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(Article begins on next page)



# afrialliance socialinnovation

***A strategy for sustainable development  
encompassing water management and  
sanitation using ecosan toilets in Uganda***

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## DESCRIPTION AND BACKGROUND

The project area chosen for the implementation of the strategy is the Northern region of Uganda. The main tribal groups in the region are the Nilo-Hamites and Nilotics with an estimated population of about 7.2 million as of 2014 (UBOS, 2016). After about two decades of civil conflict, the region is struggling to recover from the unrest and turmoil. The war brought almost everything to a standstill with people living below the poverty line, low school attendance, high malnutrition rates, no proper toilet sanitation, and poor cultivation methods. However, following the peace deal between the government of Uganda and the Lord's Resistance Army, the region seems to be fairly regaining ground (Doom & Vlassenroot, 1999).

Since the conflict spawned a period of 20 years, the land has not been farmed and most of it although arable is covered in grass/shrub bushes. This is unfortunate because the land generally is flat and low-lying which would ease cultivation to full potential. Malnutrition and hunger are still problems and very widespread, with 36 percent of Uganda's children chronically undernourished or stunted (USAID, 2017). The situation was worsened by increased number people infected with HIV/AIDS (AHO, 2014), global economic shocks, domestic factors, and logistical support with 88 percent of its population residing in rural areas, which includes hundreds of thousands of subsistence farmers (IFAD, 2016).

The communities are those around lakes Kyoga and Albert which are also surrounded by vast swamps that contribute greatly to the fisheries. However, the fisheries are dwindling and they are unable to sustain the communities (NEMA, 2008). Nonetheless, some of the people practise small scale subsistence farming, and pastoralism but live off mouth-to-mouth income which is very low and sometimes insufficient. With peace back to the region, the population is increasing and therefore there is need to build adaptive capacity and resilience in the region. A preliminary study should be conducted in a local school setting to demonstrate and introduce the concepts to the people. Based on the levels of acceptance from the preliminary study, phase one will then kick off and this is hoped to have a "trickle-down" effect to other villages/areas in Northern Uganda.

AfriAlliance  
MOOC#2  
Final  
Assignment

## Abstract

This strategy aims at closing the ecological loop between water, sanitation, agricultural productivity, food security, nutritional health, improvement of livelihood and enhance school attendance and education. It includes the following aspects as well:

- reduction of poverty
- capacity building through education and training
- improved sanitation and water use
- waste recycling



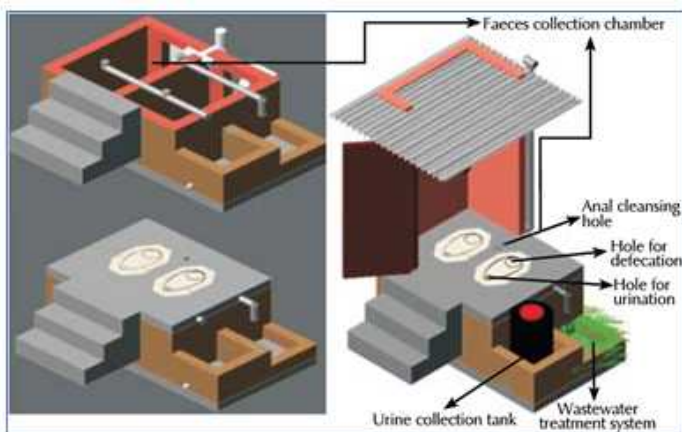
## TECHNOLOGICAL SOLUTIONS

*Improving sanitation and improving farming productivity by cycling nutrients from ecosan toilets into farm soils*

UDDTs (urine diversion desiccation toilets or ecosan toilets) are eco-friendly dry toilets with a composting chamber for the stool and separate drain for urine which is collected externally. Dry matter is added to fresh stools in the composting chamber (e.g. sawdust, coir dust, ashes, sand, or biochar) after use to help composting and to get rid of the smell. The solution involves the building of UDDTs for as many as possible households in the village in order to reach ODF (open defecation free). Voluntary collaboration is key especially from farmers in work and fundings. The toilets are envisioned to:

- Promote re-use of collected human urine (in agriculturally productive soils) by 80%;
- Promote the re-use of fecal compost (in soils of grain fields, ornamental gardens, orchards and forests) by 50%;
- Demonstrate the value of ecosan by products for family and agricultural production;

Farmers are the big target for the project because the intent is for them to collect human urine from the UDDTs and use it as fertiliser on their fields in a bid to promote organic farming. The expectation is that crop production will measurably increase while minimising the costs of production (e.g. the purchase of external inputs like fertiliser reduces).



## CAPACITY DEVELOPMENT

*Empowering farmers in the villages to improve crop productivity, diversity and profitability while promoting sustainable farming practices which enhance soil fertility and water use. Organic farming workshops will be conducted to demonstrate composting, mulching, green manuring, preparation of microbial inoculants and nutrient-rich liquid organic fertilizers.*

To promote the use of ecosan by products and to incorporate other sustainable practices in organic farming and to make it a large scale practice and a successful venture across Northern Uganda, the following processes should be carried out:

- Research into potential regional marketing links for organic farmers and secure access to a market that appreciates and remunerates organic produce adequately.
- Conduct educational classes for adults, in particular for women, mothers, and farmers, in nutrition and nutritional values of field crops.
- Guide as many as possible of these farmers in organic cultivation of high-nutrition crops (local nutritious crops).
- Identification of village youth and training them to run the workshops and programs in a self sustaining manner.
- Study and demonstration of urine use in school gardens, improving the nutritional intake of students, and stimulating regional food markets.

## GOVERNANCE STRUCTURES

The Uganda Sanitation Fund Program, funded by United Nations Office for Project Services (UNOPS), aims at reducing open defecation and increasing hygienic practices by stimulating creative ways to install toilets in the communities. NGOs are important partners for implementation of the project, which requires approval from the District Water Supply and Sanitation Coordinating Committees and District of Council before submission to Ministry of Health.

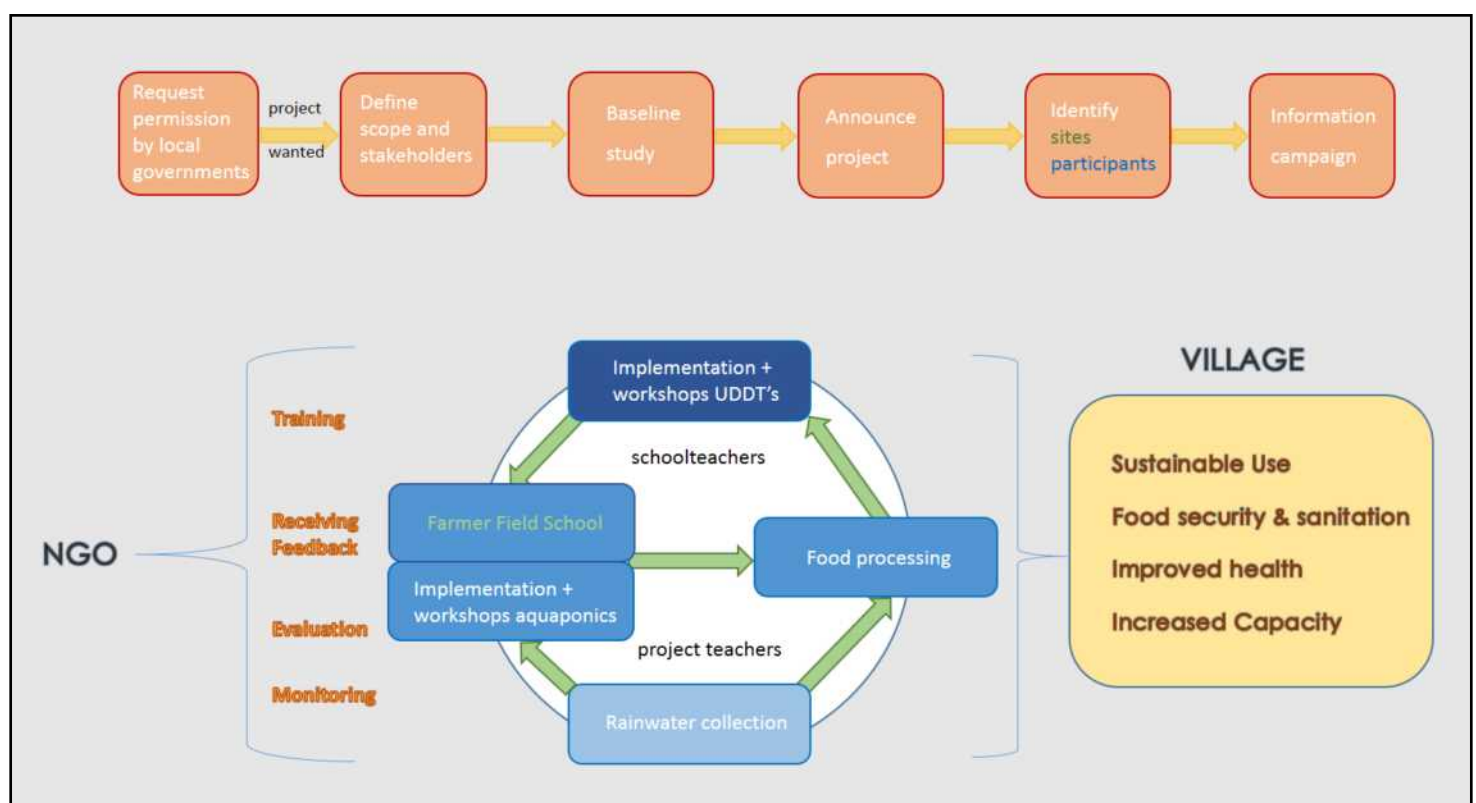
However, poor government policies and administration are common, some of these structures are not getting involved in the promotion of Ecological Sanitation toilets despite knowing about the information or innovations. The project suggests the following approaches:

- Engaging local government for a bigger impact, collaborating and acquiring the necessary permissions.
- Involvement of influential groups (such as the AfriAlliance Action Groups), NGOs, and institutions that can closely acknowledge the changes in the communities.
- Promote international joint fundings that aim at addressing basic needs such as health, water use, sanitation, food security and the reduction of malnutrition, education, capacity building, and credit.

## BUSINESS ROAD MAP

The project also foster awareness raising about the situation in the rural areas, undernourishment, knowledge enhancement on food and its shocks and impacts on individuals, households, economy, environment, and the whole community, in order to maintain interest and commitment to improve, support and keep the activities.

The water management approach improves the nutritional status of the villagers and reduce contamination during the process of planting, harvesting, and logistics, with emphasis on children and women, which according to the African Health Observatory are more afflicted by the current socioeconomic situation in Uganda.



The focus on Uganda's rural areas challenges will be addressed in the project through a social innovation approach based on the use of ecosan toilets, capacity building, taking into account the dynamic and complex aspects of the communities in Northern Uganda, such as socio-economic factors, traditional eating habits, and land and water use. Nutritional education and food and water security enhancement not only will promote healthy eating habits but also provide prevention against a whole branch of diseases and infections, specially regarding malnutrition and anemia.

Area-based dynamic approach and international partnerships are essential part in this strategy, that is mainly based on sustainable development initiatives and complies with several of the United Nation's Sustainable Development Goals (SDGs). The Zero Hunger Goal (2) targets at reducing malnutrition and ensuring that, especially, kids have access to food until 2030 (2.1). The improvement on farming management and support to kitchen gardens can guarantee accessibility to nutritious food besides, it can also generate extra income for the family (1.4, 2.3). The distribution of ecosan toilets together with the reuse water waste are steps towards Clean Water and Sanitation (6). First, it offers an alternative to open defecation (6.2) and it also promotes recycling and reuse of material (6.3). The adoption of the toilets also helps the achievement of target 2.4, it aims at ensuring sustainable food production with resilient agricultural practices. Through capacity building youngsters and adults can learn new and important skills for their personal life (4.4) and also regarding sustainable attitudes (4.7). This is extended to the children - happening inside the schools - where they will be taught about sustainability while experiencing it, this way supporting Quality Education Goal (4). Promoting conscious consuming and local products is included in Responsible Consumption and Production (12).

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Photos by: Environmental and Public Health Organisation (ENPHO); Bangkok Post; Chase Consult Limited; Richard Wainwright.

