Alternative Sanitation Approaches in Emergency Settings

Introduction to Case Studies on Value Chain: Highlighting Innovation and Adaptability

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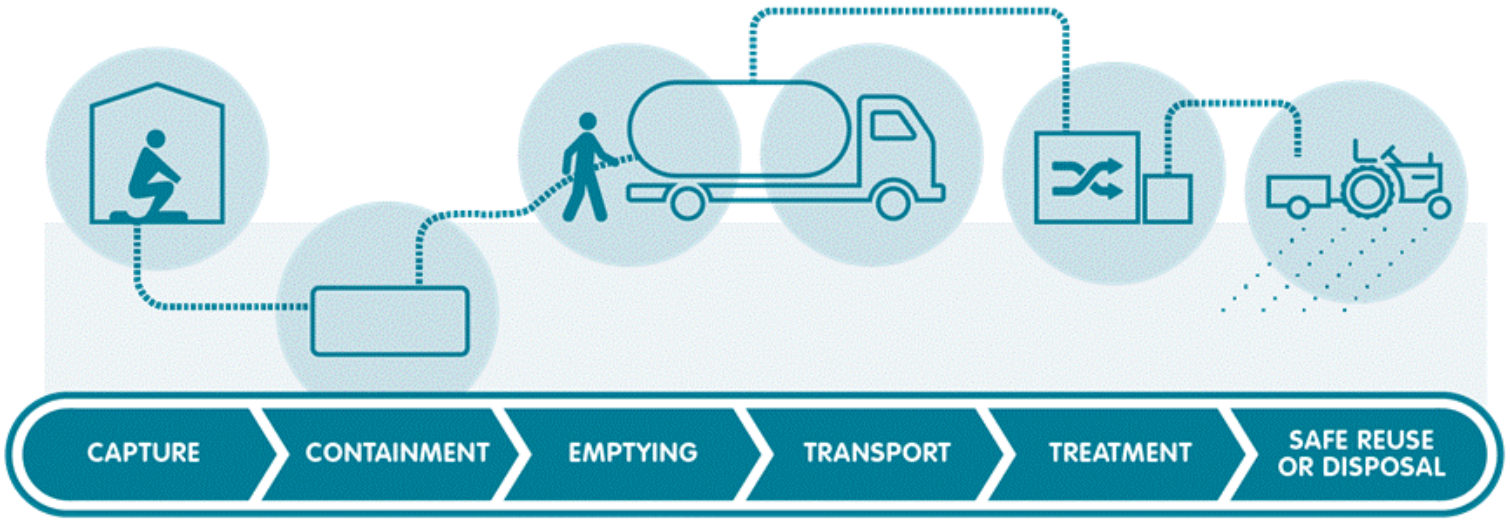
Why Sanitation in Emergency Settings is Critical

- **Global Sanitation Challenges:** Poor sanitation can quickly lead to disease outbreaks, posing a serious threat in disaster-affected areas. Immediate attention to sanitation is crucial.
- **Preventing Disease Outbreaks:** Adaptation of WASH principles is essential, focusing on the sanitation value chain to prevent the spread of diseases like cholera and dysentery.
- **Technological Adaptation:** Flexible, scalable solutions are vital. Portable toilets and temporary treatment units can significantly mitigate public health risks.

The Sanitation Value Chain: A Framework for Action



- The critical stages include capture, Containment, Emptying, Transport, Treatment, and Safe Reuse or Disposal.
- Each must be adapted to emergencies, focusing on quick deployment and safe management of waste.
- Innovative adaptation of WASH clusters ensures effective management and rapid deployment in challenging environments.

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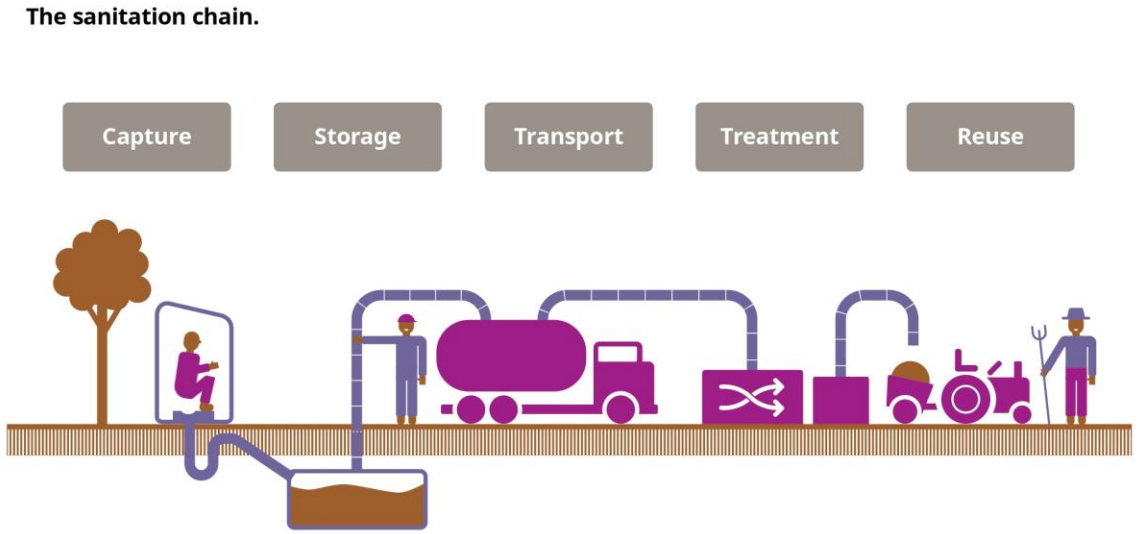
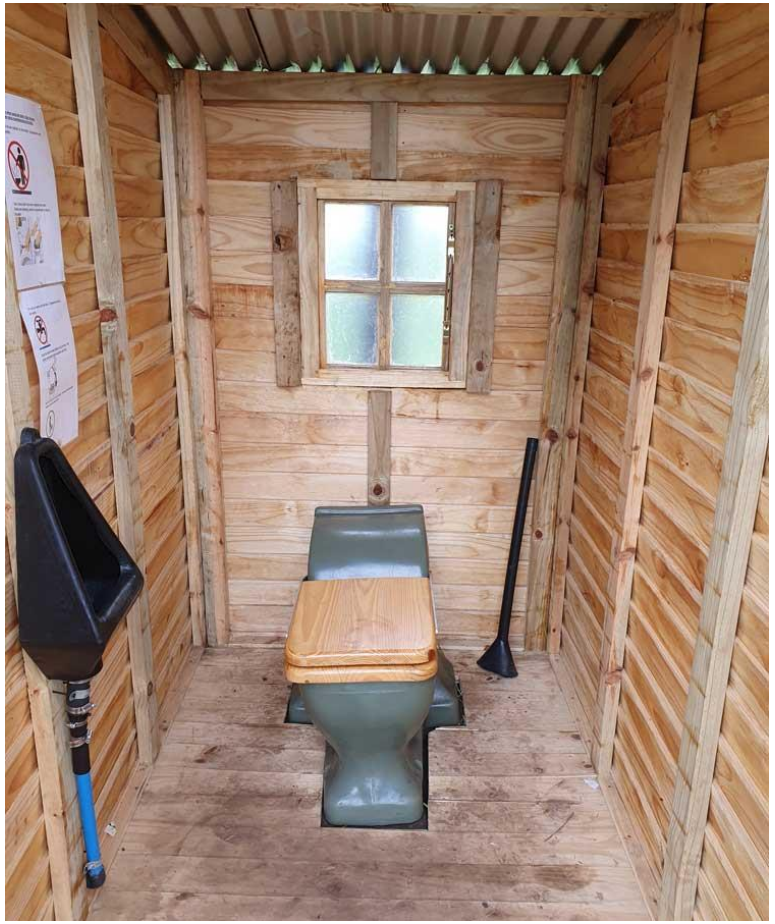
Introduction to the Sanitation Value Chain

The sanitation value chain provides a comprehensive approach to manage waste safely, ensuring public health and environmental safety.



https://washmatters.wateraid.org/sites/g/files/jkxoof256/files/diagram-showing-the-sanitation-chain-from-capture-to-reuse-.jpg

Capture



Quick deployment of collection systems like mobile toilets is essential to capture waste safely and prevent environmental contamination.

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https://khanyisapr.co.za/upload/gallery/Dry-Sanitation-–Front-End-of-System.jpg

Storage

Secure storage solutions are crucial to contain waste until it can be safely transported for treatment or disposal, preventing leaks and further contamination.

https://earth911.com/wp-content/uploads/2022/09/homebiogas-bio-toilet-hbg4_1-1.jpg
https://pumpdepot.co.za/wp-content/uploads/2018/09/eco-s-5.jpg

Transport

Effective transport solutions must overcome challenges such as limited infrastructure and access, ensuring waste safely reaches treatment facilities.

https://www.globalwaters.org/sites/default/files/styles/internalpagebanner/public/usha-article-banner.png?itok=fbXSgyne
https://www.publicads.co.za/images/listings/2022-07/honey_sucker_trucks_for_hire_in_durban_a-1658135455-752-e.jpg

Treatment

Processes may include mobile treatment units that quickly neutralize pathogens and reduce public health risks.

https://www.vor-env.com/mt-content/uploads/2019/09/mobile-sludge-dewatering-1.jpg

https://www.mininfra.gov.rw/fileadmin/user_upload/Mininfra/News_Images/nyanza_.jpg

Reuse/Disposal

Treated waste can be safely reused, such as in agriculture, or used and disposed of to prevent further environmental impact.

https://sanitationafrica.com/wp-content/uploads/2021/10/BRIQS-2.jpg
https://a.storyblok.com/f/191310/28a4845f16/sludgedisposaljhenaidah.jpg/m/420x0
https://www.geo.fu-berlin.de/en/v/iwrm/Implementation/technical_measures/bilder/Bilder-treatment/Primary-sludge-drying-bed.jpg?width=500

Transformative Technologies for Emergency Sanitation

- Reinvented Toilets and Omni-Processors are pivotal.
- These off-grid solutions handle waste autonomously, converting it into safe byproducts like clean water or energy, crucial for emergencies.
- These technologies are scalable and can be rapidly deployed, providing essential services without the need for existing infrastructure.

https://1.bp.blogspot.com/-jGkj2RfASzo/VsFq2uP_OjI/AAAAAAAAADQ/50qke0EHCK8/s1600/2016-02-15_0-05-30.png
https://licensing.research.gatech.edu/sites/default/files/2023-04/8917_illustration_of_g2rt.png

Barriers and Opportunities for Innovation

Funding gaps, infrastructure limitations, and political prioritization are significant challenges.

Learning from WASH, engaging donors, and building partnerships can address these barriers and enhance the deployment of innovative solutions.

Collaborative Efforts and Community Engagement

Community involvement is vital.

Training locals to manage sanitation systems, inspired by WASH community practices, ensures sustainability and effectiveness in managing sanitation in emergencies.

Conclusion – Looking Ahead

Integrating WASH and emergency response practices offers a unified approach to sanitation, crucial for addressing the unique challenges of emergency settings effectively.

UPM at-a-glance

UPM Umwelt-Projekt-Management GmbH (UPM) is a German consulting company with more than 30 years of history. UPM Environment Engineering Project Management Consulting (Beijing) Co. Ltd. is its wholly-owned subsidiary in China to support regional client servicing and project development.

- Specialized in climate change mitigation, waste & sanitation, and renewable energy sectors, focusing on Waste-to-Value concepts
- More than 50 technical assistance and capacity-building assignments worldwide related to sanitation, waste management, and waste valorization in the past ten years.
- Development of FSM related capacity building materials in cooperation with the Bill & Melinda Gates Foundation
- Development of Awareness Raising Packages for Transformative Sanitation Technology and Products (RT & OP)

Partnership with

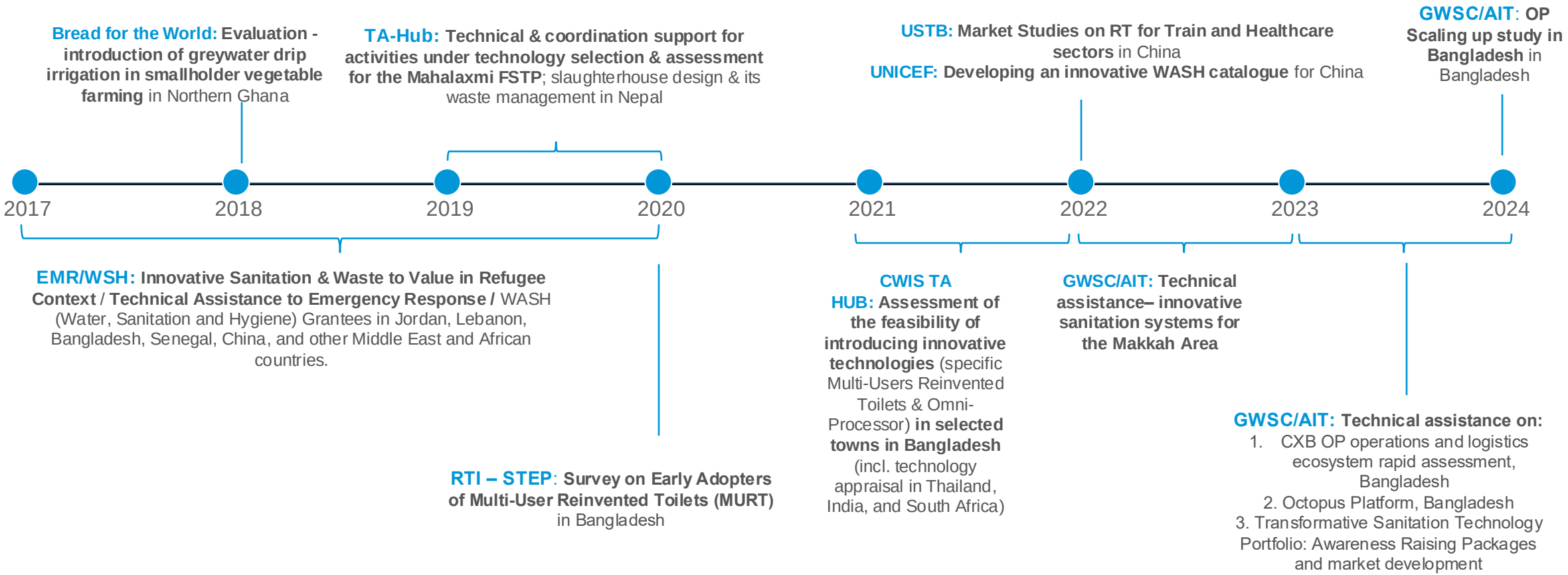
- The University of Science and Technology Beijing (USTB)
- The Bangladesh Agricultural University (BAU)
- Global Water and Sanitation Center (GWSC)/The Asia Institute of Technology (AIT)
- The Asian University for Women (AUW) and
- a roster of more than two hundred international experts

UPM Services for Sustainable Sanitation

To support the Foundation, UPM and its partners leverage their solid expert network to provide tailor-made capacity-building services that cater to specific needs.

- TA/Capacity building for waste-to-value/bioenergy (health, transportation and agriculture)
- Capacity building on innovative sanitation (overseas experience)
- Carbon/SDGs feasibility study

On Innovative Sanitation Technologies



Thanks for your attention!

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