waste collectors, and the Old Town women's group. During this first phase, the project implemented activities such as the provision of waste bins at the common beaches on the coast to aid waste separation and training the women's group to understand the challenges of plastics and how they can act to reduce these impacts.



The second phase of the project included providing the women's group with a shredding machine, identifying and establishing linkages with the PET recyclers to provide a market for collected plastics, providing PPE to waste collectors and providing segregation bins to a few households to pilot waste segregation and assess community compliance.



The community waste collectors in Old Town collect waste from households; they take out the PET containers and give them to the women's group for shredding, which is then sold to recyclers and other buyers. The other types of waste, including non-recyclable plastics, are taken to a transfer station where the county government will periodically collect.

MILESTONES DURING THE PROJECT

Environmental Impact:

- 🌿 The local Women's group collect 100 kg of PET plastics per day. These would otherwise have ended up in the ocean.

Economic Impact:

- 🌿 The women have to date earned an extra income from the shredding and selling of the collected plastics, totalling Kshs 624,000.
- 🌿 The women's group have a functional plastics recovery centre that can be scaled up.

Social Impact:

- 🌿 The entire Old Town community has benefited from sensitisation on plastic pollution and its impacts.



SUSTAINABILITY OF THE PROJECT

There is a need for community groups to link up with the county government to participate in policy and law development. Furthermore, the purchasing of a baling machine would support the zero waste initiative. Increasing the number of households practising household segregation and data collection on quantities of waste collected from households would also help with the scalability and sustainability of the project. Additionally, scouting for an area for implementation of a full zero waste system.

“The project is already replicable, and for it to be a complete zero waste, spaces for setting up the sheds and composting facilities will be required. We need as many households carrying out household waste separation to ensure that waste recovery time is shortened and most waste is managed appropriately. Waste collection tricycles will also make it easier for waste to be collected from households and decrease the time spent on waste collection. Lastly, policymakers need to be introduced to the zero waste implementation pilot sites to be able to see how they can be done affordably.

-Dorothy Otieno



ENVIRONMENTAL RIGHTS ACTION/ FRIENDS OF THE EARTH, NIGERIA

Strengthening Local Capacities for Improved Waste Management Policies.

ABOUT THE PROJECT

Grounded in principles of sustainable production and consumption, Environmental Rights Action/ Friends of the Earth, Nigeria's zero waste model promotes a shift from plastics and the adoption of separation at source, composting, recycling and waste reduction mechanisms in communities where they are situated. This is a beacon of hope against the backdrop of many obstacles to waste management in Nigeria, including strained waste infrastructure, poor community compliance and weak policy and regulatory framework



Environmental Rights Action/ Friends of the Earth, Nigeria 2023



Country

Nigeria



Organisation

Environmental Rights Action/ Friends of the Earth, Nigeria



Zero Waste Project

Strengthening Local Capacities for Improved Waste Management Policies in Three Geopolitical Zones in Nigeria



Stakeholders

Nigeria Union of Journalists, the Ministry of Environment, Youth, Civil Society Organizations, Waste Pickers, People living with disability/albinism



Milestones

ERA/FOEN's zero waste project established and inaugurated Zero Waste Ambassadors

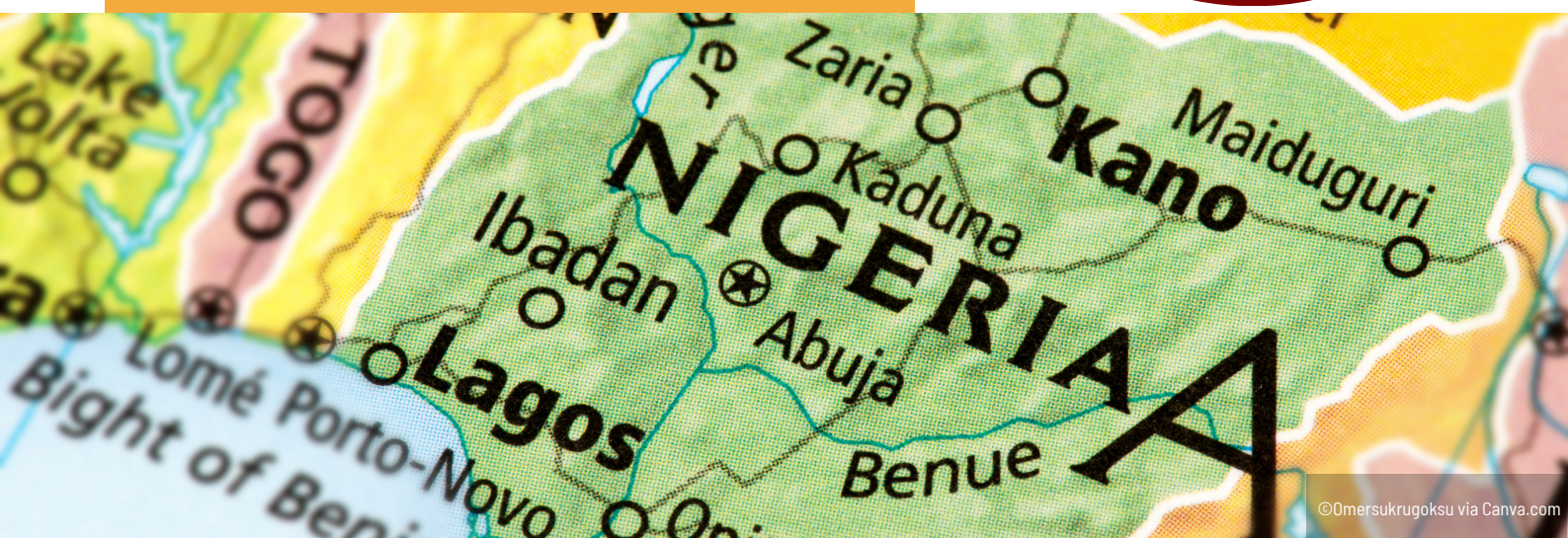
COUNTRY CONTEXT

Nigeria is located in West Africa, bounded by the Atlantic Ocean to the south, Benin to the west, Niger to the north, Chad to the northeast, and Cameroon to the east (Ugonabo, Ugwu & Alfa, 2023).

Nigeria's population is estimated to be 224.5 million as of August 15, 2023, making it the world's sixth most populated country (Worldometer, 2023c).

224.5 Million

Population



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Nationally Determined Contribution (NDC)

The Federal Government of Nigeria (FGN) published a bold and transparent Nationally Determined Contribution (NDC) in 2015.

The NDC, which was recently amended in 2021, includes an unconditional promise to cut emissions by 20% below business-as-usual levels by 2030, with a conditional vow to reduce emissions by 47% if international help is provided (Federal Government of Nigeria (FGN) NDC, 2021).

20% By 2023

Emission
Reduction Target



WASTE MANAGEMENT SYSTEMS



This zero waste model centres on sustainable production and consumption.



Environmental Rights Action/ Friends of the Earth, Nigeria 2023



Environmental Rights Action/ Friends of the Earth, Nigeria 2023

“ There are also no measures in place to follow up with individuals who do not adhere to the established waste management practices, which enables disposing of waste irresponsibly. ”

-Ubrei-Joe Maimoni M.

Inadequate waste collection systems along with limited and inefficient recycling infrastructure are two pressing challenges faced in Nigeria. The absence of organised waste collection systems has resulted in waste being improperly disposed of in open spaces and water bodies, contributing to environmental pollution and health hazards. Furthermore, Nigeria lacks adequate recycling systems. The absence of facilities and processes to enable recycling results in recoverable materials ending up in landfills and drainages.

Additionally, poor community compliance can pose a stumbling block to achieving a clean and healthy environment. One of the reasons for this is a lack of awareness about sustainable waste management practices.

There is a need for stronger policies, regulations and enforcement mechanisms on waste management in Nigeria. The absence of this has deterred investment in available collection and recycling facilities and hindered progress in addressing waste management challenges. Without proper oversight and accountability, the waste management sector may not receive the necessary support it needs.



It aims to shift from plastics utilisation, towards separation at source, composting, recycling and waste reduction mechanisms in communities where this model is situated. The project is designed to strengthen local capacities to effectively advance human rights and improve waste management policies in the Niger Delta.



ERA/FOEN's zero waste project engages 12 stakeholders from different sectors. These include the Nigeria Union of Journalists (NUJ), the Christian Association of Nigeria (CAN), Community representatives, the National Union of Road Transport Workers, the Ministry of Environment, the Waste Management Board, Councils of Islamic Affairs/ Nigeria Muslim Youth, Civil Society Organizations, Local Government Department of Environment, Waste Pickers, People living with disability/albinism, and Youth groups.

ERA/FOEN'S APPROACH TO ZERO WASTE

ERA/FOEN's zero waste project 'Strengthening Local Capacities for Improved Waste Management Policies in Three Geopolitical Zones in Nigeria' kicked off in September 2021.

MILESTONES DURING THE PROJECT

Environmental Rights Action/ Friends of the Earth, Nigeria 2023

Social Impact:



One of the activities that were conducted during the project was community dialogues. The communities identified resided close to waste dump sites, which meant that these individuals had experienced the health and environmental impacts of these dump sites. These dialogues gave members of the communities the opportunity to contribute to achieving zero waste.



Additionally, ERA/FOEN's zero waste project established and inaugurated Zero Waste Ambassadors. These are individuals who are trained, and have the responsibility of evaluating, monitoring, and promoting actions that will reduce plastic pollution and promote zero waste in their immediate environment.



To further knowledge sharing on zero waste, the project established a local Zero Waste Academy, which served as a strategic capacity development opportunity in addressing policy gaps, and socio-economic, cultural, human rights, ecological and infrastructural challenges in the waste management sector. Through the academy, ERA/FOEN trained a large number of stakeholders from diverse sectors such as industries, government, CSOs, academic, religious and community organisations.



ERA/FOEN's zero waste project also held four Waste Parliaments, which brought government stakeholders to sit in the same room with the community, waste pickers, religious and non-religious actors to discuss and develop strategies for the effective implementation of zero waste plans. One of the outcomes of this was that the Waste Parliament called on the Akwa Ibom State Government to urgently address the waste crisis in the Akpayak Community and environment, thus curbing the deepening health, environmental and social challenges enveloping the area and exposing the growing apathy in waste consciousness and management in Akwa Ibom state.

SUSTAINABILITY OF THE PROJECT

Some of the next steps of scalability and sustainability of the project involve the continuation of the ongoing Zero Waste Academy platform to provide continuous capacity-building sessions for stakeholders across different sectors, ensuring a well-informed and skilled workforce for sustainable waste management practices. Furthermore, the project will expand the Zero Waste Ambassadors to involve more communities and sectors, fostering a broader movement for zero waste advocacy and implementation. Through the community dialogue process, ERA/FOEN will continue to establish community-based waste management initiatives, empowering local residents to take ownership of waste reduction efforts and create sustainable waste management models.



Environmental Rights Action/ Friends of the Earth, Nigeria 2023

GREEN AFRICA YOUTH ORGANIZATION, GHANA

Reshaping Ghana's
Waste Management
Landscape Through
Their Zero Waste Project.



ABOUT THE PROJECT

The Green Africa Youth Organization's zero waste project aims to transform capital cities into zero waste cities by promoting waste reduction, recycling, and community engagement. Through their promotion of sustainable waste management practices, raising awareness, and fostering collaboration, this initiative has the potential to reshape Ghana's waste management landscape, as well as address the pressing waste management challenges in Ghana.



Green Africa Youth Organization 2023



Country

Ghana



Organisation

Green Africa Youth
Organization



Zero Waste Project

Transforming capital cities
into zero waste cities



Stakeholders

Ministries, Departments and
Agencies, MMDAs, International
development partners, National
institutions, Waste management
service provider, Informal waste
workers, Educational institutions,
Media



Milestones

GAYO has integrated informal
waste collectors into the waste
management system

COUNTRY CONTEXT

Ghana is located in West Africa and is bounded to the west by Cote d'Ivoire (Ivory Coast), to the north by Burkina Faso, to the east by Togo, and to the south by the Gulf of Guinea and the Atlantic Ocean (Salif, Sarkodie & Gnamien, 2016).

Accra, Ghana's capital city, is located on the Gulf of Guinea coast. Ghana has a population of roughly 31 million people, and English is the national language (Salif, Sarkodie & Gnamien, 2016).

31 Million

Population



Nationally Determined Contribution (NDC)

As an integral part of its National Strategy, Ghana has formulated 19 policy actions spanning across 10 prioritized domains to attain the goals set out in their nationally determined contributions for the upcoming decade (The Republic of Ghana Nationally Determined Contributions, 2020).

Ghana anticipates that the 19 policy actions will result in the following results by 2030: Achieve an overall decrease in greenhouse gas (GHG) emissions of 64 MtCO₂e. Improved air quality prevents at least 2,900 premature deaths every year. Create almost one million good-paying, ecologically sustainable jobs. Have a positive impact on over 38 million people, primarily kids and women.

64 MtCO₂e

By 2023

Emission Reduction Target



WASTE MANAGEMENT SYSTEMS

“ The prevalence of open burning and other false solutions to waste management highlights the urgent need for comprehensive interventions. Strained waste infrastructure for instance helps to perpetuate this cycle as it leaves communities with limited options, pushing them towards unsustainable practices. ”

-Green Africa Youth Organisation

In Ghana, the absence of resources and systems for waste management has led to improper waste disposal practices, such as inefficient waste collection systems, which result in irregular waste collection services, contributing to the accumulation of waste in public spaces. Recyclable materials are not recovered and either end up in landfills or in the environment. Furthermore, communities may resort to open burning to dispose of their waste. This releases toxic fumes into the air and endangers public health.

GAYO'S ZERO WASTE PROJECT

The zero waste project was launched by GAYO on September 5, 2021. The project aims to transform capital cities into zero waste cities by promoting waste reduction, recycling, and community engagement. By advocating for responsible waste disposal practices and raising awareness about the environmental and health impacts of open burning, the project directly addresses the issue of ineffective community compliance. GAYO engages a wide range of stakeholders in their zero waste project. Some of these actors include: Ministries, Departments and Agencies, MMDAs, International development partners, National institutions, Waste management service provider, Informal waste workers, Educational institutions, Media, CSOs/NGOs, Assembly members, Community representatives, Hotels and hospitality, Faith-based organizations and Private businesses and companies.



GAYO has sensitised communities on simple ways to practice zero waste in everyday dealings. Furthermore, they have provided incentives for businesses that produce green products and services. The organisation has also developed a standardised design and packaging for green products and services.



To promote waste collection, GAYO has made an effort to evaluate current waste collection levels. They've prioritised integrating informal waste collectors into their waste management system. GAYO also sensitised communities on how to position their bins on collection days. The development of a waste collection calendar for biodegradable, non-biodegradable, and hazardous waste complimented this. Additionally, instituting effective monitoring and reporting has ensured complete primary collection coverage.



Communication is another strategy that GAYO has utilised to promote its waste management system. They have used newspapers, social media, TV, and radio to publish regular, and timely information regarding collection schedules. Other mechanisms they have used to communicate about their work include creating a channel for residents to interact with local staff and report non-collection and other complaints, as well as appointing waste ambassadors and involving them in sensitisation campaigns and outreaches.



To promote green businesses and identify opportunities in waste, the project has included workshops on this subject, as well as collaborating with NGOs/CSOs to promote green businesses.

MILESTONES DURING THE PROJECT

BY THE NUMBERS

-  40% waste reuse
-  50% waste reduction
-  100% waste collection
-  70% circularity

Other milestones for the GAYO team include establishing a multi-level stakeholders' dialogue, conducting baseline studies establishing legal frameworks including new bye-laws, creating a sensitization and communication plan, instituting incentives for behavioural change, setting up a green business advisory desk at Ghana Enterprises Agency (GEA) and constructing a Material Recovery Facility.



SUSTAINABILITY OF THE PROJECT

The Zero Waste Project has made significant strides in addressing Ghana's waste management challenges. However, for long-term scalability and sustainability, some next steps and approaches are being considered:

- *Expansion and Replication:* After achieving success in the initial city centres, the Zero Waste Project should expand its reach to other cities and regions in Ghana. This can be done by replicating the project model, adapting it to local contexts, and establishing partnerships with local governments, NGOs, and community groups.
- *Public-Private Partnerships:* Collaborate with private sector companies for investment, expertise, and resources. Engage waste management companies, recycling facilities, and green businesses to create a sustainable ecosystem that supports waste reduction, recycling, and circular economy practices.
- *Capacity Building and Training:* Continue training and capacity-building initiatives for waste management personnel, informal waste collectors, and community members. Offer workshops, seminars, and certification programs on waste segregation, recycling techniques, composting, and sustainable business practices.

- *Behavioral Change Campaigns:* Develop comprehensive behaviour change campaigns that target diverse demographics within the community. Utilise social media, public events, schools through the *GAYO Eco-Club Campus Chapters*, and religious institutions to raise awareness about proper waste management practices and the harmful effects of open burning.
- *Innovative Financing Models:* Explore innovative financing mechanisms to support waste management initiatives. This could include setting up a waste management fund, accessing carbon credits for waste reduction and recycling efforts, or establishing partnerships with impact investors.
- *Research and Innovation:* Continue to invest in research and innovation to stay at the forefront of waste management technologies and practices. Collaborate with research institutions, universities, and technology companies to develop new solutions for waste separation, recycling, and resource recovery.
- *Community Engagement:* Strengthen community engagement by involving residents in decision-making processes, waste management planning, and monitoring efforts. Establish community committees and involve them in project design, implementation, and evaluation.
- *Policy Advocacy:* Advocate for favourable waste management policies and regulations at the local and national levels. Work with government agencies to update and enforce waste management laws, regulations, and standards that promote sustainability and circular economy principles.
- *Long-Term Monitoring and Evaluation:* Implement a robust monitoring and evaluation framework to track the project's impact over time. Regularly assess waste reduction rates, recycling rates, community compliance, and environmental outcomes. Use this data to refine strategies and make evidence-based decisions.



NIPE FAGIO

'A Comprehensive, Cooperative- Led, and Decentralised Approach to Waste Management'



ABOUT THE PROJECT

Built upon the principles of people and planet, being decentralised, awareness building, ownership and inclusiveness, Nipe Fagio's Zero Waste models is a comprehensive, cooperative- led, and decentralised approach to waste management, that offers holistic solutions to some of Tanzania's pressing waste issues.



Country

Tanzania



Organisation

Nipe Fagio



Zero Waste Project

Nipe Fagio's Holistic Zero Waste Model



Stakeholders

Households, food vendors, hospitals, schools, churches, mosques, shops, recyclers and farmers



Milestones

95% compliance rate of separation at source

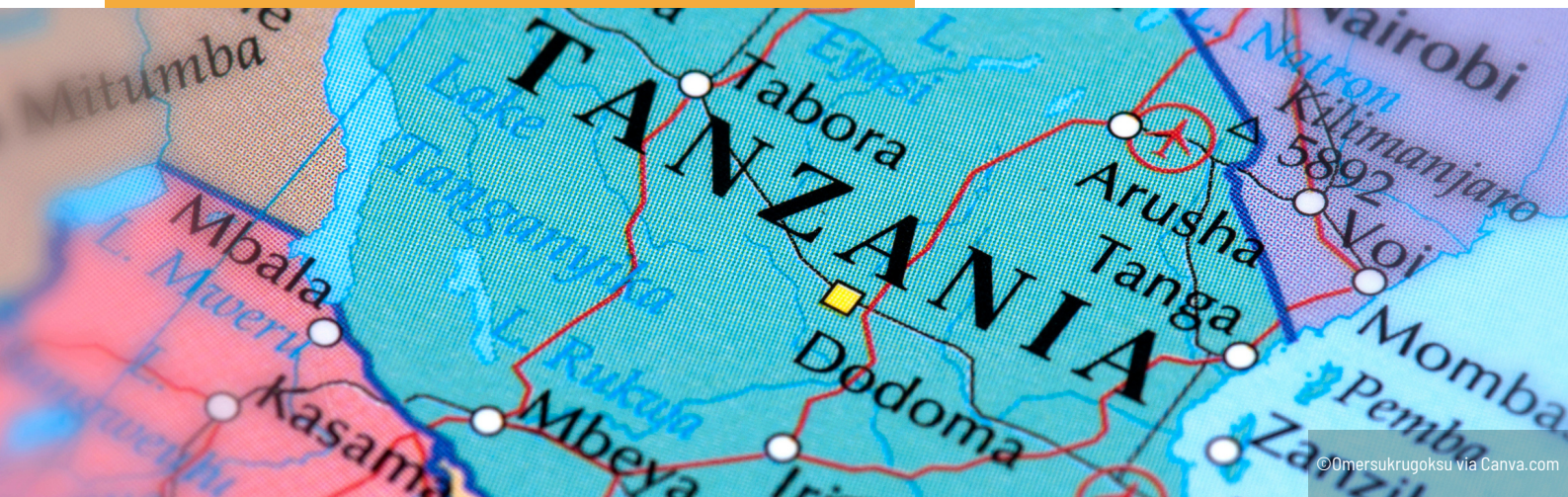
COUNTRY CONTEXT

Tanzania is situated on the eastern coast of Africa, bordered by several countries and the Indian Ocean. It spans 945,087 square kilometers with diverse terrain including the Serengeti Plains, Mount Kilimanjaro, the Great Rift Valley, and coastal lowlands (MacDonald, 2014).

According to the most recent United Nations data analysed by Worldometer, the current population of the United Republic of Tanzania is 67,678,826, as of August 15, 2023 (Worldometer, 2023a).

67 Million

Population



Nationally Determined Contribution (NDC)

Tanzania's NDCs are part of the country's pledge to the Paris Agreement, a global effort to tackle climate change.

Tanzania will reduce greenhouse gas emissions economy-wide between 30- 35% relative to the Business-As-Usual (BAU) scenario by 2030, whereby about 138 - 153 Million tons of Carbon dioxide equivalent (MtCO₂e)-gross emissions is expected to be reduced, depending on the baseline efficiency improvements, consistent with its sustainable development agenda. The emissions reduction is subject to review after the First Biennial Update Report (BUR) and Updated GHG inventory in the country.

30% By 2023

Emission
Reduction Target



WASTE MANAGEMENT SYSTEMS

“ A large number of residents still do not have access to waste collection services.

-Ana Lê Rocha



- Lack of formal systems for managing and controlling solid waste;
- Strained waste infrastructure;
- No National Waste Management Plan and no central funding mechanism for waste management;
- No Extended Producer Responsibility;
- Inefficient and ineffective collection schemes of generated waste from sources;
- Vehicles used in solid waste collection are in poor state of repair;
- Ineffective community compliance;
- Lack of reliable and sufficient data for solid waste management
- Overwhelmed and poor infrastructure management at the Pugu Dumpsites.

NIPE FAGIO'S ZERO WASTE MODEL

The model is based on the collection of segregated waste from the source. The collection is done by waste cooperative members using waste cart vehicles to transport waste to the Material Recovery Facility daily. One team is averaged to collect waste from 40 households and business establishments considering other factors, including the area's topography. Nipe Fagio capacitates waste cooperative members to manage all groundwork operations, including MRF, recyclables sale, residual transportation to landfills, and composting. Through this, better employment has been generated. The goal is to reduce the amount of trash sent to landfills, incinerators, or any area of the environment. The model requires households and other service users to separate waste generated into four categories: organic waste, recyclable waste, domestic hazardous waste and residual waste. In the early stages, Nipe Fagio provided all four bins and storage facilities to influence and motivate households to separate at source.



The Zero Waste Model has been successfully implemented in Dar es Salaam City, Tanzania. In the Bonyokwa neighbourhood, 2800 households, 400 business establishments, 02 schools and 04 churches receive a daily collection of source-separated waste. The model has also been replicated in two other neighbourhoods called Kipunguni B and Kiburugwa. Community mapping surveys have been conducted, an MRF space has been confirmed, and government engagements have taken place. The model will be set up soon after completing the ongoing Waste Assessment and Brand Audit (WABA) activity.



Nipe Fagio 2023



The Zero Waste Model has also been successfully implemented in Arusha City. In the Sanawari neighbourhood, 2500 households and over 400 business establishments, schools, food vendors, and churches receive daily collection of source-separated waste. The model has also been replicated in the Moivaro ward, comprising 06 sub-wards and over 15,000 household members to get service benefits. MRF space confirmation is still underway.

MILESTONES DURING THE PROJECT

- 95% compliance rate of separation at source.
- Establishment of 02 working Materials Recovery Facilities.
- 85% of collected trash from the sub-ward is recovered.
- Registration of Waste Collectors Cooperatives.
- Over 51 direct green jobs have been created.
- Daily collection of source separated waste to the Materials Recovery Facilities.
- The use of Cashless App in fees collection.
- The use of Waste Carts Vehicles in the Collection System.

SUSTAINABILITY OF THE PROJECT

For the project to be replicable or at a higher level, there is a need for strong political will from high government officials, and the government responsible authorities like municipalities should be part and parcel of the zero waste model's duties and responsibilities. Additionally, develop a National Solid Waste Management Strategy that says every waste contractor should follow zero waste systems in solid waste collection and management. Government waving waste collection fees from zero waste cooperatives and supporting the transportation of residual waste would be greatly beneficial.



GROUNDWORK, ASIYE-ETAFULENI AND THE URBAN FUTURES CENTRE

Demonstrating how
their composting model
can be institutionalised
within the Durban city.



ABOUT THE PROJECT

With multifaceted waste management issues within Durban, such as strained waste infrastructure, budget constraints for waste management, uneven municipal collection of solid waste, overburdened landfills, and waste pickers stigmatised and undersupported, groundWork, Asiye-eTafuleni and Durban University of Technology's (DUT) Urban Futures Centre conceptualised an innovative zero waste composting model that offers hope and can be institutionalised within Durban city's integrated waste management strategy.



Country

South Africa



Organisations

groundWork, DUT's Urban Futures Centre, Asiye-eTafuleni.



Zero Waste Project

Addressing how their composting model can be institutionalised within Durban city's integrated waste management strategy.



Stakeholders

Durban University of Technology's Horticulture Department, eThekweni Parks, Recreation and Culture Department (Durban Botanic Gardens), the municipality's Business Support, Tourism and Markets Unit, and eThekweni's Cleansing and Solid Waste Unit (CSW).



Milestones

In December 2023, the project partners received a fully signed Memorandum of Understanding (MOU) with the municipality to scale up the project by replicating the model across the city - linking further fresh food markets to Parks spaces to make more nutrient rich compost!

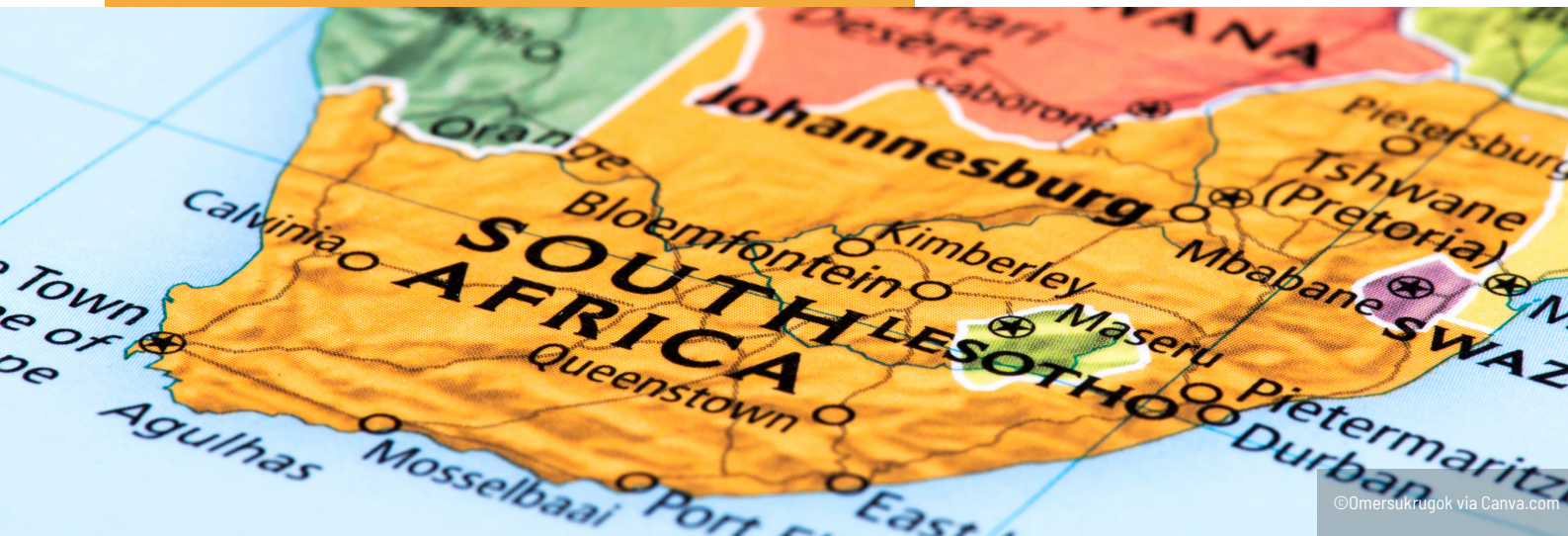
COUNTRY CONTEXT

South Africa's varied landscape encompasses mountains, plateaus, plains, and valleys shaped by geological formations like the Karoo Basin and fault lines.

It boasts mineral wealth, coal reserves, abundant water, fertile land, and renewable energy potential (Knight & Rogerson, 2019). South Africa's current population is roughly 60.5 million people as of August 16, 2023.

60.5 Million

Population



Nationally Determined Contribution (NDC)

South Africa defined its mitigation aspirations for 2025 and 2030, establishing precise target ranges for both time frames. Crucial sectors singled out for mitigation efforts encompassed energy, waste management, industrial processes, product utilisation, agriculture, forestry, and other land use practices (South Africa NDCs, 2015).

South Africa's mitigation NDC outlines that by 2025 and 2030, greenhouse gas (GHG) emissions will fall within a range of 398 to 614 Mt CO₂-eq (South Africa NDCs, 2015).

350-420

Mt CO₂-eq. By 2023

Emission Reduction Target



WASTE MANAGEMENT SYSTEMS

Some of the waste management issues faced by the Durban City include:

- Strained waste infrastructure;
- Budget constraints for waste management;
- Uneven municipal collection of solid waste;
- Strained waste services (poor collection, inefficient public recycling programmes).
- Overburdened landfills;
- Waste pickers are stigmatised and undersupported;
- Communities unfamiliar with separation at source and inadequate recycling options for households;
- There is a need for more education, coordination and partnerships to encourage communities and municipalities to divert organic waste from landfills.



In 2022, a partnership between the project, the DUT Horticulture Department, the eThekweni Parks, Recreation and Culture Department (Durban Botanic Gardens) and the municipality's Business Support, Tourism and Markets Unit (BSU) (who manage the Early Morning Market) was forged, and composting began at the Durban Botanic Gardens' permaculture site.



Lunga Bhengu 2023

ZERO WASTE PILOT PROJECT

The composting project was initiated in 2022 as a pilot for a broader Warwick Zero Waste project recognising the challenges and opportunities within the waste sector in Durban's Warwick market. The WZW project is situated in one of South Africa's largest informal street markets (The Markets of Warwick) in inner city Durban, and project partners aim to work with informal workers (street traders, market vendors and waste pickers) to co-create and support sustainable and inclusive zero-waste practices.

Organic waste is a major waste stream in the market area. Large volumes of discarded vegetables and fruits are being transported daily to landfill from the Early Morning Market. The project team recorded around 400 tonnes of organic waste leaving the Early Morning Market in Warwick for landfill annually, in a 2021 baseline study. The Durban Botanic Gardens was approached to conceptualise and implement a composting pilot.



The first 240 liter bin of organic waste was subsequently taken from the market on 28 June 2022 and was mixed with 240 liters of green and 240 liters of brown garden waste from the Botanic Gardens (which would also otherwise be disposed of in landfill).



Over the initial trial, data on the compost piles were meticulously tracked, and samples were taken for laboratory testing and for a series of pot trials with support from DUT Horticulture. Test results subsequently showed that the compost produced through the pilot was rich in nutrients and was capable of growing different food crops more efficiently than the two commercial compost brands it was tested against. Different composting methods were applied and regular samples of the compost continue to undergo testing to refine the 'recipe'.

MILESTONES DURING THE PROJECT



Over the course of 2022 and 2023 (end June), the partnership has successfully diverted over 23 tonnes (23077,34kgs) of organic waste from landfill to produce nutrient rich compost.



In July 2023, the pilot partners also began a separation at source pilot in the Early Morning Market with traders, which will allow the team to collect the organic waste far easier and it will keep waste streams separate and uncontaminated for ease of composting and recycling of other waste products.



In addition, they have produced a cost-benefit analysis of the pilot model that shows significant financial savings if the project is integrated into the city. This financial model has been presented to relevant city officials and it has been welcomed by city partners.



In December 2023, the project partners received a fully signed Memorandum of Understanding (MOU) with the municipality to scale up the project by replicating the model across the city - linking further fresh food markets to Parks spaces to make more nutrient rich compost!



Lunga Bhengu 2023

Lunga Bhengu 2023

SUSTAINABILITY OF THE PROJECT



Lunga Bhengu 2023

Not only does this pilot demonstrate a small, closed loop model to reduce methane gas emissions through composting, but it also shows evidence of financial viability, and it has created many other benefits, including strengthening transversal partnerships between city departments and creating opportunities for learning and public education campaigns.

The ultimate goal of the pilot is for the composting model to be institutionalized within the city's integrated waste management strategy so that the model can be replicated at various Parks sites that are in close proximity to the municipality's several fresh produce markets.

The GIS Unit within the Parks Department, supported by a DUT GIS student, have begun to map out the major fresh produce markets in the city that are in close proximity to suitable Parks spaces. These maps will be essential to help the partners plan the future scale up and envision what the model could look like replicated across the city.

ZWASA

Learnings from ZWASA's Zero Organic Waste to Landfill Pilot Project in Bredasdorp, South Africa.

ABOUT THE PROJECT

The purpose of the "Zero Waste Expansion Campaign at Cape Agulhas Municipality" project is to support ZWASA in commencing its first Zero Waste expansion campaign at Cape Agulhas Municipality. The group is working towards becoming the first zero waste town in the country by implementing several key strategies. Firstly, the separation of organic waste at the source prevents the cross-contamination of materials and increases the number of recycled products.



Country

South Africa



Organisation

Zero Waste Association of South Africa



Zero Waste Project

Zero Organic Waste to Landfill Pilot Project in Bredasdorp.



Stakeholders

Cape Agulhas Municipality, P&B Lime (Pty) Ltd, a local private manufacturing company, Waste Pickers Association of South Africa, Waste Pickers, A Bredasdorp, Zwelitsha Community Committee, Môrésón Horse Stables.



Milestones

ZWASA has successfully established a Composting Facility at Cape Agulhas Municipality.

MILESTONES DURING THE PROJECT



Separation at Source:

ZWASA has successfully developed a Zero Organic Waste to Landfill (“ZOWTL”) model which is suited to the local municipal environment given South Africa’s high-income disparity between High-Middle-Low-income household communities.



Job Opportunities:

Besides creating significant environmental benefits, the project will also create safe and dignified jobs for waste-pickers and unemployed youth throughout the pipeline of waste-value-add activities.



Training and Development:

Ten waste-picker learners, including a few local unemployed-youth, were selected and sent on a Composting Training Course at Soil-for-Life, a Public Benefit Organisation based in Cape Town, about how to make good-quality organic compost. The selection process was preceded by initial meetings between ZWASA, Cape Agulhas Municipality, and the Bredasdorp waste-pickers to obtain the waste-picker buy-in and support for the project and its objectives.



Establish a Composting Facility:

ZWASA has successfully established a Composting Facility at Cape Agulhas Municipality. The Municipality did not have a composting facility prior to the ZOWTL project.



Waste Picker Integration:

The integration of the Waste Pickers into the Zero Waste system has commenced with the appointment of ten waste-pickers who were sent on an Organic Composting Training.



Community Awareness:

Leaflets have been disseminated informing the communities about the Zero Waste Project and the diversion of organic waste from the landfill.



Keith Roman, director of ZWASA and project manager, notes: “The landfill crisis in South Africa is mainly due to the fact that municipalities are failing to implement the most favoured option, in terms of South Africa’s Waste Act and Waste Hierarchy, which is prevention. Secondly, municipalities are not separating waste, especially food waste, at the source.





Partnerships

Some of the partnerships that ZWASA has established include: a partnership between ZWASA and the Cape Agulhas Municipality (CAM) to implement a Zero Organic Waste to Landfill Pilot Project in Bredasdorp.

The second important partnership which has been established is with the P&B Lime (Pty) Ltd, a local private manufacturing company introduced to ZWASA by the CAM Local Economic Development (LED) Department. P&B Lime made an offer to provide the project with micro-funding assistance to facilitate solutions to challenges facing the local Bredasdorp community in the Cape Agulhas Municipality.

Another partnership arrangement which is being established is with the Waste Pickers Association of South Africa (SAWPA). The Western Cape Regional Coordinator has been approached with regards to assisting with the integration of the Bredasdorp waste-pickers into a regional structure.

A Bredasdorp, Zwelitsha Community Committee has also been established in the Zwelitsha town, which is located close to the Cape Agulhas Landfill.

The project has also established a partnership has been established with the Môrésón Horse Stables, to collect horse-manure from the stables for the composting facility.



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**ZERO WASTE
STORIES FROM
AFRICA (2024)**

