

SUEZ ENVIRONNEMENT Initiatives – Institut de France Awards

Distinction in the class **Social Entrepreneurship**

2013-2014 Edition

"Hygienic Sanitation in Urban Slums"

Structure

Sanergy is a social enterprise comprised of 180 people, most of them are Kenyans. The team combines technology, entrepreneurialism and a unique business model to provide safe, accessible and affordable sanitation products and services to slum residents across Kenya.

Context

In the developing world, 2.6 billion people do not have access to adequate sanitation. This problem has many consequences; for example, approximately 1.6 million children die each year from sanitation-related disease, 6.4% of GDP lost from healthcare expenditures and lost productivity and 50% of hospital beds in Africa are filled due to sanitation-related disease.

The 8 million people living in the slums of Kenya discharge more than 4 million metric tons of fecal sludge into their environment destroying community health and causing significant environmental pollution.

Objectives

General objective

- Provide complete and sustainable sanitation in urban slums

Specific objectives

- Provide affordable, accessible hygienic sanitation facilities (250 in 2014, 500 in 2015)
- Collect and safely remove the human waste from the communities (100% from each toilet)
- Use a market-based approach to achieve financial sustainability while creating jobs and opportunity in the local communities (100% of waste by-products sold)

Description of the project

Sanergy makes hygienic, affordable and accessible sanitation in the informal settlements of Nairobi. Solving the sanitation crisis requires more than building toilets, Sanergy takes an innovative systems-based approach to build the entire sanitation value chain. The sustainable sanitation cycle features 4 major parts:

1. **Build.** In the slums of Nairobi, Sanergy builds a dense network of small-scale high-quality sanitation centers close to homes. The Fresh Life Toilet is manufactured at their local workshop. The design has 4 qualities: Hygiene, high-quality materials make it easier and cheaper to clean and maintain, Accessibility, the FLT's small footprint enables Sanergy to

- install close to homes, improving safety and convenience with minimal land requirements, Affordability, with cost effective pricing, Aesthetics, brightly painted and attractive.
2. **Franchise.** The Fresh Life Toilets are sold to local micro-entrepreneurs residing in the communities. The micro-entrepreneur derives an income of \$1000/year/toilet by charging the residents a nominal usage fee. Sanergy provides ongoing operational, marketing and business support to ensure the operator succeeds. They also provide access to financing through a 0% interest loan from an online micro lending platform: Kiva.
 3. **Collect.** Sanergy uses a containerized waste collection infrastructure for low-cost, easy, daily, removal. The sanitation unit uses a unique Urine-Diverting Dry Toilet system, where urine and feces are automatically captured in separate double-sealed 3- liter cartridges, avoiding any human waste contact or leaching into the water table. The cartridges are sized to handle the waste from 100 uses. The team of waste collectors removes the cartridges on a daily basis. The cartridges are safely transported to our processing facility using handcarts, reducing cost and improving access to most of the slum.
 4. **Convert.** At the centralized processing facility, Sanergy converts the waste into a portfolio of high margin products: organic fertilizer which is sold to commercial farms and electricity which, at scale, can be sold to the grid.



Description of the innovation

At each stage of the model, Sanergy uses original implementation methods.

1. **Local Franchise Network of Operators.** They partner with community members to deliver hygienic sanitation services. Their franchisees credibly generate demand in their community for usage and have land access, an otherwise impediment to growth. They offer franchisees business training, operational support through weekly usage analysis report, customized marketing, communal branding, peer networks, and waste management support.
2. **Daily Waste Collection Service.** Sanergy is the only company, in Kenya's urban slums, that collects the waste from each facility every day in a hygienic manner and safely removes and treats the waste. This ensures unrivaled customer service to their operators and guaranteed hygienic sanitation for users.
3. **Centralized Waste Processing.** Sanergy aggregates the waste at one processing center. This enables them to achieve economies of scale on production, develop consistent, guaranteed nutrient content for our fertilizer, and aggregate sufficient volumes of fertilizer to generate demand from larger commercial farms in rural areas.

Results

- As of October 2014, 530 franchises have been launched to 258 local entrepreneurs in Nairobi slums. Each toilet receives an average of 50 paying users each day. Over 24,000 residents now have access to hygienic sanitation. The network of toilets has been used over 6 million times in the past 2 years.
- The waste is being collected daily without fail by their network of waste collectors. Over 3,541mt of waste has been collected and safely removed from the community.
- Per week, over 50mt of waste is processed into organic fertilizer, which is distributed to a variety of farmers that produce flowers, tea and coffee, as well as to distributors who work with small-holder farms throughout Kenya. Furthermore, Sanergy is in the process of opening a larger fertilizer plant on the outskirts of Nairobi which give him capacity to process 10mt per day.

Project Replication

The model is highly replicable in other areas as the lack of sanitation is an unfortunate reality in slums worldwide. It is creating shared value for the community – both monetary and socially. As such, local entrepreneurs are incentivized and excited to invest in Fresh Life Toilets.

Conditions relating to project replication

- **Community's willingness and motivation to improve their sanitation conditions:** it requires a combination of the right incentives that motivate people to invest in sanitation as well as use hygienic sanitation
- **Government's willingness:** it requires the government to allow the NGO and private sector to provide basic services by creating the right legal structure for them to operate and enforcing standards that ensure quality service provision for the citizens.
- **Access to land:** informal settlements where there are no official land titles
- **Access to finance:** gaining access to capital for low income population

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