

Protecting lives and livelihood through **DISASTER RESILIENT HOUSING** in coastal Bangladesh

By
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About the Disaster and Development Organization (DADO)

Legitimacy

Registered with NGO Affairs Bureau, the Government of Bangladesh and not-for-profit status in Australia, Canada the US and the UK.

Vision

Preparing a disaster resilient society through building capacity of the individual and community and achieving sustainability in every sphere of development.

Mission

Our interventions aim at improving lives of frequently disaster affected community and influence relevant policies and programs through its interactive activities like research, innovation, advocacy, solidarity and action.

Disaster and Development Organization (DADO)

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About the Disaster and Development Organization (DADO)

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Established in 2008, the Disaster and Development organization (DADO) is an independent, non-profit Organization. DADO's work is guided by three foundational principles:

1. Prioritizing initiatives that benefit the most disadvantaged populations.
2. Extending our reach to remote and inaccessible regions.
3. Operating in areas that are highly vulnerable to disaster risks.



VOLUNTARY COMMITMENTS

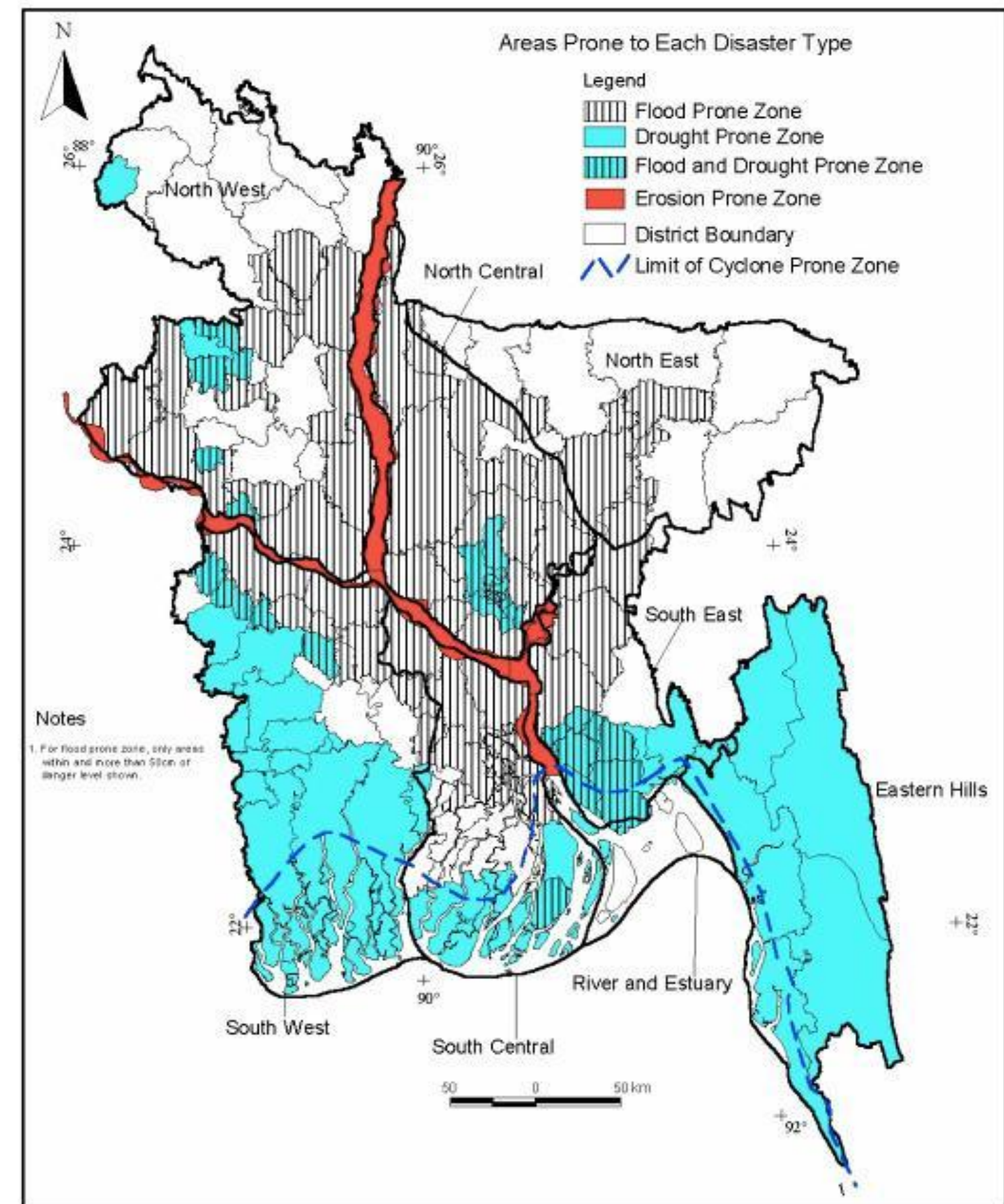
SENDAI FRAMEWORK
FOR DISASTER RISK REDUCTION 2015-2030

- ❖ Introduction to disasters in Bangladesh
- ❖ Population in cyclone prone areas
- ❖ Deaths by tropical cyclones
- ❖ Problems in cyclone prone areas
- ❖ Housing challenges in coastal Bangladesh
- ❖ Major house types in coastal Bangladesh
- ❖ Housing condition in Bangladesh
- ❖ Current Sheltering Options, Evacuations and Challenges
- ❖ Solution 1
- ❖ Specification of resilient housing
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Introduction to disasters in Bangladesh

Index	Bangladesh's Ranking	Risk Score
World Risk Index (2024)	9th	27.73/100
Natural Disaster Risk (2025)	10th	27.7

**97% land and
100% population
are at risk**



Introduction to disasters in Bangladesh(Cont.)

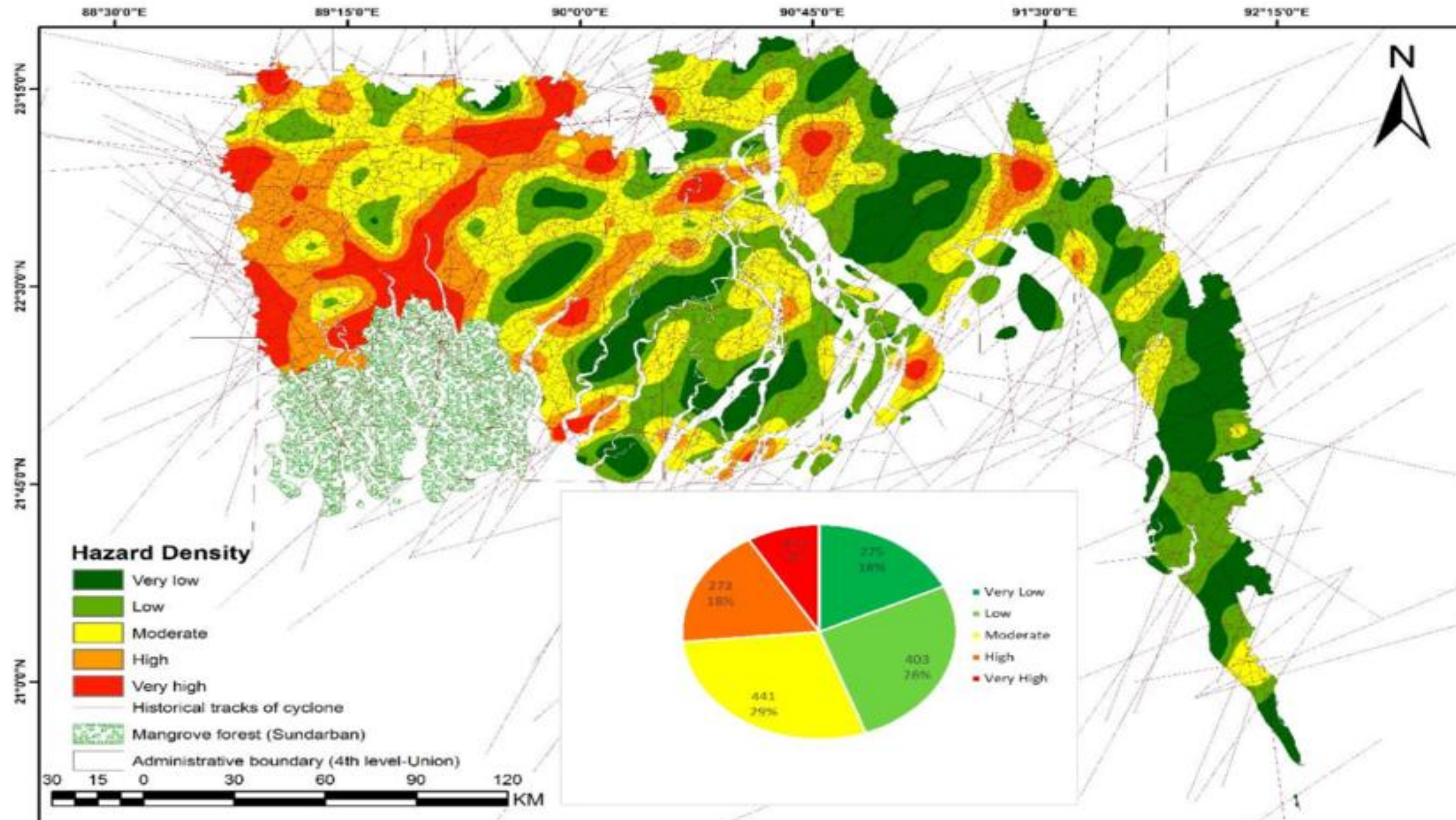
Disasters	Frequency/Risk
Floods	High frequency with high risk
Tropical cyclones	High frequency with high risk
Droughts	Low frequency with high risk
River bank erosion	High frequency with high risk
Heat wave	Low frequency
Cold wave	Low frequency
Thunderstorms	High frequency with high risk
Landslides	Low frequency with high risk
Earthquakes	Very low frequency with extremely high risk
Tsunamis	Low frequency with high risk



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Population in cyclone prone areas

In 2022,
Total population was **170 millions**
and coastal population was **47.6 millions**
which is **28%** of
the total
population.



Map Source:
Quader,M.A.,
Khan,A.U. &
Kervyn,M.(2017)





Deaths by Tropical Cyclones in Bangladesh

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Tropical cyclones			Tropical cyclones		
Year	Deaths	Affected	Year	Deaths	Affected
1484	200,000	-	1970	3,000,000	3,648,000
1582	200,000	-	1985	11,069	1,300,000
1584	200,000	-	1988	5,708	8,568,860
1822	75,000	-	1991	138,866	15,000,000
1876	300,000	-	1997	188	750,000
1897	175,000	-	1998	19	108,440
1960	10,000	200,000	2007	4,234	8,923,259
1961	10,466	-	2009	190	3,928,238
1963	25,000	1,000,000	2013	17	220,000
1965	36,000	5,000,000	2022	35	1,500,000
Total				1,691,792	48,646,797

**Children,
women and
elderly
were died**

01

**Destruction
of home**



**Salinization and
flooding**

02



03

**Loss of lives
and injuries**

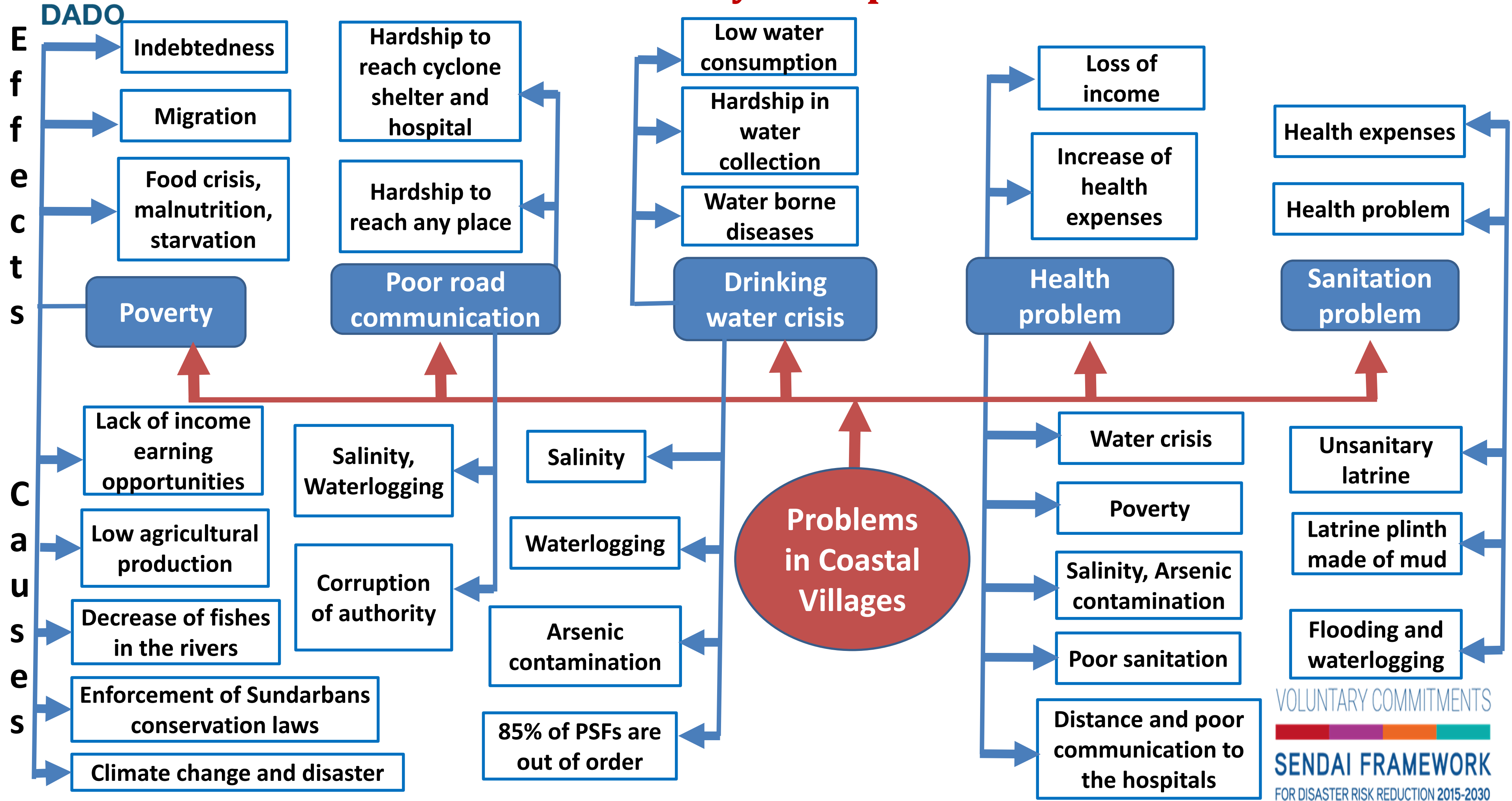


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SEDAI FRAMEWORK

FOR DISASTER RISK REDUCTION 2015-2030

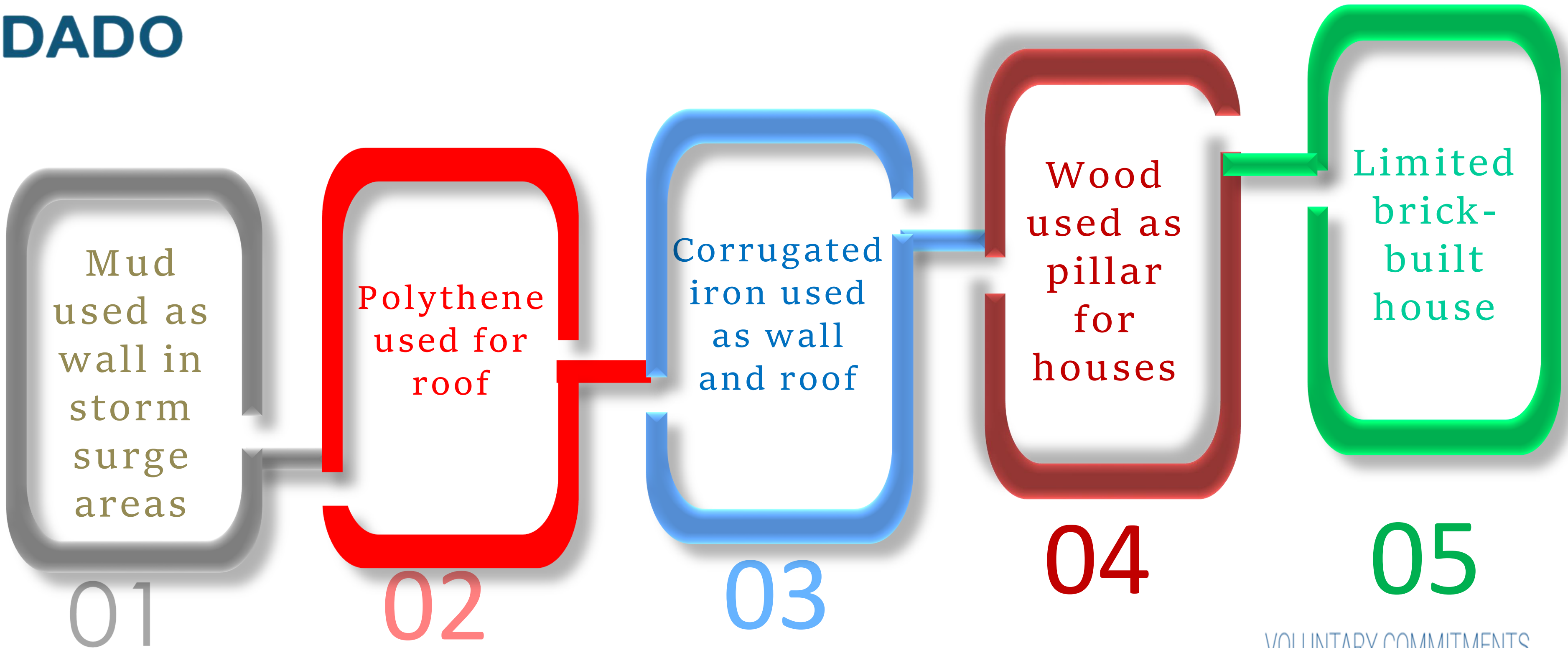
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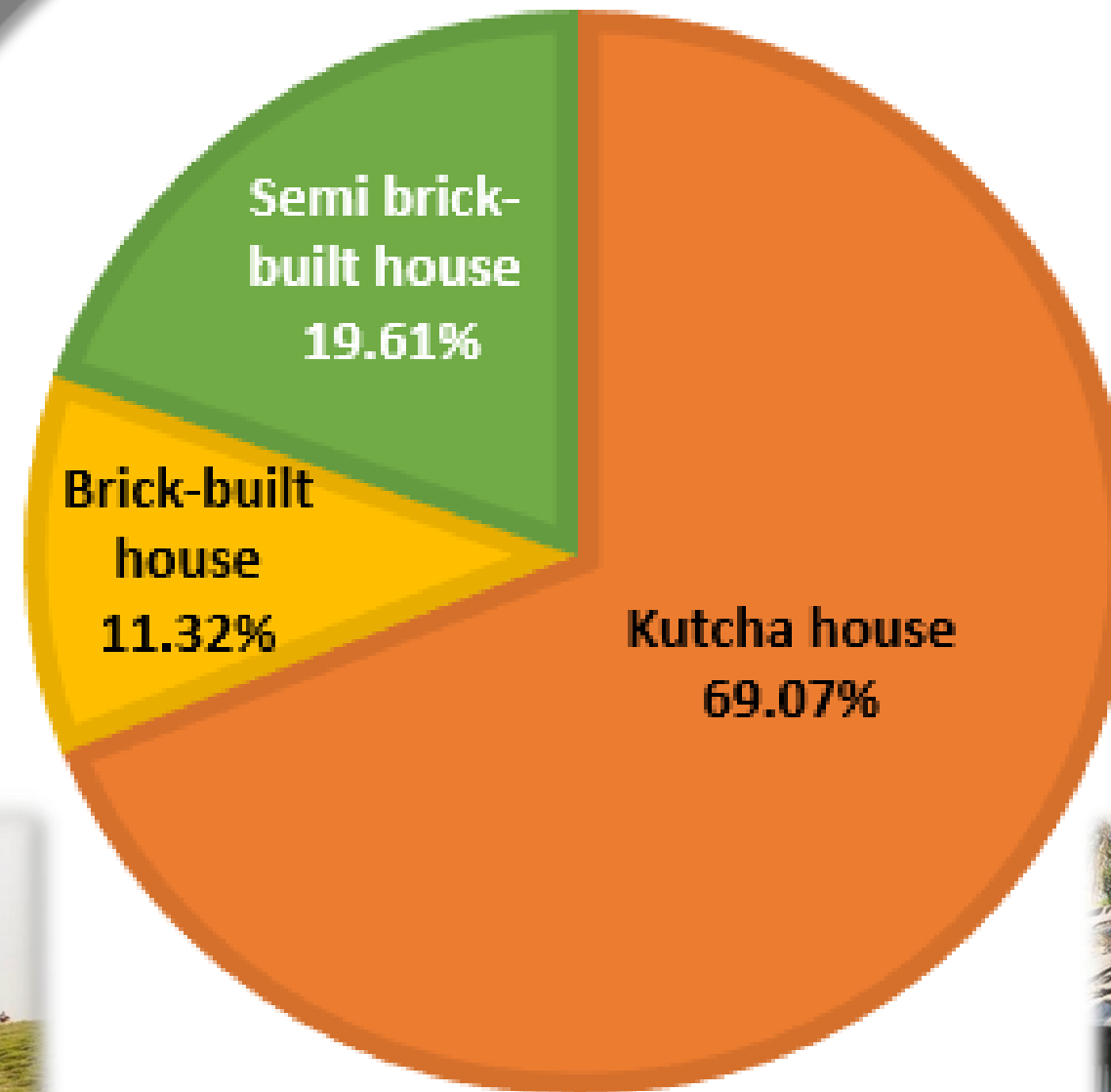


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Major Housing Challenges in Coastal Bangladesh



Major House Types in Coastal Bangladesh



Current Sheltering Options, Evacuations and Challenges



Evacuation barriers:
space, animals, family
size, transport,
distance, fear, faith,
and home attachment



**Evacuation
rate:**

**Bhola 1970
(99%),**

**Gorky 1991
(70%),**

**Sidr 2007
(59%),**

**Aila 2009
(74%).**

Source: Frank and Husain
1971; Chowdhury et al .,
1993; Ahsan, 2015

Solution 1

Disaster resilient housing to reduce deaths, poverty and to enhance development

Out of 35 million coastal populations, approximately **21 million will need disaster resilient housing** in Bangladesh



Cyclone Resilient Housing



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Specification of resilient housing

01

The house can resist 250 km/h winds and 100-year storm surges.

Each house shelters 7 people normally; up to 40 during cyclones.

02

03

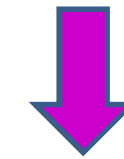
Each 650 sq. ft house includes livestock space, sanitation, solar power, and rainwater harvesting.

Cost per resilient house:
USD 13,000

04



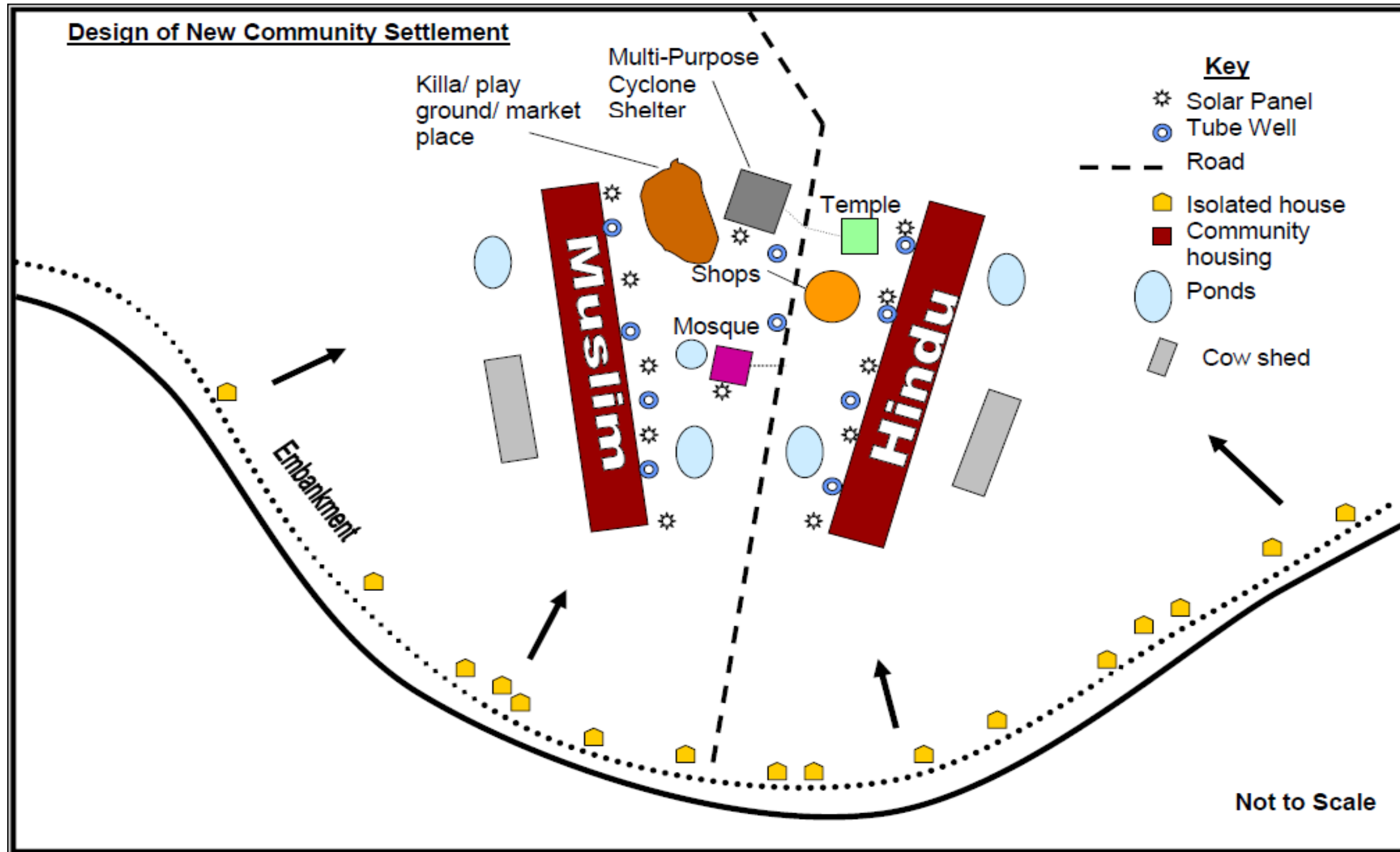
Resilient settlement



Minimum cost for
each settlement:
USD \$ 99,254



Long-term reduction
of poverty and
impacts of disasters



Solution:

Re-organize isolated people in newly constructed disaster resilient sustainable settlement which includes:

- **Disaster resilient houses**
- Access to growth center, market place and livelihood opportunity
- Training on **disaster preparedness** and recovery
- Improved education and sanitation program
- Solar panels
- Access to safe drinking and bathing water and sanitation facilities
- Stamp out of poverty and **protection of child and women**
- Organize new and **sustainable livelihood** opportunities
- Housing for 8 families and **shelter for 320 people in emergency**



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THANK YOU

