

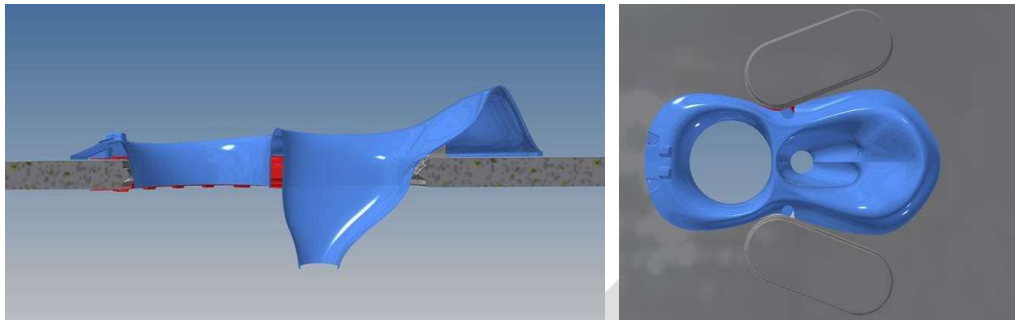


Urine diversion squat plate for emergency latrines

Urine diversion dry toilets (UDDTs) are an appropriate technology in areas unfavourable for constructing pit latrines (rocky ground, unstable soils, high water table). UNHCR has endorsed UDDTs as a standard solution for difficult ground conditions (<http://wash.unhcr.org/download/unhcr-uddt-sops/>), however uptake remains low and confined to the transition phase from communal to household toilets. Application of UDDTs for first phase or earlier introduction in a humanitarian response is constrained by the absence of readily available UD squatting slabs. The UDDT insert developed under the ESP is a versatile piece that can i) transforms a standard¹ emergency plastic keyhole squatplate into a urine diversion one or ii) be used independently and integrated into a timber or concrete floor.

Treatment technology:	Solid and liquid separation and containment to enable either natural decomposition/ composting or more efficient transport and off site disposal (transport of dry solid fecal matter is much easier than faecal sludge with high moisture content).
Treatment objective	Reduced volume of fecal sludge, reduced odor.
Treatment capacity	n/a
Site requirements	Standard emergency keyhole slab.
Life expectancy	Several years (to be determined based on field testing)
Weight and volume	0.7kg, 60cm (L), 30cm (W), 20cm (D) Squatplates are stackable and nest for efficient transport and airfreight
Start up time	<5 minutes to fix to brackets and secure
Capital cost	\$tbd.
Operational cost	Dependent on type of toilet (single or twin vault), frequency and method of emptying from the collection chamber or storage vessel. Separation of solid and liquids makes waste handling easier so operating costs should be lower than desludging from a pit latrine or cesspit.
Equipment overview	<p>The squatplate is made from co-extrusion Acrylic-ABS plastic. The Acrylic is the top(exposed) side and is very hard/scratch resistant/UV protected/easy to clean. The ABS is the underside and is cheap/more flexible and crack resistant.</p> <p>It secures to a keyhole slab via 3 brackets. These were designed to fit in existing screw holes present on Nagmagic and Dunster slabs, however the insert fits any slab</p> <div>   </div>

¹ Specifically designed for Nagmagic and Dunster House slab, however it is compatible with others of similar keyhole size and footrest configuration.

	<p>with the same footrest and keyhole configuration. Where a standard size plastic slab does not have pre fitted screw holes, hole should be drilled through the slab and the UD insert secured using bolt, nut and washers.</p> <div data-bbox="381 284 1401 602" data-label="Image">  </div> <p>The insert comes with a flexible synthetic gasket to create a seal with the underlying slab.</p>
Process overview	<p>Optimal benefits of a UDDT toilet is based on alternating (twin) chambers with sufficient storage to enable complete pathogen die off prior to emptying. In a first phase emergency, single chamber urine diversion is more likely with a need to empty the chamber before pathogen die-off. In the case of twin chamber a single squat plate can suffice by switching from the full to the empty chamber.</p>
Additional considerations	<ul style="list-style-type: none"> - How to disposal of urine – containment or piped to soakaway. - Frequency and method of disposal of solid waste. - Thorough community consultation and engagement prior to introduction of UD toilets. - Mobilisation and training on use of UDDTs. - Availability of ash or equivalent (e.g. sawdust, coconut or rice husk) to encourage desiccation.
Advantages over other toilet options	<ul style="list-style-type: none"> - In challenging ground conditions (rocky or loose soils) where it is difficult or expensive to dig pits, and flood prone areas, UDDTs are likely to be a more cost effective solution to pit latrines. - Typically produce less smell and fly nuisance than pit latrines. - Pit fills more slowly increasing the interval times for desludging.

