Shelter for Rohingya ‘Forcibly Displaced Myanmar Nationals (FDMNs)’ in Bhasan Char, Bangladesh

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A Collaborative Study by
Cell for Adaptation, Resilience, Security, and Humanitarian Assistance (CARSHA), School of Architecture and Design, BRAC University, Bangladesh
and
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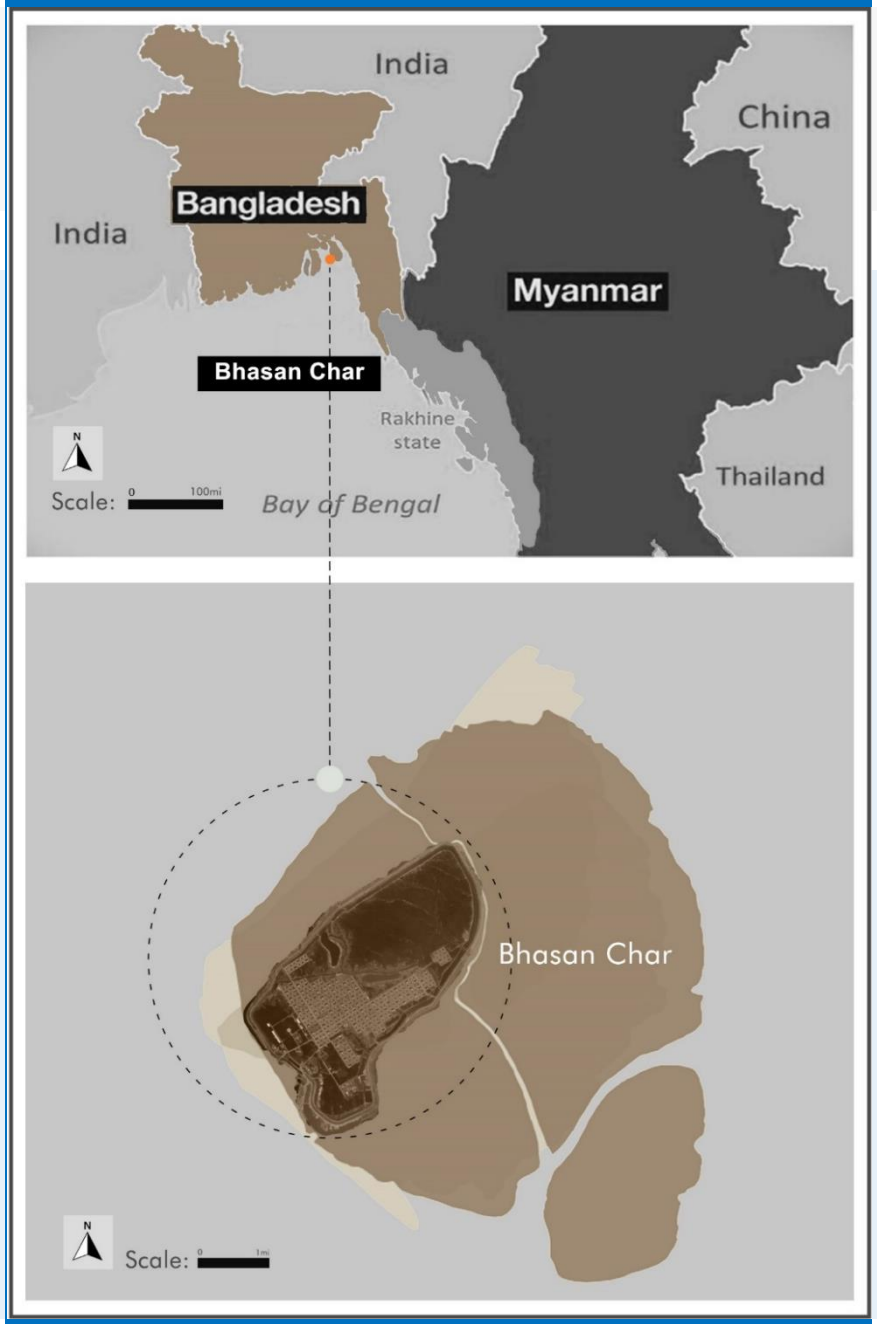
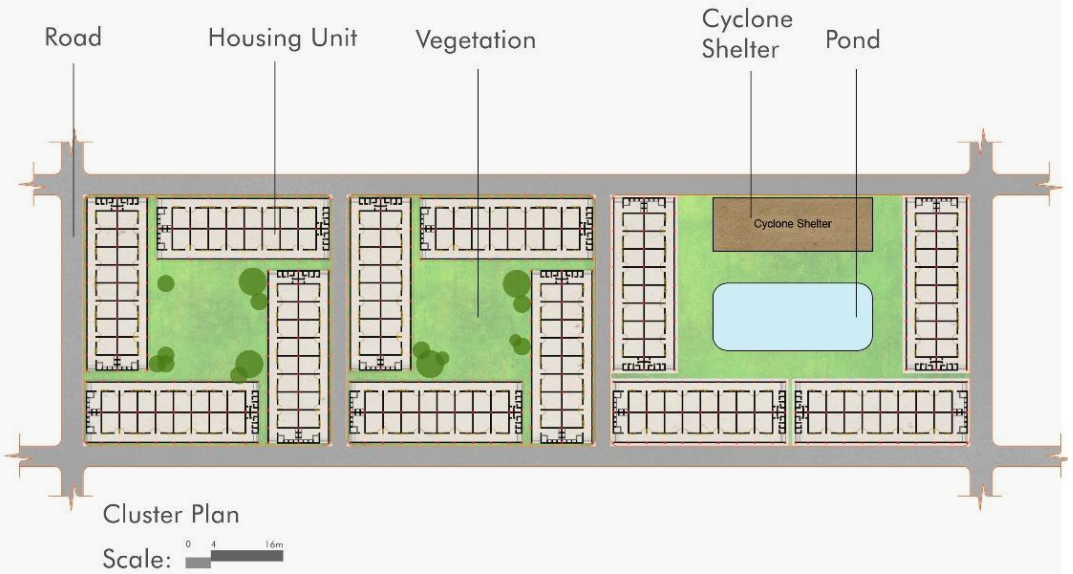


Background

- Bhasan Char ('floating island' in Bengali) is a 40sqm offshore island in the Bay of Bengal about 60km from the mainland.
- Site of the Bhasan Char Rohingya Resettlement Program (BRRP), a major governmental initiative since 2020 to ease the pressures in the Rohingya FDMN camps in Cox's Bazar district.
- Planning to relocate and resettle more than 100,000 refugees; currently around 32,000 inhabitants.
- 13,000-acre land area, 1,702 protected by a coastal embankment.
- Mukta Dinwiddie MacLaren Architects together with UK-based HR Wallingford as design and planning consultants.
- Funding from the World Bank.
- Implemented by the Bangladesh Navy.

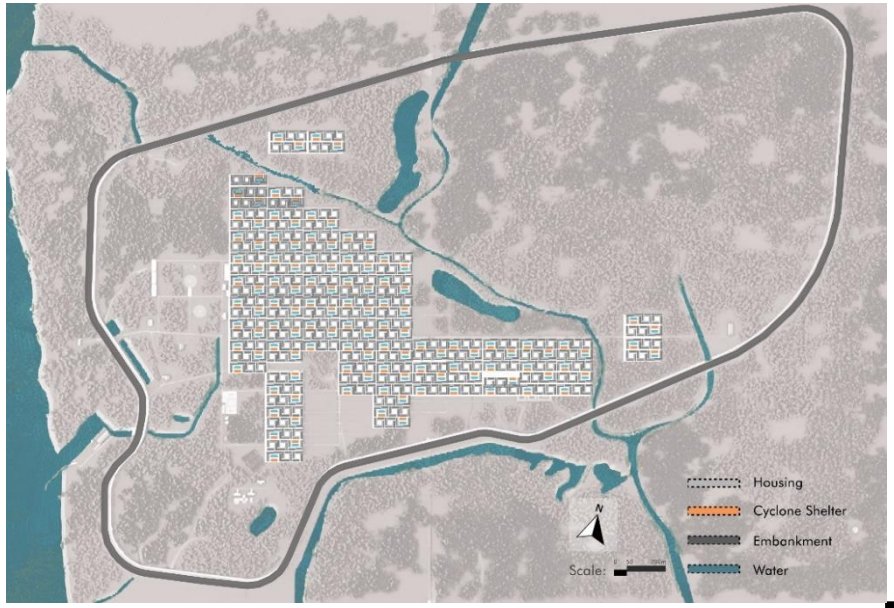
Shelter and settlement details

- 1,440 single storey shelter units.
- Grid-iron layout - 120 clusters (59 occupied). 11 linear shelter units in each cluster, with a cyclone shelter.
- Each shelter unit has 16 rooms, with 8 rooms on each side, accessed through a common veranda on each side.
- Communal toilets and kitchens located at the ends of the corridors.
- Each room allocated to a family of 4-5 members.
- Reinforced concrete (RC) frame, floor raised from the ground by 90cm.
- Roofs of steel trusses and metal profile sheets.
- Hollow concrete blocks walls.
- Netting about partition walls for ventilation.



Shelter and settlement details

- Water supply mainly from 175 handpumps (or “tubewells” as called locally) with three per cluster.
- Designed to be powered by solar photovoltaic systems.
- Solar powered streetlights and submersible pumps for collecting groundwater. Rainwater harvesting system. 120 ponds adjacent to the cyclone shelters, alternative source of potable water.
- 120 cyclone shelters, 20-bed hospital, 4 community clinics, 4 warehouses, 3 markets, mosques, fire station, police station, 2 helipads, power plant, fuel storage area, light house and other facilities and community infrastructure.
- Protected by surrounding embankment 12.1 kilometres long and 5.8 metres above sea level. Integrated drainage system. Settlement raised 3m average above sea level.
- Large capital investment, estimated at USD 350 million. Significant effort and funding invested towards a liveable and safe settlement.



Design & Planning Strengths

✓ Weatherproofing

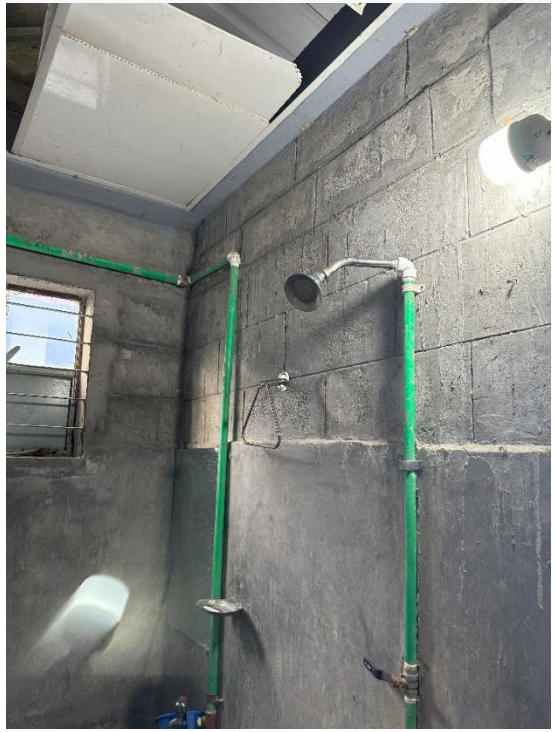
✓ Street layout and accessibility

✓ Larger indoor space

Design & Planning Strengths

Multiple uses of verandas

Clean toilet and bathing facilities



Disaster risk reduction and mitigation measures

Design & Planning Strengths

Multifunctional outdoor spaces

Designated children's play areas

Designated cultivation areas

Design &

Planning Weaknesses

Privacy Hindrance: Common corridors; Adjacent roads; Single room; Openings above partition walls; Thin partitions; Communal toilets/kitchens

Design & Planning Weaknesses

- Discomfort with communal services (kitchens, toilets)

- Indoor space constraints
- Thermal Discomfort

- Non-useable furniture

Design &
Planning Weaknesses

Construction defects

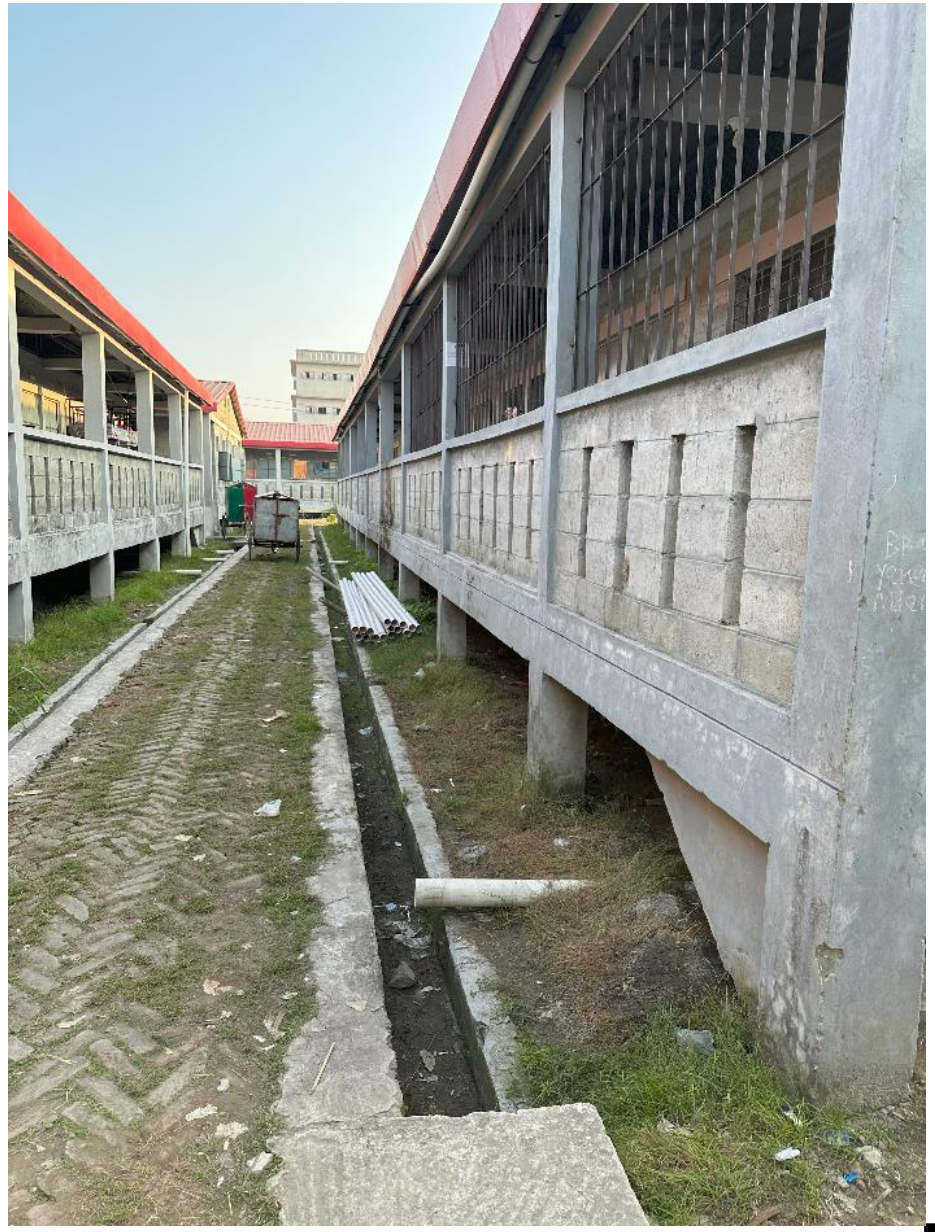
Lack of adequate weatherproofing (driving rain)

Problems of central courtyard

Design &

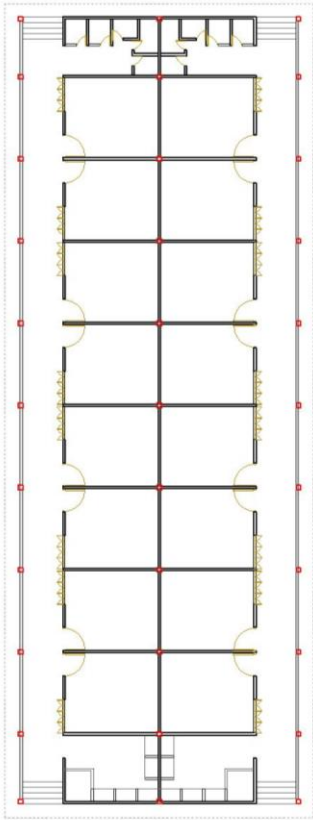
Planning Weaknesses

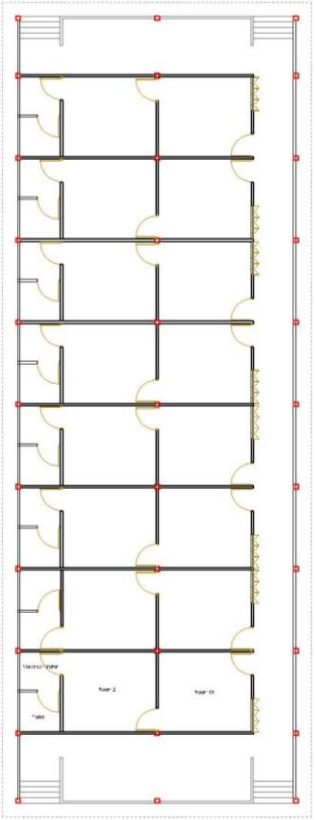
- Negative spaces
- Lack of community facilities
- Too much space for streets/roads
- Poor functional linkage between different facilities



Reflections

- Generally positive reports of the project key (livelihoods, WaSH, waste management, etc), but shelter sector the weakest area.
- Large volume of funds and greenfield site - missed opportunity.
- Prefer detached houses.
- Co-design exercise - suggested joining two rooms as one unit.
- Another Asrayan project with detached houses had better outcomes.
- Opportunity of lesson learning.
- Various adaptation options by the community.





Field Study Team
From Right: **Imon Chowdhooree, Tanveer Ahamed, Iftekhar Ahmed and Muhammad Ferdaus**

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Presented at
UK Shelter Forum
May 2024