

# Designing Climate Resilient Products for Sustained Behavior Change Solutions

## A Case Study in Bangladesh

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**iDE**

Bangladesh

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# SanMarkSystems II

Improving Sanitation for Rural Communities



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# Bangladesh - Success story of open defecation but climate vulnerability stalls progress in improvement

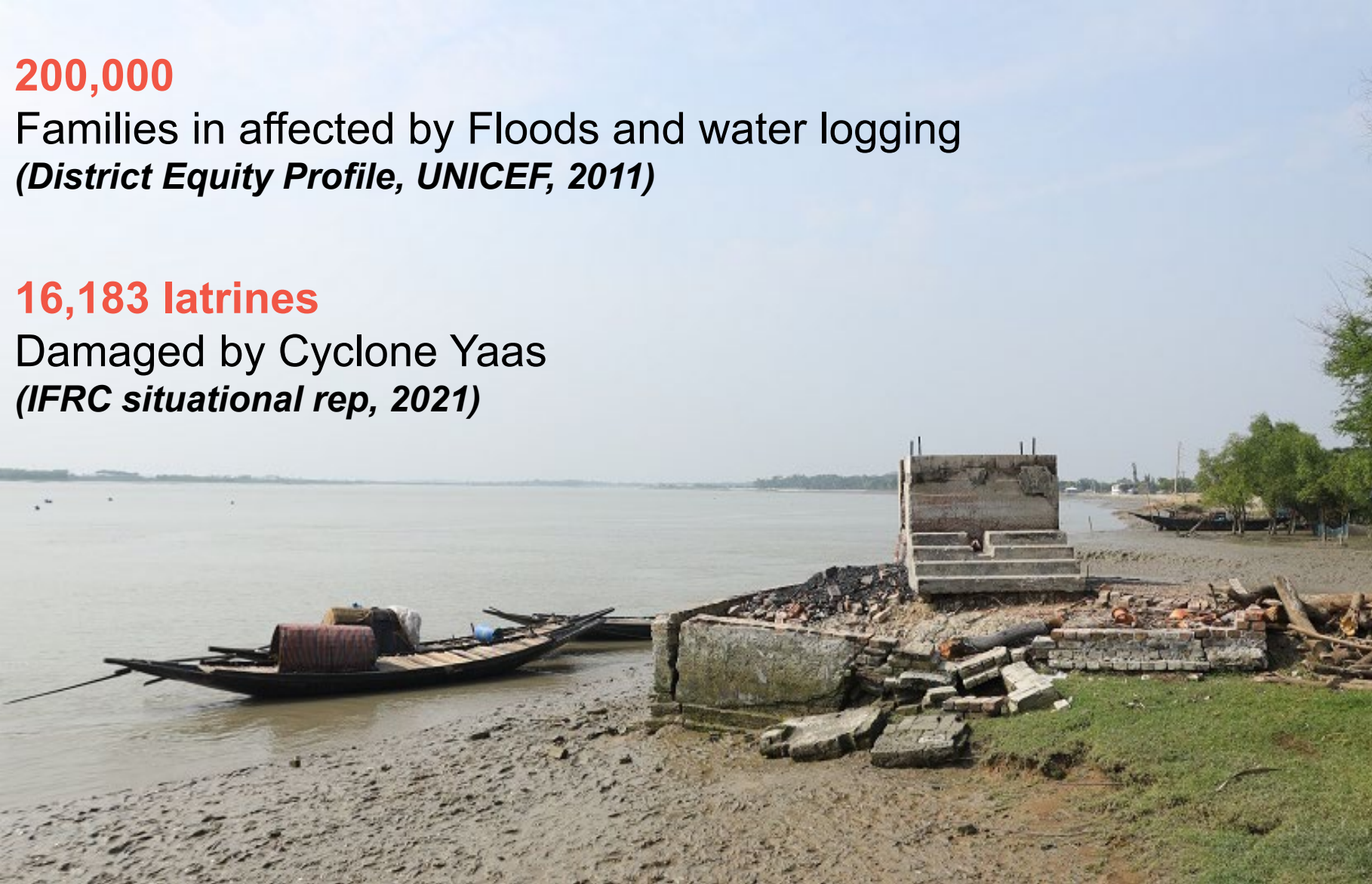


*While Bangladesh has achieved open defecation free status, **47% still use unimproved sanitation** (JMP, 2021)*



*Households don't invest in improved latrine structures due to a fear of **damage** from **floods, cyclones and water logging***

# A look at Satkhira District, a climate vulnerable region

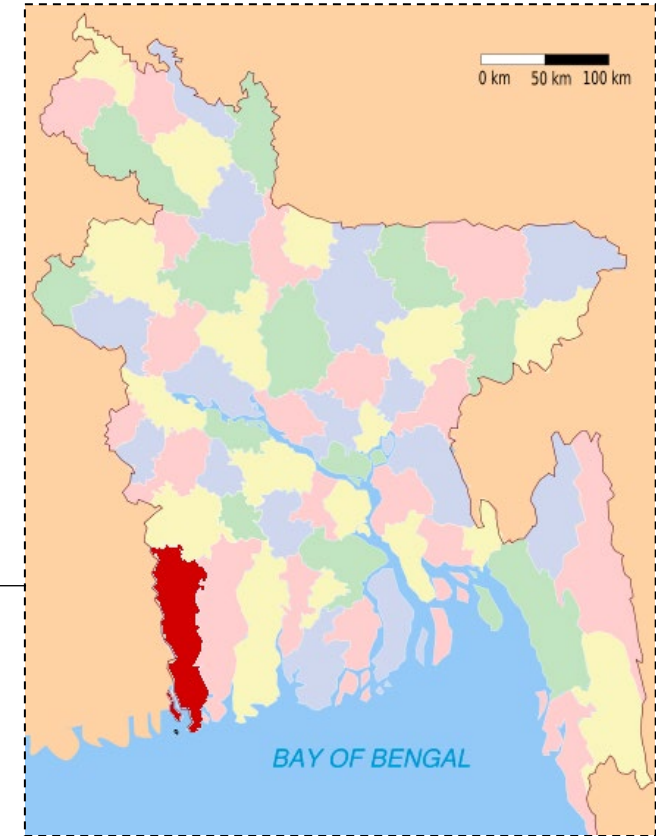


**200,000**

Families in affected by Floods and water logging  
(*District Equity Profile, UNICEF, 2011*)

**16,183 latrines**

Damaged by Cyclone Yaas  
(*IFRC situational rep, 2021*)



# The CEDRIG Tool

- The Climate, Environment and Disaster Risk Reduction Integration Guidance (CEDRIG)
- Developed by the Swiss Agency for Development and Cooperation (SDC)
- Tool to analyze project risk from climate change, environmental degradation and natural hazards.
- Supports identification of potential negative impact of project interventions

# The CEDRIG Tool

Key objectives of applying CEDRIG module are:

- Protecting development gains and achieving better impact of development interventions
- Designing more resilient strategies or programs
- Ensuring climate change adaptation/mitigation/DRA and poverty reduction are implemented hand-in-hand

# The CEDRIG Tool

- Day 1: Orientation day and instructions
- Day 2: Field visit, semi-structured interviews
  - Understand geographic, environmental vulnerabilities and exposure to disaster risks;
- Day 3: Synergize results:
  - Workshop participants were divided into 2 groups — one for analyzing Risks' and the other for Impact'.

# Listening to vulnerable households



***“We are discouraged on spending money in a good latrine as the storms damage everything and there is always waterlogging”***

Household in Assasuni Subdistrict, Satkhira District, Bangladesh

(CEDRIG analysis, November 2021)



# Perspective of latrine business owners



**“My business might close, as people are afraid to spend money in quality sanitation products due to the poor weather, cyclones and frequent water logging”**

Entrepreneur In Assasuni Subdistrict, Satkhira District, Bangladesh  
(CEDRIG analysis, November 2021)

# iDE's Sanitation Marketing Approach

Move towards **SDG 6.2** to reduce open defecation for all while addressing the issue of climate change for vulnerable regions similar to Satkhira utilizing the below multi-pronged strategy

## Create Demand



*Work towards reducing the cost of product and creating demand*

## Build local capacity



*Promote among Sanitation entrepreneurs to sell to customers*

## Government support



*Collaborate with Local Government Institutions for endorsement and promotion*

# iDE's Sanitation Marketing Approach



**2,000**  
Sanitation entrepreneurs  
trained



**400k toilets sold = 1.5 Million +**  
People benefitted

# Iterative, human-centered product design

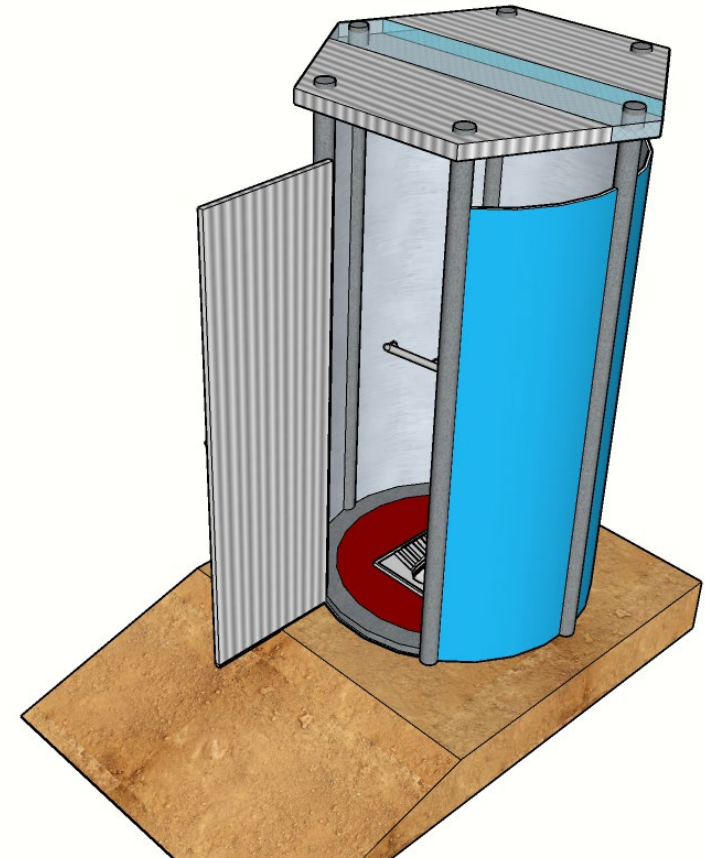
- Understand your customer and their challenges (talk to them!)
- Decide on design principles to make your product/service valuable for customer and service provider
- Prototype design for fidelity and feasibility of construction
- Test with users
- Iterate, iterate, iterate
- Endorse and scale



# Exploring inclusive solutions in sanitation to respond to climate change

## Key Features of the Cyclone Shelter

- Circular design with the intention to reduce the force of wind on the structures
- Durable to withstand frequent disaster: Raised platforms for floods and strong concrete pillars
- Safety and ease of use for women, children and elderly people
- Natural lighting allowed through transparent tin to help those with challenges in seeing
- Ventilation spaces
- Locked structures, with privacy ensured for users



# Utilizing local entrepreneurs and locally available materials



**Construction of latrine designs in selected households for testing**  
(Satkhira District, iDE, 2022)

# Experience of households after using these innovative toilets



***“There is no smell, or flies from the toilet, it is very durable and we did not have problems during the storms in using the toilet”***

Toilet user in Satkhira District

# Plans for innovation

- Reduce cost of “Cyclone Shelter” further
- Work with Bangladesh University of Engineering and Technology to test and endorse shelter product, seek endorsement from Department of Public Health Engineering
- Trial low cost organic solutions to protect against soil erosion (Vetiver grass pilot project to be started in Q1 of 2023)
- Explore means for reducing salinity to protect entrepreneurs in coastal regions of Bangladesh
- Enhancing access to water under entrepreneurship models





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