Strengthening climate resilience and environmental sustainability of primary healthcare centres in Cox's Bazar, Bangladesh

Context

Climate change is increasingly recognized as a significant and escalating threat to human health, with a growing body of scientific evidence underscoring its impacts. In highly vulnerable settings such as refugee camps, these effects are further amplified – placing considerable strain on already fragile health systems.

Cox's Bazar in Bangladesh is home to the world's largest refugee camp. Both refugee and host communities face recurrent exposure to climate-related hazards, including floods, cyclones, and extreme heat. The convergence of climate vulnerability and environmental degradation – exacerbated by high population density – places these communities at acute risk.

Primary Health Care Centres (PHCs) within the camps serve as critical points of access to healthcare. However, their capacity to deliver essential services is increasingly undermined by the impacts of climate change. Strengthening the resilience of these facilities is therefore an urgent priority. This entails the implementation of sustainable, low-carbon, and locally driven solutions to ensure the continuity of essential healthcare services amid growing climate pressures.

Tdh's Health Programme in Cox's Bazar

Tdh operates two PHCs in Camps 26 and 27 in Teknaf, serving over 60'000 Rohingya refugees. These facilities are increasingly exposed to climate-related hazards – such as cyclones, floods and extreme heat – as well as long-term impacts like salinity intrusion and the spread of vector-borne diseases. These risks threaten both the infrastructure of the PHCs and the well-being of the beneficiaries.

The two PHCs manage an average of 600 consultations per day, with nearly 215'000 consultations recorded between September 2022 and August 2023. These two centers constitute the primary – often sole – source of healthcare in the Teknaf region, with no viable alternatives. In addition to essential primary healthcare, the PHCs also provide maternal and child health services, nutrition screening, disease surveillance, and referrals for more specialized care.

The CRESH approach

How can the health sector continue to deliver essential services – especially to the most vulnerable – while anticipating, withstanding, and recovering from climate-related shocks? And how can it do so in a way that contributes to the broader decarbonization of human activities? As climate change intensifies, these questions are more urgent than ever. They lie at the heart of CRESH (Climate Resilient and Environmentally Sustainable Healthcare Facility) approach, which brings together principles of climate resilience and environmental sustainability in health care delivery.]

The CRESH project is currently being implemented in two Primary Health Care Centers (PHCs) operated by Tdh in Cox's Bazar. The project follows a three-step process: i) a Climate Vulnerability and Capacity Assessment (VCA) is conducted to establish the baseline, identify climate-related risks and evaluate the facilities' ability to respond to these hazards; ii) an adaptation plan is developed at the facility level, outlining concrete solutions and defining indicators to monitor and enhance the resilience of the PHC; iii) the implementation of identified solutions.

While the CRESH approach is aligned with WHO guidance, it is distinctive in its direct focus on the healthcare facility level – making it one of the first initiatives of its kind to be piloted in a refugee camp context.

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Helping children worldwide.

The nexus of climate and health systems

Climate change is expected to cause at least 250,000 additional deaths annually between 2030 and 2050, driven by heatwaves, extreme weather, and vector-borne diseases. The logic behind the CRESH approach is that by strengthening the climate resilience of health centers, we create a bridge between community resilience and health systems preparedness. However, evidence on effective interventions remains limited, particularly in fragile, low-resource settings. The CRESH approach addresses this gap by developing and testing context-specific, evidence-based solutions for climate-resilient healthcare delivery.

Why CRESH Matters?

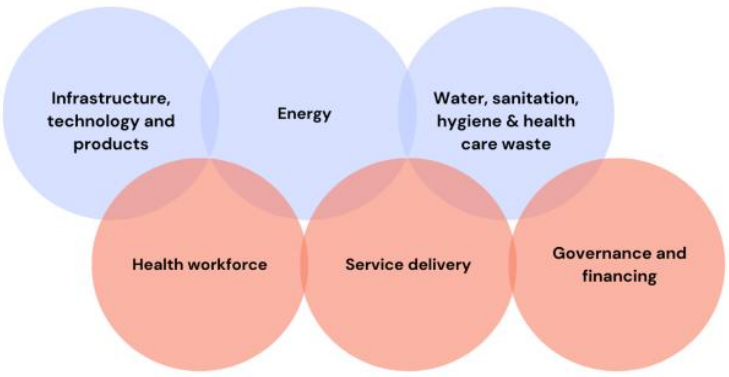
The CRESH initiative stands at the intersection of two urgent global challenges: the climate crisis and unequal access to healthcare. Through CRESH, Terre des Hommes (Tdh) is piloting one of the first models in the world to embed climate resilience at the **health facility level** in a refugee camp context. This model goes beyond environmental mitigation—it aims to protect the right to health by ensuring that healthcare centers can continue operating safely and sustainably under climate stress. Key features that make CRESH distinctive:

- **Localized, data-driven action**: Each intervention is based on in-depth Climate Vulnerability and Capacity Assessments (VCAs), ensuring solutions respond directly to local realities and risks.
- **Integration with essential healthcare**: Instead of treating climate resilience as a separate agenda, CRESH integrates it within day-to-day service delivery—ensuring continued maternal care, child health, and disease surveillance even during extreme conditions.
- **Innovation in humanitarian health**: CRESH contributes to a growing but still limited body of evidence on how to design health systems that are adaptive and sustainable in fragile settings. Its learnings can influence wider humanitarian and development strategies.

Expected results and ambitions

By the end of its first phase, the CRESH project will deliver an adaptation plan for the two Tdh-run PHCs in the camps, outlining a list of solutions across six modules:

The plan will include a monitoring and evaluation framework with clear indicators to regularly assess whether interventions are strengthening PHCs resilience. Findings will be shared through publications and conference to promote and scale up the approach in other contexts.



An international approach with strong local ownership

The Climate VCA methodology was developed by the Climate Action Accelerator (CAA), a strategic partner in the project. Based in Geneva, CAA is committed to accelerating the transformation of the aid and health sectors towards sustainable and climate-resilient models.

The project further benefits from the expertise of icddr,b, a globally recognized Bangladeshi research institute, responsible for documenting and rigorously evaluating the whole process to ensure its scientific robustness and grounding in empirical evidence.

In additional to enhancing the resilience of health infrastructure, the project is underpinned by a strong commitment to open knowledge sharing. This principle is intended to enable the replication of the approach at both regional and national scales, while alco contributing to local capacity development.

Contact

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Terre des hommes (Tdh) is the leading Swiss organisation for children's aid. We provided assistance to over four million children and members of their communities in around 40 countries through our health, protection and emergency relief programmes.

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