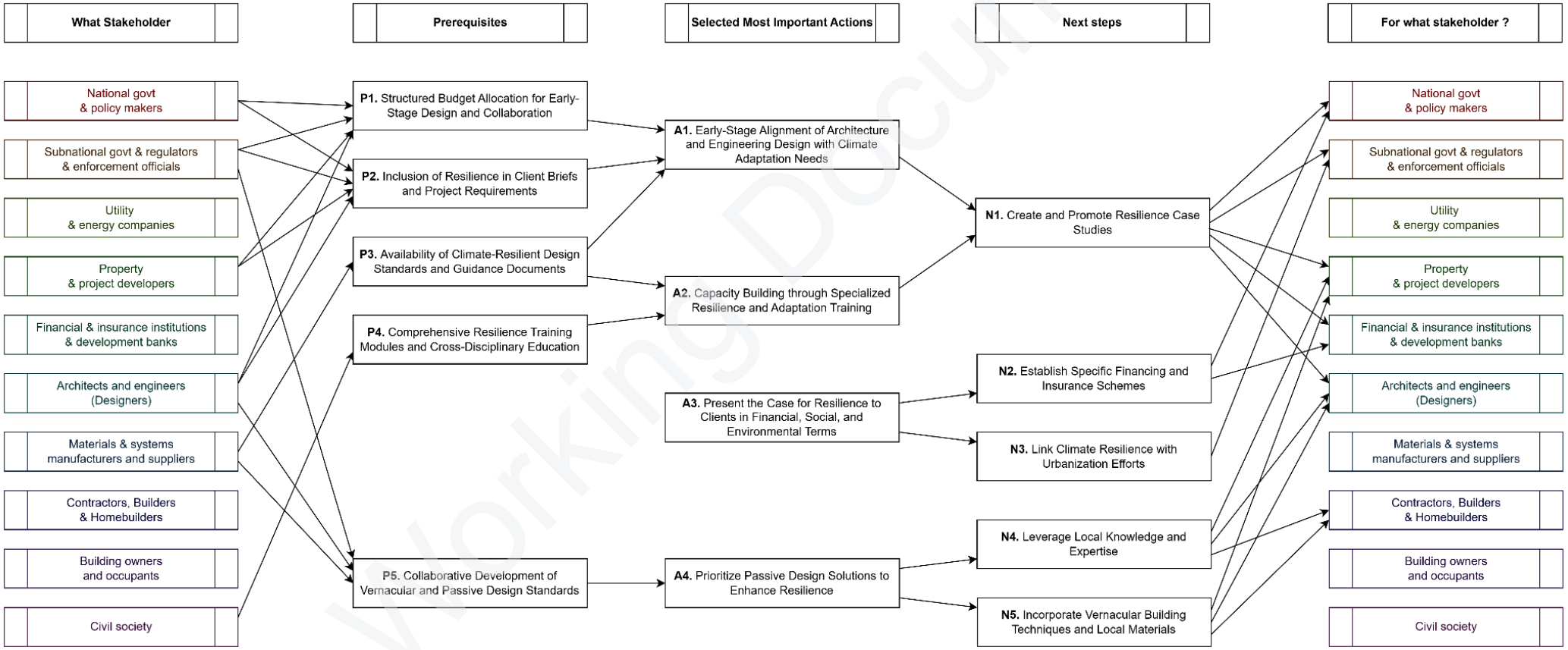
Global Alliance for Buildings and Construction

Architects and Engineers (Designers)

Adaptation Pathway



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P1. Structured Budget Allocation for Early-Stage Design and Collaboration

Description: Allocate adequate budget for design phases to support desiloing and collaboration among architects, engineers, and other design professionals. This budgetary flexibility allows for thorough integration of climate resilience in the early design stages, enhancing the synergy between disciplines.

Inputs from Other Stakeholders: Subnational governments and project developers can facilitate by providing financial incentives or subsidies for resilience-focused design phases, particularly in vulnerable areas where collaboration costs may be higher.

P2. Inclusion of Resilience in Client Briefs and Project Requirements

Description: Integrate resilience requirements directly into the construction program and client briefs, ensuring that resilience considerations are non-negotiable in the design phase. This alignment allows designers to plan for adaptation needs and prioritize resilience from the start.

Inputs from Other Stakeholders: Property developers and project funders can play a critical role by making resilience a core part of project requirements, helping to drive demand for adaptive and sustainable design choices.

P3. Availability of Climate-Resilient Design Standards and Guidance Documents

Description: Ensure access to comprehensive guidance documents and performance standards that detail climate-resilient practices, including standards for passive design, materials, and structural adaptations.

Inputs from Other Stakeholders: Material manufacturers and system suppliers can provide data on material durability and performance under various climate conditions, helping to create a practical knowledge base for resilient design choices.

P4. Comprehensive Resilience Training Modules and Cross-Disciplinary Education

Description: Develop and integrate curriculum and training modules focused on climate resilience and adaptation, tailored for both students in architecture and engineering programs and current professionals. This includes courses on resilience, passive design, climate risk assessment, and material durability.

Inputs from Other Stakeholders: Trade organizations, academic institutions, and professional bodies should collaborate on these training modules, incorporating cross-disciplinary workshops and exchange programs to enhance the integration of knowledge between architects and engineers.

P5. Collaborative Development of Vernacular and Passive Design Standards

Description: Define and support standards for vernacular and passive design solutions, focusing on sufficiency (efficiency through simplicity) rather than new technologies. This will help ensure climate-resilient designs are accessible and adaptable to local materials and conditions.

Inputs from Other Stakeholders: Materials manufacturers and local governments should help validate and promote vernacular materials (e.g., rammed earth) through incentives and by advocating for their acceptance in building codes, especially in regions where industrial materials are less feasible or affordable.

A1. Early-Stage Alignment of Architecture and Engineering Design with Climate Adaptation Needs

Goal: Ensure that building designs are cohesive, climate-resilient, and prepared to withstand both current and future climate risks by integrating adaptation needs early in the design phase.

Description: Establish a collaborative workflow where architects, engineers, and other disciplines incorporate climate resilience measures from the inception of projects. This involves embedding adaptation requirements across all design elements—such as materials selection, structural integrity, acoustics, and energy systems—to withstand extreme weather and ensure long-term durability. Integrating climate and resilience considerations early in the design phase allows for harmonization of structural, mechanical, and architectural components, ensuring they are designed to handle both current and projected climate impacts. This approach not only reduces exposure to risks during the construction period but also enhances the building's ability to endure and function efficiently over its lifespan, even in adverse conditions.

A2. Capacity Building through Specialized Resilience and Adaptation Training

Goal: Equip designers with the knowledge and skills to incorporate resilience practices into their projects, keeping pace with evolving climate risks.

Description: Encourage architects, engineers, and trade organizations to seek and provide training on climate resilience and adaptation challenges. Such capacity building should cover structural adaptations, material selection for durability, and resilience-focused innovations, preparing designers to meet climate adaptation needs effectively.

A3. Present the Case for Resilience to Clients in Financial, Social, and Environmental Terms

Goal: Encourage clients to prioritize resilient designs by demonstrating the value of climate adaptation from various perspectives.

Description: During project inception, present a well-rounded case for resilience to clients, highlighting benefits such as reduced financial risks, social responsibility, and environmental stewardship. Referencing successful models (e.g., EDGE, BRI, UNDRR Arise) and emphasizing climate risks can help clients understand resilience as an essential investment.

A4. Prioritize Vernacular & Passive Design Solutions to Enhance Resilience

Goal: Design buildings that remain functional in degraded conditions, enhancing resilience during and after extreme events.

Description: Implement passive design strategies—like natural ventilation, daylighting, and thermal mass—that allow buildings to function with minimal mechanical systems, providing continued functionality during power outages or other disruptions. This reduces dependence on external systems and supports occupant well-being during adverse conditions.

N1. Create and Promote Resilience Case Studies

Action: Develop and disseminate case studies that highlight successful resilience strategies and outcomes, which can inform regulations, planning processes, and best practices in the sector.

Rationale: Learning from practical examples of resilience in action can guide future projects, inspire stakeholders, and encourage the adoption of innovative solutions to climate adaptation challenges.

N2. Establish Specific Financing and Insurance Schemes

Action: Design and promote targeted financing options and insurance products that incentivize climate-resilient construction and renovations, particularly for vulnerable communities and projects.

Rationale: Financial support mechanisms that reduce risks for investors and developers will encourage the adoption of resilient design practices and materials. This could include resilience bonds, grants for retrofitting, or subsidized insurance for climate-adaptive projects.

N3. Link Climate Resilience with Urbanization Efforts

Action: Incorporate climate adaptation measures into urban planning processes, ensuring that new developments and infrastructure projects consider urban resilience in the face of climate change.

Rationale: As urban areas grow, it is critical to embed resilience into the fabric of urbanization strategies to safeguard against climate risks such as flooding, heatwaves, and other extreme weather events.

N4. Leverage Local Knowledge and Expertise

Action: Establish partnerships with local communities and indigenous groups to integrate their knowledge and expertise in addressing local hazards and climate adaptation strategies.

Rationale: Local know-how can provide valuable insights into effective, context-specific adaptation strategies that complement modern technology and ensure relevance to the community's needs.

N5. Incorporate Vernacular Building Techniques and Local Materials

Action: Develop guidelines and best practices that encourage the use of traditional building techniques and locally sourced materials in new construction and retrofitting projects.

Rationale: Utilizing vernacular techniques and materials can improve resilience to local climate conditions, reduce environmental impact, and support local economies. This also fosters a cultural connection to the built environment.