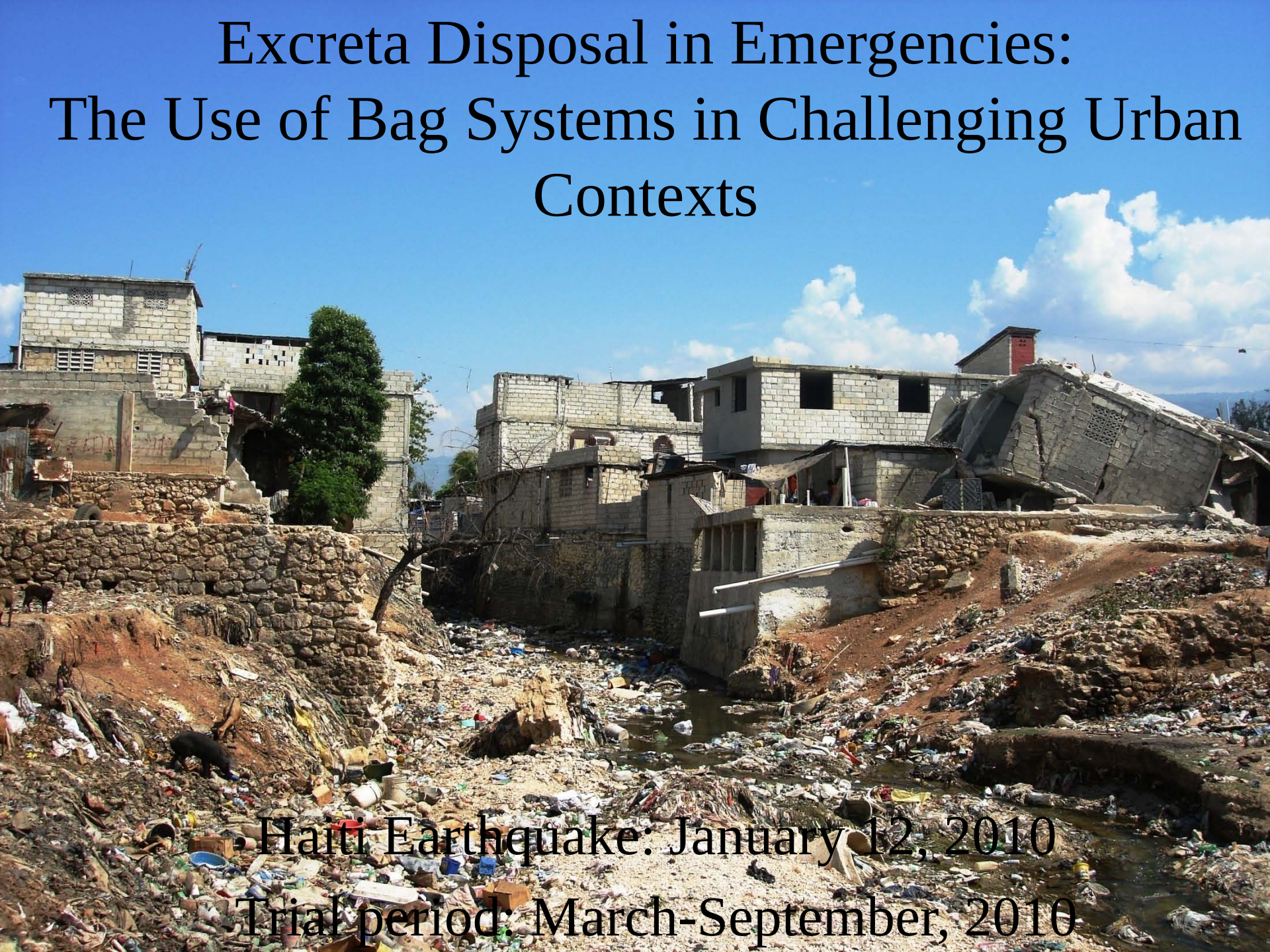
Excreta Disposal in Emergencies: The Use of Bag Systems in Challenging Urban Contexts



- Haiti Earthquake: January 12, 2010
- Trial period: March-September, 2010

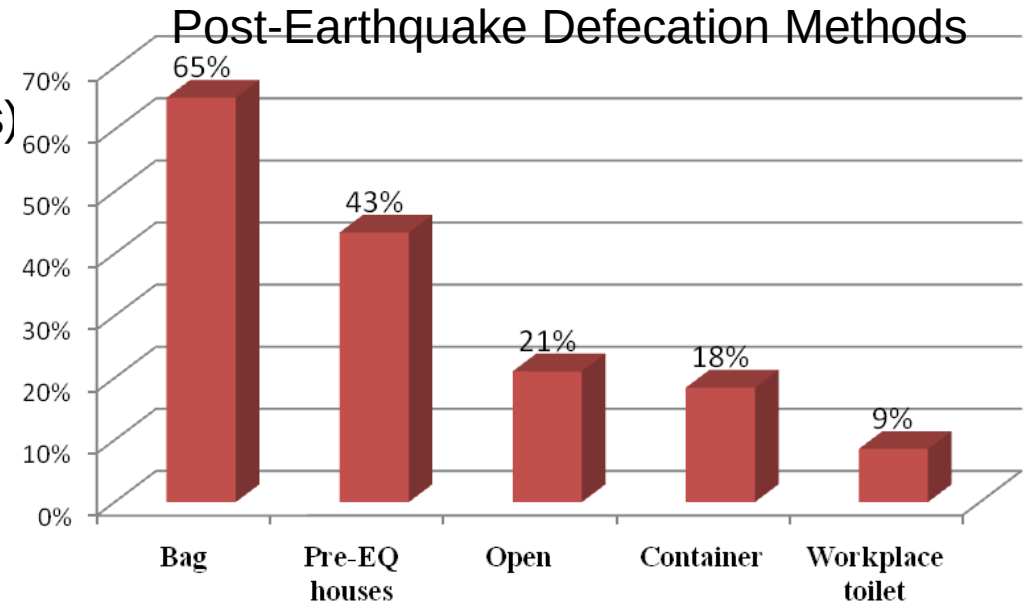
WHY BAGS?

Challenging Contexts Inappropriate for Traditional Systems

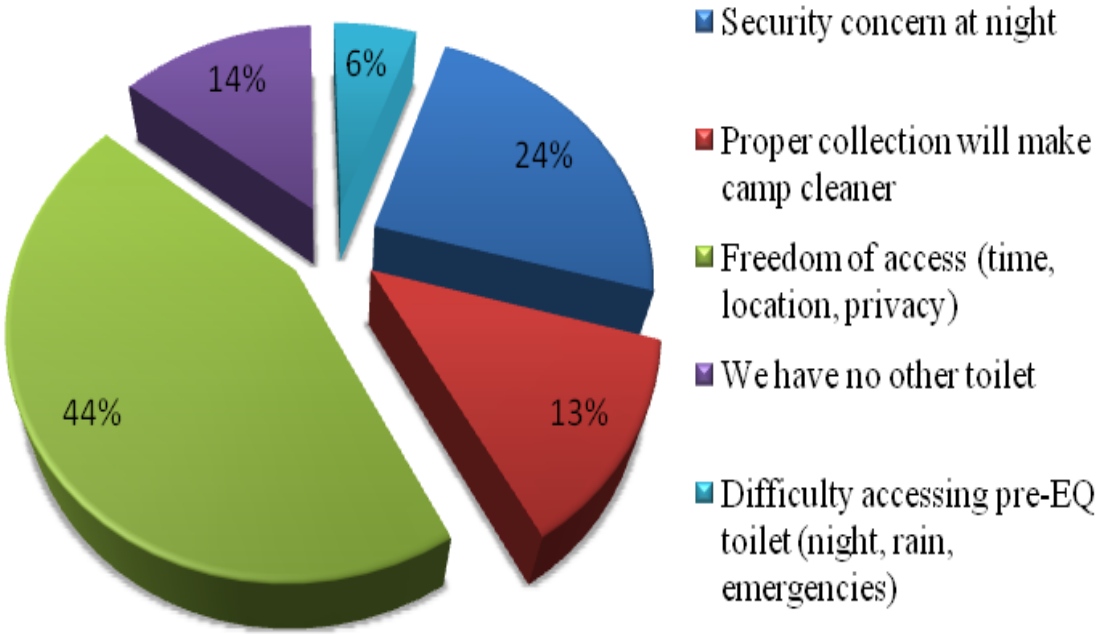
- 1st phase response, before emergency or semi-permanent latrines can be constructed
- Where latrines cannot be constructed, urban settlements with:
  - High population density
  - Limited open space
  - Inability to excavate ground (e.g. settlement on concrete, unstable soil)
  - Low soil infiltration rate/high water table
  - Complex landownership issues (e.g. insufficient permission to excavate)
  - IDP-perceived security concerns (e.g. night time, women)
  - Inaccessible for latrine emptying services
  - Absence of official plans for camp futures
- To fill gaps in traditional approaches for specific individuals (i.e. women, children, people with limited mobility)

WHY BAGS? POST EQ TRIAL DATA

- *Plastic bags* were the most common defecation method reported (65% HHs)
- Pre-EQ houses used included own, friend/family's, or any empty in area
- 100% of children under 5 OD or into buckets and excreta was thrown into nearby open areas



Why HH is interested in using bags in-home?



Components of Bag Sani Systems

1) User Interface- In shelter provision

Key parameters to consider when choosing bag type for an excreta disposal system				
	Polyethylene	Oxodegradable	Biodegradable	Peepoo
Cost	$	$$	$$-$$$	$$$$ (?)
Size	Multiple options	Multiple options	Multiple options	“small”
Procurement	Easy	Moderate	Moderate	Not mass produced
Enviro impact	Polluting	Degrades, but variable safety	Degrades, no impact	Degrades, no impact
Degradation	None	Fragmentable Aerobic or anaerobic (landfill)	Complete, can be rapid. May require composting	Rapid, complete degradation
Health impact	None	None	None	Pathogen reduction

1) User Interface- Community-level provisions

Female Urinal

Male Urinal

Modification options for UD with Bags

2) Distribution

Pre-packaged “kits” for rapid distribution

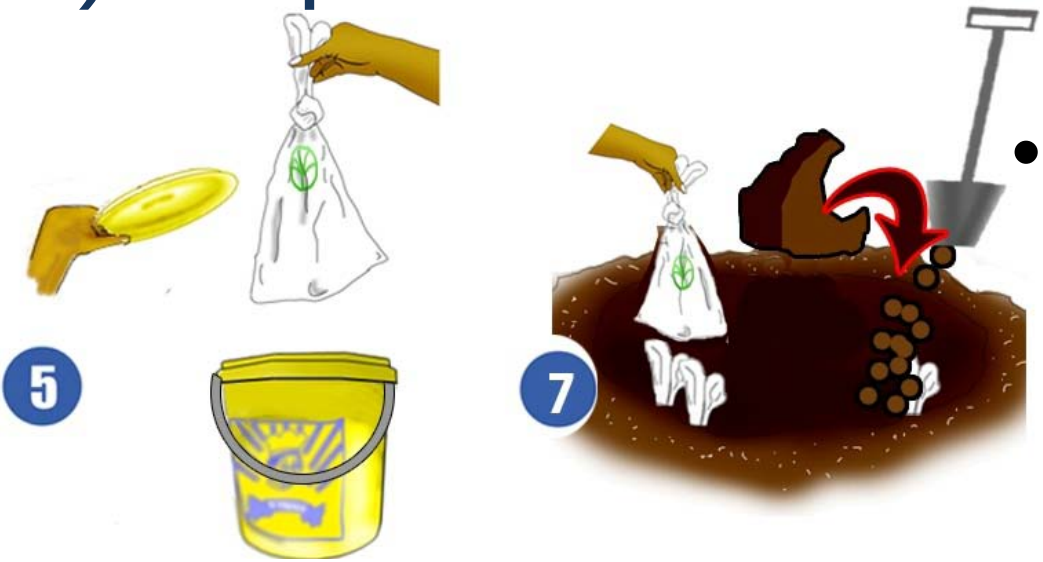
Community creating in-shelter “kits

3) Deposit and Storage

Ideal collection container: lightweight, has handle and tight fitting, lockable lid; wheels an added bonus to aid in transport

4) Collection and Transport

5) Disposal or Treatment for Reuse



- **Onsite**
  - **In closed containers**
  - **Burial**

- **Offsite**
  - **Into regular excreta disposal system**
    - **Most appropriate if bags are landfill degradable**
  - **Composting**

6)Hygiene Promotion and Monitoring

- System that is accepted by the community can be managed by the community

- Continual hygiene promotion messaging
  - Sufficient to ensure proper usage, collection and safe disposal
  - IEC materials must be drafted specifically for the bag type and collection system utilized
  - Provide adequate hand-washing facilities with soap

- Ongoing monitoring and evaluation is necessary to ensure bags are always disposed of correctly and ascertain user perceptions on system

Benefits of a Bag Systems

- Mobile/flexible
- Personal (1 person/1 bag/freedom of use/new every time)
- Household and community level provisions feasible
- Effectively contains excreta (smell contained during collection too)
- Accessible to vulnerable populations
  - Handicap
  - Children
  - Women
  - -- Security concerns (nighttime, women)
  - -- “Illegal” or temporary settlements
  - -- Elderly/people with limited mobility

DO NOT focus on “BAGS” but on the BENEFITS of the WHOLE SYSTEM!

Recommendations for further study

- Research and planning needed for contingency stock for disaster-prone areas, 1st phase emergency preparedness
  - Containers (optional?)
  - Type of bag
    - Procurement
    - Storage requirements
- Cost-effectiveness over time
- Phase-out strategies


Questions?
Comments?