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# *Human waste management in first phase response, protecting ground water and human health: a case study from Haiyan 2013*

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**SUSTAINABLE WATER AND SANITATION SERVICES  
FOR ALL IN A FAST CHANGING WORLD**

**Human waste management in first phase response,  
protecting groundwater and human health:  
case study from Haiyan 2013**

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**BRIEFING PAPER 1997**

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*This briefing paper presents a case study of a Peepoo implementation in first phase humanitarian response. The case is taken from the Philippines, post typhoon Haiyan in 2013 and aims to demonstrate a safe way of handling of human waste without risking the contamination of water. This briefing paper will outline how the organisations, ACF, arche noVa, Oxfam and Red Cross implemented the Peepoo solution and lesson learnt so far. Some of the key lessons learnt in the projects were that; it is preferred to have the Peepoos stocked locally in order to have them available for phase one in humanitarian response; training implementing staff on Peepoo prior to the intervention increases the probability of success; and exit strategies must be set up in order to secure good sanitation practices after the implementing organisations stop distributing Peepoos.*

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## **Background**

On November 8 2013, Typhoon Haiyan hit the Philippines with devastating brutality affecting 14,1 million people and displacing over 4 million people. Typhoon Haiyan ended up being the deadliest event of 2013 in the Asia-Pacific, killing more than 6,000 people and damaging around 1 million houses.

Reports from the areas hit by the typhoon indicated heavy damage to sanitation infrastructure, particularly at household level, where thousands of people was left without any toilet facilities. Most were forced to resort to open defecation, risking spawning the spread of water-borne diseases. To reduce public health risks and to protect ground water, four humanitarian agencies, ACF, arche noVa, Oxfam<sup>1</sup> and Red Cross, chose to deploy Peepoo as a part of their WASH response.

Peepoo is a personal, single-use, self-sanitising, fully biodegradable toilet that prevents faeces from contaminating the immediate area as well as the surrounding ecosystem. After use, Peepoo turns into valuable fertiliser that can be used to improve livelihoods and increase food security.

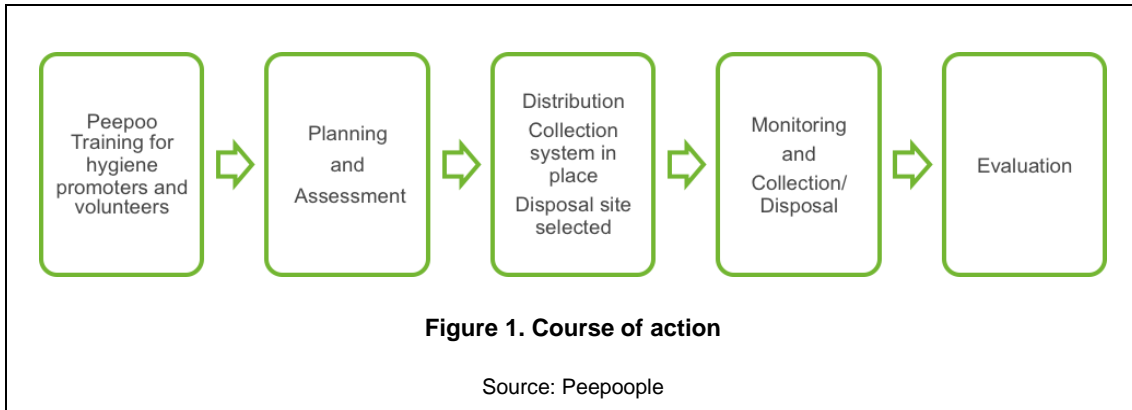
Peepoos come in sealed packs, containing 28 toilets, as well a biodegradable disposal bag, Moyla. The packs are developed with the purpose of making Peepoo quick to distribute in the field and available for use from day one. The whole Peepoo sanitation system is also created to minimise maintenance cost and maximising safety when disposing of human waste. Since the human waste becomes harmless inside Peepoo and the material is completely biodegradable, it is safe to dispose of in the ground, without risking contaminating people or the environment and the ground water.

The Peepoo solution was developed with the WHO-requirements and the Sphere standards in mind.

As the WHO requirements on safe sanitation requires, Peepoo isolates faeces from the individual after defecation and since it is closed directly after use, it also prevents flies and small animals from coming into contact with faeces preventing contagion. The third WHO requirement; inactivating pathogens in faeces before they are returned to nature, is met in Peepoo through the ammonia-based sanitation method that is applied in Peepoo.

Peepoo also meet the Sphere standards in sanitation and helps to keep the living environment free from human faecal contamination. Peepoo is easily used by children and has proven to be applicable for schools.

Since Peepoo is created for household use it gives people access to adequate, appropriate and acceptable toilet facilities, in their home or close to their dwellings. This allows rapid, safe and secure access at all times, day and night. Peepoo is a single use toilet, minimising the risk for contamination when sharing a toilet.



### Usage and application

Oxfam, Red Cross and ACF identified Peepoo applicable in Leyte province to bridge the gap until latrines could be constructed and fully functioning as well as a complement to latrines during night and heavy rain. Peepoo was also identified as applicable to bridge the gap until beneficiaries are relocated to bunk houses and in an elementary school until school latrines could be up and running.

### Peepoo training

Two Peepoople field coordinators were deployed to support implementing agencies with Peepoo training. In total 40 national and local hygiene promoters and volunteers were given Peepoo Training in December 2013.

The training used participatory training methods combining technical and local knowledge covering the areas of:

- Use of Peepoo and applicability
- Community promotion (tools and triggers)
- Appropriate disposal systems

### Intervention

Oxfam distributed Peepoos in Barangay 42 in Tacloban City. The beneficiaries were 300 households in urban settlement and they conducted 2 distributions during 1 month.

The Red Cross found San Roque in Tanauan applicable for distribution of Peepoos to 2 000 households in urban settlements and evacuation camp, as well as to 700 students in elementary school. They did continuous distribution during 1 month.

ACF implemented the Peepoo solution in Barangay 67, in Tacloban City. 280 households in urban settlement received Peepoos continuously for 1 month.

### Assessment

The sites for Peepoo distribution were assessed through site visits, interviews with key informants as well as gender separated focus group discussions. The assessment focused on sanitation habits in the community before and after Haiyan, as well as people’s willingness to use Peepoo. Most of the assessed barangays had no functioning sanitation facilities forcing many people to resort to open defecation. All assessed barangays raised the need and the acceptability of Peepoo.

### Distribution

Trained promoters and volunteers distributed Peepoo on site. They also conducted Peepoo Community Promotion with focus on the appropriate use of Peepoo, the correct disposal of Peepoo and hand washing

after defecation. The distribution consisted of Peepoo Personal Packs (28 Peepoos and 1 Moyla, disposal bag) and Peepoo Kitis (seat to be used with Peepoo).

### **Collection and disposal**

Collection and disposal of used Peepoos was managed with respect to context and recourses. In one scenario the beneficiaries collected used Peepoos in the Moyla on household level and then were able to dispose of them on household level directly in the ground. Others had community collection, which was done in barrels with lid and an inner liner, located at central points and facilitated by cash-for-work collectors. The disposal of the community collection was done on specific disposal sites, which was cleared by sanitation inspectors through the department of health (DOH). Every second day, Peepoos were brought to the disposal site and disposed of in shallow pits and then covered with soil. Community involvement was the base in all collection activities.

### **Monitoring and evaluation**

The monitoring was used to gather instant feedback to ensure correct usage and disposal. Oxfam and ACF based their monitoring on the Peepoople monitoring form where focus is on observation and practical demonstration of the correct use and disposal of Peepoos. ACFs monitoring showed that 74% of the beneficiaries used Peepoo. Monitoring was reported continuously.

Evaluation of the complete WASH response will be carried out by the implementing agencies. Based on these findings the effects of Peepoo response to provide guidance and lessons learned for the wider application of the Peepoo solution.

### **Lessons learnt**

Overall, the Peepoo interventions post Haiyan contributed to protecting the environment and help prevent the spread of water-borne diseases. Since Peepoo is individual and single use, a new clean toilet was used every time when defecating. By using the Peepoo toilet the faeces were immediately enclosed, isolated from the individual and others. Being able to measure each used/collected Peepoo means that the implementing organisation can measure how much less excreta there is in the environment/in the community. With the disposal mechanism where used Peepoos were collected and transported to an approved disposal site or buried in the ground, the risk for contamination by animals or other vectors was also minimised and the environment was kept cleaner.

Since many implementing organisations find Peepoo applicable in first phase response the following is important to remember:

1. It is preferred to have the Peepoo products prepositioned in the affected country to ensure quick role out, which is possible since the solution is compact and cost effective to stock (11 000 Peepoo Personal Packs in a 20" container). Co-packed pallets Peepoo/Kiti are preferred to avoid incomplete solutions on site and to make the logistics easier for the implementing staff.
2. It is preferred to have had Peepoo training of the implementing organisations' staff prior to intervention, to ensure efficient role out. This also contributes to awareness and understanding of the Peepoo solution by ground staff, which is vital for high quality role out and a committed team. Peepoople's involvement should be agreed on prior to intervention in order to avoid misunderstandings, and for the ground staff to know what support they could get from Peepoople field officers.
3. Cash-for-work program is a suitable resource for collection activities. The disposal mechanisms should be defined prior Peepoo distribution, incl. official approval if required.
4. Lastly, it is important to have a plan for exit/continuous sanitation practice, before the distribution of Peepoos ends.



Photograph 1. Distribution Oxfam

Source: Peepople



Photograph 2. Community meeting ACF



Photograph 3. Training Red Cross



**Photograph 4. Beneficiaries with Peepoo**



**Photograph 5. Community Collection**

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### References

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### Notes

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