प्रधान मंत्री
आवास योजना-शहरी
Pradhan Mantri Awas Yojana-Urban

Ministry of Housing and Urban Affairs
Government of India

GLOBAL HOUSING TECHNOLOGY CHALLENGE INDIA

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LIGHT HOUSE PROJECTS

November 5, 2023, New Delhi

Light House Project Lucknow: Ready for Inauguration

Light House Project Lucknow is the next project to be inaugurated after Chennai, Rajkot and Indore. The project has 1,040 dwelling units that are affordable and built with one of the best available construction technologies across the globe. LHP Lucknow has been constructed using Stay In Place PVC Formwork with Pre-engineered Steel Structural System, an already established system for building construction in Canada. Poly-vinyl Chloride (PVC) based permanent stay-in-place formwork act as pre-finished walls filled with concrete which requires no plaster and paint while the floors are made of deck slabs comprising of galvanised profile steel sheet with nominal reinforcement and concrete. Having formwork already as part of system, the construction of building is faster as compared to conventional buildings.

The total project cost is ₹ 130.90 crore with a built-up area of 47,826.6 sqm. LHP Lucknow comprises of 4 towers in a S+13 floor setting with provision of community centre and commercial centre inside the premises apart from other modern and basic infrastructure. The beneficiaries of LHP Lucknow have already been identified.

सबका सपना, घर हो अपना

Light House Project Lucknow is close to its inauguration and the beneficiaries or homeowners are excited to move into their new homes and are looking forward to a better future. The revolutionary construction technology offers several advantages over traditional methods, including faster construction, improved energy efficiency, and reduced maintenance.

Here are tales of beneficiaries identified for LHP Lucknow.

"मेरे पास पहले एक बहुत ही छोटा सा कमरा था। मेरे परिवार के सभी सदस्य एक ही कमरे में रहते थे। अब इस घर में मुझे दो कमरे मिले हैं। अब मेरा परिवार सुख से रह सकता है। मैं बहुत खुश हूं और मैं सरकार का बहुत आभारी हूं।"

-जीतेंदर सिंह, एलएचपी लखनऊ के लाभार्थी

"हम एक पुराने किराये के घर मे रहते हैं। बहुत परेशानी होती है। लाइट हाउस प्रोजेक्ट में मुझे सभी सुविधाएं मिल रही हैं। घर बहुत नए तरीके का है और मजबूत है। हमारे लिए इससे बढ़कर कोई खुशी नहीं है।"

-के बी त्रिपाठी, एलएचपी लखनऊ के लाभार्थी

"मेरे और मेरे परिवार के लिए नया घर पाना बहुत महत्वपूर्ण था। यह न केवल हमारे जीवन की आवश्यकता है बल्कि यह समाज में हमें एक पहचान भी देता है। मैं हर दिन आभारी हूँ कि हमें इस परियोजना का लाभ मिला।"

-विनय झा, एलएचपी लखनऊ के लाभार्थी

"लाइट हाउस प्रोजेक्ट की नई तकनीक से बने घरों का अनुभव अद्भुत है। इसके उपयोग से घरों को बनता देख लगता है आने वाले कल में कुछ भी संभव है।"

-मोहम्मद फहीम, एलएचपी लखनऊ के लाभार्थी

"लाइट हाउस प्रोजेक्ट, लखनऊ का हमारा घर आधुनिक तकनीकि के द्वारा बनाया गया है। इसमे दीवारों पर बार-बार रंग करने की आवश्यकता नहीं है। हमें तमाम मरम्मत के कार्यों का आर्थिक दबाव भी नहीं पड़ेगा। ये हमारे लिए सबसे अच्छी बात है।"

-लाम चंद मिश्रा, एलएचपी लखनऊ के लाभार्थी

Message from JS&MD (HFA) Shri Kuldip Narayan

Global Housing Technology Challenge - India (GHTC-India), initiated by our Ministry, has been a driving force behind promotion and mainstreaming of world's best innovative construction technologies in the country. As a result of which, 6 Light House Projects have been constructed across India to cater to the housing needs of more than 6,000 families. New construction methods were introduced which build cost-effective and disaster-resilient houses in a rapid manner.

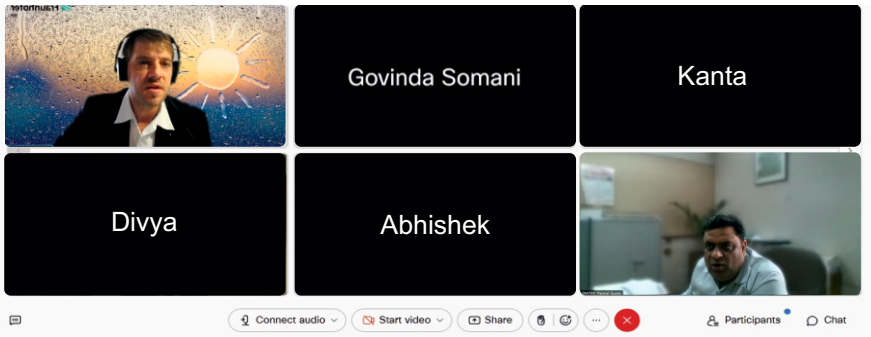
LHP Chennai, LHP Rajkot and LHP Indore have been inaugurated and next, we are prepping up for the inauguration of LHP Lucknow. The ones in Ranchi and Agartala are in advanced stages of construction. The LHPs would act as catalyst to encourage other stakeholders/agencies to promote these technologies in the upcoming projects for better and effective results.

In this edition of the e-Newsletter, we have shared with our readers the highlights about LHP Lucknow and how the housing project will provide ease of living to its beneficiaries with the various infrastructure and basic facilities that is available within the premises.

The Ministry is promoting LHPs as Live Laboratories for dissemination of information on different technologies and has also hosted a series of different webinars to further share the knowledge to a large number of stakeholders. This month, we concluded the webinar on 'e-Learning sessions on innovative techniques in new age construction', wherein wide range of participants joined us for a detailed overview of LHP sites. I thank all the stakeholders for their active participation in the initiative and the experts who joined us from Germany to provide an international perspective to the concept.

'e-Learning Sessions on Innovative Techniques in New age Construction' concludes

The sixth webinar on 'e-Learning sessions on innovative techniques in new age construction' concluded on 16th October 2023. The focus this time was on LHP Agartala. Five sessions in the series were previously hosted by Ministry of Housing and Urban Affairs (MoHUA) in collaboration with Building Materials and Technology Promotion Council (BMTPC) and GIZ. Six sessions on the six LHPs located in Chennai, Rajkot, Indore, Lucknow, Ranchi and Agartala were part of the webinar, wherein a detailed overview of each LHP site, its construction process, sustainability, innovative techniques and other nitty-gritties were explained to the audience through presentations, videos and photographs. The theme was 'International Perspective Innovative Technologies and Practices in LHPs' with experts from Germany sharing their insights into the best practices and technologies.



This was volume 3rd of the webinar series, held first in 2022. The idea behind launching the series was to promote future potential technologies through incubation support and accelerator workshops and to foster an environment of research and development in the country and to showcase the LHP technologies among Technograhi with these new age construction processes.

The stakeholders include faculty and research students, technical professionals, Central/States/ULB officials, construction agencies, builders/developers, start-ups/entrepreneurs/innovators, Technograhis as well as other concerned stakeholders including public/private entities and other practitioners.

Technograhis visits to LHP sites: Inspiring future innovators

Light House Projects in Agartala and Ranchi recently hosted students from the Tripura Institute of Technology and Birla Institute of Technology, Mesra, respectively. These visits took place at their respective LHP sites and served as a captivating introduction to the future of construction technology, spotlighting the transformative influence of rapid construction techniques such as Light Gauge Steel Framing structure (LGSF) and Pre-Engineered Building (PEB) structures in the housing sector.

During these gatherings, the Climate Smart Buildings (CSB) Cell shared the critical importance of sustainable construction technology. They emphasised the urgent need for eco-conscious practices in a world that is rapidly urbanising, underlining how innovative construction methods are creating structures that are both robust and eco-friendly. This shift towards sustainability significantly reduces the construction industry's carbon footprint. Moreover, the CSB Cell highlighted the vital aspect of thermal comfort analysis, ensuring that living conditions remain ideal despite external climate variations.

These informative exchanges between the CSB Cell and the students signify a progressive stride toward nurturing a generation of professionals well-versed in sustainable construction practices. As these young minds embark on their careers, they carry with them the wisdom needed to shape a future where innovation and sustainability work in harmony, creating a greener, more comfortable world for all.

Thermal Comfort Study series: Insights from Light House Project Lucknow

At Light House Project in Lucknow, a pragmatic approach to natural ventilation has been diligently adopted. Through the incorporation of traditional *jali* doors and shutters in the dwelling units, a streamlined cross-ventilation system now spans the entire project. Remarkably, this innovation has led to a 15-20% increase in comfort hours, significantly improving indoor air quality and diminishing the reliance on artificial cooling. The result is enhanced comfort for the residents, exemplifying the substantial benefits that smart natural ventilation solutions can offer within the context of affordable housing.

Additionally, the orientation of the buildings holds significant importance in reducing direct sun exposure, a key factor in creating more energy-efficient and comfortable residences. Notably, in the case of building orientation at LHP Lucknow, the majority of the blocks are well-positioned, substantially increasing comfort hours by 8-10% in the blocks which are oriented properly and making homes more thermally comfortable.

The GIZ-CSB Cell, based at several LHP sites, persistently engages in the research and analysis aimed at enhancing thermal comfort in Light House Projects.

PROGRESS OF LIGHT HOUSE PROJECTS

LUCKNOW, Uttar Pradesh

Technology Name: **PVC Stay in Place Formwork System**

No. of Dwelling Units	:	**1040 Nos. (S+13)**
No. of Block / Tower	:	**4 Blocks**
Units in each Block / Tower	:	**A(494), B(130), C(208) & D(208)**

Activities	Progress
Superstructure work of Building Blocks	
Pre-Engineered Steel Building (PEB) Work	• Completed in Block A1 (Part of Block A), Block B, C & D • Nearly completed in one balance Block (A2)
SIP Wall Form work	• Block A1, Block B, C & D - Completed all 754 DUs • Blocks (A2) - Completed upto 11th Floor & in Progress at 12th & 13th floor level. Completed 274 DUs out of 286 DUs.
Shear Wall Work (Staircase & Lift well)	• Block A1, Block B, C & D - Completed • Blocks (A2)- In progress up to 13th floor level/terrace level
Social Infrastructure	Community Centre & Commercial block are completed.
Infrastructure Work	• UG Water Tank- Motors Installation Work is in Progress, • STP -Machinery Installation Completed • Rain water harvesting Pits- Completed • Road Work, Electric Substation, Gardening & Electrical Pole – Work in Progress. • Boundary wall, Main Gate & Exit Gate – Nearly completed.

PROGRESS OF LIGHT HOUSE PROJECTS

RANCHI, Jharkhand

Technology Name: **Precast Concrete Construction – 3D Volumetric Construction**

No. of Dwelling Units	:	**1008 Nos. (G+8)**
No. of Block / Tower	:	**7 Blocks**
Units in each Block / Tower	:	**144 Nos.**

Activities	Progress
Casting Yard (Production of Components)	In the casting yard, the productions of all 10,784 numbers of Modules/ different components have been completed meeting the total requirement of all building blocks.
Foundation work	The Raft & Grade slabs of all 7 building blocks have been completed.
Superstructure	All Seven Building Blocks (G+8) superstructure work has been completed. The finishing work is in advanced stage.
Infrastructure work	• Pre-cast boundary wall- About 56% of total length completed. • STP & UG Water Tank – All civil work is near completed and machinery & MEP work is in progress. • Road work, Sewer line work & External Electrification work are in progress.

AGARTALA, Tripura

Technology Name: **Light Gauge Steel Structural System & Pre-Engineered Steel Structural System**

No. of Dwelling Units	:	**1000 Nos. (G+6)**
No. of Block / Tower	:	**7 Blocks**
Units in each Block / Tower	:	**A(111), B(152), C(125), D(167), E(167), F(167) & G(111)**

Activities	Progress
Foundation (In all 7 Blocks)	Up to PCC level of all blocks are completed.
Raft Foundation	Completed in all 6 Blocks & D block raft in progress.
Superstructure	A, C, E, F & G- Block is in Progress.
Shear walls (Lift, Staircase Shear walls)	A, F & G Block completed and C, B & E-Block is in progress.
PEB Erection	A & F Block completed and E & G Block is in progress.
LGSF Fixing	A, E, F & G- Block is in progress.
Internal & External Cladding	A & F Block is in progress
Infill Concrete	F Block is in progress.
Floor finishing	F Block is in progress.
Infrastructure Work	Boundary wall and Social Infrastructure foundation work is in progress.

Social Media

Ministry of Housing and Urban Affairs
@MoHUA_India

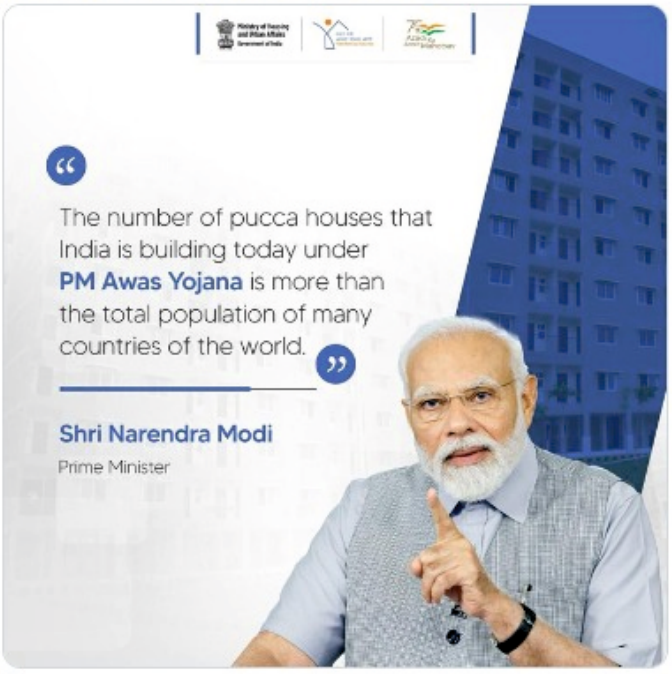
The Lighthouse project was launched by PM Shri @narendramodi on 1st January 2021. The project has demonstrated the construction of ready-to-live houses with speed, economy and better quality of construction in a sustainable manner.

#HousingForAll #TransformingLives

Ministry of Housing and Urban Affairs
@MoHUA_India

. @PMAYUrban (PMAY-U) has been set up for the adoption of innovative, sustainable, eco-friendly and disaster-resilient technologies and building materials for low-cost, speedier and quality construction of houses.

#PMAYUrban #HousingForAll #TransformingLives



Housing For All
@PMAYUrban

#LightHouseProjects under #PMAYUrban provide dignified living to families inside a well-maintained society with access to all amenities. The project in Rajkot was inaugurated by Hon'ble Prime Minister in October 2022.

Housing For All @PMAYUrban · Oct 20

Welcome to #LightHouseProject Lucknow.

#LHPLucknow is almost complete & will be ready for inauguration soon. Houses here are thoughtfully designed for comfort & climate suitability.

#PMAYUrban #HousingForAll #GHTCIndia