

Title of grant: An Integrated Household Scale Sanitation Appliance

Name of lead organization: University of Toronto

Primary contact at lead organization: Stephen Sauder, Project Manager

Grantee location: Toronto, Ontario, Canada

Developing country where the research is being or will be tested: India

Start and end date: April 1, 2018 to June 30, 2019

Grant type: Reinvent the Toilet Challenge, Phase 4

Grant size: USD 2,000,000

Short description of the project: Building on progress made to date for an energy efficient, cyclic-continuous household sanitation process based on liquid/solid separation or dewatering, in situ drying, smoldering and post smoldering catalytic conversion of solid excreta, and heat pasteurization of liquid waste, work during this phase will focus on continuing process simplification, improving reactor thermal performance, reducing mechanical complexity, improving robustness, learning about and addressing user behavior, identifying and engaging manufacturing and commercialization partners, and incorporating their input to reduce cost and productize our technology.

Goal(s): The goal is a commercially viable sanitation appliance that will be ready for commercial production development.

Objectives: This grant will be used to continue the development of an integrated household scale sanitation appliance – towards multiple site field studies and towards commercialization.

Research or implementation partners: STeP and Sankoya

Links, further readings – results to date: N/A

Current state of affairs: Field testing of the fourth integrated prototype will begin October 2018 in Coimbatore, India

Biggest successes so far: Achieving smoldering of full moisture content human feces with no pre-drying requirement, and at controllable rates.

Main challenges / frustration: Mechanical complexity is the main challenge, but we have significantly simplified our system already and will continue to further simplify.