

## Concept Note: Challenge for Climate-Resilient Housing and Communities Solutions

### Background

Climate change poses an unprecedented and escalating challenge to housing globally, particularly in low- and middle-income countries, where homes are often most vulnerable to hazards like floods, heat waves, and storms. This moment calls for international collaboration, knowledge sharing and innovation, yet there is a notable absence of a comprehensive repository of low-cost, innovative solutions that can be readily shared, accessed and implemented around the world.

To address this gap, [Miyamoto International](#), a multi-disciplinary engineering and global risk reduction firm, has launched a worldwide crowdsourcing [Challenge for Climate-Resilient Housing and Communities Solutions](#) in support of the [President's Emergency Plan for Adaptation and Resilience \(PREPARE\)](#).

### Objective

The primary goal is to crowdsource and provide a highly visible platform that showcases innovative, affordable methods for enhancing the resilience of housing and neighborhoods to the impacts of climate change. By mobilizing a diverse range of companies, architects, engineers, NGOs, academia and the public, this challenge catalyzes creativity and collective action toward building safer, more sustainable living environments globally.

### What we're looking for

#### **1. How We Build: Architecture and Building Practices**

##### ***Housing Solutions and Construction Materials***

- Case studies highlighting innovative housing designs, structures, and construction techniques that enhance climate resilience, such as flood or erosion resistant building methods, sustainable material choices, and climate-responsive designs.
- Practices focusing on sustainable and locally-sourced building materials, nature-based solutions, and affordable retrofit methods for existing housing stock to improve resilience.
- Case studies using indigenous practices and vernacular construction to enhance climate resilience.
- Examples from different regions, housing typologies (formal/informal settlements), and climatic contexts (arid, tropical, coastal, etc.), showcasing context-specific solutions.
- Case studies showcasing climate-responsive architectural approaches, passive design strategies (natural ventilation, shading, insulation, etc.), for resilient housing.

#### **2. How We Co-Exist: Built Environment Considerations**

##### ***Urban Systems, Infrastructure and Landscape***

- Case studies on resilient infrastructure solutions (water, sanitation, energy, transportation) integrated with housing development, and models that touch on urban design and urban planning scales to prioritize climate resilience at the housing and neighborhood levels.
- Practices related to climate-proofing urban services, ecosystem-based adaptation strategies and nature-based solutions that strengthen the resilience of both housing and supporting infrastructure.
- Examples of initiatives that, at the housing and urban design scales harness low-tech and indigenous practices to build climate resilience
- Case studies examining the interplay between climate resilient housing, land use, and the surrounding natural environment and ecosystems, nature-based solutions and community-based landscape management practices.
- Examples of initiatives that holistically address the built environment's impact on climate resilience, considering both housing structures and their broader environmental context.

### **3. How We Decide: Policy, Governance, and Capacity Building**

#### ***Policy, Decision-Making Tools and Governance Frameworks***

- Case studies on enabling policies, regulations, and governance frameworks that support and incentivize climate-resilient housing development, such as building codes, zoning regulations, and housing finance mechanisms.
- Practices related to stakeholder engagement, community mobilization, and capacity development initiatives that empower communities and stakeholders to contribute to resilient housing solutions.
- Examples of bottom-up and top-down collaborations between communities, local authorities, private sector, and other stakeholders in developing and implementing climate resilient housing solutions.
- Decision-making tools, knowledge-sharing platforms, and capacity-building programs that support informed decision-making and enhance climate resilience across various levels of governance.

### **Eligibility Terms**

#### **Location/geography**

Innovations from anywhere in the world are eligible. At this time, submissions can only be accepted in English.

#### **Cost/accessibility**

We are particularly focused on low- and middle-income countries. Innovations that are cost prohibitive or intended only for wealthy clients/audiences may not be included, at Miyamoto’s digression. We are asking submitters to rank the cost of their innovation by four levels:

<b>\$</b>	Low Cost: Baseline cost ranges from US \$1,000 to \$5,000 per house.
<b>\$\$</b>	Moderate Cost: Baseline cost ranges from US \$5,000 to \$20,000 per house.

<b>\$\$\$</b>	High Cost: Baseline cost ranges from US \$20,000 to \$50,000 per house.
<b>\$\$\$\$</b>	Very High Cost: Baseline cost ranges from US \$50,000 and above per house.

There is no cost for submission and no money will be awarded for submissions.

### Hazards

At this time, only innovations addressing the following hazards can be considered.

<b>Air</b>	<ul style="list-style-type: none"> <li>• Air pollution/quality</li> <li>• Heat waves</li> <li>• Extreme cold</li> <li>• Fire</li> </ul>
<b>Earth</b>	<ul style="list-style-type: none"> <li>• Landslide</li> <li>• Erosion</li> <li>• Coastal degradation</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>• Extreme rainfall</li> <li>• Flood</li> <li>• Sea level rise</li> <li>• Tsunami</li> <li>• Drought</li> </ul>
<b>Wind</b>	<ul style="list-style-type: none"> <li>• Hurricane</li> <li>• Storm</li> <li>• Cyclone</li> </ul>
<b>Fire</b>	<ul style="list-style-type: none"> <li>• Fire</li> </ul>

### Disclaimer

Miyamoto retains the right to exclude any submission from the public repository. Miyamoto retains the right to edit submissions for grammar, clarity and brevity.