

E-Newsletter-Vol - XXIV

# LIGHT HOUSE PROJECTS

January 31, 2023, New Delhi

## Members of Parliamentary Standing Committee visit LHP Indore



On 18<sup>th</sup> January 2023, members of the Parliamentary Standing Committee on Housing and Urban Affairs visited at Light House Project Indore, Madhya Pradesh. During the study visit, they also interacted with key persons of the Urban Administration and Development Department of Madhya Pradesh, Public Representatives, and stakeholders to discuss various aspects of transforming the urban landscape.

The LHP Indore is being constructed using the Prefabricated Sandwich Panel System made out of cement or calcium silicate boards and cement mortar with EPS granules balls which act as wall panels. These panels are used along with the Pre-Engineered Steel Structural System.



The panels replace conventional brick & mortar walling construction practices. Being a dry walling system, it brings speed in construction and aids water conservation. They also have better thermal insulation, acoustics & energy efficiency. The light weight properties of the system result in lower dead load of building & foundation size.

Total 1,024 affordable & comfortable housing units with infrastructure and all amenities are nearing completion for handing over to beneficiaries at LHP Indore



## Message from JS&MD (HFA) Shri Kuldeep Narayan

Light House Projects has brought technology & innovation closer to people. Who ever thought that a smart home (as I like to address LHPs as), would be made available to people in not just than 12 months' time. I say smart home because LHPs, as you know, are equipped with all basic & modern amenities & built with such technologies that ensure resource efficiency, speed, quality & durability & most importantly, are environmentally suited. Today, when I see these LHP sites, I can say that it has been a journey of perfect planning, maintaining & execution.

Two of our LHPs (Chennai & Rajkot) have already been inaugurated by Hon'ble Prime Minister & the ones in Lucknow, Indore, Ranchi & Agartala are in the process of final development. Innovation & implementation have formed the core of LHPs & I hope they act as a guiding force to the thousands of Technograhis & other stakeholders who have visited these sites for planning, execution & introduction of such technologies in their future projects.

Recently, LHP Indore hosted members of the Parliamentary Standing Committee, wherein discussions & deliberations were held on various aspects, including ways of transforming the urban landscape. Meanwhile, through online review meetings, the upcoming LHP sites were monitored & the respective construction agencies have also been directed to apprise the officials at Centre with the daily status of the projects.

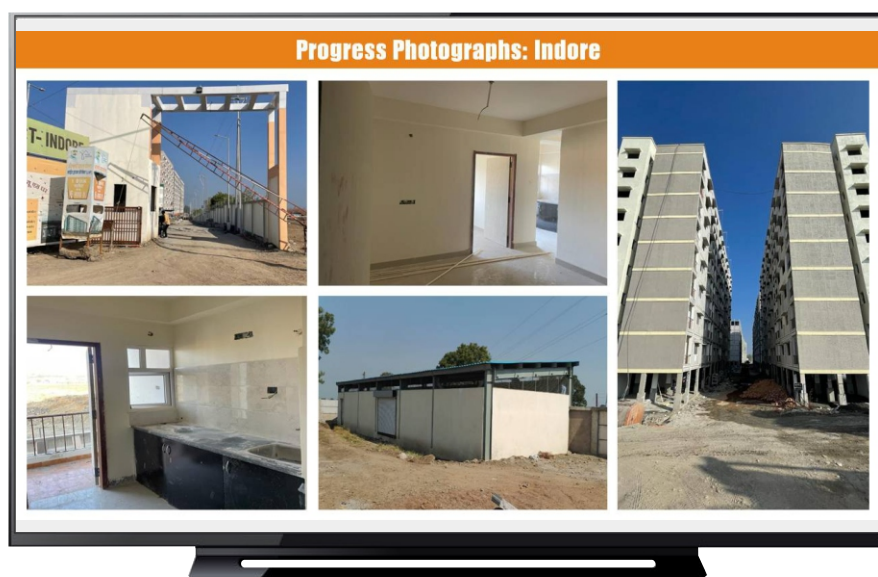
Besides these, I am particularly happy with the response RACHNA initiative has received & how swiftly its second edition is being conducted to create awareness among stakeholders on thermal comfort, its necessity in the affordable housing sector & ways to achieve it.

I hope with our various initiatives under the Ministry, we are able to bring the change.

## JS&MD, HFA, chairs PMC meeting to review progress of Light House Projects



On 6<sup>th</sup> January 2023, Shri Kuldeep Narayan, Joint Secretary & Mission Director (JS&MD), Housing For All (HFA), Ministry of Housing and Urban Affairs (MoHUA), chaired the 10th meeting of Project Monitoring Committee (PMC) to review the progress of upcoming Light House Projects (LHPs) at Indore, Lucknow, Ranchi and Agartala. The meeting was attended by respective officials from LHP States and other officers from the Ministry.



A presentation regarding the status of ongoing construction activities at the LHP sites was made. Subsequently, state-wise presentations, progress of LHPs was reviewed in detail. Issues related to the ongoing construction activities and allotment process at other LHP sites was also discussed in detail during the meeting. JS&MD, HFA, directed the respective LHP construction agencies to expedite the construction activities.

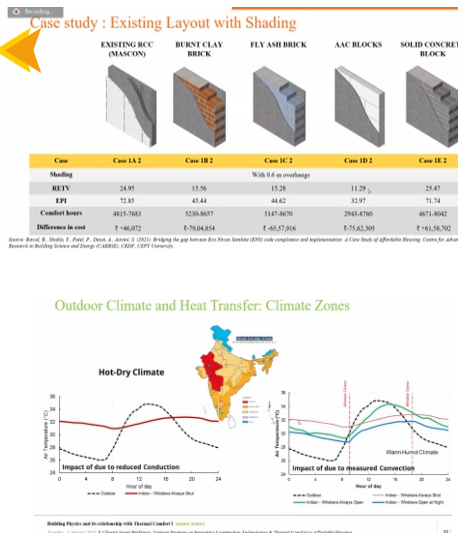
Foundation stones for six LHPs across India, namely Chennai, Rajkot, Indore, Lucknow, Ranchi and Agartala were laid on 1<sup>st</sup> January 2021 by Hon'ble Prime Minister. Subsequently, LHP Chennai was inaugurated by Hon'ble Prime Minister in May 2022 and LHP Rajkot in October 2022.



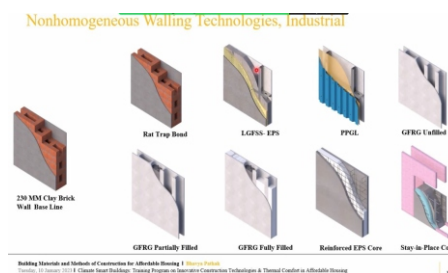
# RACHNA 2.0 training programme on Innovative Construction Technologies & Thermal Comfort in Affordable Housing

RACHNA - Resilient, Affordable, Comfortable Housing with National Action - was introduced by MoHUA in collaboration with BMTPC and GIZ with the purpose to host 75 training events on innovative construction technologies and thermal comfort for Affordable Housing to acquaint various stakeholders from the building construction industry with the nuances of thermal comfort. After successfully organising 75 events across India, RACHNA 2.0 has been introduced in December 2022.

The following workshops were recently conducted. #12<sup>th</sup> training programme was organised at CRRID, Chandigarh for Govt. officials, Build-Environment professionals and Technograhis. Training #13<sup>th</sup> was in virtual mode to disseminate learnings & knowledge on innovative construction technologies. Training #14<sup>th</sup> was a 2-day vocational skill development programme at Light House Project Lucknow to prepare participants with practical know how of LHP construction technologies and best construction practices for affordable housing.

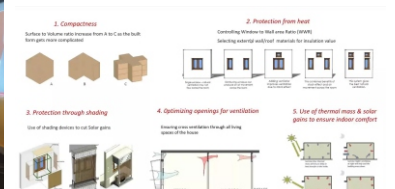


The #15<sup>th</sup> workshop was held for practitioners on innovative construction technology. Training 16<sup>th</sup> was held in Mumbai for Head of Departments Senior Govt. officials from MHADA, SRA, DMA, MMRDA, CIDCO & Housing department. The #17<sup>th</sup> training programme was organised by CEPT university, Ahmedabad to build a cadre of trainers fully equipped to usher the change for sustainable and thermally comfortable affordable housing in India. Training #18<sup>th</sup> was conducted online for officers under the RACHNA 2.0 initiative.



Training #19<sup>th</sup> was held in Bengaluru on 'Climate Smart Buildings' for senior Govt. officials at Karnataka Housing Board. Shri NS Siddhalingappa, Secretary, Karnataka Housing Board inaugurated the training session. In training #22<sup>nd</sup> Climate Smart Buildings Cell members conducted a 2-day vocational training programme for the construction field level workers at LHP Agartala. Training #23<sup>rd</sup> was conducted in virtual mode for Stakeholder consultation presented the outcomes under the assignment to stakeholders ranging from developers, academicians, practitioners. The

feedback received from stakeholders will be incorporated into the proposed activities.

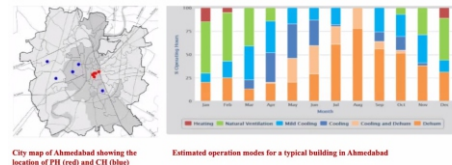




Training #24<sup>th</sup> was held at Ayodhya for government officials and Built-environment professionals. The #25<sup>th</sup> training programme was conducted at Gandhinagar for Senior Govt. officials under RACHNA 2.0. In #26<sup>th</sup> training, an awareness programme was conducted on Thermal Comfort & Eco Niwas Samhita (ENS) among the Architectural Students & Academicians of Madhav Institute of Technology & Science (MITS) Gwalior, Madhya Pradesh. The #28<sup>th</sup> training was organised for 2 days at LHP Ranchi for 50 construction workers, field workers. In training #29<sup>th</sup>, two-day webinar was organised for practitioners.



Thermal and Comfort Performance of Pol vernacular house

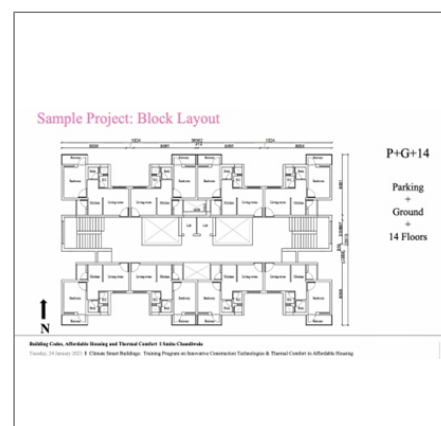


City map of Ahmedabad showing the location of PHU (red) and CH (blue)



The #30<sup>th</sup> vocational skill development training programme was held for technicians, masons, and other field workers at LHP Lucknow as part of the Capacity Building and Innovative Technology acceleration drive. The #31<sup>st</sup> training programme was organised for School of Architecture & Design, Manipal University at Jaipur for architecture students and faculties.

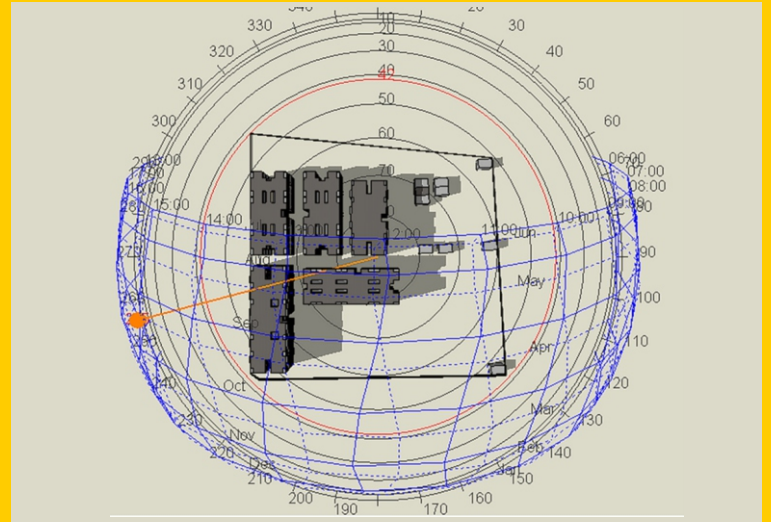
Training #32<sup>nd</sup> was organized in Pune, Maharashtra for Govt. officials. The #33<sup>rd</sup> and #35<sup>th</sup> training programmes were organised by Climate Smart Building for the construction field level workers at ARHC sites in Chennai and Guwahati, respectively. The #34<sup>th</sup> training programme was conducted virtually for stakeholders to enhance thermal comfort in affordable housing using passive building design.



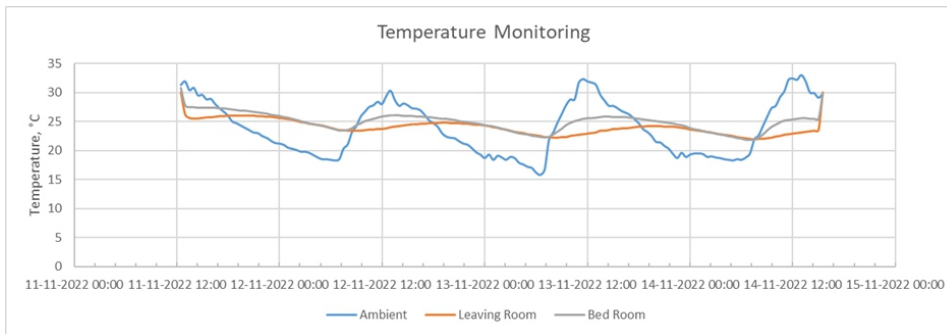


## Thermal Comfort Enhancement of the Demonstration Housing Projects

Climate Smart Buildings program is working to provide technical assistance for enhancing Thermal Comfort in the upcoming affordable housing. Indore CSB cell developed a thermal performance report to analyse the Thermal Comfort of the indoor environment of Project Lotus Park located at Akola, Maharashtra, having 05 building blocks (Parking + 7 Floors) with 436 dwelling units (EWS & LIG units). Till date, total 18 demonstration projects from across the country have been identified and analysis work is in progress.



## Thermal Performance analysis of Light House Projects



Thermal Comfort analysis is being carried out by the CSB Program at various LHPs, using Energy Simulations & onsite temperature monitoring. With the help of Temperature & Humidity Sensors, CSB Cells are doing onsite temperature monitoring. Sensors are installed at sample flats and temperature recording is being done for scheduled time periods.

## Key performance Indicators of LHP Rajkot

In line with the vision of Hon'ble Prime Minister, the Light House Project - Rajkot serves as a template for replicating cutting-edge housing technology across the country in order to address the growing demand for housing that is affordable, comfortable, sustainable, and environmentally friendly. In this regard a report has been prepared by CSB Cell Rajkot, on Key performance Indicators for LHP - Rajkot with relation to emphasis on dissemination of the technology-related information to all government agencies, construction industry experts, academics, and beneficiaries.





# PROGRESS OF LIGHT HOUSE PROJECTS AS ON JANUARY 31, 2023

## INDORE, Madhya Pradesh

Technology Name: **Prefabricated Sandwich Panel System**



No. of Dwelling Units : **1024 Nos. (S+8)**  
 No. of Block / Tower : **8 Blocks**  
 Units in each Block / Tower : **128 Nos.**

Activities	Progress
<b>Superstructure</b>	
PEB Work	72 out of 72 Floors completed in 8 blocks
Slab Work	72 out of 72 Floors completed in 8 blocks
EPS Panel work in Wall	56 out of 64 Floors completed in 8 blocks
<b>Sample Unit</b>	Completed
<b>Infrastructure Work</b>	Boundary wall, Community Centre, Road work & gardening, underground tank, STP & Sewer line works are completed Solar Panels installed



## 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
<b>Superstructure work of Building Blocks</b>	
Pre-Engineered Steel Building (PEB) Work	<ul style="list-style-type: none"> <li>Block A1 (Part of Block A)- Completed in all 13 Floors</li> <li>Block C &amp; D – In progress upto 13<sup>th</sup> Floor</li> <li>Remaining Blocks (A2 &amp; B)- In progress upto 6<sup>th</sup> &amp; 8<sup>th</sup> floor level respectively</li> </ul>
SIP Wall Form work	<ul style="list-style-type: none"> <li>Block A1 - Completed upto 13 Floors (All 208 DUs)</li> <li>Block C &amp; D – In progress at 12<sup>th</sup> &amp; 13<sup>th</sup> Floor respectively</li> <li>Remaining Blocks (A2 &amp; B)- In progress upto 3<sup>rd</sup> floor level Along with Electrical &amp; Plumbing work</li> </ul>
Shear Wall Work (Staircase & Lift well)	<ul style="list-style-type: none"> <li>Block A1- Completed</li> <li>Block C &amp; D- 13<sup>th</sup> Floor is near completion</li> <li>Remaining Blocks (A2 &amp; B)- In progress upto 8<sup>th</sup> floor level</li> </ul>
<b>Sample Unit</b>	Completed
<b>Social Infrastructure</b>	Community Centre & Commercial Block – Structural work completed, the finishing work is in progress.
<b>Infrastructure Work</b>	Underground Water Tank- Civil work completed. Boundary wall- About 98% completed STP- RCC Wall casting work is in progress.



# PROGRESS OF LIGHT HOUSE PROJECTS AS ON JANUARY 31, 2023

## 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
<b>Casting Yard (Production of Components)</b>	In the casting yard, About 6,134 numbers of Modules/ different components have been produced out of total requirement of 9,912 numbers
<b>Foundation work</b>	The Raft & Grade slabs of all 7 building blocks have been completed.
<b>Superstructure</b>	The erection of Modules/building components: Blocks (No. 1 & 2) - All 8 Floors completed Block (No. 3) - 2 <sup>nd</sup> Floor completed Block (No. 4) - 1 <sup>st</sup> Floor completed Block (No. 5) - 3 <sup>rd</sup> Floor completed Blocks (No. 6 & 7) - 5 <sup>th</sup> Floor completed
<b>Infrastructure work</b>	Pre-cast boundary wall- About length 56% completed.

## 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)**

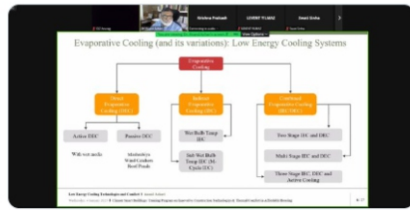
Activities	Progress
<b>Foundation (Dwelling Units)</b>	
<b>Pile Work</b>	Completed in 6 Blocks (A,B, C,E,F & G) & D -Block is in Progress.
<b>Pile head breaking</b>	A, B, C, E, F & G Block completed.
<b>PCC for foundation</b>	A, B, C, E, F & G Block Completed.
<b>Raft Foundation</b>	A, C, E, F & G Block completed and B-Block is in progress.
<b>Plinth Beam &amp; Pedestal Column Casting</b>	A, E, F & G Block completed and B & C Block is in progress.
<b>Superstructure</b>	A, E, F & G- Block is in progress.
<b>Sample Unit</b>	Completed



# Social Media Corner



Yet another online webinar conducted under **#RACHNA 2.0** series. The training was organised for practitioners on innovative construction technology to enhance **#thermalcomfort** in **#affordablehousing** using passive building design. This was 15th such training program.

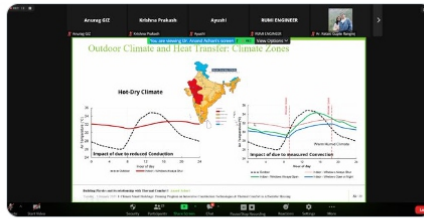


5:41 PM · Jan 6, 2023 · 128 Views

1 Retweet 2 Likes



These trainings aim on creation of awareness among stakeholders on thermal comfort, its necessity in the affordable housing sector & ways to achieve it and to urge them to include no cost or low-cost strategies in upcoming projects.



5:41 PM · Jan 6, 2023 · 46 Views

1 Like



In **#LHPAgartala**, Light Gauge Steel Frame System (LGSF) with Pre-Engineered Steel Structural System is being used for construction. This technology is an innovative emerging building and construction technology using factory made light weight concrete and precast panels.

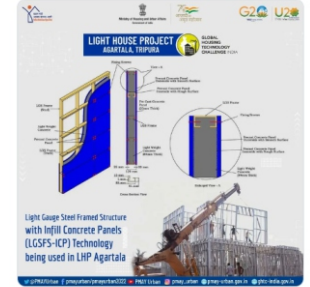


5:28 PM · Jan 9, 2023 · 135 Views

1 Retweet 2 Likes



Weight of **#LGSF** system building is 20-30% lighter compared to conventional building resulting in material and energy savings. The LGSF system in-fill concrete and panels forms a monolithic sandwich composite wall structure providing **#thermalcomfort** and sound insulation properties.



5:28 PM · Jan 9, 2023 · 29 Views

1 Like



Total 1,024 affordable & comfortable housing units with infrastructure and all amenities are nearing completion for handing over to beneficiaries at **#LHPIndore**.

**#HousingForAll #PMAYUrban #GHTCIndia #ConstructionTechnology #AffordableHousing #LHPs #LightHouseProject**



6:38 PM · Jan 12, 2023 · 35 Views

1 Retweet 2 Likes



The **#LHPIndore** is being constructed using Prefabricated Sandwich Panel System made out of cement or calcium silicate boards and cement mortar with EPS granules balls which act as wall panels. These panels are used along with Pre-Engineered Steel Structural System.



6:38 PM · Jan 12, 2023 · 182 Views

1 Retweet 2 Likes



The making of **#LightHouseProject** Ranchi!

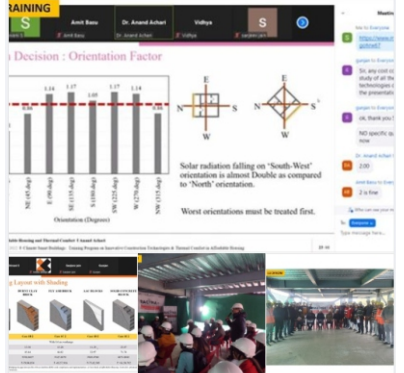
Glimpses of how rapidly construction work is ongoing at **#LHP** site in Ranchi to ensure housing needs of 1,008 families are fulfilled on time.



3:39 PM · Jan 2, 2023 · 2,650 Views

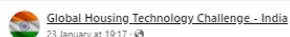


In the latest edition of **#RACHNA 2.0** training series, two workshops were recently held. One was in virtual mode to disseminate learnings & knowledge on innovative construction technologies & to enhance **#thermalcomfort** in **#affordablehousing** using passive building design. The other was a 2-day vocational skill development programme at **#LightHouseProject** Lucknow to prepare participants with practical know-how of **#LHP** construction technologies & best construction practices for **#affordablehousing**. **#HousingForAll #PMAYUrban #GHTCIndia #InnovativeConstructionTechnologies #LHPs #TransformingUrbanLandscape #TransformingLives #G20India**



31

2 comments 2 shares



Under **#RACHNA 2.0**, seven more back-to-back offline and online training programmes were organised in Ayodhya, Gandhinagar, Ranchi, Gwalior & Agartala. The participants included Government officials, built-environment professionals, developers, academicians, practitioners etc who were briefed about the **#InnovativeConstructionTechnologies** & replicable designs for thermally comfortable housing projects. Many construction field level workers were also trained during the vocational training programme conducted onsite at **#LHPAgartala** and **#LHPRanchi**. **#HousingForAll #PMAYUrban #GHTCIndia #LightHouseProjects #LHPs #ThermalComfort #AffordableHousing #G20India**



4



The **#LHPLucknow** is in advanced stages of completion using PVC Stay-in-place Formwork System. This system will have substantial advantages in terms of structural strength, durability enhancement, weather resistance, seismic resistance and design flexibility.



5:12 PM · Jan 25, 2023 · 1,710 Views

4 Retweets 17 Likes



Total 1,040 affordable & comfortable housing units with infrastructure and all are getting readied at fast pace for handing over to beneficiaries of **#LHPLucknow**.

**#HousingForAll #PMAYUrban #GHTCIndia #LightHouseProjects #LHPs #ConstructionTechnology #AffordableHousing #G20India**



5:12 PM · Jan 25, 2023 · 761 Views

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