



Revolutionising WASH Service Delivery through Strategic Partnerships:

Safisana & Clean Team`s Innovative & Climate Resilient Approaches

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Outline of Presentation



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Overview of Safisana Ghana

(Prosper Ayande)

The Global Sanitation Challenge

The lack of proper sanitation and waste treatment services cause massive threats to public health and the environment for millions of people living in poor and non-sewered urban areas:

- Globally, 80% of wastewater flows back into the ecosystem without being treated or reused. [UNWater](#)
- Worldwide around 829,000 people* die each year from poor sanitation and hygiene.
- Over 1.8 billion people still do not have basic sanitation services, such as private toilets or latrines. People either defecate in the open or use filthy and broken toilets
- At least 10% of the world's population is thought to consume food irrigated by wastewater.



Source: WHO report *Healthy Environments for healthier populations*; [UNWater](#)

The Sanitation Challenge in Ghana

- The sanitation situation in Ghana is very poor, with only 25% having access to basic services,
- About 57% using shared or public facilities and 18% still defecating in open defecation,
- Poor sanitation conditions pose serious public health risks
- According to WHO, in Ghana 7,653 deaths were caused by WASH related illness in 2019,
- 21 people per day, almost one person every hour dying from preventable WASH-related diseases.)



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The Sanitation Challenge in Ghana (con`t)

- Ghana faces significant challenges in achieving universal access to safe water and adequate sanitation, exacerbated by climate change impacts.
- Extreme weather events, such as droughts and floods, affect water availability, sanitation infrastructure, and public health.
- Safisana Ghana and Clean Team Ghana have emerged as key players, offering innovative and climate-resilient solutions to address these challenges.





Safisana WtE Plant

The first Waste-to-Energy plant in West Africa
(Ashaiman Municipality)



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Overview of Safisana

Safisana Ghana is a leading social enterprise focused on sustainable waste management and sanitation solutions hinged on **circular economy principles**.

By valorization of waste into valuable products, our model provides:

- improved sanitation
- waste treatment services
- renewable energy
- organic fertilizer
- Irrigation water



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Impact pyramid

Vision

To improve health and living environment of millions of people living in non-sewered urban areas

The Safisana Solution

- Improved sanitation
- Waste treatment
- Renewable energy
- Organic fertilizer



Personal and Public Health Impacts

- Improved personal hygiene and wellbeing through safe and dignified sanitation
 - Improved public health through cleaner living and working environment
- Less direct exposure to waste and reduction of prevalence of related diseases
 - Reduction of environmental pollution, of air, soil and water
 - Improved food security due to increased availability of healthy foods

Environmental Health Impacts

- Reduction/avoidance of Greenhouse Gases/ CO2- emissions
- Increased availability of sustainable energy and fertilizer
 - Promotion of circular, local food production
- Reuse of nutrients/ natural resources, instead of mining

Socio-Economic Health Impacts

- Improved economic livelihoods and wellbeing
- Increase of employment and work of income for local SMEs (toilet operators, market queens) and farmers
- Increase of cost control, soil health, fertility and agricultural yields

3 GOOD HEALTH AND WELL-BEING



5 GENDER EQUALITY



6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



11 SUSTAINABLE CITIES AND COMMUNITIES



13 CLIMATE ACTION

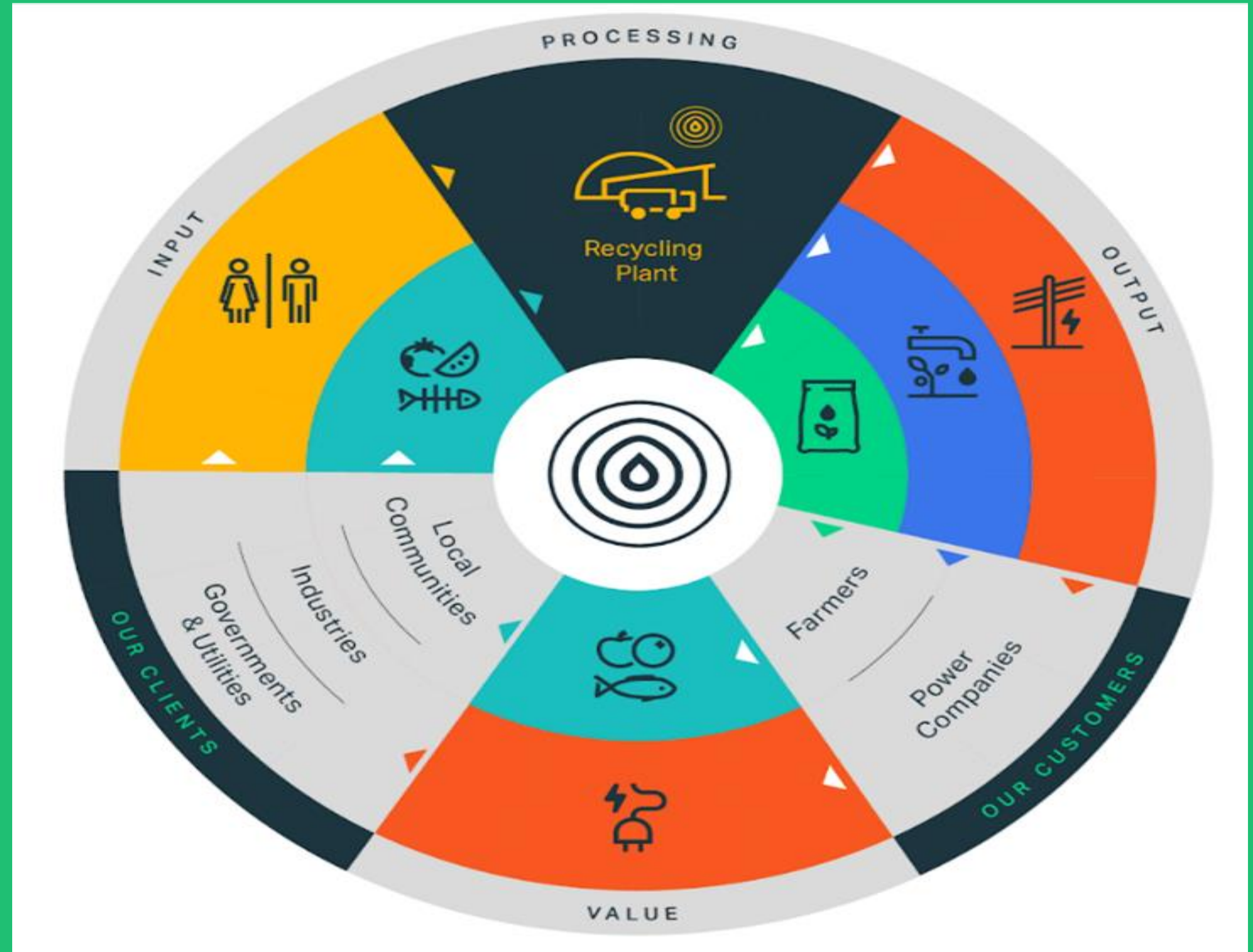


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A closed loop model

Safisana's approach combines waste-to-resource management, circular economy principles, and climate resilience strategies.

By integrating climate-resilient infrastructure and practices, Safisana ensures the continuity and effectiveness of our services in the face of climate change impacts.





31,000

people yearly enjoy improved sanitation



35,000

people per year enjoy a cleaner living and working environment



2,300

people enjoy access to clean electricity



11,700

farmers enjoy increase in yields



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Roadmap to scale in Ghana



Kumasi Composting

- Full scale fertilizer hub
- +5,000 bags/month
- GAMA treatment / fertilizer
- +10,000 bags per month



Ashaiman CompGas

- 1,500 m3 biogas sales



Tamale Composting + 3rd composting location

- Full scale fertilizer hub
- +5,000 bags/month

Scale beyond Ghana

- Ethiopia
- Uganda
- Other...





Overview of Clean Team Ghana

(Abigail Aruna)

The Clean Team Story

- ★ **Clean Team Ghana** is a pioneer in the emerging container based sanitation sector – an increasingly viable alternative to asset focused sanitation solutions like pit latrines and sewerage.
- ★ **The concept was developed in an ideal market:** Kumasi is Ghana's second city and has a major sanitation challenge. Only 19% of Kumasi's 2m+ population have access to improved sanitation. Potential market of 260,000 households (60% of total households)
- ★ **Subscription model:** customers pay a monthly fee to Clean Team for a regular waste collection service. Waterless toilet is installed in home free of charge
- ★ **Customers pay** using mobile money; payment in advance helps minimise bad debt.
- ★ **Impact: 3200+** paying customers and impacting **17,000+** people
 - Dignified alternative to unsatisfactory public toilet systems at a reduced cost for a family of 4+

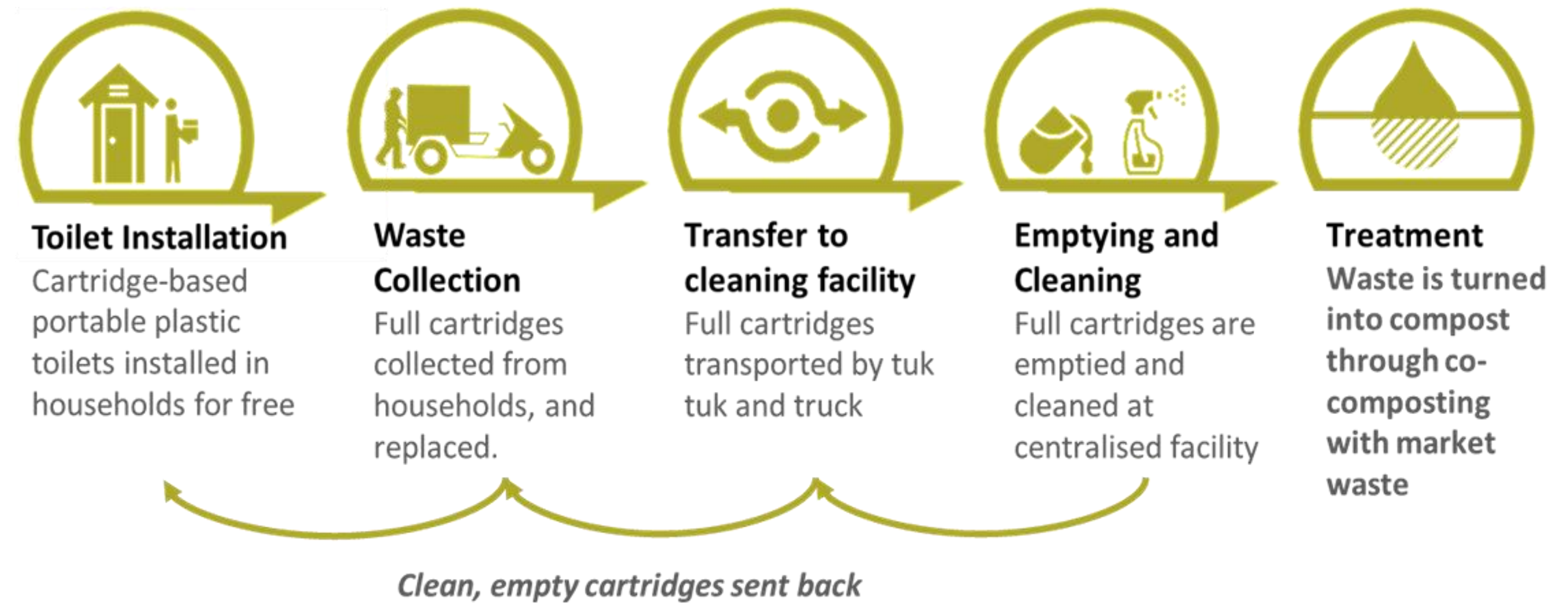


The Problem being addressed...

- ★ **260,000** Households do not have toilets
- ★ Up to **40%** of residents use a **Public Latrine Block**
- ★ The average cost of using a Public Latrine Block is 1 cedi
- ★ Each home without a toilet spends;
 - In 1 Day GH5.00 (\$0.09)
 - GH 150.00 In 1 month (\$15.79)
 - GH 1,800.00 (\$178.62) in a year to use generally unhygienic Public Latrines
- ★ A Clean Team Toilet offers a safe and convenient, in-home toilet for GH 68.00 per month



The solution...



The solution in pictures

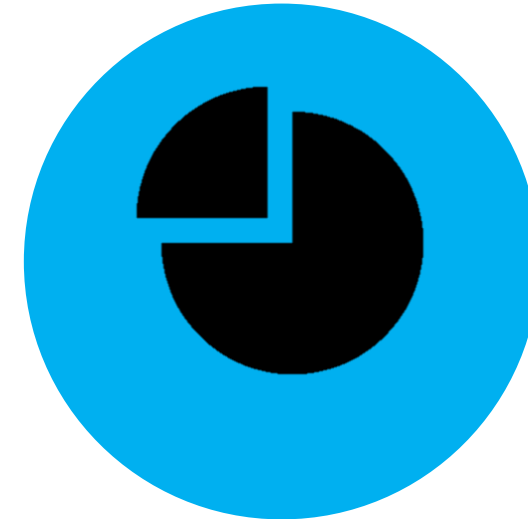


Traction | Achievements so far



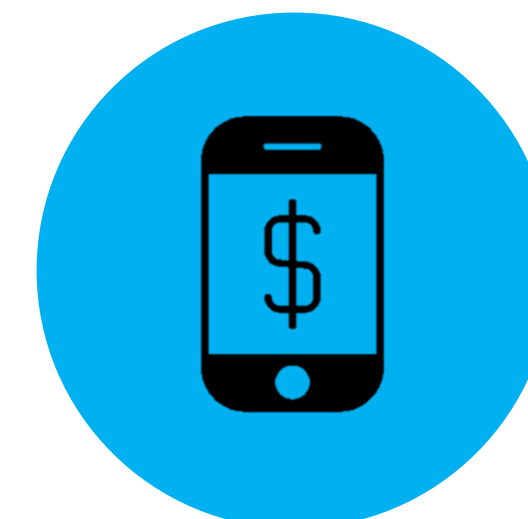
Customer Growth

CTG now has **3200+** active customers
impacting **16000+** lives



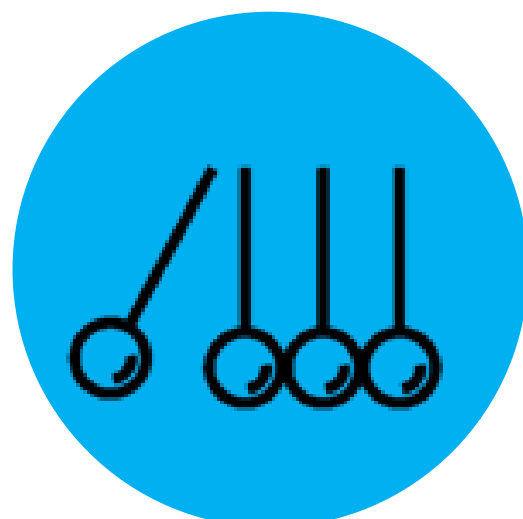
Gross Margin

Gross margin has improved from -30% to **+30%** with a plan in place to take it to breakeven



Mobile Money

Payment in advance via Mobile Money on mobile phones used by **98%+** of customers.



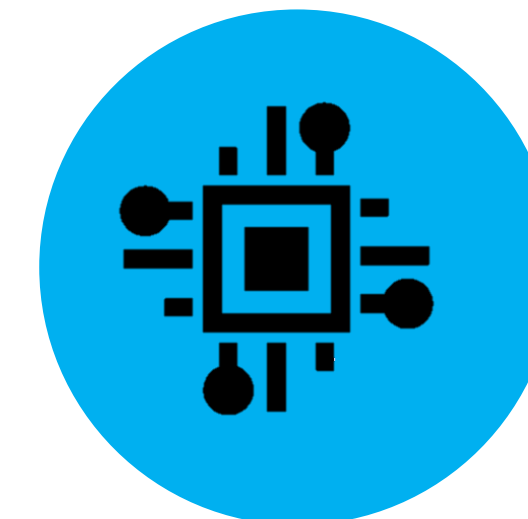
Impact

- Reduce **open defecation**
- Remove **100** tons of waste from communities monthly,
- Save customers **money**;
- Give users **dignity and convenience**.



Water savings

Save 10,000+ litres of water monthly



Technology

MOSS system used for managing customer data

Success factors

- ★ Focus on **innovations**
- ★ Focus on **finding local solutions** eg. Qualiplast and fiberglass toilet production
- ★ Focus on **finding cost effective solutions** eg. the use of sawdust as an additive instead of importing chemicals
- ★ **Partnership with other private organisations** eg. Partnership with Safi Sana to compost our waste
- ★ **Support from local assemblies** eg. in kind support from KMA such as land and authority

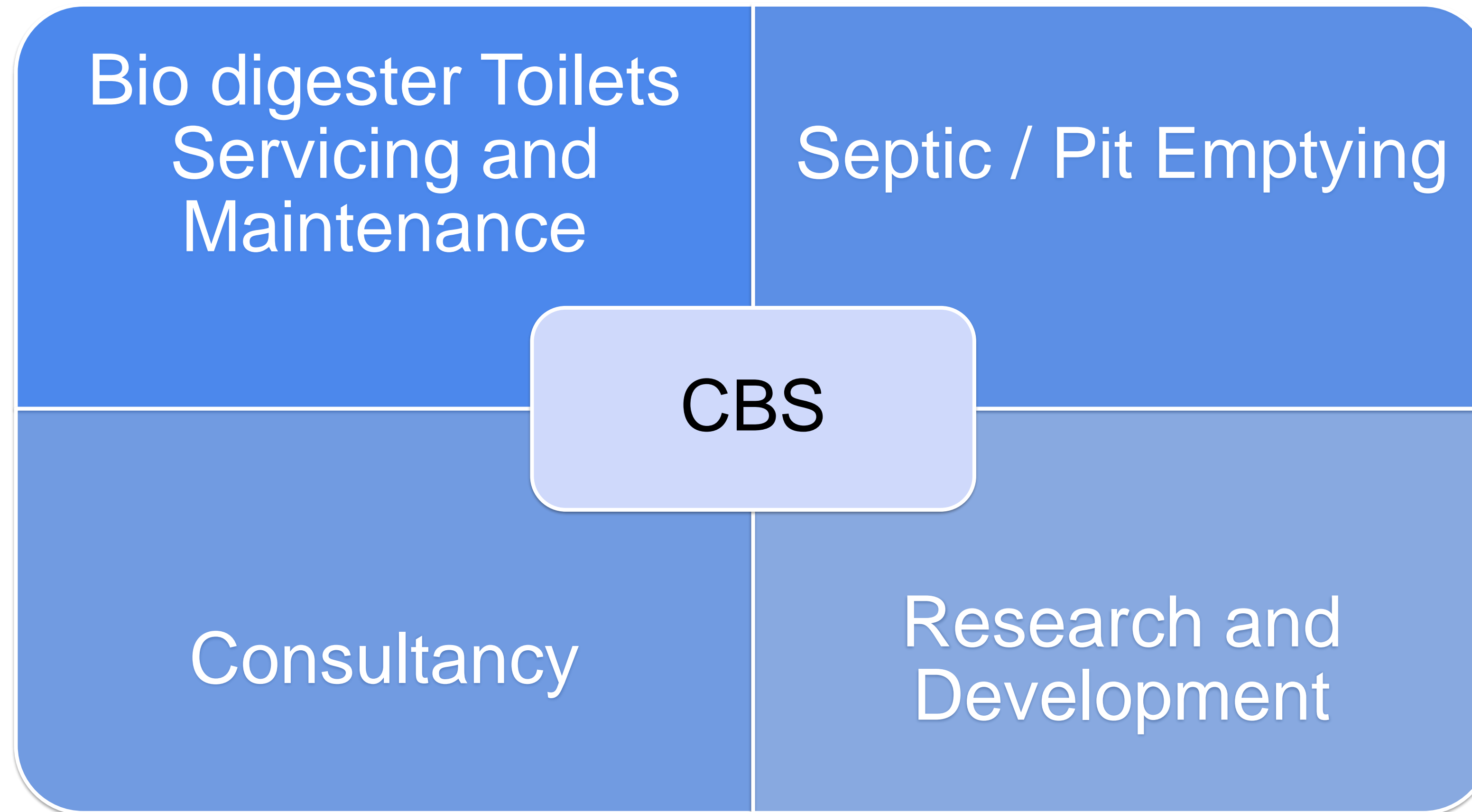


Challenges and bottlenecks

01	Fundraising to take us to breakeven.	<ul style="list-style-type: none">● Raised some funding needed to get to breakeven● Great prospects to raise the remaining funding needed
02	Plastic Toilet Production	<ul style="list-style-type: none">● Developed an alternative for manufacturing the toilet base using fibreglass● Working with Qualiplast to operationalise the production of the plastic base
03	Competition, E.g.: The GKMA project	<ul style="list-style-type: none">● Joined the World Bank as a Special Project Implementer (SPI)● Develop a service and maintenance model around the 30,000 biodigesters being built
04	Key Staff Turnover	<ul style="list-style-type: none">● Competitive remuneration, Opportunities for advancement and a work culture that celebrates innovation and rewards it● Attracting and maintaining the best talent
05	Global Economic uncertainties e.g.: Covid 19, Inflation	<ul style="list-style-type: none">● Effective treasury management as the business works with many currencies● Implement innovative strategies to manage economic uncertainties



Transformation of CTG Business Module



Lessons learnt

- ★ One organisation cannot solve all the sanitation problems so **collaborations** are important
- ★ Being **open and flexible** to changing and transforming your organisation to reflect current conditions
- ★ Government and local assemblies support to create the **enabling environment** for especially sanitation businesses to thrive is essential



Summary and conclusions

Sanitation is an **essential basic human right** and everyone deserves a decent place to respond to nature's call. Hence the need to leave **NO ONE behind** in our quest to provide **decent sanitation options**.

It is time to accept that sanitation solutions are not

- ★ One size fits all,
 - Not everyone can have the ideal **flush toilet**.
 - Not every community can be **sewered**

Hence there is the need for **tailor made local solutions** to our sanitation problems and this can be done through

- ★ **Innovations** around sanitation solutions
- ★ Creating the **right environment** for these innovative solutions to thrive.





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Strategic Partnership

Partnership for Innovation

- The partnership between **Safisana** and **Clean Team** is driven by the shared goal of addressing two important issues:
 - proper waste management and
 - agricultural sustainability (food security)

This waste, which would otherwise be disposed of in less environmentally friendly ways, is transformed into organic compost through Safisana's treatment processes.

The partnership aims to close the loop in Clean Team's waste management system. This aligns with the broader objectives of promoting circular economy principles, reducing waste pollution, and supporting local farmers



Clean Team Value Chain + Safisana



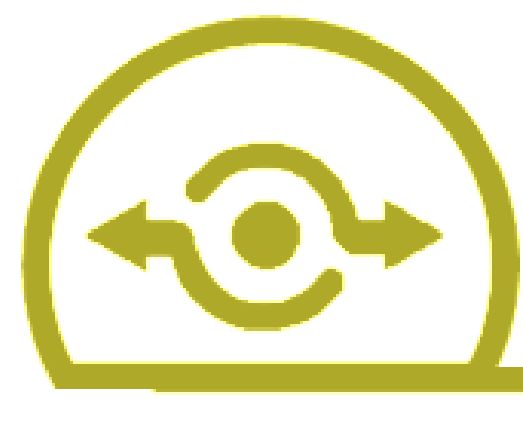
Collection

Collect waste cartridges twice a week, and replace with empty, cleaned cartridge. Clean customer toilet



Tuk Tuk Transport

Full cartridges transported by tuk tuk to transfer station (avg. 1 - 2 km)



Transfer at city-based transfer station

At transfer station full cartridges are placed on truck, empty, clean cartridges in trailer loaded onto tuk tuk



Tractor & Trailer

Full cartridges are transported 15 km to the Waste Processing Site for processing, and empty cartridges returned



Emptying, Cleaning, Dosing

Full cartridges are emptied, cleaned and dosed at the Waste Processing facility



Closing the full sanitation chain

Waste to resource; using faecal waste to produce biogas and organic fertiliser

The Innovative Approaches

- Portable and affordable toilet services
- Proper management of faecal waste, preventing environmental contamination.
- Advanced waste treatment technologies employed for responsible waste treatment.
- Valorization of waste into a valuable resource for agricultural use.
- Revolutionizing sanitation management through innovative and sustainable practices.



The Innovative Approaches

- Reduction of methane emissions by composting organic waste instead of landfilling.
- Decreased ecological footprint of agriculture through compost utilization.
- Adoption of sustainable agriculture practices facilitated by the partnership.
- Knowledge sharing and capacity building on sustainable sanitation and climate-resilient practices.
- Empowerment of individuals and communities to mitigate climate change impacts.



Climate Change & Resilience

- Collection and proper treatment of faecal waste to prevent GHG emissions.
- Production of organic compost, improving soil health and carbon sequestration.
- Reduction of GHG emissions associated with synthetic fertilizer production and transportation.
- Enhanced water retention capacity in soils, increasing climate resilience in agriculture.
- Promotion of a circular economy model, reducing the need for chemical fertilizers.

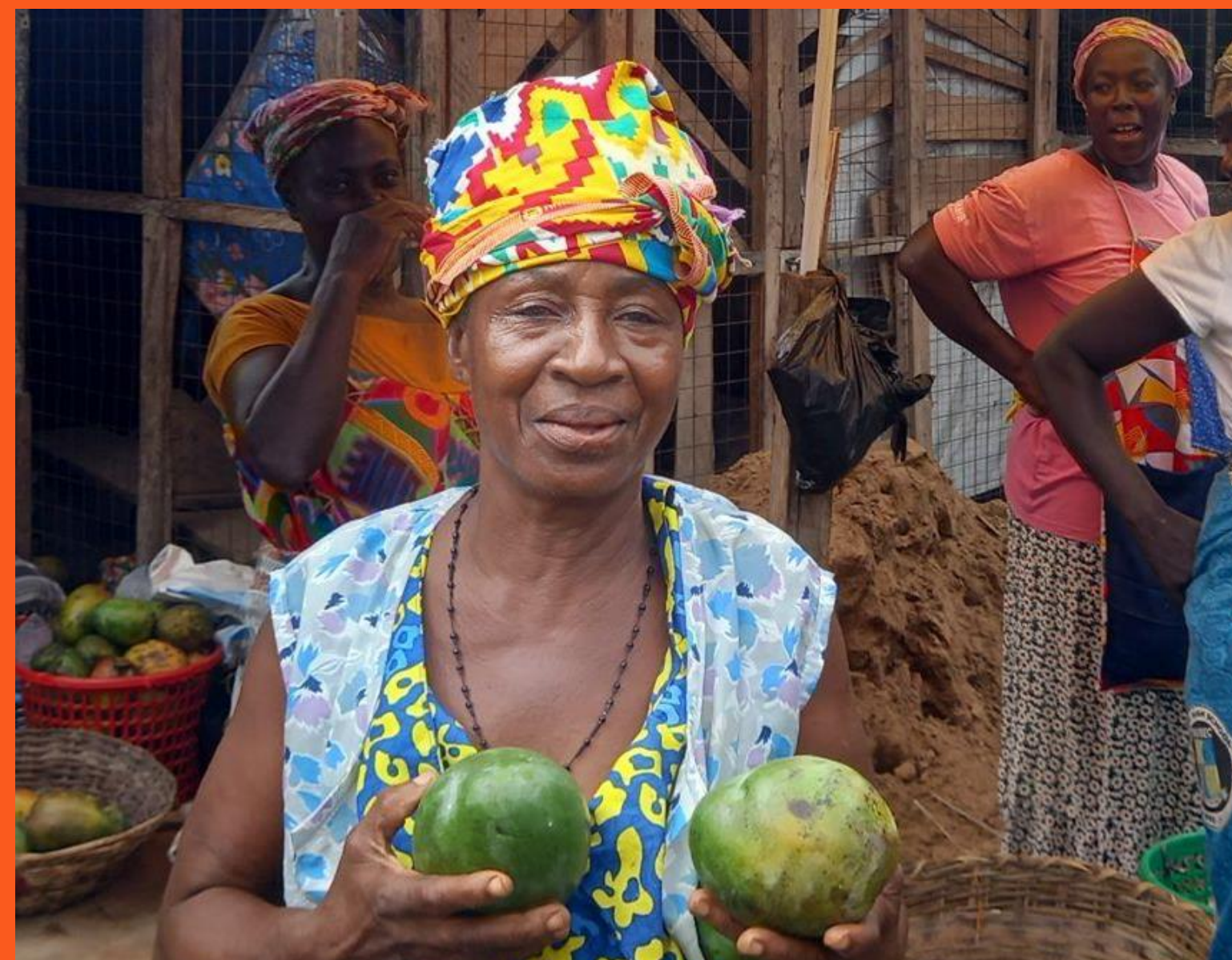




680 tons
faecal waste treated
2023 = **18,373**
beneficiaries



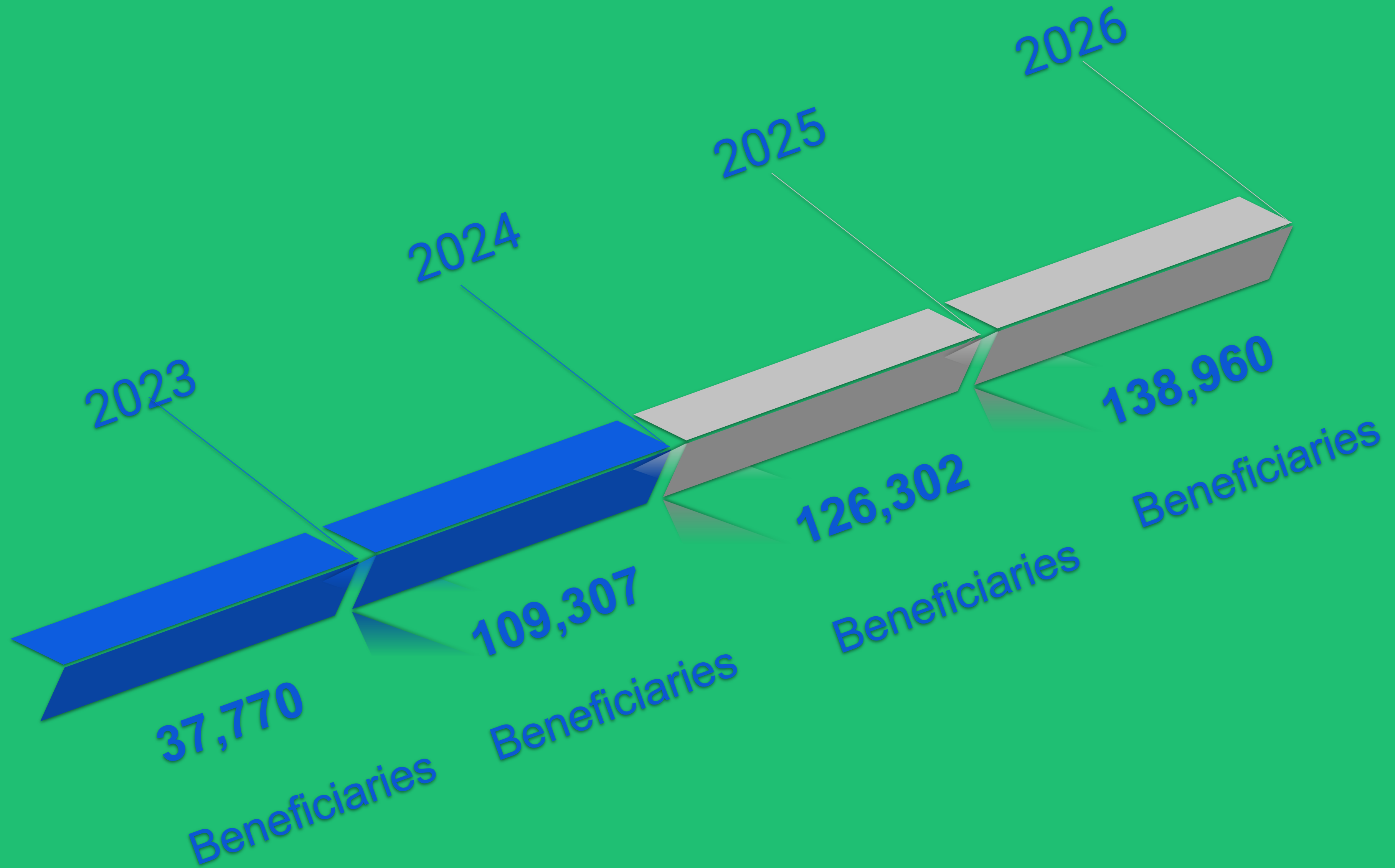
1,235 tons
organic waste treated in
2023 = **13,867**
beneficiaries



369 tons
compost produce in
2023 = **5,530**
farmers served



Kumasi Plant : Impact Growth Projections



Conclusion: Benefits for all

Governments

- Improved public health, sanitation and living conditions at low cost
- Renewable energy, CO2 emission reduction
- Local employment; increase of income and growth
- Increased food security by the use of organic fertiliser

Financial partners

- Making social and environmental impact;
- Sustainable, economic development
- Circular, future proof investment

Business partners

- Solution for residual waste (water) problem
- Promotes carbon neutral, models, decreases environmental footprint
- Contributing to ESG goals and SDGs
- Promote local community partnership

Knowledge partners

- Learning and knowledge building
- Research and Development
- Contributing to circular economy
- Multiply impacts through collaboration



Thank you!
Q&A

For more information

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