**Issue**

During the onset of an emergency, UNICEF quickly deploys products to support sanitation services, including latrines. But what happens when the latrines fill up? A critical step is to ensure the safe treatment and disposal of human waste.

Without comprehensive faecal sludge and wastewater management, human waste can overflow contaminating the environment and nearby drinking water sources which increases the risk of epidemics in already vulnerable populations. Deadly diseases, such as cholera and dysentery, can rapidly become dangerous outbreaks in crowded camps and other humanitarian settings. In fact, *diarrhoea kills more children in war than war itself* with children under five years living in conflict zones are 20 times more likely to die from diarrhoea due to unsafe water and sanitation, than from direct violence associated with the conflict.

As UNICEF continues to respond to conflict situations and rapid onset emergencies, there is a need for product/s or a kit that can be rapidly deployed to ensure the safe treatment and disposal of faecal sludge and wastewater.

The product/s or kit would support UNICEF and partners’ humanitarian response in conflict zones, refugee and displacement camps and the aftermath of disasters. It may also be used in urban and densely populated areas in developing countries.

Ideally, the product/s or kit will be pre-positioned and/or supplied through the UNICEF Catalogue to allow for rapid response within the first 6 - 12 months of an emergency. Equipment should be quick to set up and operationalize, with sufficient capacity to meet the needs of the affected population. The system will need to be versatile enough to function as a temporary solution and potentially as a stop gap for longer term situations until sustainable systems can be developed.

**Response**

UNICEF is working with Country Offices, industry, manufacturers and key water and sanitation partners to determine if currently available treatment products are suitable for humanitarian settings, or if further innovation through research and development is needed.

If no suitable products are available, UNICEF will mobilize and incentivize industry to innovate and adapt existing products and/or create new products to address these challenges.

**Impact**

The development of a pre-packaged deployable product/s or kit will help UNICEF and partners respond to sanitation needs in sudden onset emergencies.

With the ability to rapidly set up treatment and disposal facilities for faecal sludge and wastewater, UNICEF will be able to prevent deadly disease outbreaks including cholera and acute watery diarrhoea, saving children’s lives.

Product/s will also contribute to achieving Sustainable Development Goal 6: ensuring access to clean water and sanitation.

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**Key figures**

- **20x**
  
  Children under five are 20 times more likely to die from diarrhoea diseases due to unsafe water and sanitation than violence in conflict.

- **3x**
  
  Children under 15 are nearly 3x more likely to die from diarrhoea diseases due to unsafe water and sanitation than violence in conflict.

- **50%**
  
  Over half of the global population (4.2 billion people) do not have access to safe sanitation.

- **48 million children**
  
  In 2018, UNICEF estimated that 48 million children across 51 countries were affected by war, disasters or other types of emergencies.

**No ‘out of the box’ solution**

UNICEF has no ‘out of the box’ system that can consistently provide high-quality sanitation solutions in emergencies.
The sanitation value chain

Based on the identified need from actors in emergencies, the ideal product/s will enable the treatment and disposal and possible reuse of faecal sludge and wastewater, noting that reuse is not always feasible in emergency settings. UNICEF currently has no ‘out of the box’ system that can consistently and predictably provide high-quality sanitation solutions in emergencies. Current labour intensive solutions are not ideal and as UNICEF continues to respond to conflict and rapid onset emergencies there is a need to significantly improve our response and the available sanitation products by innovating for the communities we are supporting.

**UNICEF’s role**

UNICEF is on the ground before, during and after emergencies, working to reach children and families with life-saving aid and long-term assistance. UNICEF currently leads the water and sanitation cluster of UN agencies and non-government organizations. This involves working with key stakeholders to identify best practice and consolidate, set and disseminate standards and policies. Through the global faecal sludge management technical working group, UNICEF is also working with partner agencies to ensure a systematic approach to the treatment and disposal of faecal sludge in all future humanitarian crises. Any product/s developed will be a critical component of this aim with potential for wide-scale application in UNICEF and partners’ humanitarian programming globally.

**Faecal sludge management in the world’s largest refugee camp**

In August 2017 hundreds of thousands of Rohingya refugees fleeing violence in Myanmar crossed the border into Bangladesh. Within 10 months, the makeshift refugee camps in Cox’s Bazar were home to almost 1 million people. Humanitarian agencies rushed to provide shelter, water points and latrines in the densely populated camps. With the area prone to monsoons, landslides and flooding, the absence of comprehensive faecal sludge management presented potential health and environmental dangers. Human waste leaked from pit latrines into flooded walkways and areas where children played placing the already vulnerable population at risk of a major disease outbreak.

By July 2018, faecal sludge management systems were established by UN and NGO agencies, with pit latrines emptied manually by paid volunteers from among the refugee population who transported faeces to localized treatment facilities.

In many ways, the effort to provide safe sanitation services was unprecedented and impressive. But the scope and complexity of the crisis highlighted critical gaps. The ad-hoc systems were labour intensive, had high operating costs, insufficient treatment capacity for the population size, and were time-consuming to install and make operational.

This emergency, along with the 2010 Haiti earthquake and ongoing conflict in Syria, have demonstrated the need for easy to deploy sanitation solutions or product/s that can ideally be supplied through the UNICEF Supply Catalogue and prepositioned in advance of humanitarian disasters.

Images:
1. A team of Rohingya labourers build a latrine in Chakmarkul refugee camp in Cox’s Bazar © UNICEF/UN0227743/Brown
2. A drainage channel cuts through the Kutupalong refugee camp in Cox’s Bazar © UNICEF/UN0331051/Nybo
3. Paid volunteers transport faecal waste to a treatment plant in Chakmarkul © UNICEF/UN0226395/Brown
4. The faecal sludge treatment plant in Chakmarkul camp, July 2018 © UNICEF/UN0227745/Brown

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**UNICEF Product Innovation Website:**
[www.unicef.org/innovation/productinnovation](http://www.unicef.org/innovation/productinnovation)

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