

Western University

Scholarship@Western

Africa Western Collaborations Day 2020
Abstracts

Africa Western Collaborations Day

2020

Ecoland

Josephine Mariz De Leon
University of Western Ontario, jdeleon6@uwo.ca

Ryan Grilli
University of Western Ontario

Yasmina Gaber
University of Western Ontario

Riddhi Nandola
University of Western Ontario

Mofiyin Lawal
University of Western Ontario

Follow this and additional works at: https://ir.lib.uwo.ca/awc_abstracts



Part of the [Environmental Studies Commons](#)

Citation of this paper:

De Leon, Josephine Mariz; Grilli, Ryan; Gaber, Yasmina; Nandola, Riddhi; and Lawal, Mofiyin, "Ecoland" (2020). *Africa Western Collaborations Day 2020 Abstracts*. 21.
https://ir.lib.uwo.ca/awc_abstracts/21

Plastic waste pollution is an ever-growing issue affecting both human and environmental health. Due to improper disposal of plastic waste products, bioaccumulation and biomagnification of harmful compounds can occur within marine and terrestrial systems; which can further scale up to humans causing complications such as cancer. In low-income countries, plastic waste is often burned or left on the streets.

Kisenyi III is a slum within Kampala, Uganda that is currently experiencing issues with waste management. Due to the rapidly increasing population and poor waste management protocols, residents within Kisenyi III experience poverty and neglect. Although located within one of the wealthiest cities within Uganda, many experience structural violence that hinders them from accessing housing and private sanitation facilities. Additionally, there are poor waste management solutions for this area due to a lack of accessibility to recycling centres and functioning roadways. For every 1% in population increase, there is an observed 0.9% increase in waste generation. As there are many factors that contribute to plastic waste pollution in this area and uncontrollable elements associated with finding solutions, this is considered a wicked problem.

Eco-Land is an initiative that aims to reduce the burden of plastic waste by converting wastewater bottles into useful building blocks, to ultimately enhance community living through two sub categorical initiatives: Eco-Bricks and Eco-Policy. Eco-Land intends to help Uganda reach their targets for Sustainable Development Goals 9 and 12. Eco-Bricks are made of used, uncompromised plastic bottles that are stuffed with dry and used plastic to keep the shape of the bottle intact, and create a reusable building block for several infrastructures. The concept of Eco-Bricks has seen previous success; in fact, there is a pre-established program, Global Eco-Brick Alliance (GEBA). GEBA has estimated that for each 1kg of Eco-Bricks built, 3.1 kg of carbon dioxide is sequestered. They have reported utilizing Eco-Bricks to build houses, bridges, sidewalks, and other types of infrastructure. Eco-Policy will be created in collaboration with the government and recycling companies. Ultimately, Eco-Land looks to increase awareness about sustainable plastic bottle reuse methods, to increase the uptake of sustainable practices in Ugandan communities.

Given that a similar initiative has been previously implemented, the project team reviewed the literature for possible setbacks. The success of the Eco-Land project heavily relies on the effective identification and management of risks at different stages of the project. The project followed the ISO 31000 framework for risk analysis and proposed possible mitigation and prevention plans for each risk identified. In addition, the team has devised a framework for monitoring and evaluating the program in a formative and summative manner.