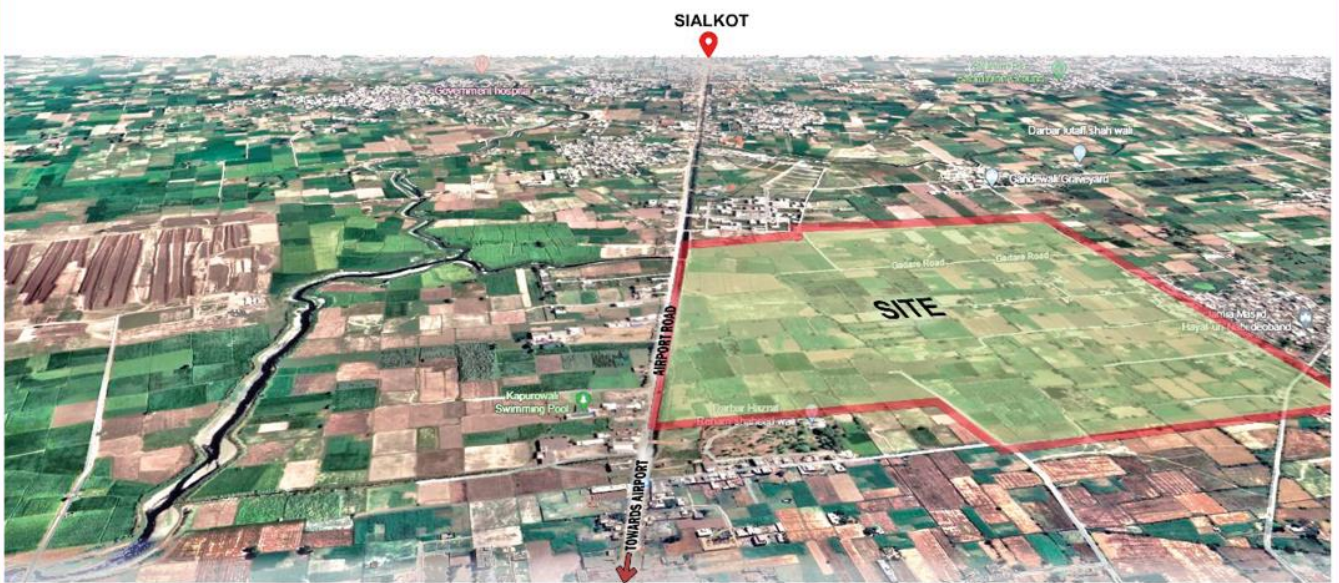


INTERNATIONAL DESIGN COMPETITION

NONUT

for

GREEN & AFFORDABLE HOUSING



16th June 2024

Launching

Virtual Sessions

Guided Site Visits

31st August 2024

Submission Deadline



Punjab Affordable
Housing Program



Punjab Housing &
Town Planning Agency



THE WORLD BANK
IBRD • IDA

The World Bank

Project Site: **Sialkot**



For more information visit:
www.pahp.gov.pk



Punjab Affordable Housing Program

ABOUT PAHP

The Punjab Affordable Housing Program (PAHP) is a World Bank funded program with the objective of improving the quantity and quality of affordable housing supply in Punjab. The program is designed to address Punjab's housing needs comprehensively by (i) promoting private sector participation in affordable housing provision; (ii) strengthening institutions with critical roles in housing policy and programs; (iii) deepening housing sector regulatory reforms and operationalizing them through strengthened systems; (iv) promoting the livability and sustainability of housing through climate resilient and energy efficient designs, planning, and infrastructure investments; and (v) improving the affordability of housing for the targeted groups. The Program is being co-implemented by the Urban Unit, Punjab and PHATA through the Program Management and Implementation Unit (PMIU).

ABOUT URBAN UNIT

The Urban Unit was established in 2005 as a PMU of the P&D Department, Government of Punjab (GoPunjab). In 2012, the PMU was transformed into an independent private sector company and is fully owned by GoPunjab. The mandate of the company is to give policy advice and services to public and private sector organizations in the areas including inter alia Housing and Urban Planning, Transport, Solid Waste Management, Water & Sanitation, Urban Economic, Institutional Development, Capacity Building and Service Delivery Improvement using its highly reliable GIS based analytics.

ABOUT PHATA

The Punjab Housing and Town Planning Agency (PHATA) was established in 2004 with the objectives of rejuvenating the housing sector in general, providing shelter including multi story apartments to shelter-less low-income groups in particular, identification of state/private land for developing low-cost housing schemes with public-private partnership ventures.

ACKNOWLEDGEMENTS

We are grateful for the technical guidance provided by the World Bank's PAHP Task Team; the efforts made by the DG and officials of PHATA in identifying a suitable site for this design competition; and the efforts of the Program Director and Team of the PAHP PMIU in organizing this event.

1. THE COMPETITION

The Program Management and Implementation Unit (PMIU) of Punjab Affordable Housing Program's (PAHP) invites eligible national and international design enthusiasts¹ to submit their design proposals for a green and affordable housing design competition.

This competition's objectives are: (a) planning of an affordable housing scheme and designing of affordable housing prototypes on a site covering an approximate area of 208 acres near Sialkot city; (b) integration of green design elements within the layout and prototype design in accordance with the Green Building Code Provisions, as well as international and national best practices. Participants are encouraged to propose comprehensive plans, considering technical, legal, and commercial feasibility, informed by PHATA's revised Planning Standards. The design proposals should emphasize a multidisciplinary approach to create communities that embody, inclusivity, health and wellbeing, sustainability, affordability, and resilience within the community and the larger urban fabric and context of Sialkot city.

A jury composed of experienced practitioners and professionals will evaluate entries based on the criteria outlined below and select three (3) winners and one or more honorable mentions. The jury will score the proposals based on originality, the comprehensiveness of approach, and the clear articulation of implementable strategies that showcase innovation, best practices, and thought-provoking solutions per the design requirements given below.

This competition presents an exciting challenge for national and international practitioners, academicians and researchers to develop creative affordable housing and community design solutions while integrating green building and resilient built environment principles. It serves as a platform for professionals to showcase their expertise, contribute innovative solutions, and participate in shaping the future of affordable housing in the region.

¹ Architects, Planners, Engineers and Associated Professionals

2. COMPETITION SCHEDULE

Date	Activities
16 June 2024	Competition Launch <i>Participants may submit queries</i>
26 June 2024	Virtual Information Session – 1 <i>4 pm, Pakistan Standard Time</i>
3 July 2024	Guided Site Visit* <i>Briefing on site</i>
23 July 2024	Virtual Information Session – 2 <i>4 pm, Pakistan Standard Time</i>
5 August 2024	Guided Site Visit* <i>Briefing on site</i>
7 August 2024	Virtual Information Session – 3 <i>4 pm, Pakistan Standard Time</i>
31 August 2024	Deadline for Submission of Design Proposals <i>5 pm, Pakistan Standard Time**</i>
Week of 2 September 2024	Jury Deliberation <i>Winners will be notified</i>
Week of 9 September 2024	Presentations and Award Ceremony

**Note: No TA/DA shall be admissible. The PAHP team will be available on-site at 11:00 AM Pakistan Standard Time on the specified date in the schedule above, to begin the guided site visit. Please note that transportation to, from, and during the site visit will not be provided by the client.*

***Note: No proposal shall be accepted, either hard copies via courier or soft copies, after the deadline given above.*

Any changes to the dates will be promptly communicated by the organizers, and all competitors will be notified simultaneously of any program modifications. The organizers do not assume responsibility for the late or mis-delivery of any document sent to the competitor.

3. AWARDS AND RECOGNITION

The winning teams shall be awarded the following prizes (one prize for each position):

- | | | |
|----|----------------------|----------------------|
| 1. | First Prize | Rs. 2,500,000 |
| 2. | Second Prize | Rs. 1,500,000 |
| 3. | Third Prize | Rs. 1,000,000 |
| 4. | Honorable Mention(s) | Rs. 500,000 |

The winning proposals shall be published on the following website <https://pahp.gop.pk/>

The intellectual property rights of the winning entries, or any subsequent related works, shall belong to the World Bank and the PAHP PMIU, after the prize monies have been paid, and will be duly credited to the author(s), if published. Subsequent to the close of this design competition, all participating firms may or may not be invited by the competent authority to bid for consultancy services for the detailed planning, architectural, and engineering designing and construction supervision for an affordable housing scheme on the site, if required.

4. ELIGIBILITY

No.	Categories	Criteria
1.	Domestic Firms	<ul style="list-style-type: none"> - Any Planning, Architectural or Engineering firm registered with the relevant professional body². - Team lead must be an architect or town planner registered with the relevant professional body².
2.	International Firms	<ul style="list-style-type: none"> - Any international Planning. Architectural or Engineering firm registered with relevant professional body² of its respective country. - Team lead must be an architect or town planner registered with the relevant professional body² of respective country.
3.	Individual Professionals (Domestic or International)	<ul style="list-style-type: none"> - An individual or a group of relevant individual professionals may form a team. - Team lead must be a registered architect or town planner with relevant professional body².
4.	Institutions	<ul style="list-style-type: none"> - Any national or international research institutes, departments, or innovation centers of public/private university, and think tanks, relevant NGOs, etc. - Team lead must be an architect or town planner registered with the relevant professional body².

Note:

A firm may associate with other firms in the form of a joint venture (JV) to participate in the competition; however, only one submission can be made by a firm either as a single competitor or as a JV partner.

Any member, partner, associate, or employee of the jury or the organizing institutions (i.e., PMIU – PAHP; HUD&PHED; PHATA; Urban Unit) shall be ineligible to take part, directly or indirectly, in the competition.

² Official body/council of the respective country responsible for registration and licensing of the relevant professionals e.g., PCATP and PEC in Pakistan.

5. RECOMMENDED TEAM COMPOSITION

Participating teams would benefit from diverse expertise (where one member may have multiple skills) e.g.:

- ❖ Affordable Housing
- ❖ Architecture
- ❖ Civil Engineering
- ❖ Environmental Planning
- ❖ Social Development
- ❖ Urban Economy/ Project Finance
- ❖ Urban / Town Planning

Each team shall have a single team leader (e.g., the Principal Architect / Town Planner), to act as the primary representative/focal person for the team’s proposal and to serve as the liaison between the participating team and the organizers.

6. COMPETITION RULES

The Green & Affordable Housing Design Competition 2024 aims to inspire innovative planning and design solutions for the development of sustainable and resilient affordable housing solutions. While each proposal will be judged for its creativity, completeness, and relevance, each team must also adhere to the following rules:

1. All proposals and plans shall comply with the PAHP Planning Standards and Green Building Codes (available on PAHP website: <https://www.pahp.gov.pk/DesignCompetition.html>).
2. All proposals shall consider the existing encumbrances on the site (detailed in Figure 3 below) and provide innovative solutions to navigate these areas, whilst developing an integrated site layout plan. The proposals must remain sensitive to the social considerations and dynamics of existing encumbrances. Thus, it is recommended that main roads and higher value land abutting them should avoid areas under litigation, while lower hierarchy infrastructures and lower value land uses should be located in areas under litigation so that the latter may be developed after litigation decisions, without risking the commercial feasibility of the initial development. Areas under litigation/incumbrances have been marked on *Topographic Survey* file (available on PAHP website: <https://www.pahp.gov.pk/DesignCompetition.html>).
3. Competitors may not directly contact local residents or property owners. Any questions or queries may be directed at client’s email id rni.pahp@punjab.gov.pk. Please be sure to include “*Questions – Green and Affordable Design Competition 2024*” in the email’s subject line.

7. DISQUALIFICATION

Any team/proposal may be disqualified if any of the following conditions apply:

1. **Non-Compliance with Design Requirements:** If the design submissions do not meet the specified requirements outlined in the Green and Affordable Housing Design Competition document. This could include deviations from green building standards, sustainability, affordability criteria, or other design parameters and specifications.
2. **Late Submission:** Strict deadlines need to be followed for this design competition. Submissions made after the specified deadline shall lead to disqualification to ensure fairness and equal consideration for all participants.
3. **Conflict of interest:** Participants with a conflict of interest that could compromise the impartiality and fairness of the competition shall be disqualified. This could include situations where the participant has a close relationship with the competition organizers or the jury.
4. **Plagiarism or Intellectual Property Infringement:** Designs that are found to be plagiarized or infringing on intellectual property rights shall be disqualified. Originality and respect for intellectual property are essential in the competition.
5. **Ethical Violation:** Violations of ethical standards, professional conduct, or other ethical considerations shall lead to disqualification. This could include behaviors that are deemed unethical within the context of this competition.
6. **Misrepresentation of information:** False or misleading information in the submission, application, or any other related documentation shall result in disqualification. Honest and accurate representation is crucial for maintaining the credibility of the competition.
7. **Violation of Competition Rules:** Failure to adhere to the specific rules and guidelines set forth in the competition document shall result in disqualification. This could encompass a range of requirements, from the format of submissions to the use of certain materials.

8. DESIGN BRIEF: GREEN & AFFORDABLE HOUSING

Site Location

The competition site is near Sialkot city and 8 kilometers away from the Sialkot Airport, spanning approximately 208 acres.

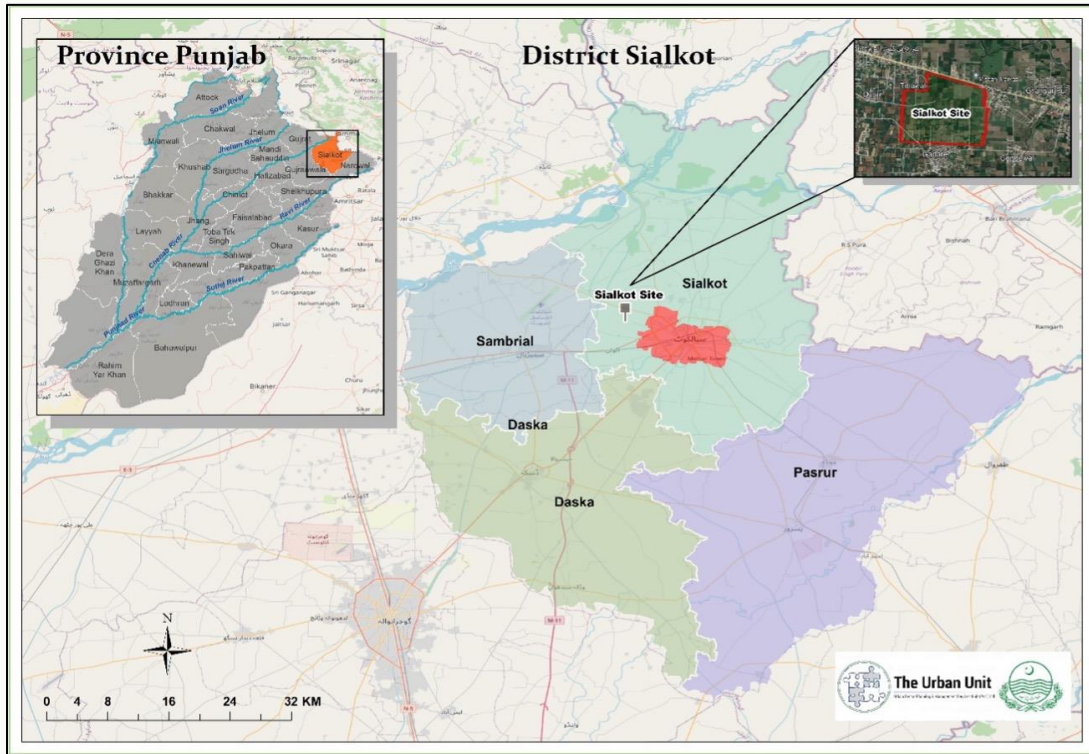


Figure 1: Competition Site

Source: The Urban Unit

The site is in possession of the Punjab Housing and Town Planning Agency (PHATA) and the coordinates are 32°31'37"N 74°27'54"E. Some pictures of the site are presented below:



Figure 2: Photos of the Competition Site

Source: Program Management and Implementation Unit – PAHP

Some parts of the site are currently under litigation, and some are inhabited by encroachers as indicated in the layout map below. Thus, each team is required to develop their layout for the total site, while carefully navigating any areas currently under litigation.

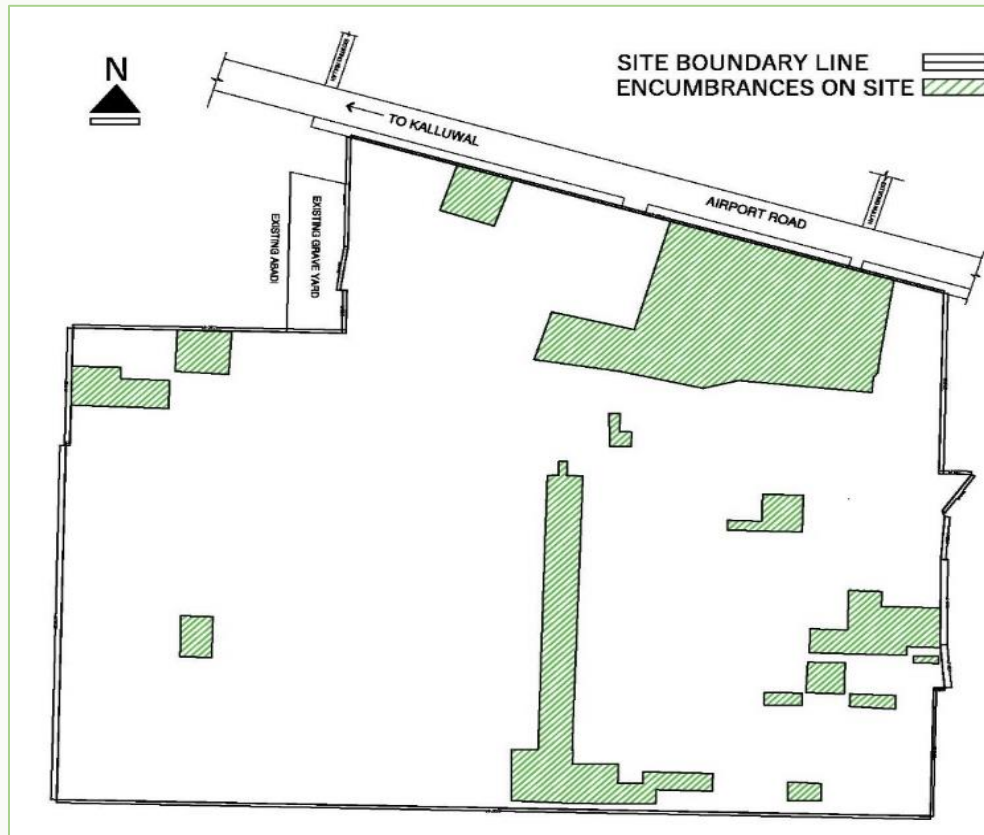


Figure 3: Layout Map of the Competition Site
Source: Program Management and Implementation Unit – PAHP

Disclaimer: The subject site continues to have few pockets awaiting clearance, as highlighted in green. It is anticipated that these pockets will be incorporated into the housing scheme after the court decision on litigation, to be developed in subsequent phases.

Design Requirements

The proposals shall meet the following objectives:

❖ Affordability

Meet multiple price points to remain affordable for multiple income levels. The aim is to integrate differentiated housing solutions (e.g., exploring core housing, incremental housing, low-rise, and mid-rise, etc.) across the project site at various purchase price points, of which, at least 70% should cost PKR 2.5 million or less. (Thus, a maximum of 30% may be priced higher, to increase socioeconomic diversity and to support cross-subsidization.) The Competitors are encouraged to explore options for meeting the following price points (for initial package of land, infrastructure, and dwelling) in the affordable range: PKR 2.5 million, PKR 2 million, PKR 1.75 million, PKR 1.5

million, PKR 1.25 million, PKR 1 million, and even less, but with focus on the feasibility of housing provided at lower pricing points.

❖ **Climate Resilience**

Incorporate sustainable design principles e.g., energy-efficiency, water conservation, climate adaptation & mitigation measures in neighborhood planning & dwelling unit designs, avoiding green washing. They should also integrate nature-based solutions and climate-resilient site development that adopts green and blue infrastructure networks appropriate to the local context.

❖ **Social Inclusion**

Promote a sense of community and inclusion, e.g., through common outdoor and indoor spaces, and provision of social infrastructure ensuring the needs and safety of women, children, senior citizens, and people with special needs.

❖ **Incrementality**

Explore the development of starter units to be affordable at the specified price points with possibility of incremental improvements, through upgrading of finishings, infill of walls or slabs, or horizontal or vertical expansion so that HHs enjoy an accessible entry cost, while being enabled to invest additional resources based on future availability of funds. (See references below.)

❖ **Functionality**

Optimize the use of space to be responsive and functional with minimum resource needs (e.g., unit area; cost), given that: (i) the intention is to reach new (lower) market segments; and (ii) the housing units are incremental, the proposal should give due consideration towards determining the appropriate specifications and standards.

❖ **Adaptability**

Develop prototypes that are easily adaptable to different land parcels, climates, topography, & sociocultural contexts.

Key Terms & Parameters

❖ **Housing Solution**

A housing solution is defined as the combinations of plots (subject to differentiated land price), initial level of infrastructure/services of specified standards (subject to location within the road / infrastructure network hierarchy), and built dwelling units (with prototypes suitable to location and land price; e.g., incrementally expandable/improvable vs more complete).

❖ **Price Points**

The proposed price points and stylized affordability estimates for various income groups are:

- **Middle-income households (HHs) may be able to afford a price range of PKR 700,000 to 2.1 million.** (This estimate is for quintile 3: i.e., the bottom 41 - 60% with a HH expenditure of PKR 53,000 to 83,000 per month. Subject to HH size and budget prioritization, approximately PKR

16,000 to PKR 37,500 per month may be available to spend on housing. Subject to accessible financing options, this may translate into the given price range.)

- **Low-income HHs may be able to afford a price range of PKR 500,000 to 1.5 million.** (This is the quintile 2: i.e., the bottom 21 - 40% with HH expenditure of PKR 48,000 to 78,000, of which PKR 12,000 to PKR 27,500 per month maybe available to spend on housing.)
- **The Poor may be able to afford a price range of PKR 300,000 to 1.1 million.** (This is for quintile 1: i.e., the bottom 20% with HH expenditure of PKR 40,000 to 70,000 per month, of which PKR 10,000 to PKR 20,000 may be available to spend on housing.)

❖ **Minimum Entry Standards for Core Housing**

The minimum standards for core housing must be defined (proposed) – for example, Indonesia introduced the minimum lot size of 45m² and the minimum starter home size of 12m² initially to be expandable to at least 36m² (*The Minister of Public Works, Decree 20 / KPTS / 1986*), and this regulation/standard is applied even today.

Design Considerations

The design proposals are to be prepared keeping in view the following considerations:

PROTOTYPE DESIGN

- Define Core Housing in the context of Punjab, while informed by national and international best practices
- Compact layout and unit sizes, and cost-efficient proportions
- Incremental housing
- Use of innovative and contextually relevant climate resilient building materials
- Adoption of appropriate construction techniques
- Appropriate planning standards: e.g., narrower Non Motorized Transport and pedestrian-focused lanes for lower network hierarchy level, while maintaining minimum accessibility for emergency services per PHATA's updated Planning Standards.

GREEN DESIGN PRINCIPLES (Cross-Cutting)

- Integrate green design principles of the National Green Building Code or international standards, such as the EGDE Green Building Standard by IFC.
- Using natural lighting, ventilation, passive cooling and heating to reduce energy usage and emissions.
- Promote on-site renewable energy solutions.
- Provide nature-based solutions for stormwater management & rainwater harvesting.
- Use vegetation to shade structures and public spaces to reduce heat island effect.
- Climate resilient planning & buildings.

Site and Layout Planning

- Optimize site planning and land uses distribution to accommodate maximum units, and promote financial feasibility of the proposal
- Include principles of neighbourhood planning based on international & national standards & best practices
 - Layout planning to promote walkability, pedestrian-friendliness, safety and climate resilience.
 - Promote green, resilient, inclusive, and safe communities for all groups.

9. DELIVERABLES

The proposals should include the following deliverables:

Table 1: Key Deliverables

SR	Deliverable	Detail
1.	Layout Plan	<ul style="list-style-type: none"> • A detailed layout plan showing infrastructure networks (e.g., road and circulation as well as green-blue networks) and their standards and costs (potentially differentiated across locations to meet the individual demands of different target groups), and distribution of public spaces with evidence of green design principles and nature-based solutions. • A detailed layout plan showing all land uses (incl. but not limited to the subdivisions / lot pattern and placement of residential prototypes) and their land value potential (e.g., subject to location and infrastructure access) and pricing suitable to the included target groups. <p>The two plans shall inform the proforma with expenditures (i.e., for public space) and revenues (for sellable serviced land) and may be combined into a masterplan; if so, smaller infographics should clearly illustrate the required information. See judgement criteria for further information.</p>
2.	Schematic Housing Prototype Design	<ul style="list-style-type: none"> • Architectural plans, elevations, and cross-sections along with 3D rendering/model; illustrate the incremental process (the minimum starter unit, and how the house develops), and evidence of green design principles i.e. including specific requirements to help avoid green washing and to encourage pre-construction building performance evaluation to make it more energy, water, material, and cost efficient. • Additional considerations: i) opportunities for income generation through home-based livelihoods or subletting ii) integration of different socioeconomic groups (income level, people with special needs). See judgement criteria for further information.
3.	Technical & Legal Feasibility Report	<p>Technical description of materials and technologies proposed for the prototypes and (especially) hard landscaping, as well as planning with respect to areas under litigation. See judgement criteria for further information.</p>

- | | |
|--------------------------|---|
| 4. Financial Feasibility | Preliminary estimates for development costs (land, services, structures) and revenues from land and housing sales to demonstrate financial feasibility. Participants are encouraged to examine the impact of site planning and land use distribution on the overall financial feasibility of the proposal and on opportunities for cross-subsidization. |
|--------------------------|---|

Disclaimer: Participants are encouraged to supplement their submissions with any additional documents. This optional proposal element offers an opportunity to further enhance the design, solutions, or innovative tools identified in the team's proposals.

10. REQUIREMENTS OF PROPOSAL SUBMISSION

Proposal Elements:

Each competitor must submit a proposal that includes the following elements:

1. Executive Summary

An executive summary of length of maximum 500 words (1-2 pages maximum; additional financial pro-forma of 1 page maximum), containing the project statement and report on the four judgement criteria and sub-criteria — and any other key elements of the proposal. The executive summary shall discuss the financial feasibility for the government and affordability for the households.

2. Boards: up to four (04) in A1 size

Each team is encouraged to submit all the information necessary to explain its proposal. Content may include but is not limited to plans, sections, elevations, visualization, and diagrams. The resolution of boards must be 300 dpi (for A1 size) and have the unique registration number placed at the bottom right corner of the board in font Times New Roman and font size 18.

3. Final Report

The final report of length between 1000–2000 words (5 pages maximum, including any figures, tables, etc., if any) shall explain the detailed design proposal including proposed master plan and layout of the site; description of climate resilient & environmentally sustainable features; materials & technologies proposed for development of housing prototypes & hard and soft landscaping; and the financial feasibility of the proposal.

4. Additional Documents

- A duly filled submission form (available on website: <https://pahp.gop.pk/DesignCompetition.html>).
- Valid Registration Certificate of team lead (architect/town planner) from relevant professional body.
- Valid firm registration certificate from relevant professional body (only for firms).

Submission:

1. All documents must be submitted in English.
Anonymity of the submissions will be ensured throughout jury deliberations till the announcement of results. Therefore, participants are requested to ensure that proposal drawings and documents must not display any names, marks, logos, or identifying indications, except for the submission form and registration certificate.
2. **Digital submission:** Complete proposal with the required documents shall be digitally submitted via submission link on PAHP official website:
(<https://pahp.gop.pk/DesignCompetition.html>).
3. **Hard copy submission:** The drawings shall not be folded but packed flat. Hard copy of complete proposal with the required documents shall be sent to PMIU-PAHP at the following address:

Design Competition Coordinator: **Dr. Hamid Shah** (PMIU-PAHP).
Office No.608, 6th Floor, Shaheen Complex, Egerton Road, Lahore.
Tel: (042) 99205318 ext. 268
E-mail: rni.pahp@punjab.gov.pk

11. JURY OF ASSESSORS

Following will be the members of Jury of Assessors:

- a. National/International Nominees (Architects or Planners) of the World Bank
- b. A renowned national architect of international fame
- c. A renowned national planner of international fame
- d. Chief Executive Officer, The Urban Unit
- e. Director General, PHATA
- f. Program Director, PMIU - PAHP

Additional members may be appointed jointly by PMIU & WB, to represent other professions (e.g., social and environmental expert, urban economist). In case of indisposition or inability on part of any member of the Jury, he/she will be replaced with the approval of the organizers.

Upon receipt of submission as per the requirements defined above, the jury will evaluate each proposal based on the above criteria, relevance in addressing the objectives defined in the design brief, and completeness in addressing all parameters of the design brief and judgement criteria and furnish its assessment of each selected submission.

12. JUDGEMENT CRITERIA

All design proposals submitted will be evaluated to select the finalists. This evaluation will be solely based on the submitted material.

The evaluation will be based on the following judgement criteria and weights:

Table 2: Judgement Criteria

SR	Criteria	Detail	Weight
1.	Layout Planning	1.1. Public space. Efficient infrastructure network and public space (e.g., green-blue-social infrastructure integration to foster a sense of community and to enhance resilience to climate change) to minimize costs, while upholding livability and other objectives (e.g., safety, cultural adequacy). The infrastructure standards may be varied (and phased) for different locations, reinforcing land value differences and catering to a larger diversity in target groups.	10%
		1.2. Land use. Land use efficiency and diversity, to maximize the share of revenue-generating land and number of dwelling units on the site, whilst ensuring inclusivity of different socioeconomic groups. The subdivision scheme and lot pattern may be varied to respond to different land value potential and the needed distribution of prototypes.	10%
		1.3. Sustainability. Climate - smart urban planning, as per design requirements.	5%
		Sub Total	25%
2.	Housing Design	2.1. Physical prototyping. Quality of the prototype designs and their appropriateness for meeting the diverse demands of various residential categories (across different income groups and household sizes), per considerations and requirements provided in the design brief (particularly incrementality) and including as many affordable categories (price points) as possible.	10%
		2.2. Affordability. Socioeconomic inclusion of various target groups: especially proof for meeting the target price points affordable to the bottom 60% (as stated in the design brief), and people with special needs.	10%
		2.3. Green Building Principles. Innovative ideas to promote environmentally friendly buildings that, inter alia, mitigate and adapt to climate change, as per design considerations.	5%
		Sub Total	25%
3.	Technical & legal proposal	3.1. Technical feasibility. Design should present different construction materials and their benefits, challenges, and application possibilities in affordable housing schemes under PAHP and in Punjab, with a focus on the use of locally produced, low-cost, resource-efficient, innovative, sustainable, durable, environment friendly, and climate resilient materials and techniques,	10%

	with adequate balance of initial capital and later operation and maintenance costs.	
	3.2. Planning Standards – Design should demonstrate compliance with the PAHP Planning Standards.	10%
	3.3. Social feasibility. The site layout that is considerate of land parcels that are currently under litigation and balances legal, social, and financial feasibility considerations	5%
	Sub Total	25%
4. Financial proposal	4.1. Financial feasibility — capital investment. Pro-forma showing a responsible surplus, considering the land uses of the site and pricing (revenues), and all estimated expenditures (land acquisition, infrastructure development, construction etc.).	10%
	4.1.a. Financial feasibility — operation & maintenance. A cost estimate demonstrates that the quantity and quality of public spaces and infrastructure (varied across zones, catering to different housing prototypes/socioeconomic groups) will be affordable to the beneficiaries.	5%
	4.2. Cross-subsidization. To ensure affordability for the target group and financial feasibility for the client, differential land pricing and cross-subsidization between land uses (e.g., subject to location, infrastructure access, development rights) shall be considered.	10%
	Sub Total	25%
Grand Total		100%

13. PRESENTATIONS

Winning teams will be invited to present their work (in person or virtual). Each team is expected to deliver a complete, well-rehearsed presentation that succinctly and clearly articulates their proposal’s full scope and concept. Details regarding presentation length, format, location and time etc. will be provided at the appropriate time.

14. DEFINITIONS

- a) ‘Organizer’ means the Project Management and Implementation Unit (PMIU) of Punjab Affordable Housing Program (PAHP) issuing the invitation to submit designs in accordance with the Conditions for the Competition set out in this document.
- b) ‘Assessors’; means the jury of assessors nominated by the organizer, and include professional architects, town planners and members of co-implementing agencies of acknowledged standing.

- c) 'Conditions'; means the conditions including rules and regulations and procedures, which every competitor should follow.
- d) "Registered Architect"; means an Architect having a valid registration with PCATP (only for national team leads), or with a relevant professional body of respective country (for international team leads) on the date of announcement of the Competition.
- e) "Registered Town Planner"; means a Town Planner having valid registration with PCATP (only for national team leads), or with a relevant professional body of respective country (for international team leads) on the date of announcement of the Competition.
- f) "Academic institution" means a duly registered research institute, department of private or public university or innovation center affiliated with any university.
- g) 'Design Competition' or 'Competition'; means the Design Competition for ideas regarding green and affordable housing.

RESOURCES, REFERENCE MATERIALS, AND USEFUL LINKS

Competitors are encouraged to make use of the provided optional references for adequate land, infrastructure, and housing design.

International Sites and Services, and Affordable Housing Handbooks

- ❖ [“MIT Model”: Caminos, Horacio, and Reinhard Goethert. Urbanization Primer. MIT Press, 1978](#)
- ❖ [“Bertaud / World Bank Model”: Annex 1 \(not the main reading!\) in: Bertaud, Alain, M. A. Bertaud, and J. O. Wright. “Efficiency in Land Use & Infrastructure Design: An Application of the Bertaud Model.” Washington, DC: The World Bank, 1988](#)
- ❖ [“DFID Model”: Davidson, Forbes, and Geoffrey Payne. Urban Projects Manual. Liverpool University Press, 2000](#)
- ❖ [Rapid Urbanism lectures and case studies on human settlement, cluster, & housing supply](#)
- ❖ [Creating Livable Cities: Regional Perspective](#)

Additional environmental and social design references

- ❖ [World Bank Catalogue of Nature-Based Solutions for Urban Resilience](#)
- ❖ [Inclusive Design Principles & Universal Design Principles](#)