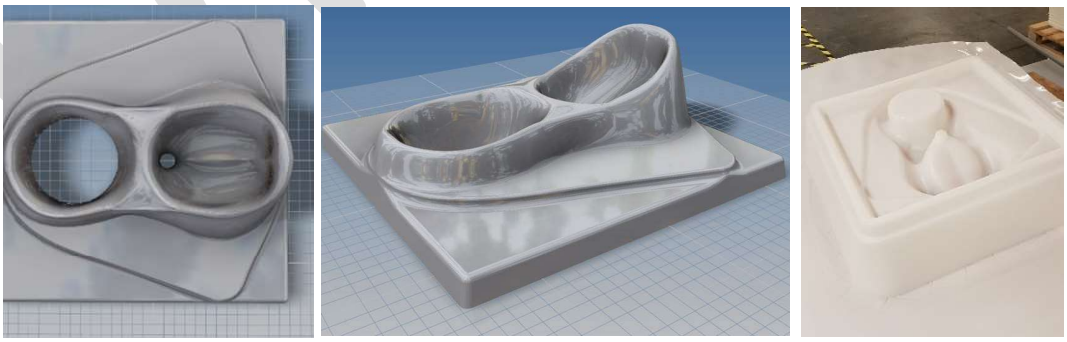
Urine diversion squat plate mould

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. The UDDT mould developed under the ESP enables production of cheap, durable concrete urine diversion squat plates and is intended to encourage agencies to construct more UDDTs as part of humanitarian sanitation programmes.

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 odour.
Treatment capacity	n/a
Site requirements	Single or double chamber vault, covered by concrete or timber floor.
Life expectancy	Comparable to other concrete structures if adequately cured (i.e decades).
Weight and volume	1.5kg, 80cm (L), 60cm (W), 20cm (D) Moulds are stackable and nest for efficient transport and airfreight
Start up time	15 minutes to cast, followed by curing time
Capital cost	$tbd.
Operational cost	Minimal . Separation of solid and liquids makes waste handling easier so operating costs should be lower than desludging from a pit latrine or cesspit. Well designed twin chamber urine diversion toilets allow for near complete pathogen die off, enabling safe handing of waste, which is also a potential source of organic compost.
Equipment overview	Polyethylene mould produced using vacuum forming. Squat plate is reinforced with 5 or 6mm rebars. Use of this mould is most appropriate during the transition from emergency communal durable household solutions. The final squat plate weighs approximately 35 kgs 
Process overview	Optimal benefits of a UDDT toilet is based on alternating (twin) chambers with sufficient storage to enable complete pathogen die off prior to emptying. Whether single or twin chamber only one UD squatplate is required as it can be moved when the switching between chambers.

Additional considerations	- 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 to ensure technology and design is appropriate for people's needs. - Mobilisation and training on use of UDDTs to ensure correct use. - Availability of ash or equivalent (e.g. sawdust, coconut or rice husk) to encourage desiccation.
Advantages over other toilet options	- In challenging ground conditions (rocky or loose soils) and flood prone areas, where it is difficult or expensive to dig pits, UDDTs are likely to be a more cost-effective solution. - Typically produce less smell and fly nuisance than pit latrines. - Pit fills more slowly increasing the interval times for desludging.

CONCRETE UDDT MOULD

Dunster House

OXFAM