

## Opportunity Statement

- More than 30K displaced to Quibdó due to guerilla violence and settled in informal settlements (89% of country's displaced population)
- 75 % of population in Quibdó lack sanitation infrastructure creates dependence on the polluted Atrato River for drinking water, bathroom, bathing, and cleaning.
- 20 recorded children deaths in a period of three months



“Women washing clothes while waiting for W.C. in Quibdó ” by Asier Reino

## Proposed System Process

1. Collect human feces and urine from elevated water closets

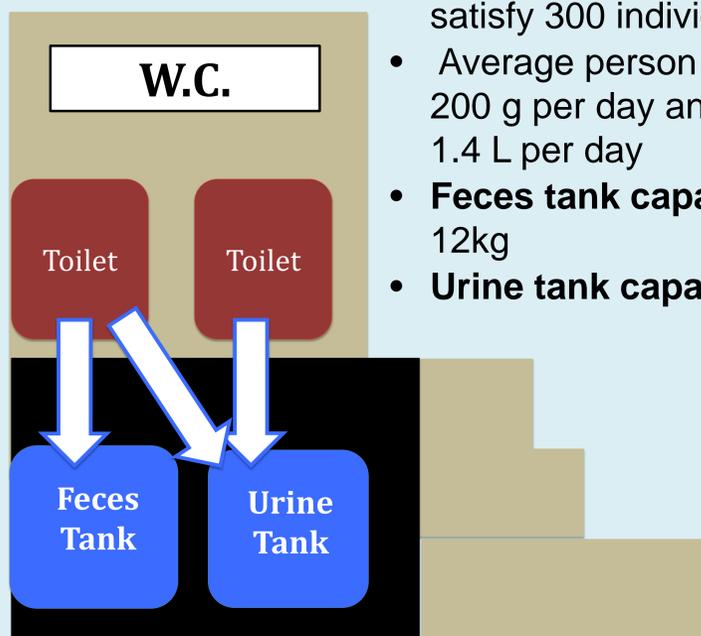
2. Use human feces in bio-digester to produce gas

3. Use in a community kitchen to cook meals for children

4. Make agricultural fertilizer with collected urine

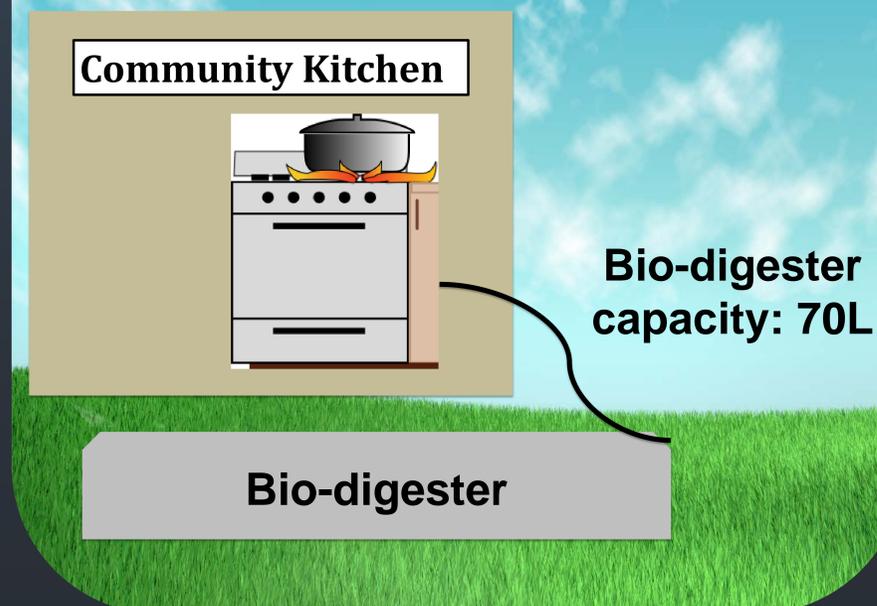
## Elevated Water Closet

- **10 Water Closets** to satisfy 300 individuals
- Average person defecates 200 g per day and urinates 1.4 L per day
- **Feces tank capacity:** 12kg
- **Urine tank capacity:** 60 L



## Waste Usage

Waste is converted into 0.5 L of methane gas and used for 2.5 hrs. of cooking in a community kitchen per day



## Impact

- Safe and accessible toilet facilities for community members
- Reduce human waste contamination to Atrato River to prevent sicknesses related to contaminated water consumption
- Aid with malnutrition in community children
- Generate jobs for community members, specially women, to administrate and maintain water closet facilities and community kitchen
- Encourage an entrepreneurial movement to provide fertilizer from urine and remaining feces