

# Humanitarian Innovation Hackathon



**THE GLOBAL GOALS**  
For Sustainable Development

## Hackathon Challenge A

### Heatwave resilient informal urban housing

#### Overview

Due to climate change impact heatwaves are increasing. Urban areas experience greater extremes of heat due to the density of housing and the quantities of heat adsorbing and retaining infrastructure (roads and buildings). In many cities in the Asia-Pacific Region there are large areas of informal settlements otherwise known as slums. These areas generally have no formal building permissions or formal land ownership. Informal communities generally are lower-income households who might have recently migrated from rural areas to cities to find work. The housing quality in informal areas is generally poor with these typical characteristics:

- High density housing with high numbers of occupants.
- Locally sourced cheaper building materials (for example corrugated iron, plastic sheeting, ply-wood and palm fronds).
- Limited use of windows due to cost and security.
- Often in geographic areas unfavourable for formal housing (such as low-lying flood prone or steep sloped areas).
- Limited piped water and electricity.

During heatwaves informal communities are particularly vulnerable to experiencing negative health consequences due to the poor housing quality and lack of drinking water and electricity.

## Challenge Task

Design appropriate adaptations to increase heatwave resilience for houses in informal communities (slums) in Asia-Pacific cities.

## SDG targets

- SDG 11. Make cities and human settlements inclusive, safe, resilient and sustainable<sup>3</sup>.
- Target 11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.
- Target 11b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters.

<sup>3</sup> United Nations, 2023. SDG 11. Sustainable cities and communities. <https://sdgs.un.org/goals/goal11>



