



## REFLECTIONS

# Affordable Housing using Green and Emerging Technology

## 1 Context

Housing is a basic human need and adequate housing for all is a long cherished dream of the Indian policy planners. Housing shortage is a ubiquitous phenomenon in India with acute shortage from low income group reported from both urban and rural areas. However, acute land shortage in urban areas makes delivery of housing more challenging, especially in the burgeoning cities of India. Government of India announced the Pradhan Mantri Awas Yojana (PMAY-U) in June 2015 that aims to provide Housing for All by the year 2022. The objective of the PMAY (U) implies that a huge volume of housing stock needs to be created. Consequently, it is imperative to use green materials and emerging construction that are fast track and at the same time meet the functional and structural requirements to ensure sustainable development. Technology Sub-mission is an important component of PMAY (U) that focuses on the design, planning and technological solutions for promoting green, cost effective and disaster resistant technologies suitable for various geo-climatic zones. The overarching objective of the Mission is "to identify, evaluate and adaptation of emerging technologies for facilitating their speedy introduction in the States / Cities taking into consideration the diverse geo-climatic and hazard conditions in the country."

## 2 Aim

HUDCO NASA Design Trophy 2017-18 competition hopes to generate new ideas for building design that uses green and new technologies and construction methods suitable for promoting affordable housing that will ultimately contribute to the realisation of Housing for All goal of the Government of India.

## 3 Objective

To develop sustainable and affordable housing through quality design and use of green building materials and emerging construction methods that especially address the growing demand for affordable housing.

## 4 Design Parameters

- Aesthetically pleasing Dwelling Unit (DU) that ensures liveability, accessibility and safety as well as access to basic services and adequate amenities/ infrastructure.
- Total No. of DUs should be in the range of 100 - 150. The layout should be a mix of EWS/LIG/MIG categories with 25% - 35% for EWS households.
- Use of green technology, building materials and construction process for 'faster' delivery of housing stock that is energy efficient, cost effective and sustainable.
- Suggested size of the DUs are 30 sq.m (EWS) 60 sq.m (LIG) and 120-150 sq.m (MIG).
- The layout, planning standards, design specifications of housing units, and norms for services & utilities should be as per the Master Plan, NBC norms, building bye laws and existing State / City rules and regulations.
- Choice of Site: Any of the following contexts may be considered in the selection of the site;
  - Located in the residential zone of notified Development Plan of the town/ city
  - Slum Upgradation / Redevelopment
  - Urban Renewal (Housing)

## 5 Selection Criteria

The merit of the competition entries will be primarily evaluated based on:

- a) Energy Efficiency and environmental impact of the project
- b) Suitability to the specific geo-climatic regions and hazard (natural) resistance
- c) Affordability
- d) Ease of Construction
- e) Research, analysis, documentation and presentation

## 6 Submission Requirements

- Concept plan.
- Key Plan, Site plan, layout plan, elevations and sections.
- The scale of the drawings is left to the discretion of the participant.
- You may use views, perspective and any other means that you think suitable and relevant to explain your design.

## 7 Other Considerations

- The number of presentation panels should not exceed 20 of A2 size.
- The presentation panels to be supported by a report with total number of pages not exceeding 50 (excluding the front and back cover and page of contents.)
- NASA logo shall be at bottom right of all the pages of the entry in accordance with the NASA logo guidelines.
- The sheets are to be numbered properly. The format shall clearly mention "HUDCO Trophy | 2017-18".
- All entries must be prepared using metric units of measurement.
- The data quoted in the presentation / report must mention the source. If based on primary survey, the same should be mentioned.
- Shortlisted entries must submit a soft copy of their project.

Note: For a detailed understanding of the design theme the students are requested to study the Pradhan Mantri Awas Yojana (PMAY) – Urban guidelines and the Technology Sub-mission component.

## 8 Prize Money:

Prize money of 7 lakh Rupees is allotted to the trophy and it will be divided according to the no. of Citations and Special Mentions.

## 9 Check List For Submission:

- Soft copy of submission in PDF to be uploaded on NASA India website- [www.nasaindia.co](http://www.nasaindia.co).
- Authenticating letter from college HoD for each entry the work submitted is genuine and they have endorsed copyrights for the same and with the name of Participant(s) and stating the unit shall abide by whatever may be the final results and also agree that this entry is property of both the institute and NASA India.
- Declaration by the participant(s) stating the work submitted is genuine and they have endorsed copyrights for the same and to adhere by all the rules and regulations, Jury

process and the results.

- Authenticating letter from college HoD/Principal/Director(on College Letterhead with Sign and Stamp of HoD/Principal/Director of the college), specifying the Account Details(Account Name, Account Number, Bank Name, ISFC Code) in which the Prize Money is to be awarded.
- Editable format of the sheets has to be submitted during the Annual NASA Convention (Applicable only for shortlisted entries).

**Any Kind of Queries need to be submitted through <https://nasaindia.co/trophy/hudco> to**

**Yatharth Gupta**

**NATIONAL TREASURER | 2017 – 2018**

**NASA INDIA**