

Concept Note for Custom Challenge:

Waste Management in Imvepi Refugee Settlement and the surrounding Host Community, Arua District, Uganda

Improvements and Activities

Through collecting and treatment of human and solid waste, a safe environment for the population is created and contribution to the premise of poverty reduction by enhancing good health is provided. A CBO (community-based organization) will be established to run a Waste Management Center (WMC) which will treat both Fecal sludge (FS) and Solid waste (SW) collected by the Sanitation workers of the WMC and brought directly to the facility by others. Waste collection fees, sale of various treated end products and transport services are the main sources of income to guarantee sustainable operations of the WMC.

Barriers/Problems

- Filled up latrines, waste banks and rubbish pits in institution such as markets, institutions aid organizations' premises.
- High costs of hired waste collection services. Closest provider over 70km away and not suitable for small latrines.
- Deforestation to obtain the cooking fuel.
- Insufficient Transport services for goods and passengers.
- Poor Soil Texture which is not so fertile for farming.

Solution to the barrier

- Affordable emptying services for FS and SW within the settlement through waste management center with collection and treatment service.
- Dry organic solid waste to be processed into briquettes to offer alternative cooking fuel instead of charcoal and firewood thus preventing deforestation.
- Wet organic waste together with treated fecal sludge will be vermi-composted and provided to the community as Manure or soil conditioner to improve on their soil fertility.
- The tricycles will additionally be used for providing transport services for goods and passengers within and outside the settlement.

Impact

- Waste management is a powerful engine for sustainable development and poverty reduction and contributes to several of the sustainable development goals (SDGs in additional information).

Outcome Table

Time	Affordable FS and SW Collection services thus, improving hygienic environment at the market, institutions, aid organization and offering transport services	Distribution and Use of end products (briquettes, compost, recycling, livestock fodder)
3 months	-2000 per month at institutions and aid organizations -1500 daily market visitors	300 customers at the market per month

		Winning new costumers
1 year	-5000 per month at institutions and aid organizations -2000 daily market visitors -exploring market of household latrines -exploring Yumbe town as new market -Procurement of new cesspool emptier truck	1000 customers at market and direct sale at WMC Optimizing production
2 years	5000 per month at institutions and aid organizations 1500 daily market visitors 3000 per month by serving single household and Yumbe town Exploring scale up of operations	Scale up of end-product production at WMC Procurement of waste Truck

Links:

Solid Waste: <https://wasteaid.org/waste-sustainable-development-goals/>

Faecal Sludge:

https://sswm.info/sites/default/files/reference_attachments/EAWAG%20SANDEC%202008%20Module%205%20FSM%20Lecture.pdf

<https://www.susana.org/en/working-groups/sanitation-systems-technology-options>

Pilot Program

To start operations, 85 million UGX (around 22,400 USD) will be needed to support operations by covering the running costs, additional equipment, the salaries of the employees, marketing and possible scale up of the business.

Vision

Improved living conditions of rural communities in Imvepi settlement and beyond with regard to health, economic integration and poverty reduction trough a sustainable social waste management business.

Our Team

S/N	Name	Job Title	Location
1.	Mukisa Ibrahim	Manager	Imvepi, Arua, Uganda
2.	Asiki Jamal	Sanitation Entrepreneur	Imvepi, Arua, Uganda
3.	Jackline Bahati	Sanitation Worker	Imvepi, Arua, Uganda
4.	Lupita Christine	Sanitation worker	Imvepi, Arua, Uganda
5.	Anguparu Agnes	Sanitation worker	Imvepi, Arua, Uganda
6.	Apangu Bosco	Sanitation Worker	Imvepi, Arua, Uganda
7.	Julius Lucio Amanzuruku	Sanitation Worker	Imvepi, Arua, Uganda
8.	Santos Malish	Sanitation Worker	Imvepi, Arua, Uganda
9.	Ocima Remijous	Sanitation Worker	Imvepi, Arua, Uganda

Additional Information

In course of a Project of Uganda Red Cross Society (URCS) a Waste Management Center (WMC) will be implemented in Imvepi Refugee Settlement. The equipment for operating the waste

management center will mostly be provided through the project. The operations and the Waste Management Center is given to the community and will be managed by a CBO (Community Based Organization) known as Community Rural Engagement on Sustainability Initiatives Uganda (CORESI-U).

The Waste management center is designed by a leading expert in Fecal sludge (FS) and Solid waste (SW) management in Uganda. The chosen technology for (FS) extraction will be the [Gulper \(manual FS pump\)](#), to be transported in barrels (200l) on Tricycles. 2 Gulpers, 16 barrels and 2 Tricycles will be purchased for FS collection. The [treatment of the FS](#) will be provided through simple treatment plant consisting of drying beds, an alternating baffle reactor, a horizontal gravel filter and a polishing pond. For SW collection, 2 more Tricycles will be purchased together with respective equipment (shovels, barrels, PPEs etc.). The Dry organic waste will be processed into briquette whereas wet organic waste together with the processed FS will be used for vermicomposting and sold as compost to farmers. In order to diversify sources of income, transport services for goods and passengers will be offered through the 4 Tricycles.

An operating waste management center in the area will address the following SDGs: Life on land (SDG 15) and in the water (SDG 14) would only be healthy when the waste is properly managed. Dumping Waste outdoors or burning it near the settlement can have major health (SDG 3) and environmental consequences (SDG 13). Clean water and sanitation (SDG 6) also require sustainable waste management, e.g. to reduce water-borne diseases. SDG 1 is also addressed, as people live from recovering recyclable materials from waste (SDG 8). Local informal waste managers provide a valuable service, and we must recognize their role in urban sanitation and resource efficiency. This will also reduce on costs of hiring services far away from the settlement. Fair wages and basic labor rights for all waste workers are essential for equal, inclusive and sustainable communities (SDG 5 and 10).