

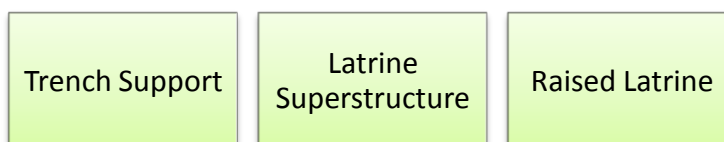


## Emergency Sanitation Project

### CALL FOR PROPOSALS: GRANTS FOR THE DEVELOPMENT OF EMERGENCY SANITATION KITS

In humanitarian emergencies sanitation is one of the highest priority interventions, which is why Oxfam GB spent £3.9 million in the 2012/13 financial year on latrine construction. Now the Emergency Sanitation Project (ESP) is looking for suppliers of new and improved sanitation kit for future emergencies. We will share the cost for the development of high quality solutions with initial grants of up to £6,000 and further grants of up to £15,000. If the product developed is successful we will look to you to supply the kit, or we will link you up with somebody that can.

The ESP is a collaboration between Oxfam GB, WASTE and the International Federation of Red Cross & Red Crescent Societies, but the kit you develop will be for use by all humanitarian agencies. The kits we are looking for are described in detail on the following pages. They are in three areas:



Initially all we are asking is for a short application outlining your new design and how you will produce it. We will select up to ten applications to receive an initial grant to produce a prototype. Up to £5,000 will be awarded for proposals for latrine superstructures and trench linings and £6,000 for the raised latrine.

Upon delivery of the first prototype you may be awarded further grants of up to £15,000 to continue development. The aim is that the final product will be produced and supplied to aid agencies for use in humanitarian relief. A successful product could be ordered in high volumes, for example Oxfam alone has purchased more than 30,000 plastic latrine slabs in the last three years.

The ESP will assist with the development where possible, including giving advice, field testing where possible and publicising developments to other humanitarian agencies.

## Application Requirements

Applications for the initial grant should be paper concepts which meet or improve upon the attached specifications for the new sanitation kit . Applications should be no more than 2 pages of 11 point text plus as many further pages of diagrams or drawings as required to fully demonstrate your concept.

Applications should include:

1. Contact information and an overview of your organization.
2. A description of your proposed solution and diagrams/drawings of it packed and set-up.
3. Estimated weight and cost of your solution, including justification for this.
4. Development plans, how you would produce the prototype and how long it would take (ideally by the end of February).
5. Whether you could - and would like to - take the concept to manufacture.

Applications should be made to Angus McBride, Oxfam GB Emergency Sanitation Researcher, by email to [amcbride@oxfam.org.uk](mailto:amcbride@oxfam.org.uk). The deadline for applications is 9.00am GMT on Tuesday 3<sup>rd</sup> December 2013.

The submission of more than one proposal by the same organization is allowed and encouraged. It is anticipated that grants will be awarded by 18<sup>th</sup> December 2013 and prototypes delivered before the end of February (although this can be flexible by agreement in advance).

Applications will be judged on the basis of criteria including:

1. User friendliness
2. Packaging
3. Durability
4. Estimated cost, weight and shipping volume
5. Manufacturing & supply plan
6. Feasibility of proposal
7. Innovativeness

## General Design Requirements

<b>Use of local materials</b>	The solutions should come as complete kits and no local materials whatsoever should be required. The ability to use local materials for upgrading or repairing is acceptable, however.
<b>Air Freight</b>	The solution should be suitable for air freight, so should be light and pack small.
<b>Transport in Country</b>	On arrival in the country there are unlikely to be forklift trucks, so the solution should be able to be man handled.
<b>Construction</b>	The solution should require little or no skill to assemble.
<b>Durability</b>	Solutions should last for around 12 months. As the solutions are for emergency situations they need not be permanent so as to minimise cost.
<b>Users</b>	The latrines will be used by people with disabilities and by children. Wheel chair users and those with severe disabilities may require separate solutions.
<b>Climate</b>	The latrines will be used in areas of extreme heat, and should be able to withstand this. Plastics used will also need to resist UV light.
<b>Theft</b>	The latrines should avoid using parts that are likely to be stolen.
<b>Reuse</b>	Reuse of the structures is not envisaged.
<b>Dignity &amp; Security</b>	Dignity, privacy and security are essential in our sanitation interventions.

# Trench Support

In some ground conditions pit latrines can be impossible or dangerous to dig because of collapsing soils. Supported excavations are common throughout the developed world, but these solutions are typically too heavy and require too much specialist machinery to be suitable for humanitarian use.

A solution is required for trench latrines where four or more latrines are constructed above one trench. Two distinct types of soil collapse need to be prevented and require two different products:

1. Crumbly sand at the top 0.5 – 1.0m of the trench.
2. Unstable soil for the whole depth of the trench, meaning that the full depth is required. The bottom half of the lining must be permeable to allow liquid to infiltrate the surrounding soil.

Pit latrines are only used above the water table. Crumbly sand and clay soils that expand and contract are particular problems. For a lightweight lining to be strong enough to line the pit, it is likely to need bracing. Trench latrines are normally around 80cm wide and vary in length. The solution will need to be low cost.

These images represent examples of field applications and design ideas:





## Latrine Superstructures

Latrine superstructures are necessary to give the user privacy and dignity whilst defecating. Long term designs often involve bricks, concrete blocks, or any number of local building materials but these take time to set up and are unsuitable for the early phase of an emergency. Short term solutions currently used can involve plastic sheeting, wood or plastic panels.

What is required is a flat pack or folding superstructure that can be easily erected, thus provide dignity and protection to the latrine user for the early phases of an emergency onwards that can compete on cost with basic solutions constructed in the field. Superstructures that come as a pair could be a useful way of increasing durability without increasing cost. These can then easily be located along trench latrines.

The solution should give the user complete privacy. The entrance should be lockable on the inside and, preferably, the outside as well. Note that thin plastic sheeting is often semi-opaque in strong sunlight. The solution should be airy and have ventilation, for example a gap between the walls and the roof. A vent pipe into the pit is not required. A pitched roof should be provided to keep the rain off and give privacy in hilly areas. A target cost of £50 per latrine should be aimed for.

These images represent field applications.





## Raised Latrines

Sometimes because of a high water table, frequent flooding, rocky ground or where digging into the ground is not permitted it's not possible to dig pit latrines and instead it's necessary to build upwards. In non emergency situations there is a multitude of ways of raising a latrine: whether by creating an earth mound, a wooden frame or a concrete block structure. None of these are suitable for air freighting or for quick installation in the first phase of an emergency.

A tank or bladder will sit below the squat hole collecting all excreta. Unlike a normal pit latrine liquid will not be able to infiltrate the soil so the container will fill quickly and will need regular emptying. Removal of the faecal waste will be undertaken by a vacuum truck or smaller hand pump. Assuming 50 people per squat hole producing 2 litres of excreta per day and emptying on a weekly basis, the containment should be in the order of 1m<sup>3</sup> per squat hole. As the container is aboveground and holding dangerous material it is essential that it is not susceptible to leaking, and must also be completely sealed so as to prevent flies or odour.

The latrine could come in a single unit, although they are most likely to be used as a block. The solution may include a superstructure, or may rely on a separate superstructure being used. Target cost of £100 per latrine excluding the superstructure, or £150 per latrine including the superstructure.

These images represent field applications of raised latrines:

