Open Architectural Competition On Climate-Resilient Rural Housing within Bangladesh

COMPETITION BRIEF

Open Architectural Competition On Climate-Resilient Rural Housing within Bangladesh

BACKGROUND OF THE PROJECT

“Everyone has the right to a standard of living”- states Article 25 of the Universal Declaration of Human Rights (UDHR) in the United Nations General Assembly (UNGA) in Paris on 10 December 1948. The Constitution of the People's Republic of Bangladesh (Article 15) entrusts the government with ensuring access to adequate housing for all citizens. While the government is not obligated to provide shelter to everyone immediately, this implies that citizens across all sectors of society have the right to access shelter. Most people must rely on their own initiative to access this basic necessity. In a rural area, 5 million new housing units are needed by 2000 (HABITAT II, 1996). The population increase indicates increased demand for housing. A report suggests that seven out of ten households in Bangladesh live in non-permanent housing (Saleh, 2017). 72% of existing houses require some form of improvement (HIES, 2022).

Housing not only provides physical shelter but also significantly impacts residents' lives by fostering skills development, generating income, improving security, enhancing health, boosting self-confidence, and promoting human dignity. Housing finance development, therefore, plays a role in boosting equitable economic growth and reducing poverty by helping households build assets, improve living conditions, empower middle- and lower-income populations, and strengthen communities.

It is observed that a large number of households in Bangladesh are engaged in home-based enterprises; therefore, houses are seen as an asset, and investing in them yields a return. Many have started small home-based shops to generate additional household income. Many borrowers already recognize the benefits, including health, mental peace, physical security, and their children’s education. In addition, the construction sector has generated employment both directly and indirectly through project implementation.

In Bangladesh, climatic events act as a "silent destroyer" of rural housing, systematically eroding the physical and financial stability of the country's most vulnerable populations. Frequent cyclones and storm surges in the coastal south regularly tear down lightweight structures and corrode materials with high salinity, while monsoon flooding and riverbank erosion in the central floodplains completely wash away thousands of homesteads annually, forcing millions into homelessness. Beyond sudden disasters, slow-onset events such as rising humidity, extreme heat, and sea-level rise cause structural decay in traditional building materials like bamboo and mud, perpetuating a cycle of "build-break-repair." For the ultra-poor, this creates a poverty trap: without access to climate-resilient designs or affordable finance, they are forced to reinvest their meager savings into substandard repairs after every disaster, preventing them from ever accumulating the assets needed to escape poverty.

PKSF has cultivated extensive expertise in pro-poor housing through two flagship initiatives: the World Bank-funded Low-Income Community Housing Support Project (LICHSP) and the GCF-funded Resilient Homestead and Livelihood Support to the Vulnerable Coastal People of Bangladesh (RHL) project. Under LICHSP, PKSF supported the construction of approximately 6,000 units in selected urban areas. This owner-driven model prioritized inhabitant comfort and spatial accommodation; however, because the primary focus was on urban densification and livability, specialized climate-resilience features were often secondary.

The RHL project addresses the extreme vulnerabilities of rural coastal districts, facilitating the construction of 3,000 houses. By employing an owner-driven approach, the RHL model prioritizes climate-shock absorption. These designs incorporate robust structural features to withstand cyclones and surges, though sometimes at the expense of traditional domestic comfort. PKSF also started housing loan (*Abason Loan*) program.

PKSF's dual experience highlights a critical gap in current low-income housing: urban models often lack resilience, while disaster-resilient rural models can overlook residents' daily functional needs. Moving forward, PKSF aims to bridge this divide by developing a "hybrid" architectural standard, one that optimizes synergy among rigorous climate resilience, effective accommodation, and dignified living comfort for Bangladesh's most vulnerable households.

The need for diverse architectural models in rural Bangladesh is rooted in the country's complex ecological landscape, where a "one-size-fits-all" approach to housing is inefficient and potentially hazardous. Because Bangladesh is a deltaic nation, its geography dictates the survival strategies of its most vulnerable citizens.

2. Intersection of Geography and Resilience

In the coastal belt, houses must contend with high salinity, cyclonic wind speeds, and tidal surges. Here, designs often require raised plinths and aerodynamic roof shapes to prevent being swept away. Conversely, in the haor (wetland) regions or floodplains, the primary threat is "*Afal*" (wave erosion) and seasonal submergence, necessitating amphibious structures or dwellings built on high, reinforced mounds. The demand for varied designs is driven by three critical factors:

- **Climatic Adaptation**: A design suitable for the arid, heat-stressed Barind Tract—where thermal mass and cooling are vital—would fail in the Chittagong Hill Tracts, where steep terrain and landslide risks require lightweight materials and specialized anchoring.
- **Material Economy**: For the climate-vulnerable poor, the "best" material is often what is locally available. Using local bamboo, mud, or thatch reduces transportation costs and enables community-led maintenance, but these traditional materials require modern engineering interventions to become truly climate-resilient.
- **Socioeconomic Constraints**: Poverty limits the "buffer" a family has against disaster. A single lost home can trap a family in a cycle of debt. Context-specific designs optimize the limited budget by focusing on the most likely local threats, ensuring that every taka spent maximizes the structure's lifespan.

3. Objectives

Overall Objective: To develop a set of implementable, affordable, and climate-resilient rural housing models suitable for vulnerable regions of Bangladesh.

Specific Objectives

- Generate multiple housing design options responsive to different ecological contexts
- Ensure designs meet affordability, safety, expandability, and environmental criteria
- Select 10 best housing models for adoption by PKSF
- Promote socially responsible architecture nationally

4. Design Framework

The proposed design framework for PKSF's rural housing competition outlines a holistic, climate-responsive model tailored for a six-member household within a versatile floor area of 300–400 sq. ft. With a construction budget up to maximum BDT 4,00,000 excluding 20 percent of owner contributions, the models emphasize structural adaptability, allowing for both horizontal expansion and vertical growth up to two stories. PKSF will provide a housing loan up to BDT 8,00,000 subject to the affordability of the potential borrower. To ensure long-term resilience, the designs must be engineered to withstand region-specific hazards such as cyclones, floods, salinity, and landslides while maintaining a healthy internal environment through optimized daylight, cross-ventilation, and damp-proofing.

Beyond mere shelter, the framework integrates livelihood and ecological sustainability by requiring dedicated space for livestock, kitchen gardening, and essential WASH facilities, including rainwater harvesting and sanitary latrines. To minimize environmental impact, local, low-carbon materials are prioritized over high-emission options such as concrete, ensuring the homes are not only affordable and durable but also in harmony with the local ecosystem.

- **Floor area:** 300–400 sq. ft.
- **Household:** 6 members (couple, 2 children, elderly parents)
- **Cost**: BDT 400,000
- **Structure:** Horizontal expandability; vertical up to 2 stories
- **Performance:**
  - Cyclone and hazard-resistant
  - Flood/salinity/heat/landslide responsive (as applicable)
  - Adequate daylight and cross-ventilation
  - Damp-free internal environment
- **Livelihood & ecology:**
  - Safe livestock shelter
  - Scope for kitchen gardening
  - Use of local, low-carbon materials (concrete discouraged, not prohibited)
  - Wash facility (Rainwater harvesting system and sanitary latrine)

Access to adequate housing is a fundamental human right recognized by both the United Nations and the Constitution of the People's Republic of Bangladesh. However, in rural Bangladesh, climatic events act as a "silent destroyer," eroding the stability of the most vulnerable populations through frequent cyclones, storm surges, monsoon flooding, and riverbank erosion. This creates a poverty trap where the ultra-poor must reinvest meager savings into substandard repairs after every disaster.

This competition, organized by Palli Karma-Sahayak Foundation (PKSF), a not-for-profit organisation established by the Government of Bangladesh and registered under the Companies Act, 1913 (as replaced by the Companies Act, 1994), in partnership with the Institute of Architects Bangladesh (IAB), seeks to bridge the gap between disaster shock absorption and domestic comfort.

4.1 Objectives

The primary goal is to develop a portfolio of 10 vetted housing models (rather than a single prototype) that are affordable, climate-resilient, and context-specific. Specific objectives include:

- Generating housing options responsive to diverse ecological contexts.
- Ensuring designs meet criteria for affordability, safety, and expandability.
- Promoting socially responsible architecture and indigenous knowledge paired with modern innovation.

4.2 Site Information

Location: Bangladesh is divided into distinct vulnerable ecosystems. The competition requires at least one model from each zone to address Bangladesh's distinct ecosystems:

a) **Coastal Zone:** Focusing on high wind resistance (cyclones) and salt-tolerant materials.

b) **Haor/Wetland:** Prioritizing wave erosion (*Afal*) protection and amphibious or high-stilt foundations.

c) **Char/Floodplains:** Designing for "dismountable" or portable architecture, as these communities often face riverbank erosion and must move their homes.

d) **Hilly Areas/Barind Tract:** Addressing landslide risks in the east and extreme heat/water scarcity in the west.

4.3 Site Area:

The climate-resilient house is approximately 300-400 Square feet. It has two rooms, a front veranda, a sanitary toilet with a bath, and a kitchen with an environmentally friendly stove. It has a rainwater harvesting system and a solar panel system to use green energy. Climate-smart practices will ensure a safe and comfortable living environment for a family by using natural resources. Participants must design for a six-member household (couple, two children, and elderly parents) with the following specifications:

Floor Area: 300-400 sq. ft

Construction Budget: Maximum BDT 4,00,000 (excluding a 20% owner contribution).

Performance Requirements: engineered to withstand regional hazards (cyclones, floods, salinity, landslides) while ensuring adequate daylight, cross-ventilation, and a damp-free internal environment.

Livelihood & WASH: Designs must integrate livestock shelters, space for kitchen gardening, rainwater-harvesting systems, and sanitary latrines.

Materials: Priority must be given to local, low-carbon materials; the use of high-emission materials, such as concrete, is discouraged but not prohibited.

Socio-Economic Versatility: Even among the "poor and ultra-poor," needs vary based on family size and livelihood.

Incremental Growth: Some models might be "core houses" that families can expand as their income grows.

Livelihood Integration: Designs can incorporate space for home-based poultry, tailoring, or crop storage, ensuring the house serves as an economic asset rather than just a shelter.

Common Features of a house will be (but not limited):

- Rainwater catchment and filtration
- Friend stove / smokeless stove
- Solar panels
- Septic tank
- Lighting and ventilation system
- Accessible materials
- Durable - Adapted home
- Safe and secure home
- Sanitation facilities
- Safe water supply
- Disaster-tolerant
- Healthy environment
- Mosquito control system

4.4 Design Considerations

- The design should be climate responsive.
- The design should consider energy efficiency and passive cooling.
- The design must consider universal accessibility.
- The design should consider the integration of landscape and open spaces.
- The design should consider cultural and contextual relevance.
- Designers are encouraged to use local material and technology. The materials that are used should be environment friendly.
- The construction technique should consider the possible rapid execution of the project.
- The design should be buildable and constructed by the local masons.
- The design should consider the future maintenance cost.

5. COMPETITION FEES AND AWARD

5.1 COMPETITION TYPE

This is a single-stage, open-architecture design competition opens to architects in Bangladesh.

5.2 REGISTRATION

01. Eligible participants will have to pay an amount of BDT 1000 in cash against his/her IAB Membership No. at IAB Office (IAB CENTER, Plot-11, Block-E, Sthapatyacharjo Muzharul Islam Sarani (Old Road no-7), Agargaon, Sher E Bangla Nagar, Dhaka-1207.) from 26.10.2026 - 03.11.2026 between 12:30 pm to 8:00 pm.
02. Upon receiving the amount, IAB will issue a unique registration code against the participant's IAB Membership No.

03. The Competition Brief will be available on the website of IAB. Registered participants will also receive an email containing the brief and guidelines.

04. A registered participant or team may submit design proposals for a single zone or multiple zones, up to a maximum of four (4) proposals covering all designated ecological zones. Each submitted proposal must specifically address the architectural and climate-resilience requirements of its respective target zone.

5.3 DECLARATION FORM

- Participants must submit their team composition and other information in the attached Declaration form.

5.4 COMPETITION EMAIL

iabpksf@gmail.com

Any contact or queries should be conducted via this email address.

5.5 QUERIES

- Queries will only be addressed in written form and to the following email: ***iabpksf@gmail.com***, with 'Q-unique registration code' as subject.

5.6 PRIZES

- There shall be 10 (Ten) prizes of BDT 100,000/= (One Lac) and a certificate for each.

6. COMPETITION RULES & GUIDELINES:

6.1 ORGANIZER

Jointly Organized by Palli Karma-Sahayak Foundation (PKSF) and the Institute of Architects Bangladesh (IAB).

6.2 ELIGIBILITY

1. The Architect (Team Leader) must be a 'Regular Member' of the Institute of Architects Bangladesh (IAB) with meeting the conditions outlined in the "Bangladesh National Building Code (BNBC) 2020" are eligible to participate as team leaders.
2. The Team Leader should have up-to-date IAB membership fees.

6.3 COMPETITION PROCESS:

- One participant/team can submit for all four (04) or one (01) design proposal/s for each of the four different zones.
- All submissions shall be vetted for eligibility and strict adherence to all Competition rules.
- Rules and Criteria as defined herein or on any competition brief.
- For the definition of Architect and Architectural Consultant, the definition of the BNBC 2020 shall apply.
- Participants will submit their list of associations (if any).
- Participants must submit a declaration form.
- "Design Architect(s)" means a single team leader or a combination of a team leader with other design Architect(s); this combination can't be changed for this competition and must clear their membership dues.
- The name of the "Design Architect(s)" Team will be printed on the Certificate.
- A Memorandum of Understanding (MOU) should be submitted along with the declaration form for the case of joint venture, with company to company or with company to person for eligibility or any other purpose.

- Participants will submit a preliminary estimated cost of the superstructure.
- Physical or digital models are not required at the initial submission stage.
- The design proposal must comply with the Bangladesh National Building Code (BNBC) 2020.
- Late submissions, exceeding site limits, or failure to meet program requirements will result in disqualification.
- Participants must not contact jury members or technical committee members during the competition process.
- Jury members, technical committee members, or their associates must not have prior knowledge or involvement with competition entries.
- Jury members must submit a declaration of impartiality before the evaluation begins.
- In case of a conflict of interest, alternate jurors will be appointed.

6.4 EVALUATION:
Competition participants will be required to maintain their anonymity throughout the competition. The jury will select 10 (ten) successful proposals for recommendation for the award of the design contract in accordance with the terms and conditions following submission.

6.5 POST EVALUATION:

PKSF has the right to implement any of the winning projects. In such a case, PKSF may Invite the awarded architect(s)/team to enter into a legal contract with PKSF, covering items such as the budget, fees, and the proposed organisational structure for delivering consultancy services, which will be negotiated in case by case.

6.6 DISQUALIFICATION
An entry or entrant will be disqualified if
- They do not comply with the Eligibility Requirements.
- They do not comply with the Entry Requirements.
- Incomplete and wrong Declaration form.
- The entry is received after the lodgment deadline.
- The entrant improperly attempts to influence the decision of the Jury.
- The entrant has communicated directly with any member of the Jury/ employee involved in the competition/ or any coordinator or advisors engaged by the IAB/PKSF for the purposes of the competition.
- Any name, sign or symbol on drawings, models, or any submittal that helps to trace or reveal anonymity of the participant will disqualify the entry.
- Any resemblance to a design that jurors find partly copied from another project.
- Any person related to the competition process, such as jurors, committee members, organizers or the competition director or their personal firms or their subordinate firms, cannot participate in this competition.

6.7 JURORS
1. Dr. AKM Nuruzzaman, Senior General Manager,
   Resilience and Risk Management Department (RRMD), PKSF
2. Md. Tariqul Islam, Project Coordinator, Safe Water Project (SWP), PKSF
3. Ar. Nahas Ahmed Khalil (K-022)
4. Ar. Sheikh Serajul Hakim (H-302)
5. Ar. Md. Faysal Kabir (K-108)

6.8 THE JURY'S ASSIGNMENT
The Jury shall perform the following:

- Shall select the best ten entries from among all the valid entries of the submission. The Jury will also select up to five entries from the remaining valid competition entries for Special Mentions.
- The Jury is assigned to select at least two (02) winning projects for each of the four (04) designated ecological zones. The Jury reserves the right to determine the ranking of these winners (e.g., First and Second Place) or to designate them as joint winners based on the quality of the submissions and the competition brief criteria.
- Shall decide the awards within the minimum possible days, in accordance with the competition rules and guidelines and submit a final report to the client with recommendations for modifications, if any, in the successful scheme.

6.9 THE JURY'S DECISION
- The jury shall be autonomous in its decisions or opinions.
- The jury's decision will be announced when it has completed its report and will be announced at the end of the jury session.
- All decisions of the Jury shall be final and binding upon IAB, PKSF and the participants.
- The jury reserves the right to reject any entry lodged by a competitor that contravenes this condition.

6.10 TIMELINE:
Open Architectural Design Competition On
Climate-Resilient Rural Housing Within Bangladesh

Competition Launch & Advertisement on Newspaper	26.10.2026
Registration closes	03.11.2026, by 8:00 PM
Last Date for Receiving Queries from Registered Participants (via mail)	04.11.2026 - 10.11.2026, by 6:00 PM
Reply to all Queries	14.11.2026, 4:00 PM at IAB Centre
Submission	**17.12.2026, 03:00 PM - 6:00 PM** at IAB Centre
Jury	19.12.2026 - 20.12.2026
Winner Announcement	21.12.2026
Exhibition	21.12.2026- 23.12.2026, Every day 10:00 AM to 8:00 PM
Prize Giving Ceremony	To be announced

6.11 SUBMISSION REQUIREMENTS
Any deviations from the required submission documents listed below will result in the design proposal being disqualified from assessment by the jury.

6.12 LANGUAGE
All competition submissions must be provided in English.

6.13 ANONYMITY

- The anonymity of the entrants is to be ensured.
- All submitted competition material is to have only a 50mm×50mm blank square box on the top right corner of each document.
- Digital materials should also be untraceable.
- A sealed envelope containing the DECLARATION FORM should accompany the submittals. The envelope must be marked with a blank square box only.
- Revealing the identity of any entrant during the competition period will lead to the disqualification of the design proposal.
- The competition entries must be handed over to the competition director by a person/courier unknown to the organizer and the jurors.

6.14 PROPOSED DESIGN

- Conceptual sketches (if any)
- Perspective views/ Renderings/ Photomontages, etc.

6.15 DETAIL DESIGN

- Detailed plan for the building
- Conceptual sketches (if any)
- Any detail drawing, if needed
- Elevations and sections (as many as required to clarify the proposal)
- Perspective views/ Renderings/ Photomontages, etc.
- Scale: any preferred scale

6.16 SHEET

- Sheet specification: A1, Landscape, Color scheme
- Maximum number of sheets: 04 (Four)
- Showing North upward
- Submission must have a 50mmX50mm blank square box on the top of the right corner

6.17 REPORT 01 [DESCRIPTIVE]

- On the concept(s) behind the design and proposal, their relationship to the surroundings and development opportunities
- On how the design and proposal relate to context and environmental & sustainability considerations
- Sheet size: A4, Orientation: Portrait, Maximum sheet numbers: 08 (Eight)
- Body Font: Arial 10 pt

  This Report will be submitted in a sealed A4-size envelope, with only a label 'REPORT-Descriptive' and the entrant's 14-digit registration number. will be printed on the envelope. Mark a 50 mm x 50 mm blank square box at the top right corner of the envelope.

6.18 REPORT 02 [COST CALCULATION]

- An estimated construction cost must be submitted as a separate report
- Sheet size: A4
- Orientation: Portrait
- This Report will be submitted in a sealed A4-size envelope, with only a label 'REPORT-Financial' and the entrant's 14-digit Registration No. will be printed on the envelope. Mark a 50 mm x 50 mm blank square box at the top right corner of the envelope.

6.19 SOFT COPY

- Submitted sheets in high-resolution JPEG and PDF format
- Both the Reports in DOC and PDF formats
- Medium: DVD or PEN drive
- The DVD/Pen drive will be labelled only with the entrant's 14-digit Registration No. Mark a 50 mm x 50 mm blank square box at the top right corner of the envelope for the submittals.

6.20 DECLARATION FORM

- Include a separate sealed envelope with only a label 'DECLARATION FORM' and the entrant's Registration No. Mark a 50 mm x 50 mm blank square box at the top right corner of the envelope for the submittals.

7. OWNERSHIP

The PKSF retains ownership of the submitted documents until publication of the competition results. The entrants will be notified by email when and where these will be returned.

8. PUBLISHING AND EXHIBITING

The PKSF reserves the right to publish, exhibit, and disseminate all submitted design proposals freely. However, to preserve the integrity and anonymity of the evaluation process, any public exhibition or publication of the submissions shall take place only after the official declaration of the competition winners.

9. APPROVAL AND ACCEPTANCE OF THE COMPETITION BRIEF

The competition brief and appendices have been approved by PKSF. By submitting a design and proposal to the competition, the entrants accept the competition's brief, rules and regulations.

10. SUBMISSION ADDRESS

The Design Proposal is to be addressed to:
Competition Director
Design Competition of Climate-Resilient Rural Housing within Bangladesh
Institute of Architects Bangladesh (IAB)
Plot-E/11, Sthapatyacharjo Muzharul Islam Sarani, Agargaon Administrative Zone, Sher-E-Bangla Nagar, Dhaka-1207

11. LEGAL AND REGULATORY PRINCIPLES

- Entry in this competition implies agreement by the Organizer, the Jury and the candidates to abide by the terms of the competition regulations, specifications and program, and the replies given to Entrants' queries.
- Submission of an entry constitutes acceptance of the decisions of the Jury and the decision of PKSF, which shall be final.
- The Commissioning Organization undertakes to follow an impartial procedure for the selection of candidates. No appeal shall be accepted.
- By participating in the competition, candidates confirm their acceptance of these regulations, specifications, and program, and affirm that they are acquainted with and will strictly abide by the Timetable for the successive stages.

12. TERMS AND CONDITIONS

- PKSF will reserve all the rights to the prize-winning house design and royalty-free use of all the designs without the approval of the Architect. PKSF will also reserve the right to modify the design in response to community demand. PKSF will acknowledge the designer when design will be used.
- No fees for detailed architectural, Structural, Electrical & Sanitary and Plumbing Design, cost estimate, and specification will be paid. These cost estimates, specifications, design and drawing fees will be covered by the prize money. Detailed architectural design will cover necessary sections, elevations, floor plans (presentation plan showing the furniture and necessary working drawings). Structural design and drawing will cover all necessary drawings with detailing. Electrical design and drawing will cover all necessary drawings showing fittings, fixtures, and circuit diagrams. Plumbing and sanitary design and drawing will cover all necessary drawings showing fittings, fixtures, with necessary measurements.
- Any dispute on the terms and conditions of appointment before signing of the Agreement shall be settled by a person nominated by PKSF, if necessary, as arbitrator between PKSF and the winner. The decision of the Arbitrator shall be final and binding on PKSF and the winner.
- The selected ten designers (winners) will prepare detailed drawings, designs, and estimate before the award ceremony.
- If, for any unavoidable reason, PKSF wants to cancel the competition after the entries are received, PKSF shall return all the submitted designs to the respective architects. None of the submitted designs can be executed by PKSF or any other architect/designer appointed by PKSF. PKSF should place an advertisement in the newspapers informing them of the

cancellation of the competition, and the newspapers that initially carried the advertisement announcing the competition should run the cancellation notice.

- Members of the Jurors shall not involve themselves in any way with the Project after the competition, except where PKSF and IAB jointly make a request in writing for any involvement.

13. PROPRIETY

Competitors (or any representative of a competitor) must not at any time before the Jury makes final announcement of a winner, contact, or interview or attempt to interview or to discuss or to attempt to discuss with Jury members, employees, Competition coordinator and authorized representatives, any matter about the competition or any other entrant submitted in response to this competition. The jury reserves the right to reject any entry lodged by a competitor that contravenes this condition.

14. PUBLICITY DURING THE COMPETITION PERIOD

Once the jury's decision on the designs and proposals has been finalized, the competition result will be made available. During the competition period, the competing Consulting Firms are expected not to give interviews, make comments, or otherwise make public their own or others' entries until the competition results are disclosed.

15. COPYRIGHT

The copyright and authorship of the designs will remain with the respective architect/participants, but will give PKSF a perpetual, royalty-free license to use their entries for the following:

- Use the design for constructing community houses;
- Informing and consulting the community through an exhibition
- Documenting the competitive process for internal reporting, public notification, and Inclusion on PKSF’s website or in any publication prepared by the PKSF on the competition process and outcomes.