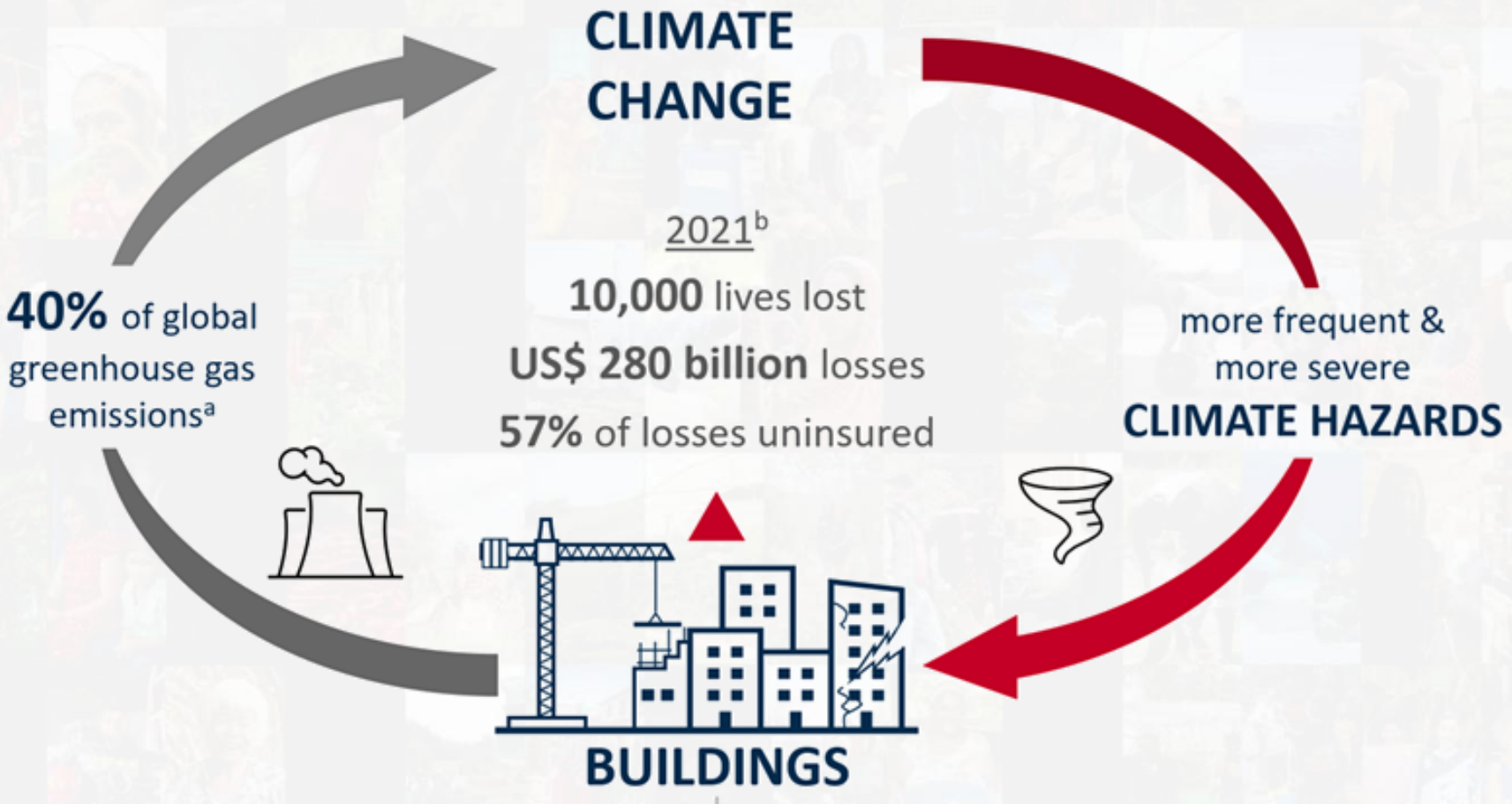
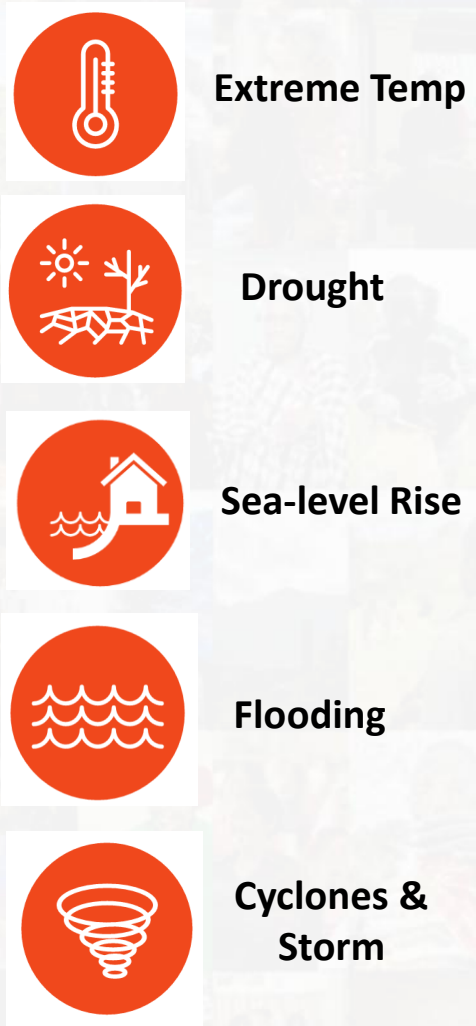
Webinar 2: Dive Deep -Thematic Areas -Call for Solutions 2026

Climate Adaptive Architecture

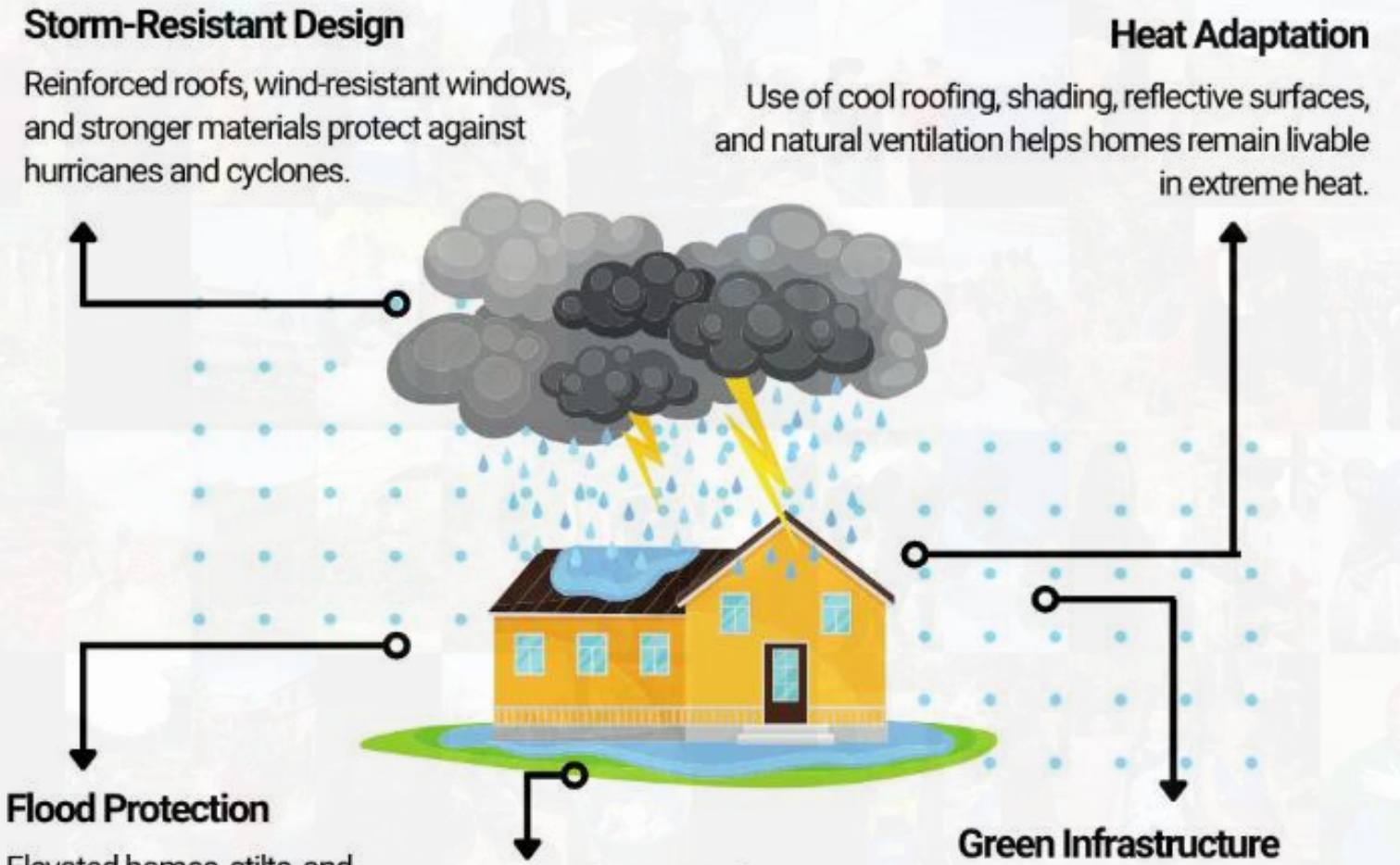
March 10, 2026

Construction Sector vs. Climate Change



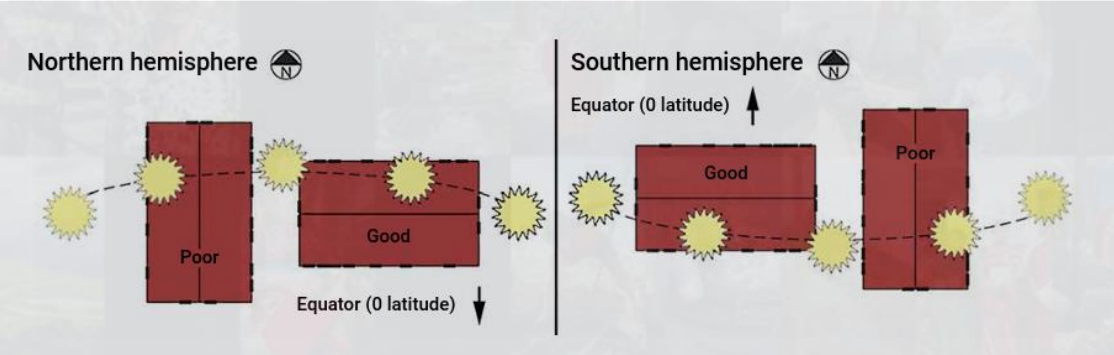


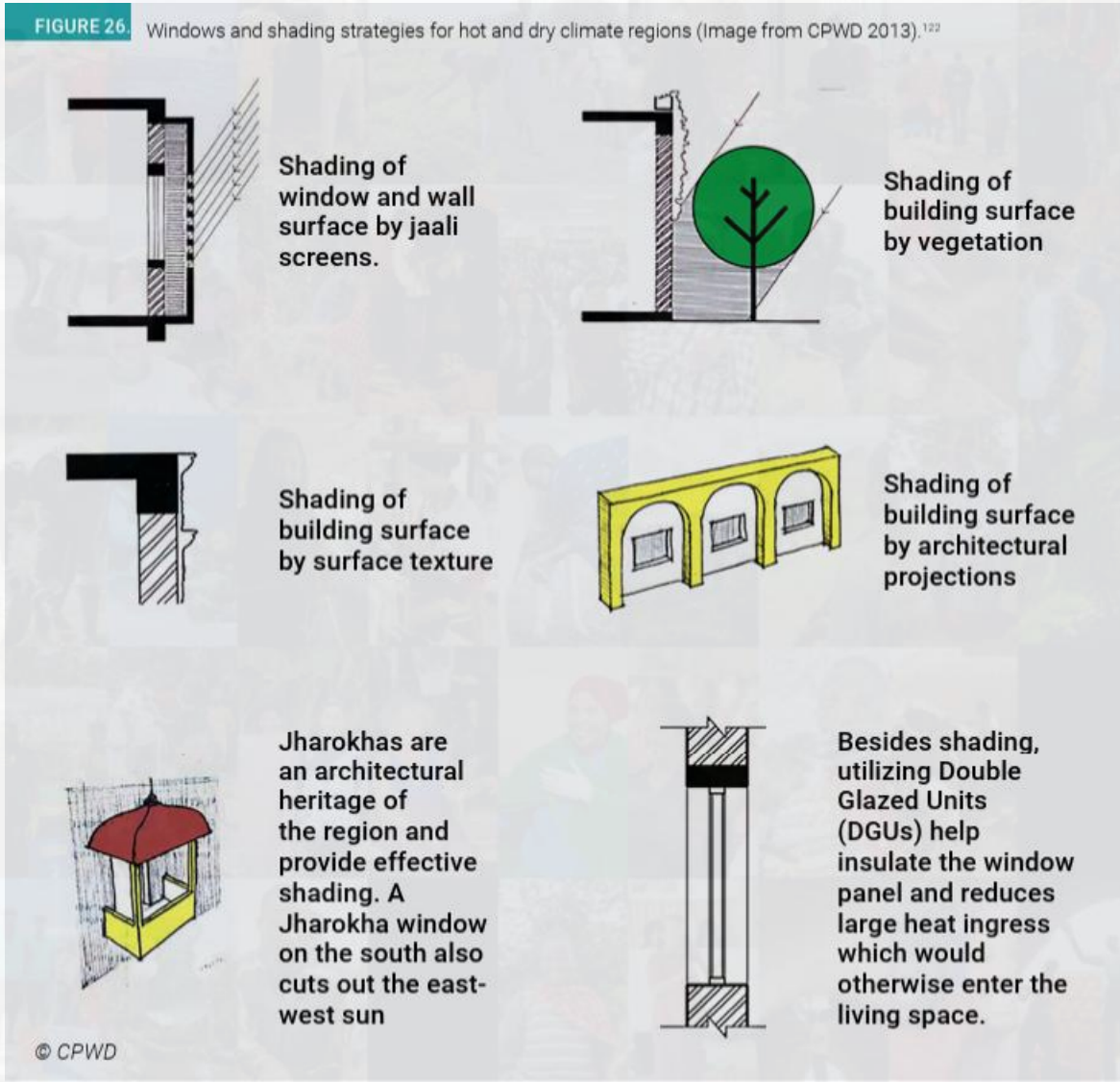
Climate-Adaptive Architecture?



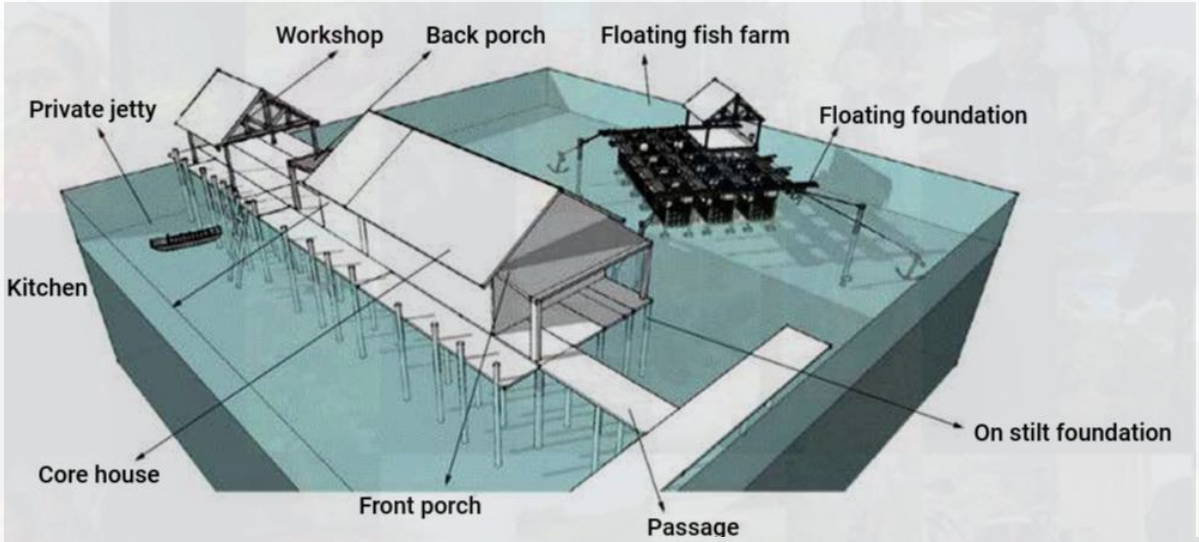
Adaptation for thermal regulation and comfort

1. Building site and orientation
2. Building configuration and layout
3. Natural ventilation
4. Shading and cool surfaces: Glazing, openings and shading; Roofs and cool surfaces
5. Thermal adaptation in cold and temperate climates
6. Materials for thermal comfort



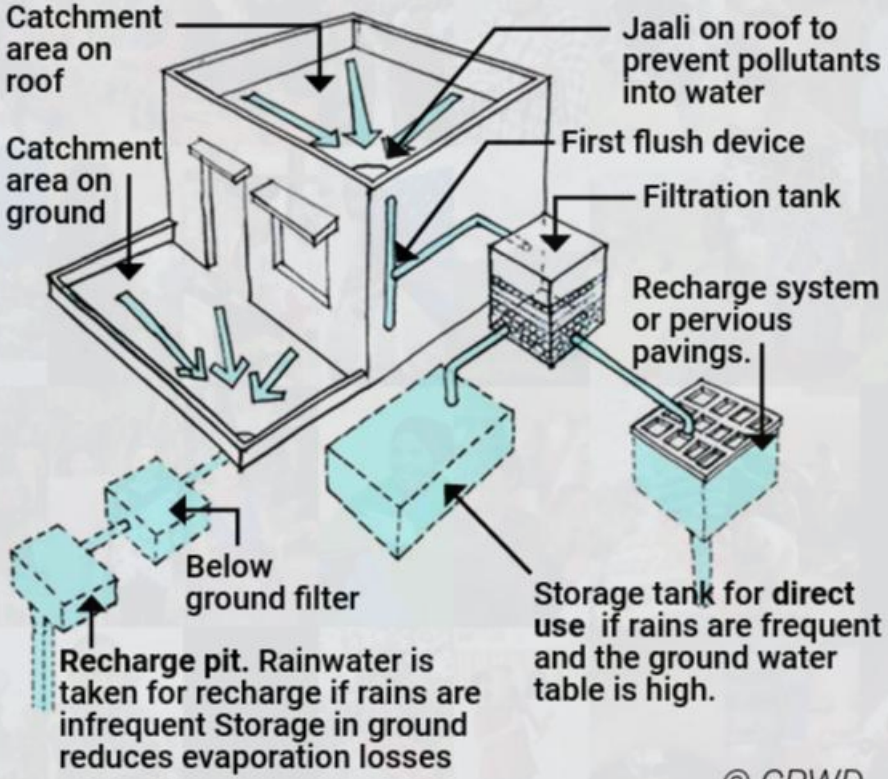


Adaptation for flooding, droughts and cyclones



Dwellings on stationary plinths (left, dwelling gets flooded) vs. the amphibious dwelling (right, dwelling floats when flooding occurs) (Image from: Khanolkar, Jadhav, and Patekhede, 2019)[157]

FIGURE 33. Rainwater harvesting and recharge system as used in India (Image from CPWD 2013)[122]



NBS for Design and Construction

Increasing tree cover and green spaces to battle heat island effect

Community gardens help increase water retention while encouraging community-building and local conservation

Greening rooftops to reduce summer heat, provide winter insulation, and reduce stormwater runoff

Increasing permeable surfaces and wetlands to increase natural infiltration of rainwater and reduce stormwater runoff

Toronto and **Montreal** are significantly expanding tree coverage, improving urban biodiversity and ecosystem connectivity

Dresden is building an urban gardening network to help with district-level regeneration efforts

Chicago's green rooftops have helped slow stormwater runoff by 36%

China's sponge cities pilot aims to capture, reuse or absorb up to 80% of stormwater runoff in urban areas by 2030

AFCIA Grantee: Association La Voûte Nubienne (AVN)

Nubian Vault Building Process

1

Material preparation

Mud bricks (adobes) are made directly on site from local earth and dried in the sun..

2

Foundations and walls

Thick earth walls are erected on foundations of trenches filled with rocks and earth mortar, providing a solid base for the vault.

3

Vault construction

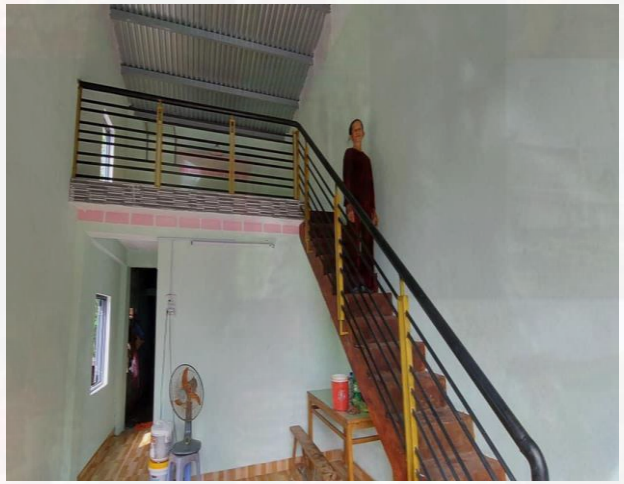
The vault is built without formwork, using simple earth-brick stacking techniques, starting from the gable walls.

4

Finishes

The building can be plastered with waterproof renders to enhance its durability, and a roof terrace or first storey can be incorporated as required.

Improving Resilience of Vulnerable Coastal Communities in Viet Nam



Storm and flood resilient design features added to 4,000 new houses on safe sites, benefiting 20,000 poor and highly disaster-exposed people in 100 communes

The project involves removing temporary houses, contributing to the development of new rural areas

mangrove replanting & regeneration of a total of 4,028.72 ha

Thank you