

**35<sup>th</sup>**  
**ANNUAL REPORT**

# **Annual Report**

## **2024-2025**



**bmtpc**

**Building Materials & Technology Promotion Council**  
**Ministry of Housing and Urban Affairs**  
**Government of India**



# **35<sup>th</sup>**

# **Annual Report**

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Ministry of Housing and Urban Affairs, Government of India

Core-5A, First Floor, India Habitat Centre, Lodhi Road

New Delhi – 110003



## FOREWORD

As Executive Director of Building Materials & Technology Promotion Council (BMTPC), I present its 35<sup>th</sup> Annual Report for the year 2024-2025. BMTPC is an autonomous organization under the administrative control of Ministry of Housing and Urban Affairs, Govt. of India, mandated to transform the construction sector through introduction of innovative and alternate building materials, technologies and processes in the field.

Since its inception in 1990, BMTPC is dedicatedly promoting resource-efficient, climate-resilient sustainable building materials & technologies including disaster resistant construction practices & act as a technology transfer Council to take innovations from lab to land. In its quest to transform the construction sector, BMTPC has aligned its goals & objectives in line with the aspirations of the nation and working towards field level applications of innovations being brought out through Research & Development. With the change in demographic scenario and housing shortage specially in urban areas, BMTPC has made concerted efforts towards spreading awareness and disseminating cost effective technologies at large scale. BMTPC in recent years has also made visible strides in identifying and evaluating innovative construction systems/technologies for mass housing which can help in safe, sustainable and speedier construction. There have been encouraging response from public and private agencies including State Governments and innovative fast track systems are now being adopted in construction projects across the country.

For wider advocacy, better outreach & replication of emerging construction systems in the field, BMTPC is entrusted with the task of constructing Demonstration Housing Projects in different parts of India using these systems. The objective is to spread awareness about new technologies and disseminate technical know-how Pan-India under the Pradhan Mantri Awas Yojana (Urban) – Housing for All Mission. As reported in previous Annual Reports, BMTPC has completed DHPs at (i) Bhubaneswar (Odisha); (ii) Lucknow (Uttar Pradesh); (iii) Biharsharif (Bihar); (iv) Hyderabad (Telangana); (v) Nellore (Andhra Pradesh); (vi) Panchkula (Haryana); (vii) Agartala (Tripura); (viii) Bhopal (Madhya Pradesh); (ix) Ahmedabad (Gujarat), (x) Tiruppur (Tamil Nadu) and (xi) Ayodhya (Uttar Pradesh). During the year, Demonstration Housing Project at Bhalwal, Jammu, J&K has been completed. The two Demonstration Housing Projects at (i) Dimapur (Nagaland) and (iii) Guwahati, Assam are at advanced stage of construction.

To give further traction to innovations in the construction sector, BMTPC has been evaluating and certifying alternate & innovative construction systems & building materials and products under PACS through Gazette Notification (No. I-16011/5/99 H-II in the Gazette of India No. 49 dated December 4, 1999). During the year, emerging technologies and products namely, Concrewall – Reinforced EPS Structural Panels System, Building Lifting Technique, Indowud Natural Fibre Composite (NFC) Products and Insulated Sandwich Panels have been evaluated and draft PACs have been prepared for circulation to Technical Assessment Committee (TAC) under Performance Appraisal Certification Scheme (PACS). A number of other products/systems are being evaluated under PACS. Till date, BMTPC has issued Performance Appraisal Certificates (PAC) to 84 innovative products/systems covering various products, materials & technologies. With the efforts of the Ministry and BMTPC, CPWD has issued specifications and Schedules of Rates (SOR) on most of these innovative materials & technologies.

BMTPC is extending its technical support to Ministry of Housing and Urban Affairs (MoHUA), Govt. of India in implementation of Pradhan Mantri Awas Yojana (Urban). MoHUA has revamped the PMAY(U) and launched PMAY-U 2.0 'Housing for All' Mission with effect from 01.09.2024 to support one crore additional eligible beneficiaries in urban areas across the country. The Council has been designated as an appraisal and monitoring agency for projects in various States/UTs falling in Earthquake Zone IV and Zone V and undertake Third Party Inspection & Monitoring (TPIM) review and capacity building of professionals of States/ Urban Local Bodies. The Technology Sub-Mission of PMAY-U has been expanded into Technology & Innovation Sub-Mission (TISM) under PMAY-U 2.0 to guide and facilitate States/UTs and other stakeholders towards adoption of materials, technologies and processes which are climate-responsive, energy-efficient, eco-friendly & affordable leading to sustainable, faster & disaster resilient development. BMTPC is the technical secretariat for the sub-mission and assists Ministry and States for deploying disaster resistant, energy efficient and environment friendly technologies. To build capacities, the Council also hand holds various State Govts. and other agencies towards adoption of emerging technologies for affordable housing.

The proven technologies from the globe shortlisted under GHTC-India were showcased through execution of Light House Projects (LHPs) across India at six locations. The Council was designated as technical partner by the Ministry for implementation of LHPs in close coordination with respective State Governments. The Council has

also been associated in providing incubation and acceleration support to the identified potential future technologies shortlisted through Affordable Sustainable Housing Accelerator (ASHA) – India and Affordable Rental Housing Complexes (ARHCs) through which rental housing using innovative technologies is being incentivized & promoted. A series of Webinars on use of Emerging Construction Systems were also organized in association with MoHUA and GIZ.

A National Urban Housing Fund (NUHF) has been created in BMTPC which aggregates the loans from lending agencies or financial institutions with the approval of Cabinet. Funds raised through Extra Budgetary Resources (EBR) for NUHF were loaned to BMTPC for its further disbursement as Central assistance to State/UT Governments and as subsidy to the CNAs under the CLSS vertical of the Mission. A Data Resource cum Monitoring Centre (DRMC) has also been established at MoHUA through BMTPC for upkeep of websites, monitoring work, data analysis, compilation & dissemination, generation of periodic reports in electronic form, undertake field visits/ physical verification in a friendly manner.

One of the core strength of BMTPC has been Disaster Mitigation & Management. Towards preparedness, prevention & mitigation, BMTPC is committed to adopt proactive approach and has been educating professionals and creating mass awareness amongst various stakeholders including citizens of the country. An e-Course on Vulnerability Atlas of India is being run jointly with School of Planning & Architecture, New Delhi to build capacities & better understanding about natural hazards. During the year, a number of Technical Sessions were organized on Vulnerability Atlas of India, a unique document prepared by BMTPC, which helps identify regions with high vulnerability with respect to various hazards.

On the occasion of World Habitat Day 2024, the Council organized Painting Competition for Differently Abled Children on the theme “Engaging youth to create a better urban future”. On this occasion, the Council also brought out Special Issue of Newsletter “Nirman Sarika” on the theme of the World Habitat Day. In order to strengthen the knowledge base in the construction sector, the website of the Council is being updated regularly for inclusion of latest activities and information. There have been good response on website in the form of general enquiry about product and services. A number of sensitisation programmes along with a National Conference-cum-Expo on Innovative Building Materials & Construction Technologies were organized during the year to promote alternate, innovative, environment friendly and disaster resistant building materials and construction technologies. BMTPC in association with Ministry of Housing and Urban Affairs and School of Planning & Architecture, New Delhi is running a NAVARITI : e-Certificate Course on Innovative Construction Technologies to build capacities of professionals in the area of emerging construction systems. So far 20 batches of NAVARITI have been conducted successfully wherein 1224 participants, mainly civil engineers, architects, faculty & students from various engineering and architectural colleges, participated. The Council is also using social media platform (X : @bmtpcdelhi; Facebook: @bmtpc.mhua; YouTube: BMTPC) to disseminate the information about the innovative building materials and disaster resistant technologies including other activities.

It is my privilege to acknowledge the valuable guidance, support and encouragement received from the President (Hon’ble Minister of Housing and Urban Affairs) & Vice-President (Hon’ble Minister of State for Housing and Urban Affairs) and Members of the Board of Management, the Chairman (Secretary, Ministry of Housing and Urban Affairs) and Members of the Executive Committee of BMTPC and officials of Ministry of Housing and Urban Affairs for various programmes undertaken and executed by the Council. BMTPC is grateful to NITI Aayog, Parliamentary Standing Committee on Urban Development, PMAY(U)-HFA Mission Directorate, MoHUA, various State Govts., Municipal Corporations and Urban Local Bodies, Ministry of Home Affairs, Ministry of DONER, Ministry of F&HW, NDMA, NIDM, MOS&PI, DST, CSIR, IITs, CEPT, CBRI, SERC, ICI, SPA, HUDCO, BIS, NHB, NCHF, NBCC, DDA, CGEWHO, CPWD, NSIC, CIDC, GIZ, TERI, IGBC and RICS school of Built Environment for their continued support and interest in strengthening and supporting the efforts of the Council over successive years.

I would also like to place on record my deep appreciation for the cooperation of officers of BMTPC and its staff members for timely implementation of the Council’s activities. The Council acknowledges the support and cooperation received from all officers and staff members of the Ministry of Housing and Urban Affairs, which helped the Council to meet its mandate and further its objectives.

  
(Dr. Shailesh Kr. Agrawal)  
Executive Director

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## **Vision**

“BMTPC to be world class knowledge and demonstration hub for providing solutions to all with special focus on common man in the area of sustainable building materials, appropriate construction technologies & systems including disaster resistant construction.”

## **Mission**

“To work towards a comprehensive and integrated approach for promotion and transfer of potential, cost-effective, environment-friendly, disaster resistant building materials and technologies including locally available materials from lab to land for sustainable development of housing.”

## INTRODUCTION

Building Materials & Technology Promotion Council (BMTPC), since 1990, an autonomous organisation under the administrative control of Ministry of Housing and Urban Affairs (MoHUA), Government of India has been transferring resource-efficient, climate responsive, disaster resistant construction practices including alternate & innovative building materials and technologies in the field successfully. BMTPC is also one of the national resource institution for the MoHUA to provide S&T support in the area of sustainable building materials & construction technologies including disaster mitigation & management.

Since its establishment, BMTPC has adopted multi-pronged approach through networking with academic and research institutions, public & private sectors, NGOs, foreign institutions for grass-root application of alternate/innovative building materials and technologies from lab to land. The Council has also been working towards creating enabling eco-system for mainstreaming innovative, cost-effective, environment-friendly and energy-efficient alternate building materials and technologies in the construction sector, along with MoHUA, Govt. of India.

To showcase innovative materials & building technologies in the field and create awareness & education amongst stakeholders, the Council is constructing model demonstration houses including other demonstration structures in different parts of the country under PMAY-U.

The Council in recent years has expanded its reach towards promotion of not only sustainable technologies but also propagating new-age building systems from within the country and across the globe for affordable mass housing. The Council along with MoHUA is making concerted efforts to introduce various emerging technologies, which are successful elsewhere in the world to bring resource efficiency, economy,

quality, environmental protection, speed and sustainability in construction sector.

BMTPC is also actively involved in disaster mitigation and management activities and working in close association with NDMA, NIDM and other academic & research Institutions. The Council brought out the third edition of Vulnerability Atlas of India in 2019 and a dedicated website <https://vai.bmtpc.org>. During the year, a number of Sessions were organized on Vulnerability Atlas of India both online/offline. Besides, the Council regularly publishes valuable guidelines/manuals on disaster resistant construction.

The Ministry of Housing and Urban Affairs, Government of India is implementing “Pradhan Mantri Awas Yojana (Urban) - Housing for All” Mission. Based on the learnings from implementation of PMAY-U, MoHUA has revamped the scheme and launched PMAY-U 2.0 ‘Housing for All’ Mission with effect from 01.09.2024 to support one crore additional eligible beneficiaries in urban areas across the country. The Council has been designated as an appraisal and monitoring agency for projects in various States/UTs falling in Earthquake Zone IV and Zone V and undertake Third Party Inspection & Monitoring (TPIM) review and capacity building of professionals of States/ Urban Local Bodies. The Technology Sub-Mission of PMAY-U has been expanded into Technology & Innovation Sub-Mission (TISM) under PMAY-U 2.0 to guide and facilitate States/UTs and other stakeholders towards adoption of materials, technologies and processes which are climate-responsive, energy-efficient, eco-friendly, affordable leading to sustainable, faster & disaster resilient development. Technology Sub-Mission also assists States/Cities in deploying innovative & alternate technologies in collaboration with IITs, NITs, research laboratories and Planning & Architecture institutes and other technical

institutions. BMTPC is working as Technical Secretariat of the Technology Sub-Mission.

The proven technologies from the globe shortlisted under GHTC-India were showcased through execution of Light House Projects (LHPs) across India at six locations. The Council was designated as technical partner by the Ministry for implementation of LHPs in close coordination with respective State Governments. The Council has also been associated in providing incubation and acceleration support to the identified potential future technologies shortlisted through Affordable Sustainable Housing Accelerator (ASHA) – India and Affordable Rental Housing Complexes (ARHCs) through which rental housing using innovative technologies is being incentivized & promoted. BMTPC in association with Ministry of Housing and Urban Affairs and School of Planning & Architecture, New Delhi is conducting a NAVARITIH : Certificate Course on Innovative Construction Technologies to build capacities of professionals in the area of emerging construction systems in virtual mode.

A National Urban Housing Fund (NUHF) has been created at BMTPC which aggregates loans from lending agencies/financial institutions. Funds raised through Extra Budgetary Resources (EBR) for NUHF were loaned to BMTPC for its further disbursement as (i) Central assistance to State/UT Governments and (ii) as subsidy to the Central Nodal Agencies (CNAs) under the erstwhile CLSS vertical of the PMAY(U). Now, interest payment on EBR loan is being disbursed by MoHUA to BMTPC for remittance to lending agency. A Data Resource cum Monitoring Centre (DRMC) is also being operationalised by BMTPC under PMAY(U) through setting up of team of professionals & IT experts at MoHUA for upkeep of websites, monitoring, data analysis, compilation & dissemination, generation of periodic reports in electronic form, and other

related ICT activities. A dedicated team led by BMTPC's Officers along with experts and supporting staff is stationed at MoHUA for smooth operation of DRMC.

## Objectives

The broad objectives of the Council are:

- **Building Materials & Construction Technologies:** To promote development, standardization, mechanization and large scale field application of proven innovative and emerging building materials and technologies in the construction sector.
- **Capacity Building and Skill Development:** To work as a Training Resource Centre for capacity building and promotion of good construction practices to professionals, construction agencies, artisans and marketing of building technologies from lab to land.
- **Disaster Mitigation & Management:** To promote methodologies and technologies for natural disaster mitigation, vulnerability & risk reduction and retrofitting/reconstruction of buildings and disaster resistant planning for human settlements.
- **Project Management & Consultancy:** To undertake project management and consultancy services including appraisal, monitoring and third party inspection of housing projects under the various Central/State Schemes.

## Thrust Areas

To realise the desired objectives, BMTPC has identified following thrust areas of its activities:

- Identification, evaluation and promotion of proven and emerging housing technologies available for housing sector nationally and internationally.

- Promoting speed, economy, efficiency and quality in construction.
- Creating enabling eco-system for mainstreaming of technologies through upscaling of technologies, know-how acquisition, absorption and dissemination.
- Field level application of environment-friendly, energy-efficient and disaster resistant technologies for proven, locally available and emerging technologies, through demonstration construction.
- Formulation of Specifications, Schedules, Standards on proven building materials/ technologies including emerging technologies/systems.
- Documentation of benefits, durability and acceptability of cost effective and innovative building materials and technologies.
- Skill upgradation of professionals and construction workers through capacity building programmes, training programmes, seminars, conferences, workshops, exhibitions nationally as well as internationally.
- Promoting disaster resistant construction practices.
- Appraisal, monitoring and third party inspection of housing projects including undertaking operationalization of Data Resource cum Monitoring Centre (DRMC) under PMAY(U)
- Implementation of National Urban Housing Fund (NUHF) through Extra Budgetary Resources under PMAY(U)
- Publication of user manuals, guidelines, compendiums, directories, brochures, techno-feasibility reports, video films, demonstration CDs, interactive website, blogs including documentation of success stories.

### **Administration and Management**

The administrative structure of BMTPC follows three-tier system for discharging its administrative and technical duties with following verticals:

- i. Board of Management headed by the Hon'ble Minister of Housing and Urban Affairs, Govt. of India, as President of the Council
- ii. Executive Committee headed by the Secretary, MoHUA
- iii. Executive Director as head of BMTPC

The Board of Management of the Council consists of 17 Members from various Ministries and related organizations. The Executive Committee consists of 8 Members from Ministry of Housing and Urban Affairs, Housing & Urban Development Corporation (HUDCO), Central Building Research Institute (CBRI) and Technical Experts. The list of members of the Board of Management and Executive Committee is given hereunder:

## Board of Management (as on 31.3.2025)

S. No.	Members	
1	Shri Manohar Lal Hon'ble Minister of Housing and Urban Affairs, Government of India	President
2	Shri Tokhan Sahu Hon'ble Minister of State for Housing and Urban Affairs, Government of India	Vice-President
3	Shri Srinivas R Katikithala Secretary Ministry of Housing and Urban Affairs, Government of India	Vice-President
4	Ms. Anna Roy Principal Economic Advisor Data Management & Analysis, Research & Networking, Managing Urbanisation, NITI Aayog, Government of India	Member
5	Shri Sanjay Kulshrestha Chairman & Managing Director Housing & Urban Development Corporation (HUDCO)	Member
6.	Shri Subhash Chandra Lal Das Secretary, Ministry of Micro, Small & Medium Enterprises, Government of India	Member
7	Prof. Abhay Karandikar Secretary, Ministry of Science & Technology, Government of India	Member
8	Shri Chanchal Kumar Secretary, Ministry for the Development of North Eastern Region, Government of India	Member
9	Shri Rajendra Singh Member & Head of Department National Disaster Management Authority, Government of India	Member
10	Dr. (Mrs.) N. Kalaiselvi Director General Council of Scientific & Industrial Research, Government of India	Member
11	Shri Satinder Pal Singh Director General (Addl. Charge) Central Public Works Department, Government of India	Member
12	Prof. K.N. Satyanarayana Director Indian Institute of Technology (IIT) Tirupati	Member
13	Prof. Rajat Moona Director, IIT Gandhinagar	Member
14	Shri Satinder Pal Singh Addl. Secretary (Housing) Ministry of Housing and Urban Affairs Government of India	Member

S. No.	Members	
15	Shri Sanjeet Joint Secretary & FA, Ministry of Housing and Urban Affairs Government of India	Member
16	Shri Kuldip Narayan Joint Secretary & Mission Director (HFA) Ministry of Housing and Urban Affairs Government of India	Member
17	Dr. Shailesh Kr. Agrawal Executive Director, Building Materials & Technology Promotion Council	Member Secretary

### Executive Committee (as on 31.3.2025)

S.No.	Members	
1	Shri Srinivas R Katikithala Secretary Ministry of Housing and Urban Affairs Government of India	Chairman
2	Shri Satinder Pal Singh Addl. Secretary (Housing) Ministry of Housing and Urban Affairs Government of India	Member
3	Shri Sanjeet Joint Secretary & FA, Ministry of Housing and Urban Affairs, Government of India	Member
4	Shri Kuldip Narayan Joint Secretary & Mission Director (HFA) Ministry of Housing and Urban Affairs, Government of India	Member
5.	Shri Sanjay Kulshreshtha Chairman & Managing Director Housing & Urban Development Corporation	Member
6.	Prof. Pradeep Kumar Ramacharla Director Central Building Research Institute, Roorkee	Member
7.	Prof. Pradipta Banerji Professor, Deptt. of Civil Engineering, IIT Bombay	Member
8.	Dr. Shailesh Kr. Agrawal Executive Director, Building Materials & Technology Promotion Council	Member Secretary

## MAJOR INITIATIVES AND ACTIVITIES DURING THE YEAR 2024-2025

### I. MODEL DEMONSTRATION CONSTRUCTION USING EMERGING TECHNOLOGIES

#### I. Demonstration Housing Projects using Emerging Technologies under PMAY(U)

BMTPC has been promoting cost-effective sustainable technologies through field level applications since 1990, however, during last few years, BMTPC is in the process of mainstreaming time-tested & proven innovative construction systems from across the globe other than conventional cast-in-situ load bearing & framed construction which are suitable for affordable mass housing especially in urban areas. These new construction systems offer a basket of appropriate structural systems which are not only superior than the existing RCC/load bearing construction but also deliver quality, safe & sustainable built-environment at a much faster rate with much improved functional performance.

BMTPC disseminates the use of new/alternate building materials & technologies in housing through identification, evaluation, standardization, certification, capacity building, training and field level application by demonstration construction. Under PMAY-U, a flagship mission of Ministry of Housing and Urban Affairs (MoHUA), Govt. of India to provide pucca house to urban poor households, a Technology Sub Mission (TSM) was setup to facilitate adoption of modern, innovative & green technologies for faster & quality construction of houses across the country. Under TSM, MoHUA entrusted BMTPC to construct innovative housing as Demonstration Housing Projects (DHPs) showcasing alternate construction systems and other sustainable practices. A typical DHP comprises of 40 houses with basic & social infrastructure and can be used either as

housing project or for any other social/welfare purpose as concerned state deems appropriate. The Demonstration Housing Project (DHP) are constructed either using emerging construction systems shortlisted through GHTC-India or materials/technologies certified under PACS of BMTPC.

These DHPs are used as live laboratories during the construction to help build confidence and create enabling environment for the large scale adoption of alternate materials & technologies suiting to different geo-climatic regions of the country, thus making building construction more affordable and sustainable. As reported earlier, BMTPC completed DHPs at (i) Nellore (Andhra Pradesh); (ii) Bhubaneswar (Odisha); (iii) Lucknow (Uttar Pradesh); (iv) Biharshariff (Bihar); (v) Hyderabad (Telangana); (vi) Panchkula (Haryana); (vii) Agartala (Tripura); (viii) Bhopal (Madhya Pradesh); (ix) Ahmedabad (Gujarat), (x) Tiruppur (Tamil Nadu) and (xi) Ayodhya (Uttar Pradesh). During the year, Demonstration Housing Project at Bhalwal, Jammu, J&K has been completed. The two Demonstration Housing Projects at (i) Dimapur (Nagaland) and (iii) Guwahati, Assam are at advanced stage of completion.

The construction of demonstration housing projects in different parts of the country aims to facilitate wide spread dissemination and adoption of existing proven, emerging and sustainable building materials and technologies replacing conventional construction. It further helps create enabling eco-system for mainstreaming such materials & technologies in the construction sector & adapt them as future technologies for construction. During the construction of DHPs, training to professionals,



artisans & students is also being imparted on regular basis in association with nearby academic institution.

## Completed DHP

The details of the completed Demonstration Housing Project during the reporting period are given below:

### **I. Demonstration Housing Project at Bhalwal, Jammu**

*Technology Promoted: Prefabricated Sandwich Panel System - EPS core panel using Quikbuild Panels*

The J&K Housing Board, Government of J&K allotted land measuring 4048 sqm. at Bhalwal, Jammu for the Demonstration Housing Project to be used as Sports Hostel. The layout plan, architectural plans, etc. were approved by the J&K Housing Board, Government of J&K. The DHP is in G+2 configuration with other provisions and being constructed using Prefabricated Sandwich Panel System - EPS core Panel using Quikbuild Panels.

*Project Profile:*

- Location: Bhalwal, Jammu
- State Level Nodal Agency : J&K Housing Board, Government of J&K
- Land Allotted by: J&K Housing Board, Government of J&K
- Usage : Sports Hostel
- Plot area of project : 4048 sqm.
- No. of houses : 40 (G+2); Other provisions includes a Office with Toilet, Dining Hall with Kitchen & store, Activity Room cum Gym, Medical Room with toilet and store, Care Taker Room with toilet, Laundry Room.
- Carpet area of each unit : 28.57 sqm.
- Built up area of each unit : 35.35 sqm.
- Total built up area : 2054 sqm.
- Technology Used: Prefabricated Sandwich Panel System - EPS core panel using Quikbuild Panels

- Each unit consist of 2 Rooms, Kitchen, Toilet & Balcony
- Infrastructure facilities : CC Road, pathways with concrete pavers, water supply work, septic tank, tube well, horticulture work, boundary wall, drainage & disposal and external electrification using solar panels, rain water harvesting, fire fighting system, etc.
- Includes Earthquake Resistant Features.

*About the Technology*

EPS core panel using Quikbuild Panels as walling (Prefabricated Sandwich Panel System) and EPS roof/slab Panel with concreting. QuikBuild panel system consists of a welded wire space frame integrated with a polystyrene insulation core. The wall panel is placed in position and a wythe of concrete is applied to both sides. The wall panel receives its strength and rigidity from the diagonal cross wires welded to the welded-wire fabric on each side. This combination produces a truss behavior, which provides rigidity and shear terms for a full composite behavior. Steel trusses are pierced through the polystyrene core and welded to the outer layer sheets of galvanized steel mesh to form a rigid panel. The shell of the structure is built by manually erecting the panels directly onto the slab with reinforcement rods. Desired utilities like doors, windows and ventilators may be pre-built while plumbing, electrical conduits may be added onsite. The wall is then finished by plastering with cement using the traditional method or by shotcreting machine to create a monolithic structure. These panels are used in the construction of exterior and interior loadbearing and non-load bearing walls and floors of buildings of all types of construction.

In this project, the EPS core panel system has been used as load bearing wall panels. The total thickness of wall is 180mm with EPS thickness of 80mm and 50mm shotcreting/plastering on both side of the wall.





*Demonstration Housing Project (Sports Hostel) under PMAY(U) using Prefabricated Sandwich Panel System – EPS Core Quik Build Panels at Bhalwal, Jammu, J&K*

## Ongoing DHPs

The details of the ongoing DHPs are as given under:

### **I. Demonstration Housing Project at Dimapur, Nagaland**

*Technology Promoted: Prefabricated Sandwich Panel System-EPS Cement Sandwich Panels with steel structure*

The Works & Housing Department and Municipal Affairs Department, Government of Nagaland allotted land measuring 2819 sqmts. at PWD Housing Complex Sematila, Dimapur, Nagaland for the Demonstration Housing Project to be used as Working Women Hostel. The layout plan, architectural plans, etc. were approved by the PWD Housing, Kohima, Nagaland. The DHP consists of a Hostel Block in G+2 configuration and a community centre being constructed using Prefabricated Sandwich Panel System-EPS Cement Sandwich Panels with steel structure.

### *Project Profile:*

- Location: PWD Housing Complex Sematila, Dimapur, Nagaland
- State Level Nodal Agency: Municipal Affairs Department, Government of Nagaland
- Land Allotted by: Works & Housing Department, Government of Nagaland
- Usage : Working Women Hostel
- Plot area of project : 2819 sqm.
- No. of houses : 40 (G+2); Other provisions includes a Dining Hall with Kitchen, Activity Room, Medical Room with toilet, Office with Toilet, Care Taker Room with toilet.
- Community Centre having built up area of 272 sqm. consist of Single storey Multipurpose Hall with Kitchen, office, two shops, two toilets & one toilet for physically handicapped.
- Carpet area of each unit : 25.21 sqm.
- Built up area of each unit : 28.60 sqm.
- Total built up area : 2050 sqm. including community centre



*Demonstration Housing Project (Working Women Hostel) and Community Centre under PMAY(U) using Prefabricated Sandwich Panel system – EPS Cement Sandwich Panels with Steel Structure at Dimapur, Nagaland*

- Technology Used: Prefabricated Sandwich Panel System-EPS Cement Sandwich Panels with steel structure
- Each unit consist of a room, a pantry, Toilet & Balcony
- Infrastructure facilities : CC Road, pathways with concrete pavers, water supply work, septic tank, horticulture work, boundary wall, drainage & disposal and external electrification using solar panels, rain water harvesting, fire fighting system, etc.
- Includes Earthquake Resistant Features.

#### *About the Technology*

Prefabricated Sandwich Panel System-EPS Cement Sandwich Panels with steel structure are lightweight solid core sandwich panels made of 5mm non-asbestos fiber cement boards on both sides of panels as facing sheet and the core material of expanded polystyrene beads, admixture, cement, sand, fly ash and other bonding materials in mortar form. The core material in slurry state is pushed under pressure

into preset molds. Once set, it is moved for curing and ready for use with RCC or steel framed structure. These panels may be installed without any structural support up to 5m only. Due to the sheets, the panels do not require plastering and water curing. These panels are joined with tongue & groove jointing system.

These are non-load bearing panels and used as walling, floor and roofing with additional structural support, steel or RCC depending on the design. However, these may be used as single floor construction or stairs case slabs, kitchen/ bathroom slabs etc. without support structure. Under the DHP, the panels are being used with steel structure.

In this project, the total thickness of external walls is 90mm and internal walls is 75mm. The frame structure of the building is in steel with prefabricated sandwich panel as infill. The roof slab is also made of prefabricated sandwich panel with concrete screed.

## 2. Demonstration Housing Project at Guwahati, Assam

*Technology Promoted: Light Gauge Steel Structural System - Light Gauge Steel Framework System (LGSFS) with V-infill walls*

Mission Director, PMAY-HFA(U)-Assam, Guwahati has allotted the land measuring 1600 sqm. owned by Guwahati Municipal Corporation (GMC) at Fatashil Ambari, Guwahati to be used as rental accommodation for Contractual Safai Karamchari of GMC. The Guwahati Municipal Corporation approved the plan and layout consisting of 40 Dwelling Units with other provisions and a community centre. The houses under DHP are in G+3 configurations and community centre (G) are being constructed using LIGHT GAUGE STEEL STRUCTURAL SYSTEM - Light Gauge Steel Framework System (LGSFS) with V-infill walls and Pre-engineered Building (PEB) steel structure.

*Project Profile:*

- Location: Fatashil Ambari, Guwahati
- State Level Nodal Agency : Mission Director, PMAY-HFA(U)-Assam, Guwahati
- Land Allotted by: Guwahati Municipal Corporation (GMC)
- Usage : Rental accommodation for Contractual Safai Karamchari of GMC
- Plot area of project : 1600 sqm.
- No. of houses : 40 (G+3)
- Community Centre having built up area of 336 sqm. consist of Single storey Multipurpose Hall with Kitchen, office, green room, shops and toilet.
- Carpet area of each unit : 31.06 sqm.
- Built up area of each unit : 36.09 sqm.
- Total built up area : 2190 sqm. including community centre
- Technology Used: Light Gauge Steel Framework System (LGSFS) with V-infill walls
- Each unit consist of a living room, a bed room, a kitchen, a bath room, a W.C., a lobby and a balcony.
- Infrastructure facilities : CC Road, pathways with concrete pavers, water



*Demonstration Housing Project (for Contractual Safai Karamcharis) and Community Centre under PMAY(U) using Light Gauge Steel Structural System – LGSF with V-infill Wall at Guwahati, Assam*



supply work, UGT, septic tank, horticulture work, boundary wall, tube well, drainage & disposal and external electrification using solar panels, rain water harvesting, fire fighting system, etc.

- Includes Earthquake Resistant Features.

#### *About the Technology*

Light Gauge Framed Steel Structure (LGFSS) is based on factory made galvanized light gauge steel components produced by the cold forming method assembled as panels at site forming structural steel framework of a building and varying wall and floor construction. The panels are assembled on site with screws and bolts to form the internal and separating walls and inner leaf of the external walls of a building and floors & ceiling. The building is completed by the installation of V-Infill Wall elements.

V-Infill Wall is an innovative emerging building and construction technology using factory made 8/10mm fibre cement boards (Vboard) on either side of GI studs and erected to produce straight to finish walls which are filled with light weight concrete made of EPS, cement, sand and additive. The system can incorporate all types of architectural features like coving, boxes, cantilevers, projections, infill walls, mezzanine floors etc. This system can also incorporate all types of services viz. electrical, gas and plumbing etc.

In this project, the total thickness of wall is 124mm having 89mm thickness of LGSF and 9mm & 6mm thick fibre cement board with vapour barrier on outside wall and 8mm thick fibre cement board with 12mm gypsum board inside of wall. V-infill wall material have been used as infill material with Pre-engineered Building (PEB) steel structure.

The status of ongoing DHPs during the reporting period are as under:

Sl. No.	Location of DHP	Usages	Status
1.	Dimapur, Nagaland	Working Women Hostel (G+2) Community Centre (Single Storey)	Finishing work is in progress.
2.	Guwahati, Assam	40 DUs (G+3) for contractual safai karamcharis of GMC and Community Centre (Single Story)	Community Centre - Finishing work completed. Main building - superstructure work is in progress. Infrastructure work in progress.

#### **Sensitisation Programmes on use of emerging technologies at Demonstration Housing Projects (DHPs)**

The Council has undertaken the construction of DHPs with an objective to create awareness among stakeholders (State/UT/ULB officials, technical professionals, builders, development agencies, academic institutions and others) at the state/UT/ULB level on new/alternate technologies. To mainstream these technologies, it is necessary to build capacities of the professionals with regard to use of new technologies. Accordingly, as part of the capacity building of the professionals/artisans/students of engineering & architectural colleges with regard to emerging construction systems, the Council organised sensitisation programmes on the technologies being used in various Demonstration Housing Projects. In the series, Sensitisation Programmes were organised at Demonstration Housing Project site at Dimapur on 6<sup>th</sup> June, 2024, 13<sup>th</sup> June, 2024, 21<sup>st</sup> June, 2024 and 15<sup>th</sup> January, 2025.

#### **Technical Group for monitoring the progress of Demonstration Housing Projects and propagating emerging technologies**

A Technical Group comprising of representative of SLNA, expert from local IIT/NIT/Research



*Sensitisation Programme on Innovative Technologies at Dimapur DHP site on June 6, 2024*

Institution, engineer member from ULB and BMTPC have been constituted to oversee the progress of Demonstration Housing Projects (DHPs) and also to propagate emerging technologies used in the DHP for wider acceptability within the State Government. A

meeting of the Technical Group comprising of representatives of IIT Jammu, J&K Housing Board, Jammu Municipal Corporation and BMTPC officials was organised on July 4, 2024 at DHP Bhalwal, Jammu (J&K).



*Technical Group Meeting at Demonstration Housing Project Jammu site on July 4, 2024*

## **II. PRADHAN MANTRI AWAS YOJANA (URBAN) – HOUSING FOR ALL MISSION**

### **I. BMTPC's Role in Implementation of the Pradhan Mantri Awas Yojana (Urban) – Housing for All Mission**

The Ministry of Housing and Urban Affairs, Government of India is implementing “Pradhan Mantri Awas Yojana (Urban) - Housing for All” Mission. Based on the learning from the implementation of PMAY-U, MoHUA has revamped the scheme and launched PMAY-U 2.0 ‘Housing for All’ Mission with effect from 01.09.2024 to support one crore additional eligible beneficiaries in urban areas across the country. The Council is designated as an appraisal and monitoring agency for projects in various States/UTs falling in Earthquake Zone IV and Zone V and undertake TPIM review and capacity building of professionals of States/ Urban Local Bodies.

The proven technologies from the globe shortlisted under GHTC-India were showcased through execution of Light House Projects (LHPs) across India at six locations. The Council is designated as technical partner by the Ministry for implementation of LHPs in close coordination with respective State Governments. The Council has also been associated in providing incubation and acceleration support to the identified potential future technologies shortlisted through Affordable Sustainable Housing Accelerator (ASHA).

#### **Technology & Innovation Sub-Mission (TISM)**

The Technology Sub-Mission of PMAY-U has been expanded into Technology & Innovation Sub-Mission (TISM) under PMAY-U 2.0 to guide and facilitate States/UTs and other stakeholders in adoption of modern, innovative and green technologies and alternate building material for faster and quality construction of houses.

Technology Sub-Mission also assists States/Cities in deploying disaster resistant and environment friendly technologies in collaboration with IITs, NITs, research laboratories and Planning & Architecture institutes and other technical institutions. BMTPC is working as Technical Secretariat of the Technology Sub-Mission and assisting State Governments to use alternate and innovative building materials, technologies and processes for construction of houses under PMAY-U.

#### **Adoption of New & Emerging Technologies in Construction by CPWD**

In order to facilitate adoption of alternate and emerging technologies by the State Governments, Ministry of Housing and Urban Affairs has pursued CPWD to bring notifications, circulars, SORs, specifications etc. which will authorize State Governments to make use of this information for adoption & construction of their future projects. BMTPC also provides technical details of the emerging technologies certified under PACS for inclusion in Schedule of Rates to CPWD.

#### **Affordable Rental Housing Complexes (ARHCs)**

The MoHUA is implementing the Affordable Rental Housing Complexes (ARHCs) scheme. BMTPC has been designated as appraisal Agency under Affordable Rental Housing Complexes (ARHCs) Scheme, for proposals seeking Technology Innovation Grant (TIG) on account of using innovative & alternate technologies under Model-2 of ARHCs.

So far, 13 Proposals seeking TIG have been sanctioned by MoHUA with total of 82,273 building units comprising primarily of Dormitory beds, and single & double bed room houses.



Based on the statutory approvals received & requisite progress made in the projects, GoI share has released TIG to following projects:

S. No.	Project Entity	Project Location	TIG released by GOI (in Rs. lakhs)
1	SPR City Estate Pvt. Ltd.	Sriperumbudur, Tamil Nadu	793.60
2	SPR Construction Private Limited (SPR SPD Industrial Housing Pvt. Ltd.)	Sriperumbudur, Tamil Nadu	534.40
3	Tata Electronics Pvt. Ltd./Vidyal Residency Pvt. Ltd.	Hosur, Krishnagiri, Tamil Nadu	1315.20
4	State Industries Promotion Corporation of Tamil Nadu (SIPCOT)	Valam, Sriperumbudur, Kancheepuram, Tamil Nadu	1872.00

### **Data Resource cum Monitoring Centre (DRMC)**

The Ministry of Housing and Urban Affairs (MoHUA) through BMTPC, has established a robust Data Resource Cum Monitoring Centre (DRMC) to streamline and enhance the monitoring of critical activities. The DRMC is entrusted with extensive data analysis, compilation, dissemination, and the generation of periodic reports. It also facilitates field visits and physical verifications, ensuring efficiency and transparency in a systematic and professional manner. Functioning as a dedicated Monitoring Cell under the Mission Directorate at Nirman Bhawan, DRMC facilitates data collection, analysis, and the preparation of progress monitoring reports on a daily basis. This centralized approach ensures seamless tracking of construction progress and other related activities. A specialized team comprising BMTPC officials, technical experts, and support staff is stationed at MoHUA for the smooth and effective operation of the DRMC. The Ministry leverages DRMC's capabilities for the development and maintenance of following essential software and websites under PMAY(U) and PMAY-U 2.0, which are critical to achieving the mission's objectives and ensuring comprehensive monitoring:

Development and maintenance of Websites and Legacy Application of PMAY-U	<ul style="list-style-type: none"> <li>Unified Web Portal for PMAY-U 2.0</li> <li>PMAY-U Dashboard (<a href="https://dashboard.pmay-urban.gov.in">https://dashboard.pmay-urban.gov.in</a>)</li> <li>PMAY-U (<a href="http://pmay.urban.gov.in">http://pmay.urban.gov.in</a>)</li> <li>Global Housing Technology Challenge-India (GHTC) (<a href="http://ghtc.india.gov.in">http://ghtc.india.gov.in</a>)</li> <li>Affordable Rental Housing Complexes – ARHCs (<a href="https://arhc.mohua.gov.in/index.html">https://arhc.mohua.gov.in/index.html</a>)</li> <li>PMAY-U MIS (<a href="https://pmaymis.gov.in">https://pmaymis.gov.in</a>)</li> <li>CLSS Awas Portal -CLAP (<a href="http://pmayclap.gov.in/">http://pmayclap.gov.in/</a>)</li> </ul>
Development and maintenance of Mobile Application	<ul style="list-style-type: none"> <li>Unified PMAY-U 2.0 Mobile App (Androids and IOS)</li> <li>PMAY-U Mobile App (Androids and IOS)</li> <li>Construction Site Visitor App (Androids and IOS)</li> <li>GHTC-India</li> <li>ANGIKAAR</li> <li>Khushiyan Ka Aashiyana</li> </ul>
Maintenance of Activity Modules	<ul style="list-style-type: none"> <li>Live Laboratory module</li> <li>LHP module</li> <li>New Urban India Module</li> <li>INDIAN URBAN HOUSING CONCLAVE (IUHC)</li> <li>Training Modules under ARHCs</li> <li>ARHCs MIS for Model 1</li> <li>ARHCs MIS for Model 2</li> <li>ARHCs Knowledge Pack</li> <li>CMS for the websites</li> </ul>
Implementation Support Cell	Implementation Support Cell for Unified Web Portal (UWP) to handholding to Stakeholders
PG Grievance Cell	Setup of PG -Cell with Human Resources to deal Grievances received from all channels such as Website, CPGRAM, e.Mails, Manuals letters etc.
PMAY-U Awards	Software application led submission and shortlisting of nominations for PMAY-U Awards
IEC Support for PMAY-U and PMAY-U 2.0	<p>Social Media</p> <ul style="list-style-type: none"> <li>Management of YouTube (@PMAYUrban) channel, X (formerly Twitter), Facebook (@pmayurban Page) and WhatsApp through quality content regular update</li> </ul> <p>Books &amp; Publications</p> <ul style="list-style-type: none"> <li>Monthly E-Newsletters and Brochures/Leaflets for PMAY-U and Light House Projects, GHTC, ARHC etc</li> <li>Voice of Women Entrepreneurs</li> <li>Transformative Reforms towards Housing for All</li> <li>Housing, Satisfaction and Livelihood - An Impact Assessment of PMAY-U</li> <li>Discourses of Affordable Housing in India &amp; Best Practices under PMAY(U)</li> </ul> <p>Print &amp; Digital Media</p> <ul style="list-style-type: none"> <li>Pre &amp; Post event press Releases, Newspaper Advertisements &amp; Articles, Inputs to PIB division on E-books, achievements etc</li> <li>Bulk SMS texts/WhatsApp messages to stakeholders/beneficiaries</li> <li>Banners &amp; Infographics for websites (MoHUA, PMAY-U, GHTC, ARHC)</li> </ul> <p>Production of Video films</p> <ul style="list-style-type: none"> <li>Sabka Awaas – Video film certified by CBFC for running in movie theatres</li> <li>Video Films/Reels on 1.8 years of PMAY(U) - A Journey; 2. Light House Projects; 3 Beneficiary Testimonials; 4. Women Empowerment; 5. Independence Day; 6. Republic Day; and other occasions of national importance</li> </ul>

Coordination with Stake holders and Development of Application Programming Interface (APIs)	<ul style="list-style-type: none"> <li>• PMO for PRAYAS Portal</li> <li>• E-Utthaan (Development Action Plan for Scheduled Castes, Department of Social Justice and Empowerment)</li> <li>• Development Monitoring and Evaluation Office (DMEO), NITI Aayog for Data Governance Quality Index (DGQI), Output Outcome Monitoring Framework (OOMF).</li> <li>• Ministry of Electronics and Information Technology for One App, Many Government Services (UMANG) Platform and MyGov portal</li> <li>• Dashboard for Chief Ministers of various states such as Andhra Pradesh, Assam, Karnataka etc and DISHA Portal for Hon'ble MPs</li> <li>• Dashboard of Ministry</li> </ul>
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### **Affordable Sustainable Housing Accelerator-India (ASHA-India)**

Under GHTC-India, incubation and acceleration support to the identified indigenous potential future technologies are being provided under Affordable Sustainable Housing Accelerator (ASHA) – India. In this connection, five incubation support institutes/laboratories have been selected namely (i) IIT-Roorkee, (ii) IIT-Madras, (iii) IIT, Bombay, (iv) IIT-Kharagpur and (v) CSIR-North East Institute of Science & Technology (NEIST), Jorhat, Assam in collaboration with CSIR-CBRI-Roorkee by MoHUA. The aim of ASHA-India is to catalyse research and development in housing construction sector, building materials and related products by providing a suitable platform to promote and showcase India's vibrant and dynamic community of innovators. The two categories are being supported under Potential Future Technologies include (i) Pre-Prototype Technologies for Incubation Support and (ii) Post-Prototype Technologies for Acceleration Support.

Progress of various projects sanctioned under ASHA-India Pre-Prototype component of GHTC-India is given hereunder:

#### *Project I: Project on “Low cost Bamboo Housing”*

*ASHA-India Centre: IIT, Kharagpur*

*Incubatee: Drishtee Foundation*

The project comprises bringing further innovation & improvement in material & technique of bamboo construction, construction of Demonstration

structure (Community center), Constant live and remote parametric monitoring of the demonstration structure within IIT lab, Analysis, Computer simulation and testing, Establishing advantages of the proposed technology with existing technologies in terms of comfort, cost, speed of construction, maintenance, Validating and developing product parameters and benchmarks by IIT, etc.

#### *Project II: Project on “Experimental Investigations of Precast Panels”*

*ASHA-India Centre: IIT, Roorkee*

*Incubatee: Suresh Chawla*

The project comprises development of experimental setup for testing of Shear wall made up of precast panels, Fabrication of Molds for Planks, Casting of precast panel shear wall with wire mesh & also with reinforcement, In-plane and out of plane testing of precast panels, Quasi-cyclic testing of the composite wall panel anchorage system, Development of design procedure for precast panel shear walls with wire mesh & with vertical reinforcement wall, etc.

#### *Project III: Project on “Prefabricated Prefinished Volumetric Construction (PPVC) using Recycled Plastic”*

*ASHA-India Centre: IIT, Roorkee*

*Incubatee: Anant National University, Ahmedabad*

The project comprises the design & fabrication of PPVC using Recycled Plastic with combination of hot rolled & Cold formed Steel structure, development of building blocks & panels made out of waste plastic, Analysis of Engineering properties of various components, Seismic Performance of Hybrid Systems, Fabrication of a prototype modular system in IIT Roorkee Development of build-up Manual for the complete system etc.



*Project IV: Project on “Agro-Industrial Alkali-Activated Composites for Pre-Fabricated Building Elements and 3D Volumetric Construction”*

*ASHA-India Centre: NEIST–Jorhat and CSIR-CBRI Roorkee*

*Incubatee: VNIT, Nagpur*

The project comprises development of building technology namely the reinforced bio based alkali activated prefabricated volumetric structural systems for fast-track mass housing, to achieve less cycle period in comparison to the current practice. The activities include development of cost effective and durable precast light-weight wall panels and volumetric units, Seismic design parameters/criteria for prefabricated 3D volumetric RC modular buildings, design strategy, Demonstration of the developed technology(ies) for prefabricated toilet and kitchenette with all utilities and other facilities, Construction of a two-storey 1100 sqft. Demo buildings (2 nos.) incorporating prefabricated volumetric and 3D printing techniques at Technology Demonstration Park of CSIR- CBRI, Roorkee, Full scale testing of PPVC pods, etc.

*Project V: Project on “3D Printing in Construction”*

*ASHA-India Centre: IIT Madras*

*Incubatee: M/s Tvasta Manufacturing Solutions Pvt Ltd.*

The comprises Material Development for 3D Printable concrete, safe structural engineering practices, Fabrication of 3D Printers with testing & trials at IIT Madras, construction of Demonstration structure ( G+I Guest house), formulation of Guidelines/Indian Standards on 3D Concrete Printing, etc.

*Project VI: Project on “Development of 3D Volumetric Precast Construction Technology”*

*ASHA-India Centre: IIT Madras*

*Incubatee: M/s Slabs Engineering Pvt Ltd.*

The project comprises the design & fabrication of 3D Volumetric Mould, Design of 3D connections for 3D volumetric modular units, Mock-up construction of a standard apartment, Development of implementation Guidelines for application of 3D precast technology in mass housing etc.

All these projects are various level of finalization & expected to be completed by December, 2025.



*3D Printed House using Agro-waste based Modular Hollow Blocks at CBRI Roorkee*

### **III. IMPLEMENTATION OF NATIONAL URBAN HOUSING FUND (NUHF)**

With the approval of Cabinet, a National Urban Housing Fund (NUHF) has been created in BMTPC which aggregates loans from lending agencies or financial institutions. Funds raised through Extra Budgetary Resources (EBR) for NUHF were loaned to BMTPC for its further disbursement as Central assistance to State/ UT Governments and as subsidy to the CNAs under the CLSS vertical of the Mission as per orders of controlling Ministry.

The Council in earlier years has disbursed the central share under PMAY(U) to State Govts. as per the directions of the Ministry. As reported in previous Annual Reports, so far Rs. 33,000 crore & Rs. 20,000 crore (totaling to Rs. 53,000 crore) was received as EBR from NSSF & HUDCO, respectively, and the same was disbursed as per the sanction letters issued by the Ministry of Housing and Urban Affairs, Government of India from time to time. Out of Rs. 53,000 crore, Rs. 33,000 crore as the principal amount has been remitted to NSSF as bullet payment (FY 2021-22).

During Financial Year 2024-25, an amount of Rs. 1770.44 crores (approx.) was credited by MoHUA towards the interest payment on EBR loan of Rs. 20,000 crores from HUDCO and same has been disbursed to HUDCO as per the sanction letters of MoHUA.

## IV. DISASTER MITIGATION AND MANAGEMENT

### I. Technical Sessions on Vulnerability Atlas of India

BMTPC prepared the third edition of the Vulnerability Atlas of India which includes hazard maps of earthquakes, wind/cyclones, floods, landslides, thunderstorms and vulnerability risk tables based on available latest data in order to help in enhancing preparedness of Governments and various other agencies in mitigating natural disasters. The Atlas is a useful tool not only for public but also for urban managers and National & State Authorities dealing with disaster mitigation and management. The digital version of atlas has also been developed with a dedicated website <https://vai.bmtpc.org>.

In order to sensitize the professionals and stakeholders, a number of Technical Sessions were organised on Vulnerability Atlas of India during the following events:

- India Meteorological Department (IMD) to celebrate 150 years of its establishment at New Delhi on January 8, 2025.
- International Conference on Lightning & Extreme Weather Events on theme

Social Justice and Empowerment of Most Vulnerable Communities in Building Resilience organised by NDMA, NRSC, IMD and CROPC at New Delhi on December 9-10, 2024.

- Workshop on Earthquake Risk Reduction - Key Opportunities : CoDRR Workshop 6 organised by National Institute of Disaster Management (NIDM) in association with National Centre for Seismology, Ministry of Earth Sciences at New Delhi on December 6, 2024.
- Training Programme on Earthquake Risk Mitigation & Management organised by National Institute of Disaster Management (NIDM) at NIDM Rohini campus, New Delhi from November 11-15, 2024.
- Webinar on Joshimath: A Wake-up Call for Himalayan Urban Resilience organised by SAIARD-Himalayan Climate Consortium on September 14, 2024.
- One Week National Faculty Development Programme (FDP) on “Urban Infrastructure Resilience in context of Extreme Weather Events” in collaboration with University of



*Special Session on Vulnerability Atlas of India (in hybrid mode) organised by India Meteorological Department (IMD) to celebrate 150 years of its establishment at New Delhi on January 8, 2025*



Delhi for senior faculties and academicians at NIDM, New Delhi on September 9-13, 2024.

- Stakeholders Consultation on Urban Resilience organised by National Institute of Disaster Management at New Delhi on May 21, 2024.
- Training Programme on Disaster Risk Mitigation: Building Resilience for Educational Institutions organised by National Institute of Disaster Management from April 2-5, 2024.

The dedicated website <https://vai.bmtpc.org> directly can be used for easy access and downloading the hazard maps w.r.t. earthquakes,

wind/cyclones, flood, landslides, thunderstorm & damage risk tables for the country & states upto district levels. As reported earlier, BMTPC, MoHUA and SPA New Delhi has launched e-Course on Vulnerability Atlas of India on <https://ecourse.bmtpc.org>. It is a basic e-learning course that offers awareness and understanding about natural hazards, helps identify regions with high vulnerability with respect to various hazards (earthquakes, cyclones, landslides, floods, etc.) and specifies district-wise level of damage risks to the existing housing stock. Two new course namely, (i) e-course on Earthquake Resistant House Construction and (ii) e-course on Improving Wind/cyclone Resistance of Housing have also been developed and uploaded.



*One Week National Faculty Development Programme (FDP) on “Urban Infrastructure Resilience in context of Extreme Weather Events” in collaboration with University of Delhi for senior faculties and academicians at NIDM, New Delhi on September 9-13, 2024*

## V. STRENGTHENING THE INFORMATION AND DATABASE IN THE CONSTRUCTION SECTOR

### 1. Publication of the “Nirman Sarika” – Special Issue of BMTPC Newsletter

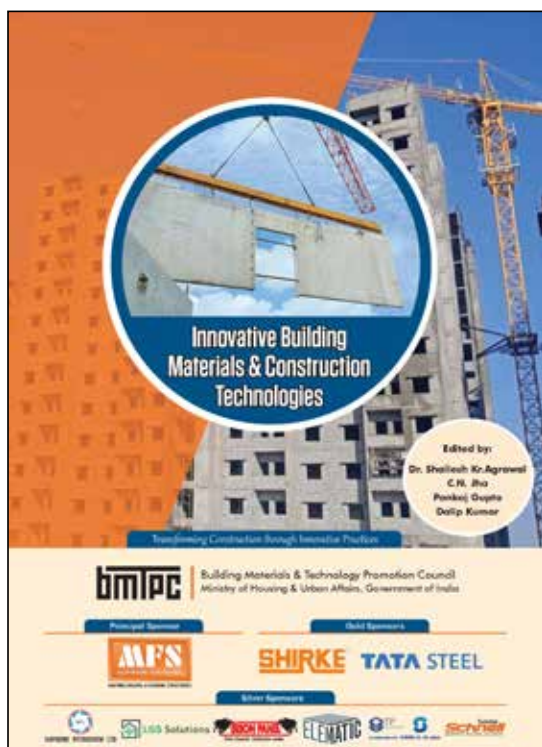
Like preceding years, the Ministry of Housing and Urban Affairs celebrated the World Habitat Day 2024. To mark the occasion, BMTPC brought out a Special Issue of its Newsletter “Nirman Sarika” on the theme “Engaging youth to create a better urban future”, chosen by United Nations. This special publication focused on the various issues related to the theme of the World Habitat Day besides highlighting the activities of the Council. The “Nirman Sarika” was released by Shri Tokhan Sahu, Hon’ble Minister of State for Housing and Urban Affairs, Govt. of India in the presence of Shri Srinivas R Katikithala, Secretary, MoHUA on 9<sup>th</sup> October, 2024 at New Delhi.

### 2. Book titled “Innovative Building Materials & Construction Technologies”

The Council organised a National Conference cum Expo on Innovative Building Materials & Construction Technologies (IBMCTE-2025) on March 19-20, 2025 at New Delhi so as to bring all stakeholders at one platform to share their knowledge and experience. On this occasion, the Council brought out the Proceedings in the form of Book titled “Innovative Building Materials and Construction Technologies”. The publication cover wide range of topics ranging from cutting-edge materials, construction technologies to efficient, sustainable, net-zero processes and contains 26 papers written by well-known experts and institutions covering different areas of building materials and construction practices.



*Shri Tokhan Sahu, Hon’ble Minister of State for Housing and Urban Affairs, Govt. of India releasing the Special Issue of BMTPC’s Newsletter “Nirman Sarika” in the presence of Shri Srinivas R Katikithala, Secretary, MoHUA on October 9, 2024 at New Delhi.*



The technical papers encompass the following sub-theme of the National Conference:

- Emerging Building Materials & Construction Systems and Sustainable Building Practices
- Industrialized building systems including futuristic technologies
- Green Building Materials and Sustainable Development
- Energy and Thermal Efficiency in Building Construction & Operations, Green Construction
- Industrial/Agricultural/Plastic waste based products/Components, Construction and Demolition Wastes Recycling Technologies

The papers have been contributed by experts from industry, academics, research institutions & professionals. The publication have been made available & can be downloaded from <https://bmtpc.org> in order to provide a learning platform for the construction industry & nudge building industry, professionals, public & private agencies and students of architecture & engineering in introducing the new materials and technologies for the built environment.

### 3. Standardization and Product Evaluation

#### Performance Appraisal Certification Scheme (PACS)

Performance Appraisal Certification Scheme (PACS), being operated by BMTPC (vide Gazette Notification No.I-16011/5/99 H-II in the Gazette of India No. 49 dated December 4, 1999), is a third party voluntary scheme for providing Performance Appraisal Certificate (PAC) to manufacturers or installers of a product which includes building materials, products, components, elements and systems etc. after due process of assessment.

Since the Scheme is operated for the products/ systems where no relevant Indian Standards are available, it is required to first work out the desired specifications for Performance Appraisal. For the items where no Indian codes are available, international practices are also being referred. In few cases the specifications recommended by the manufacturers have to be modified based on global practices to improve the quality and performance.

Various State Governments and their departments are also promoting and using emerging technologies and materials for construction of mass housing in their states. As such PACS has become an important tool for introduction of innovative materials & products for housing.

#### ***Preparation of Draft PACs of New Systems/ Products for Certification***

Based on the details submitted with Preliminary Application (PA), the Detailed Application Form (DAF) and clarifications provided by the Agency based on various observations made from time to time, the draft Performance Appraisal Certificates (PACs) for the following new products/systems are under finalization for circulation to Technical Assessment Committee (TAC):



i) *Concrewall - Reinforced EPS Structural Panels (RESP) System by M/s NBP Nirmaan Bharat Panels LLP, Indore*

A building system of EPS panels reinforced with steel meshes and cross connectors, forming a 3D structure. On-site, panels are concreted to create walls & slabs, offering strength, durability along with high degree of thermal insulation.

ii) *Building Lifting Technique by M/s Krishan Lal & Sons, Haryana*

It is a specialized engineering technique/process used to elevate the entire building structure for purpose such as addressing flooding issues, foundation repairs, etc. The Lifting operation is executed with the help of series of jacks, uniformly placed under load bearing members, which are operated simultaneously to ensure even and stable elevation of the entire building structure.

iii) *Indowud Natural Fibre Composite (NFC) Products by M/s Indowud NFC Pvt. Ltd., Chennai*

It is an engineered wood alternative made from agricultural fibers, PVC resin, and additives, designed to resemble wood with strength and durability. It is suitable for cladding, panelling, furnishing, joinery, and outdoor applications, and can be thermoformed. It uses agricultural residue-rice husk to the extent of 30% of total weight of the product that are often discarded or burned, thus transforming this waste into sustainable panels using advanced process.

iv) *Insulated Sandwich Panel (Rigid Polyurethane/ Polyisocyanurate Core) by M/s Suchi Foams Pvt. Ltd., Gujarat*

These composite panels consist of a rigid insulating core sandwiched between two metal sheets with various coatings and weather resistance. Made in different thicknesses and finishes, they provide thermal insulation and lightweight construction, and are widely used for walling, cladding, and roofing in buildings.

### **Renewal of PACs**

Based on receipt of Renewal applications

along with requisite details, the following PACs were renewed during the year. During the renewal process, technical conformance aspects are ensured based on recent test reports & inspection of manufacturing units by TAC members. The applications renewed are as under:

i. *PUF Sandwich Panel with Pre Engineered Building Structure by M/s EPACK Polymers Pvt. Ltd., Greater Noida*

PUF Sandwich Panels with Pre-Engineered Building structure combine a steel framing system with PUF panels for walls and roofing. The panels, made of a rigid PUF core between coated steel sheets, are lightweight, thermally efficient, and easy to install.

ii. *Concrete 3D Printing Technology (C3DP) by M/s Tvasta Manufacturing Solutions Pvt. Ltd, Chennai*

Concrete 3D printing is a technology where automated robotic systems place concrete layer by layer using a pump, extruder & print head, with the process controlled through software that integrates machine and material parameters. The advantages of the system include design freedom, construction efficiency, automation, no requirement of formwork for wall, labor safety etc.

iii. *Factory Made Fast Track Modular Building System – INSTACON by M/s SynergyThrislington, Solan, H.P.*

The Factory Made Fast Track Modular Building system is a steel-based construction method where about 70% of work, including flooring, ceiling, electrical, and plumbing, is completed in factories. Modules are then transported, assembled on-site, and finished with concreting on EPS panel walls to create monolithic structure.

iv. *Strand Woven Bamboo Wood Flooring, Wall Panels & Door/Window Frames by M/s ESES Bio Wealth Pvt Ltd, Morigaon, Assam*

Bamboo Wood is an eco-friendly hardwood substitute made from processed bamboo

poles that are boiled, carbonized, kiln-dried, glued with phenolic adhesive, and compressed under high pressure.

Renewal Applications for the following items are under process

- i) Volumetric (3D) Concrete Printing Technology (VCPT) by M/s Larsen & Toubro Limited, Chennai, Tamil Nadu
- ii) Bamboo wood Products by M/s Mutha Industries Pvt. Ltd., Mumbai
- iii) Integrated Hybrid Solution – ONE (IHS – ONE) by M/s Aap Ka Awas LLP, New Delhi
- iv) Modular Tunnel form by M/s Outinord Formworks Pvt. Ltd., Pune
- v) Elastomeric Paintable Plaster by M/s JPL Innovations Pvt. Ltd., Bhiwadi, Rajasthan

### **Applications under process for issuance of PACs**

Preliminary Applications (PA) for the following new products/systems have been received from the manufacturers on the basis of which Detailed Application Forms (DAF) have been issued for submitting information along with other documents for processing the applications:

#### *i. 3D Printed Wall Panel:*

The 3D Wall panels are manufactured by pumping a formulated concrete mix through a robotic arm/gantry-controlled nozzle (3D Concrete Printer), which prints the material layer by layer onto a stable platform. These Wall Panels can be used for both internal and external walls in dry or wet conditions.

#### *ii. Xpanel Building Technologies:*

The Xpanel uses EPS core panels reinforced with galvanized steel meshes and electro-welded connectors, serving as load-bearing walls, partitions wall, and slabs, with thermal & resource efficiency benefits.

#### *iii. Recycled Plastic Boards/Panels:*

It is an eco-friendly building panels made from 100% recycled multi-layer plastic waste. They are strong, waterproof, termite-proof, and fire-

retardant, making them a sustainable alternative to wood, plywood, or metal for applications like walls, partitions, roofing, and shuttering.

The following Preliminary Applications (PAs) have been received for new products/systems and are currently under review/examination for further processing:

#### *i) Structural Insulated Concrete Panels (EPS 3D Panels)*

Structural Insulated Concrete Panels (EPS 3D Panels) are lightweight, high-strength panels with an EPS core enclosed in galvanized steel mesh and finished with concrete. They replace brick/block masonry and are used for walls, partitions, slabs, roofing, stairs, and landings.

#### *ii) PEN Foundation (Pre –Engineered Foundation)*

A Pre-Engineered Nail (PEN) Foundation is an advanced foundation system in which steel elements (nails) are driven into the soil at an angle, reinforcing and stabilizing the ground to support a structure. It can support low-rise structures with column loads up to 60 metric tons.

#### *iii) Politerm Blu-Thermal Insulation by Coated EPS Beads:*

It consists of EPS beads (3–6 mm diameter) mixed with the E.I.A. additive, forming a lightweight aggregate used for thermal insulation in mortar screeding applications, insulation layers, etc.

#### *iv) Ecowall System:*

It is an EPS Based Panel System consisting of lightweight, factory-made panels with an EPS core, offering faster construction, thermal insulation, and reduced structural load. The system is suitable for both internal and external wall applications.

The above applications are being processed on the basis of data furnished by the firms, information available on their web sites, inspection of manufacturing plants at site of works and testing of samples of the products/systems etc. before preparation of Performance



Appraisal Certificates (PACs). So far, the Council has issued 84 PACs on various innovative materials, products and systems etc., out of which 46 PACs are on emerging construction systems. The details can be assessed at <https://bmtpc.org>.

### Technical Inputs to Sectional Committees of BIS

Apart from PACs, the Council is providing technical inputs to various Sectional Committees of Bureau of Indian Standards for formulation of Indian Standards on various subjects related to Civil Engineering such as Cement and Concrete; Flooring, Wall Furnishing and Roofing Materials; Earthquake Engineering; Housing Prefabricated Construction; Hill Area Development; National Building Code; etc.

National Building Code (NBC) is being revised and the new version will be rolled out by BIS shortly. There are 22 panels entrusted to revise different parts of the NBC. Towards progressively revising the Part 5 Building Materials of NBC, the Expert Panel for Building Materials CED46:P3 was set up under the Chairmanship of Dr. Shailesh Kr. Agrawal, Executive Director, BMTPC.

Some of the focus areas for revision includes:

- *Sustainability*: Emphasis will be placed on incorporating sustainable practices throughout the building material lifecycle.
- *3D Printing*: Integration of 3D printing technology in construction will be addressed with specific guidelines.
- *Alternate Technologies*: Detailed requirements for alternative building methods will be established.
- *Recycled Materials*: The use of recycled materials in construction will be encouraged through regulations.

A number of meeting of the Expert Panel was organized during the year. Stakeholders from the construction industry, including architects,

engineers, and material suppliers, were also encouraged to suggest their inputs to BIS to ensure practical implementation.

### 4. GIZ's Climate Smart Buildings Project for enhancing climate resilience and thermal comfort in buildings

The Ministry of Housing and Urban Affairs launched the Pradhan Mantri Awas Yojana-Urban with a vision to meet affordable housing demand in urban areas. This vision is a step towards providing a better quality of life to the citizens. Therefore, it becomes necessary that the housing being built is also equipped to provide optimal thermal comfort to its occupants while ensuring that affordable homes remain affordable.

Accordingly, BMTPC closely associated with various activities of GIZ's Climate Smart Buildings Project of MoHUA with the objective of enhancing climate resilience and thermal comfort in buildings by adopting innovative passive measures, local sustainable and low embodied energy material coupled with best available technologies in construction and buildings in affordable housing. During the period, the following knowledge products have been developed:

- *Thermal Comfort Action Plan*: a comprehensive guide for enhancing livability in India's affordable housing sector by addressing thermal comfort challenges through innovative and sustainable design strategies.
- *Catalogue of Climate Smart Building Designs*: This webtool offers design templates for single and multi-family homes for various climate zones and typologies. The webtool can be accessed at <https://climatesmartbuildings.itechmission.org/>
- *Awas Sarthi mobile application*: This application comprises two components (i) Smart Awas: The aforementioned design catalogue, and (ii) PRiTHVi: An interactive,

user-friendly, digital version of the PRiTHVi Standard and guidelines developed under the CSB project.

- Compendium of Climate Smart Building Designs for Affordable Housing (a) Vol 01 – Beneficiary Led Construction and (b) Vol 02 – Multi-family homes
- Training Modules to train architects and state/city officials on PRiTHVi.

These documents are a set of recommendation, produced as an outcome of extensive living laboratory experiments to enhance thermal comfort in affordable housing with passive design measures.

## **5. Information Dissemination through Website of the Council**

The Website of the Council (<https://bmtpc.org>) is being visited by professionals and others globally. It is being used as a reference resource in the area of innovative building materials and construction technologies. The website of the Council acts as a repository on alternate and emerging building materials and construction technologies in line with its mandate to create enabling environment of affordable housing for all. The Council's website has also been developed in Hindi as per the directions of the Rajbhasha Nideshalaya. BMTPC has developed a dedicated standalone website <https://vai.bmtpc.org> for easy access to Vulnerability Atlas of India prepared by BMTPC. In addition, BMTPC is implementing two websites for its e-courses i.e. (i) NAVARITIH : e-Certificate Course on Innovative Construction Technologies (<https://ict.bmtpc.org>) and (ii) e-Course on Vulnerability Atlas of India (<https://ecourse.bmtpc.org>).

There has always been good response to BMTPC's website in the form of general enquiry about product and services. The website of the Council is regularly updated with latest technical information besides hire and

purchase requirements, tender notices, training programmes, Right to Information Act and others as required from time to time.

The Council is also using social media platform (Twitter : @bmtpcdelhi; Facebook: @bmtpc.mhua; YouTube: BMTPC) to disseminate the information about the innovative building materials and disaster resistant technologies including other activities.

The YouTube Channel "BMTPC" is gaining popularity amongst the viewers mainly engineers, architects and other stakeholders day by day. The YouTube Channel attracted 26,41,042 impressions of around 178 videos available on this youtube channel. Some of the videos which are being viewed by most of the visitors are (1) Light Gauge Steel Structure System (94,313 nos.), (2) EPS Based Panel System (75,213 nos.), (3) Monolithic Concrete Construction (11,880 nos.), (4) Stay in Place Formwork System (6,601 nos.), (5) Prefabricated Concrete Construction (5,366) etc. The BMTPC youtube channel has got 3274 subscribers till now.

MoHUA initiated an Online Enrolment Drive for all stakeholders to register themselves to learn the use of latest innovative technologies, innovate and adapt as per their local needs and contexts as Technograhis of new construction technologies to be adopted as 'Make in India'. Technograhis are the Change Agents of innovative and sustainable technologies bringing technology transition in the construction sector for its adoption & replication in the country. They act as Catalysts to Transform the Urban Landscape for New Urban India to fulfil the vision of AatmaNirbhar Bharat. BMTPC developed an e-knowledge pack for Technograhis under GHTC-India. More than 42000 technograhis have been enrolled who were exposed to emerging housing technologies through e-learning, site visits, interaction with domain experts and webinars.

## VI TECHNOLOGY IDENTIFICATION, TRANSFER AND PROMOTIONAL ACTIVITIES

### 1. Identification and Evaluation of Emerging Housing Technologies

The Council has been evaluating alternative construction systems adopted world over to identify, adapt and promote such suitable technologies suiting to Indian geo-climatic conditions on regular basis. In the process, following technologies have been assessed and certified through PACS, which are future products & technologies to be used for built-environment in the country:

#### **PRECAST CONCRETE CONSTRUCTION SYSTEM – 3D PRECAST VOLUMETRIC**

1. Volumetric (3D) Concrete Printing Technology (VCPT)
2. Concrete 3D Printing Technology (C3DP)

#### **PRECAST CONCRETE CONSTRUCTION SYSTEM – PRECAST COMPONENTS ASSEMBLED AT SITE**

3. SRPL Building System (Waffle-Crete)
4. Walltec Hollowcore Concrete Panel
5. Precast Large Concrete Panel System
6. Industrialized 3-S system using RCC precast with or without shear walls, columns, beams, Cellular Light Weight Concrete Slabs/Semi-Precast Solid Slab
7. Robomatic Hollowcore Concrete Wall Panels
8. K-Wall Panels
9. Urbanaac Precast Construction Technology
10. Integrated Hybrid Solution - One
11. Kon\_Crete Reinforced Autoclaved Aerated Concrete Panels

#### **LIGHT GAUGE STEEL STRUCTURAL SYSTEM & PRE-ENGINEERED STEEL STRUCTURAL SYSTEM**

12. Factory Made Fast Track Modular Building System
13. Speed Floor System

14. Light Gauge Steel Framed Structure (LGSF)
15. Light Gauge Steel Framed Structure with Infill Concrete Panel Technology
16. Continuous Sandwich (PUF) Panels With Steel Structure
17. PUF Sandwich Panel with Pre Engineered Building Structure
18. Ferron Panel as part of Ferrobuilt Design System

#### **PREFABRICATED SANDWICH PANEL SYSTEM**

19. Advanced Building System – Emmedue
20. QuickBuild 3D Panels
21. Reinforced EPS Core Panel System
22. Rapid Panels
23. Prefabricated Fibre Reinforced Sandwich Panels
24. Concrewall Panel System
25. Rising EPS (Beads) Cement Panels
26. PIR Dry Wall Pre-Fab Panel System
27. Baupanel system
28. Flyash EPS (Beads) Cement Sandwich Panels
29. V-Infill Wall (Light Weight EPS Wall)
30. Nano Living System Technology
31. Factory Assembled Insulated Sandwich Panels using Mineral Wool
32. Factory Assembled Insulated Sandwich Panels using
33. Everest Rapicon Panel/Solid Wall Panel
34. Concrewall - Reinforced EPS Structural Panels (RESP System)
35. Insulated Sandwich Panel (Rigid Polyurethane/Polyisocyanurate Core)

#### **MONOLITHIC CONCRETE CONSTRUCTION**

36. Monolithic Concrete Construction System
37. Modular Tunnel Form

### **STAY IN PLACE FORMWORK SYSTEM**

38. Glass Fibre Reinforced Gypsum Panel System
39. Sismo Building Technology
40. Insulating Concrete Forms
41. Lost-in-place formwork system- Plasmolite Wall Panels
42. Lost-in-place formwork system- Plaswall Panel system
43. Structural Stay-in-place formwork system
44. Monolithic Insulated Concrete System
45. Stay-In-Place PVC Wall Forms
46. Permanent Wall Form (PVC)

## **2. NAVARITIH : Certificate Course on Innovative Construction Technologies**

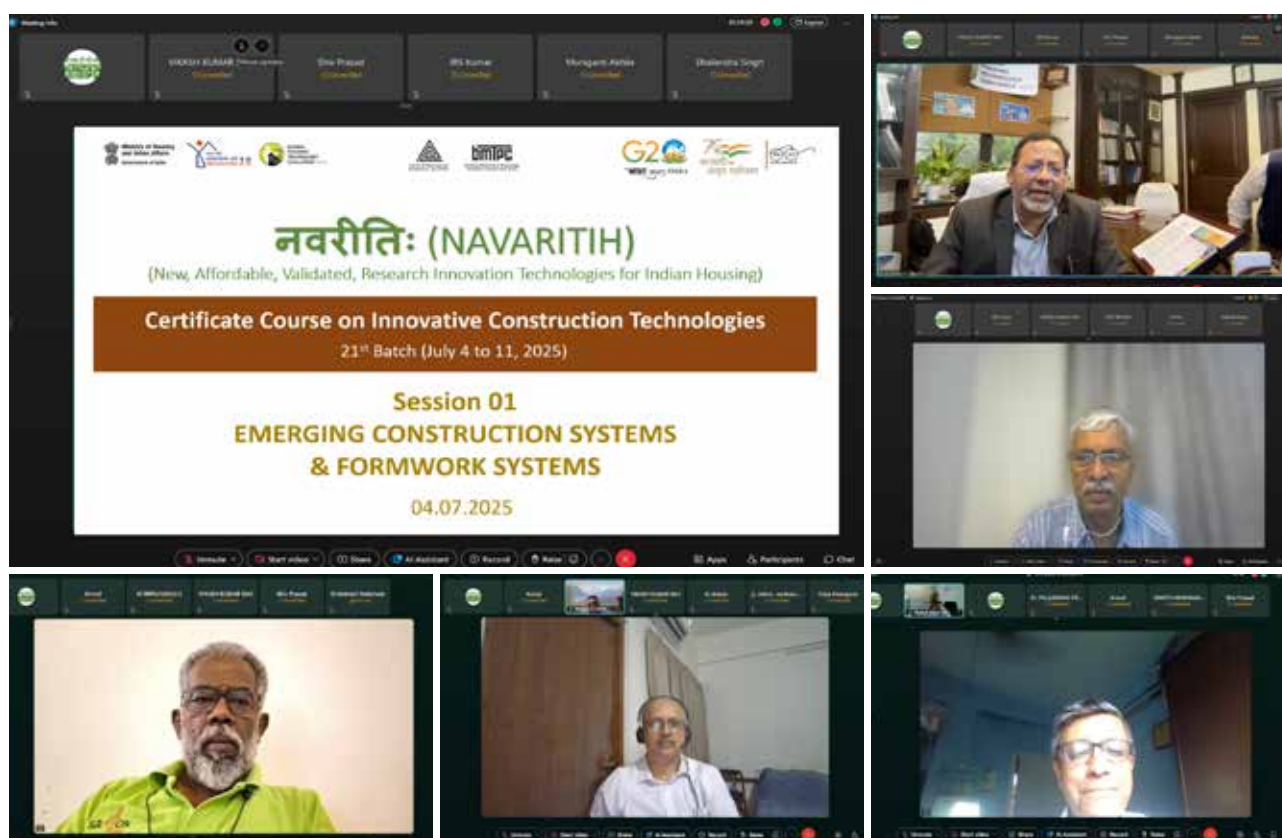
In order to build capacities amongst building professionals about the new and emerging building materials and technologies for housing and building construction, the Ministry of Housing and Urban Affairs in collaboration with BMTPC and School of Planning & Architecture (SPA), New Delhi is implementing a e-Certificate Course on emerging housing technologies namely NAVARITIH (New, Affordable, Validated, Research Innovation Technologies for Indian Housing). This Course was started as part of “Construction Technology Year 2019-20” by BMTPC in collaboration with School of Planning & Architecture, New Delhi.

The NAVARITIH Certificate Course was launched by Hon’ble Prime Minister on January 1, 2021 during the foundation stone laying ceremony of six Light House Projects through video conferencing by releasing the resource material in form of a Book for NAVARITIH. The objective of the Certificate Course is to (a) Familiarise the professionals with the latest materials and technologies being used worldwide for housing, (b) Provide an awareness of the state of art of materials and technologies in terms of properties, specifications, performance, design and construction methodologies so that professionals can successfully employ these in

their day to day practice and (c) Provide exposure to executed projects where such materials and technologies have been implemented. The first batch of NAVARITIH was inaugurated by Secretary (HUA) on 11.02.2021. Till March 2025, 20 batches of NAVARITIH Course have been conducted.

During the 8-day e-course, the content covered are:

1. Introduction to Emerging Construction Systems
2. Formwork Systems – Introduction, Concepts and its features, design philosophy
3. Formwork Systems – Construction methodology, implementation and case studies
4. Stay-In-Place Formwork Systems– Construction methodology, implementation and case studies
5. 3D Concrete Printing Technology for Mass Housing – Introduction, Concepts and its features
6. GFRG Panel Systems – Introduction, Concepts, construction methodology, implementation and case studies
7. Steel Structural Systems– Introduction, Concepts, Construction methodology, implementation and case studies
8. Steel Structural Systems – Analysis & Design and case studies
9. Precast Sandwich Panel Systems – Introduction, Concepts, construction methodology, implementation and case studies
10. Light Gauge Steel Frame Systems– Introduction, Concepts and its features
11. Light Gauge Steel Frame Systems– Construction methodology, implementation and case studies
12. Precast Concrete Buildings – Concepts, Construction methodology, implementation and case studies
13. Precast Concrete Construction - Design, Engineering & Erection, Production



*21<sup>st</sup> Batch of NAVARITI: e-Certificate Course on Innovative Construction Technologies organised from January 17 to 24, 2025*

- methodology and joints & detailing
14. Post Installed Anchorage in Concrete Construction – Insight on Steel-to-Concrete & Concrete-to-Concrete Connections
  15. Thermally comfortable Affordable Housing : Basic concepts, passive design strategies and innovative building materials
  16. Time Cost Overrun in Construction Projects & Mitigation Measures
  17. 3D Precast Volumetric System – Construction methodology, implementation and case studies
  18. 3D Precast Volumetric System – Construction methodology, implementation and case studies
  19. 3D Precast Volumetric System - Introduction, Concepts and its features, design philosophy

The Course has received very good response so far. The following batches were conducted

during the year:

S. No.	Batch	Dates
1	18 <sup>th</sup> Batch	May 3 to 10, 2024
2	19 <sup>th</sup> Batch	September 6 to 13, 2024
3	20 <sup>th</sup> Batch	January 17 to 24, 2025

In 20 batches, 1224 participants, mainly civil engineers & architects, faculty & students from various engineering and architectural colleges, participated. It is first of its kind course and the curriculum covers alternate & innovative materials and construction technologies. The resource faculty for the Course are from SPA, BMTPC, IITs, CBRI & Industry.

At the end of the course, there is an online examination based on Multiple Choice Questions (MCQ). On successful completion of the course, an online certificate is awarded to the applicant by SPA, New Delhi and BMTPC.



### 3. Course on Materials & Technology for Post Graduate Students of “Master of Planning (Housing)” of School of Planning & Architecture, New Delhi

The Council was invited by the School of Planning & Architecture, New Delhi to take up the Course on Materials & Technology for Post Graduate students of “Master of Planning (Housing)” during their second semester.

The curriculum of Materials and Technology course for second semester of Post Graduate Students includes Building materials traditional and conventional, low cost materials, significance of technology for housing development, conventional technologies and modern technologies, appropriate technology, technology for housing in the context of housing development in India and the third world, concept of system building, various open and closed systems, choice of various systems of building, concept of intelligent building; Organization of the construction industry in India-Significance of Housing construction industry, its characteristics and role of various actors involved; Small scale enterprises in the housing construction industry-building material manufacturers, sellers and small contractors; Significance of resources and manpower in housing construction, need for imparting in housing building, concept of Nrimithi Kendras; Cost reducing techniques, environmental friendly technologies, role of technology in housing projects formulation-cost time and other implications, Emerging technological perspectives for house construction, infrastructure and housing area planning, ‘green’ housing; Role of BMTPC and other organizations in promotion of new and alternative technologies.

Therefore, as requested by SPA, New Delhi, the Executive Director, BMTPC took up the Course on Materials & Technology for Post Graduate Students of Master of Planning (Housing) during their second semester (Jan-May, 2024 and Jan-

May, 2025). The following lectures were imparted:

Lecture 1 to 3	Sustainable Building materials and construction technologies
Lecture 4	Building materials and products from agriculture, mineral and industrial wastes
Lecture 5	C&D Waste Management
Lecture 6	Energy in Buildings
Lecture 7	Green Buildings - GRIHA for Affordable Housing
Lecture 8-11	Disaster resistant design and construction practices
Lecture 12-13	Emerging Construction Systems for Mass Housing
Lecture 14	Intelligent Buildings

### 4. Sensitization Programme on New Construction Technologies for Mass Housing

BMTPC in collaboration with the Indian Institute of Architects, Northern Chapter, organised Sensitization Programme on New Construction Technologies for Mass Housing, on Wednesday, the November 27, 2024 in New Delhi. The Sensitisation Programme was inaugurated by Shri Srinivas R Katikithala, Secretary, Ministry of Housing and Urban Affairs, Government of India. The event was organized to increase awareness amongst practicing architects with the latest advancements in construction technologies, crucial for addressing the future of India’s Urbanization demands. The event commenced with an address by Dr. Shailesh Kr. Agrawal, Executive Director, BMTPC. He discussed the various initiatives taken up by the Central Government in the Housing sector and especially mentioned about the Light House Projects.

The Chief Guest, Shri Srinivas R Katikithala, Secretary, Ministry of Housing and Urban Affairs, Gol shared deep insights from his professional journey and discussed at length the urgent need for addressing the shortfalls in Urban Housing across the Country. He appealed to the Architects to think about our existing Cities



*Shri Srinivas R Katikithala, Secretary, Ministry of Housing & Urban Affairs, Government of India, inaugurating the Sensitization Programme on New Construction Technologies for Mass Housing November 27, 2024 at New Delhi*

with a fresh mind for addressing the issues of rising land costs leading to unaffordable costs of owning housing in our Cities.

Presentations on various innovative and emerging technologies and their case studies were made by Industry representatives from HomMission India Pvt. Ltd, B G Shirke Construction Technologies Pvt. Ltd., Magicrete Building Solutions Pvt. Ltd., Outinord Formwork Pvt. Ltd. Mitsumi Housing Pvt. Ltd. Skeleton Consultants and Larsen & Toubro Limited.

## **5. National Conference-cum-Expo on Innovative Building Materials & Construction Technologies**

In order to take stock of the recent developments, BMTPC as part of its endeavor to identify and promote alternate, innovative, environment friendly and disaster resistant building materials and construction technologies, the Council organized the National Conference-cum-Expo on Innovative Building Materials & Construction Technologies on March 19-20, 2025 at New Delhi



*Shri Kuldip Narayan, Joint Secretary & Mission Director (HFA), Ministry of Housing and Urban Affairs, Government of India inaugurating the National Conference-cum-Expo on March 19, 2025 at New Delhi*





*National Conference-cum-Expo on Innovative Building Materials & Construction Technologies  
on March 19-20, 2025 at New Delhi*



so as to bring all stakeholders at one platform to share their knowledge and experience.

The 2-days National Conference-cum-Expo was inaugurated by Shri Kuldip Narayan, Joint Secretary & Mission Director (HFA), Ministry of Housing and Urban Affairs, Government of India in the presence of Shri Sanjay Kulshrestha, Chairman & Managing Director, Housing & Urban Development Corporation (HUDCO); Dr. V.K.Paul, Director, School of Planning and Architecture New Delhi; Prof. (Dr.) Anil Kashyap, Chancellor, NICMAR University & Director General, NICMAR; Shri Sanjay Seth, Senior Director, TERI and Vice President & CEO, GRIHA Council; Maj. Gen.(Dr.) Ashok Kumar VSM (Retd.) and Dr. Shailesh Kr.Agrawal, Executive Director, BMTPC.

The National conference proceedings were divided into thematic areas as Emerging Building materials & construction system, Industrialized building systems including futuristic technologies, Green Building materials & sustainable development, Energy & Thermal Efficiency in Building construction & operations, Use of Industrial/Agricultural/Plastic waste in buildings

and C&D Waste Processing technology, followed by the presentations by Exhibitors on its products/systems.

The speakers included eminent faculties, scientists, research associates and experts from Academic/R&D Institutions, IITs, Industry, organizations working in the area of Energy Efficiency & Green Buildings and Technology Providers showcasing its products/system. More than 350 delegates participated in the Conference-cum-Expo, which included representatives from Urban Local Bodies/ State Govts, faculty & students of technical/ architectural institutions, Executives from various PSUs, Practicing Architects/Engineers from Private agencies etc. An Exhibitor's Catalogue was also released during the event.

## 6. Workshop on 3D Printing Technology for Housing & Building Construction

BMTPC organizes capacity building and training programmes, workshops, exhibition on regular basis in the areas of Emerging Technologies, Good construction practices, Sustainable & Green Construction practices, Earthquake Resistant Design & Construction etc.



*Workshop on “3D Printing Technology for Housing & Building Construction”  
on December 12, 2024 at SVSU campus, Palwal*

In order to sensitize the students and faculty of Sri Visveswarya Skill University (SVSU), BMTPC in association with SVSU organized a one day Workshop on “3D Printing Technology for Housing & Building Construction” on December 12, 2024 at SVSU campus, Palwal, Haryana. The workshop was attended by around 100 students and faculty members. The objective of the programme was to sensitize students and faculty/professionals about the 3D Printing Technology for Housing & Building Construction being used in India. Participants got an opportunity to learn how 3D printing technology works with the robotic technique for fast, precise and complex construction. Specialized presentations were made by the industry experts on 3D Printing Technology from M/s Tvasta Manufacturing Solutions Private Limited, Chennai, M/s Micob Private Limited, Gandhi Nagar, M/s Simpliforge Creations 3D Creation Private Limited, Hyderabad, M/s Cretebots Digital Constructions Private Limited, Pune and L&T.

## **7. Stakeholder Consultation on Establishing Embodied Carbon Database for Indian Construction Materials**

BMTPC organised a Stakeholder Consultation on Establishing Embodied Carbon Database for Indian Construction Materials at New Delhi on July 18, 2024 in association with Centre for Advanced Research in Building Science and Energy (CARBSE), CEPT University Ahmedabad, and with the support of Shakti Sustainable Energy Foundation.

This workshop aimed to elaborate on the means and methods for establishing an Embodied Carbon database for Indian construction materials. The discussions covered (a) the creation of a standardized data collection template, formalizing the data requirements, such as the minimum life cycle stages covered, functional units, etc., (b) the development of a data analysis framework, ensuring the highest



*Stakeholder Consultation on Establishing Embodied Carbon Database for Indian Construction Materials at New Delhi on July 18, 2024*

quality of data, and (c) embodied carbon data collection for the most commonly used materials. Around 40 experts from various organisations working in the field participated and deliberated on the subject.

## 8. Training Programme on New Construction Materials and Technologies

The Council received request from Coal India Ltd. for sensitising their engineers and architects on new construction materials and technologies. Based on the request received from Coal India Ltd., a two days Training Programme on “New Construction Materials and Technology” was organized by BMTPC during February 6-7, 2025 at Indian Institute of Coal Management, Ranchi, for the executives belonging to the civil engineering discipline of Coal India Limited and its subsidiary companies.

During the programme, advancements in the field of environment-friendly, energy-efficient & innovative building materials and construction technologies were covered. Along with the key presentation from BMTPC, the Technology providers of 3D Volumetric concrete construction and 3D Concrete Printing made presentations. A visit of Light House Project at Ranchi was also organised for Coal India executives, and technical & sustainability details of the LHP were explained.



*Training Programme on “New Construction Materials and Technology” on February 6-7, 2025 at Indian Institute of Coal Management, Ranchi*

## 9. Asia Low Carbon Buildings Transition (ALCBT) Project

Asia Low Carbon Buildings Transition (ALCBT) Project is a five-year, multi-stakeholder project that aims to facilitate the nationwide transition towards Low Carbon Buildings in five Asian countries namely, Cambodia, India, Indonesia Thailand and Vietnam. The project is jointly being implemented by Global Green Growth Institute (GGGI) with Energy Efficiency Services Ltd. (EESL), HEAT International and ASEAN Centre for Energy (ACE).

The project addresses regulatory capacity and financing gaps that prevent the large-scale adoption of low-carbon buildings (LCB). ALCBT aims to build the technical and institutional capacity for city and state governments to contribute to the National GHG emission reduction targets in the building and space cooling sectors. The implementation framework of the ALCBT project suggests the establishment of the Technical Advisory Committee (TAC) at each country level. The TAC is a high-level advisory body for this programme, to be constituted by the consortium project lead i.e. GGGI and comprising members representing relevant research bodies, academia, individual experts, etc., whose knowledge and expertise will act as key guiding factors for ensuring successful implementation of the project. The very objective of the TAC is to provide strategic guidance and advisory feedback on the technical aspects of the project implementation in India. The Executive Director, BMTPC has been chosen to Chair the Technical Advisory Committee (TAC) in India.

During the period, one Orientation Session for Master Trainers and a Training Programme on Low Carbon Buildings Transition was organised by GGGI, CII and IGBC at New Delhi on January 21, 2025 and January 27-28, 2025 respectively. A Training Module on Energy Scenario and Climate Actions in Asia has also been prepared under the project.



## 10. MoUs for dissemination and promotion of energy-efficient and sustainable materials & technologies

BMTPC has entered into MoUs with the following agencies for dissemination and promotion of energy-efficient and sustainable materials & technologies:

### **RMI Energy Solutions India Foundation, New Delhi**

A MoU has been signed between Building Materials & Technology Promotion Council (BMTPC) and RMI Energy Solutions India Foundation, New Delhi on December 7, 2024. The MOU envisages to establish a framework for long-term cooperation between BMTPC and RMI India Foundation to support low embodied carbon building material and construction technology initiatives at the national and sub-national levels in India.

### **Indian Institute of Sustainable Development (IISD), New Delhi**

A MoU has been signed between BMTPC and Indian Institute of Sustainable Development (IISD), New Delhi on March 6, 2025. The MOU envisages to promote technical cooperation and partnership in sustainable construction, circular economy, and environmental sustainability. Both the parties will collaborate on key areas such as (i) Technology & Research Cooperation, (ii) Academic Collaboration, (iii) Policy & Regulatory Innovation and (d) Training & Capacity building.

### **Development Alternatives (DA), New Delhi**

A MoU has been signed between BMTPC and Development Alternatives (DA), New Delhi on March 12, 2025. The MOU envisages to work towards resilient cities and a sustainable built environment through promotion of new building systems/technologies, especially low-carbon, resource-efficient and circular solutions towards enhanced sustainable development.



*Signing and Exchange of MoU with Development Alternatives, New Delhi*

The MoUs in pipelines are:

- i) National Institute of Technology Calicut (NITC)
- ii) The Habitat Emprise, New Delhi
- iii) MNIT Jaipur
- iv) University School of Architecture & Planning, GGSIP University, New Delhi

## 11. World Habitat Day 2024 Celebrations

BMTPC participated in the World Habitat Day 2024 celebrations organized by the Ministry of Housing and Urban Affairs at Vigyan Bhawan, New Delhi on 9<sup>th</sup> October, 2024. The Council organized a Painting Competition for Differently Abled Children on the theme “Engaging youth to create a better urban future”. The exhibition of the winning entries was also organised on the occasion. The winners of the Painting Competition were felicitated by Shri Tokhan Sahu, Hon’ble Minister of State for Housing and Urban Affairs, Govt. of India in the august presence of Shri Srinivas R Katikithala, Secretary, Ministry of Housing and Urban Affairs, Govt. of India and other dignitaries during the event.

On this occasion, the Council also brought out Special Issue of Newsletter “Nirman Sarika” on the theme of the World Habitat Day. The publication was released by Shri Tokhan Sahu, Hon’ble Minister of State for Housing and Urban Affairs, Govt. of India in the presence of and Secretary, MoHUA on 9<sup>th</sup> October, 2024 at New Delhi.



*Shri Tokhan Sahu, Hon'ble Minister of State for Housing and Urban Affairs, Govt. of India at the exhibition of the winning entries and felicitating the winners of Painting Competition organised for Differently Abled Children on the theme of World Habitat Day on October 9, 2024*



## VII. ORGANISATION

The organogram of BMTPC is shown at next page. As on 31<sup>st</sup> March, 2025, BMTPC had a staff strength 30 comprising 12 officers and 18 supporting staff. Also suitable technical/ professional/ supporting manpower is hired on contract basis on project to project and need basis.

The Council has continued following administrative and financial measures for bringing transparency, accountability and discipline within the system:

- Implementation of extant MOA, Byelaws and other rules & regulations of Council.
- Internal Committee for smooth and harmonious functioning of the Council:
  - Construction Committee
  - GeM Committee
  - Local Purchase Committee
  - Transport Committee
  - Contractual Employment Committee
- To redress citizen grievances, online handling of the public grievances through centralized public grievances redress and monitoring system has been initiated.
- Nominated an officer as the Director of grievances and an officer as Welfare Officer for smooth functioning of the organization and to find out the solution of the grievances of the staff members.
- SCs, STs & OBCs Cell for their welfare and development.
- Implementation of RTI Act, 2005
- Committee for Prevention of Sexual Harassment of women at workplace.
- Implementation of Probity Portal to monitor rotation of officers on sensitive and non-sensitive posts and review and screening of officials.

### Vigilance Activities

The charge of CVO-BMTPC has been given to CVO-HUDCO. A Nodal Officer from the Council co-ordinates with the CVO for

vigilance related activities to promote integrity, transparency and preventive corruption in the organisation. Vigilance activities includes with preventive measures, such as improving procedures to curb corruption and punitive actions such as investigating complaints and processing disciplinary action as per CVC guidelines. Vigilance Awareness Week 2024 was observed by the Council from October 28 to November 3, 2024, with the theme “Culture of Integrity for Nation’s Prosperity”.

This observance seeks to foster greater sensitivity toward ethics and transparency in governance. With a strong focus on preventive vigilance over recent years, the CVC promotes integrity and strives to eradicate corruption with active citizen participation.

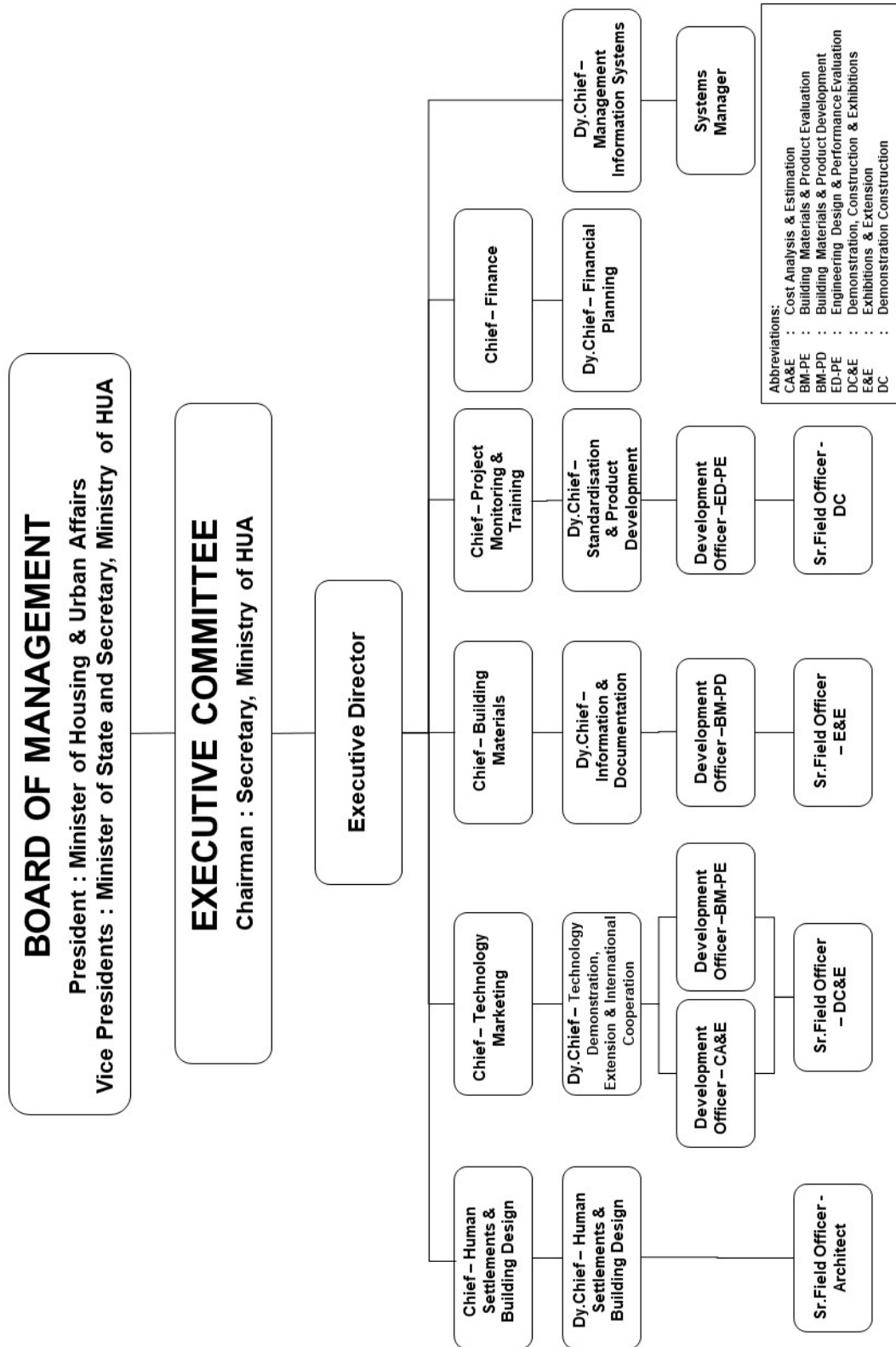
Various activities undertaken by BMTPC during Vigilance Awareness Campaign:

- i. Integrity Pledge was administered by ED, BMTPC. Officials were also took e-pledge through the Commission’s website.
- ii. Display of Banner at various locations in the BMTPC Premises.
- iii. Attended the Webinar on Cyber Hygiene organized by HUDCO on 10<sup>th</sup> September, 2024 at HUDCO Office.
- iv. Attended the programme on Vigilance organized by HUDCO on 29<sup>th</sup> October 2024 at Stein Auditorium, IHC, New Delhi.
- v. Lecture conducted on “EPC Contracts”- Vigilance Perspective by Dr. K.M Soni, Addl. Director General (Retd.), CPWD, New Delhi in BMTPC.

As part of the identification and implementation of System Improvement measures, a visit to Demonstration Housing Project being implemented by BMTPC in Ayodhya, U.P. was conducted by CVO, BMTPC on 30<sup>th</sup> September, 2024 along with official of BMTPC. A report has been prepared wherein suggestions for improvements in tendering/contract execution etc. have been made and advised to be implemented in future projects.

# BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL

## ORGANISATION CHART



## VIII. STAFF STRENGTH (as on 31.3.2025)

S. No.	Name & Designation	Date of Joining
1.	Dr. Shailesh Kr. Agrawal Executive Director	17.01.2008
2.	M. Ramesh Kumar Chief- Human Settlements & Building Design	01.04.1993
3.	Arvind Kumar Deputy Chief- Management Information Systems	15.04.1999
4.	Chandi Nath Jha Deputy Chief- Standardization & Product Development	09.09.1999
5.	Pankaj Gupta Deputy Chief-Information & Documentation	14.10.1999
6.	Dalip Kumar Senior Field Officer- Demonstration Construction & Exhibition	04.03.1991
7.	Akash Mathur Senior Field Officer- Architect	01.01.2002
8.	Anita Kumar Sr. Programmer	03.10.1996
9.	M.Ramakrishna Reddy Liaison Officer	29.10.2003
10.	Pankaj Gupta Finance Officer	01.03.1994
11.	Praveen Suri Systems Analyst	01.09.1994
12.	S.S.Rana Library Officer	01.04.1998
<b>Supporting Staff</b>		
13.	Ashwani Kumar Asstt. Field Officer	01.01.2002
14.	Suman Asstt.(Technical)	01.01.2002
15.	Yogita Shah Asstt. (Administration)	01.01.2002
16.	Mukesh Kumar Jr. Technical Asstt.	01.11.2002
17.	Rajeev Pant Jr.Acc.Asstt.	01.11.2002

S. No.	Name & Designation	Date of Joining
18.	Savitri Baliarsingh Jr.Admn Asstt.cum Hindi Typist	05.10.1998
19.	M.A.Rajanikant Jr.Office-cum-Accounts Asstt.	30.01.2004
20.	Suresh Kumar Jr. Stenographer	01.11.2002
21.	Mohan Kumar Draftsman	30.01.2004
22.	Jagiri Lal LDC (Hindi Typist)	03.08.1993
23.	D.Chenna Kesavulu LDC	05.10.1998
24.	Venkatiah LDC (Xerox)	01.01.2001
25.	J.Vinod Kumar LDC (Diary) (On deputation)	01.10.2002
26.	Vinod Kumar LDC	01.01.2004
27.	Lal Bahadur Peon cum Messenger	03.08.1993
28.	Bijender Kumar Peon	01.05.1995
29.	Ashok Kumar Peon cum Messenger	01.11.1995
30.	Dhir Singh Peon	01.01.2001
<b>Superannuation</b>		
1.	S.K.Gupta Deputy Chief- Technology, Demonstration, Extension & International Cooperation (Date of Superannuation : 31.12.2024)	26.10.1993
2.	D.Prabhakar Field Officer (Date of Superannuation : 31.12.2024)	29.01.2004
3.	Chander Pal Singh Library Asstt. (Date of Superannuation : 31.01.2025)	03.08.1993

## IX. ACCOUNTS

- The Council received grants of Rs 7.50 Crore towards salaries from the Ministry of Housing & Urban Affairs, Government of India during the FY 2024-25. The receipts from other sources e.g. Fees, Training, NUHF, LHP, DRMC, TPQA, Publications, interest etc. were Rs. 158.95 Crore.
- In addition, an amount of Rs.1770.44 crores (approx.) was credited by MoHUA towards interest payment on EBR loan. An amount of Rs. 1770.44 crores (approx.) has been disbursed as per sanction orders of MoHUA as interest payment to HUDCO.
- The total expenditure incurred was Rs.1850,69,56,522.00 (~Rs. 1850.69 crores) during the year, as per Receipt & Payment Account Statement summary of expenditure is given below:

Major Heads	Amount (in Rs.)
• Construction of Demonstration Housing Projects in different parts of India & Expenditure on technical activities including identification/ evaluation/ assessment development/ application of emerging material & construction technologies	9,20,09,969
• Organization and participation in various seminars, Conference workshops, Housing for All (Handholding, Documentation, Sensitisation and Capacity Building), Mainstreaming Emerging Technologies through Dissemination, Knowledge Transfer with State Govt.	36,10,538
• Expenses towards activities related to DRMC, LHP, ARHCs, TPQA, etc.	60,87,07,178
• Expenditure on Salary, Establishment & Administration expenses including office equipment's, computer peripherals, etc.	9,35,48,620
• Interest payment on EBR loan and refund of security deposits/Loan & advances	1770,90,80,217
<b>Total</b>	<b>1850,69,56,522</b>

The Account have been audited by M/s KOMANDOOR & CO. LLP Chartered Accountants, New Delhi. The balance sheet and the statement of accounts of the year 2024-25 is placed in pages to follow.

# KOMANDOOR & CO. LLP

## Chartered Accountants



### INDEPENDENT AUDITOR'S REPORT

To

The Members  
Building Materials & Technology Promotion Council  
New Delhi

#### Report on the Audit of Financial Statements.

#### Opinion

We have audited the financial statements of Building Materials & Technology Promotion Council (BMTPC), a Society registered under the Societies Registration Act, 1860, which comprise the Balance Sheet at March 31 2025, the Statement of Income & Expenditure Account and Receipts & Payment Account for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion and to the best of our information and according to explanation given to us the financial statements give the information required in the manner so required and give true and fair view in accordance with the Accounting Standards issued by the Institute of Chartered Accountants of India (ICAI)

- (a) In case of Balance Sheet of the state of affairs of the Society as at March 31, 2025.
- (b) In case Statement of Income and Expenditure Account, of the Deficit for the year ended on that date;  
and
- (c) In case of Receipts and Payment Account of Receipts and Payments for the year ended on that date

#### Basis for Opinion

We conducted our audit in accordance with the Standards on Auditing (SAs) issued by ICAI. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the entity in accordance with the ethical requirements that are relevant to our audit of the financial statements, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with the aforesaid Accounting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis



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E-Mail : mangalsinghkomandoor@gmail.com

Head office : Flat No. 1-504, Divya Shakti Complex, 7-1-58, Dharma Karan Road, Ameerpet, Hyderabad - 500016

BRANCHES: New Delhi, Mumbai, Kolkata, Chennai, Agra, Ahmedabad, Bangalore, Bhubaneshwar, Bhopal, Chandigarh, Coimbatore, Shazabad, Guwahati, Gurugram, Kohima (Nagaland), Lucknow, Patna, Pune, Ranchi, Raipur, Tirupati, Vijayawada and Visakhapatnam



# KOMANDOOR & CO. LLP

## Chartered Accountants



of accounting unless management either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so

Those charged with governance are responsible for overseeing the entity's financial reporting process

### Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements

As part of an audit in accordance with SAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control.

Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the entity to cease to continue as a going concern.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.



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## KOMANDOOR & CO. LLP

### Chartered Accountants



#### Report on Other Regulatory Requirements

Further, we report that

- We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit.
- in our opinion, proper books of account have been kept by the Society so far as appears from our examination of those books
- The Society's Balance Sheet, Statement of Income and Expenditure and Receipts and Payments Account dealt with by this report are in agreement with the books of accounts

FOR KOMANDOOR & CO LLP  
CHARTERED ACCOUNTANTS  
F.R. No.: 001420S/S200034



CA Mangal Singh  
(Partner)

M.No.547176

Udin:- 25547176BH1DPO9088

Dated:- 15-10-2025

Places:- New Delhi

Address: MB-1, Ground Floor, Galli No.-8 Master Block, Opp.Madhuvan Park, Near Nirman Vihar Metro Station, Delhi - 110092

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**Building Materials & Technology Promotion Council**  
Ministry of Housing & Urban Affairs, Government of India

**BALANCE SHEET AS ON 31 MARCH 2025**

			Amount ( ₹ )
LIABILITIES	Schedule	2024-25	2023-24
<b><u>CORPUS/CAPITAL FUND AND LIABILITIES</u></b>			
CORPUS/CAPITAL FUND	1	10,00,000	10,00,000
RESERVES AND SURPLUS	2	18,10,76,139	20,86,37,800
<b><u>NON - CURRENT LIABILITIES</u></b>			
LONG TERM LIABILITY	3	2,00,00,00,00,000	2,00,00,00,00,000
EARMARKED FUNDS	4	1,72,67,16,177	91,48,58,275
PROVISION FOR GRATUITY AND LEAVE ENCASHMENT	5	2,21,67,148	-
CURRENT LIABILITIES	6	3,16,18,52,342	3,21,40,87,576
<b>TOTAL</b>		<b>2,05,09,28,11,806</b>	<b>2,04,33,85,83,651</b>
<b><u>ASSETS</u></b>			
<b><u>NON - CURRENT ASSETS</u></b>			
PROPERTY, PLANT & EQUIPMENT	7	1,62,54,262	1,81,59,457
RECOVERABLE FROM MoHUA	8	2,00,00,00,00,000	2,00,00,00,00,000
<b><u>CURRENT ASSETS</u></b>			
CASH AND BANK BALANCES	9	2,52,82,97,931	1,66,63,68,284
LOANS AND ADVANCES	10	2,51,77,13,552	2,60,81,73,883
OTHER CURRENT ASSETS	11	3,05,46,061	4,58,82,027
<b>TOTAL</b>		<b>2,05,09,28,11,806</b>	<b>2,04,33,85,83,651</b>
SIGNIFICANT ACCOUNTING POLICIES AND NOTES TO THE ACCOUNTS	17		

As per our report of even date attached.

For KOMANDOOR & CO LLP  
Chartered Accountants

FRN:001420S/S200034

*[Signature]*

CA Mangal Singh

Partner

M.No. 547176

UDIN: 25547176B-11P091088

Place: New Delhi

Date: 15.10.2025



For Building Materials & Technology  
Promotion Council

*[Signature]*  
Pankaj Gupta  
Finance Officer

*[Signature]*  
Dr. Shailesh Kr. Agrawal  
Executive Director





**Building Materials & Technology Promotion Council**  
Ministry of Housing & Urban Affairs, Government of India

## INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 MARCH 2025

			Amount ( ₹ )
INCOME	Schedule	2024-25	2023-24
Grants -in-Aid	12	7,50,00,000	7,50,00,000
Fees/Subscriptions/Implementation Charges	13	56,85,676	2,50,29,744
Other Income	14	1,51,69,327	1,56,59,250
<b>TOTAL (A)</b>		<b>9,58,55,003</b>	<b>11,56,88,994</b>
<b>EXPENDITURE</b>			
Expenditure on Salary, Establishment & Administration	15	11,61,84,094	8,48,56,049
Expenditure on Dissemination / Seminars/Workshops, Training Programmes, Housing For All etc.	16	48,88,406	26,23,761
Depreciation	7	23,44,164	27,60,137
<b>TOTAL (B)</b>		<b>12,34,16,664</b>	<b>9,02,39,947</b>
Defecit/Surplus for the year(A-B)		(2,75,61,661)	2,54,49,047
<b>BALANCE BEING DEFECIT/SURPLUS CARRIED TO BALANCE SHEET</b>		<b>(2,75,61,661)</b>	<b>2,54,49,047</b>

### SIGNIFICANT ACCOUNTING POLICIES AND NOTES TO THE ACCOUNTS

As per our report of even date attached.

For KOMANDOOR & CO LLP

Chartered Accountants

FRN:001420S/S200034

CA Mangal Singh  
Partner  
M.No. 547176



For Building Materials & Technology  
Promotion Council

Pankaj Gupta  
Finance Officer

Dr. Shailesh K. Agrawal  
Executive Director

Place: New Delhi  
Date: 15.10.2025



**Building Materials & Technology Promotion Council**  
Ministry of Housing & Urban Affairs, Government of India

**RECEIPTS & PAYMENT ACCOUNT  
FOR THE YEAR ENDED 31 MARCH 2025**

	Amount ( ₹ )	
	2024-25	2023-24
<b>RECEIPTS</b>		
1 <b>Opening Balance</b>		
Bank Balances		
With Scheduled Banks:		
- Deposit with Canara Bank	21,34,12,259	22,65,38,883
- Sweep with State Bank of India-LHP A/c	1,35,32,47,097	28,34,45,505
- On Savings/Current Accounts:		
- Canara Bank	28,31,995	11,32,105
- State Bank Of India	85,77,566	1,43,40,711
- State Bank Of India (NUHF)	1,07,761	17,68,64,194
- State Bank of India-LHP Agartala	10,07,483	1,96,30,962
- State Bank of India-LHP Chennai	1,07,007	17,83,14,012
- State Bank of India-LHP Indore	1,69,47,596	11,54,01,170
- State Bank of India-LHP Lucknow	10,05,143	50,87,496
- State Bank of India-LHP Rajkot	9,956	2,32,73,133
- State Bank of India-LHP Ranchi	9,99,810	25,48,32,731
- State Bank of India (ARHC)	1,03,179	64,60,85,799
- State Bank of India (DHP)	6,82,11,432	3,56,79,760
2 Grants-in-aid from Central Government (Ministry of Housing & Urban Affairs)	7,50,00,000	7,50,00,000
3 Receipts towards Fees, Training Programme, seminar receipts and other receipts	22,85,698	23,23,099
4 Receipts towards Other Income/sale of publications, PACS and Interest etc	1,70,40,807	1,56,59,250
5 Security Received	2,07,25,137	6,40,75,873
6 NUHF- Refund from State Government of Gujarat	94,25,09,000	-
7 Interest received from MoHUA on HUDCO loan	17,70,44,26,803	17,72,94,17,197
8 Receipts from Ministry towards Demonstration Housing Projects	-	19,20,42,500
9 Receipts towards Light House, TPQA & DRMC Projects	57,14,55,481	1,25,52,30,890
10 Interest on Sweep & Saving Account Refundable to MoHUA & Canara bank	3,54,63,243	2,24,16,407
<b>TOTAL</b>	<b>21,03,52,54,453</b>	<b>21,33,67,91,677</b>
<b>PAYMENTS</b>		
1 Purchase of Fixed Assets	4,38,969	4,24,601
2 Expenditure on Salary, Establishment & Administration	9,31,09,651	8,43,39,173
3 Expenditure on Training Programmes, Seminars/Workshops, etc.	36,10,538	9,71,59,158
4 Refund of Security	38,25,547	35,83,903
5 Interest paid to HUDCO on EBR loan	17,70,44,26,803	8,83,47,677
6 Loan & Advances (Net)	8,27,867	98,16,595
7 <b>Earmarked funds</b>		17,72,94,17,197
- Light House Projects	35,79,95,708	1,98,58,488
- Affordable Rental Housing Complex (ARHCs) Scheme	24,01,53,371	1,62,45,12,851
- Demonstration Housing Project at Ahmedabad, Gujarat	66,15,884	1,96,31,336
- Demonstration Housing Project at Agartala, Tripura	-	15,20,105
- Demonstration Housing Project at Ayodhya, U.P.	96,49,680	69,807
		4,01,89,063







**Building Materials & Technology Promotion Council**  
Ministry of Housing & Urban Affairs, Government of India

**RECEIPTS & PAYMENT ACCOUNT  
FOR THE YEAR ENDED 31 MARCH 2025**

Amount (₹)

	2024-25	2023-24	
- Demonstration Housing Project at Bhopal, M.P.	1,780	30,04,630	
- Demonstration Housing Project at Guwahati, Assam	1,33,97,515	1,13,92,469	
- Demonstration Housing Project at Bhalwal (J & K)	3,36,02,868	2,97,52,098.00	
- Demonstration Housing Project at Tiruppur, Tamilnadu	55,78,952	2,42,49,405	
- Demonstration Housing Project at Dimapur, Nagaland	2,31,63,290	4,40,48,440	
- Global Housing Technology Challenge	-	7,78,362	
- Data Resource Monitoring Cell	1,05,58,099	2,38,34,870	1,82,29,83,436
<b>8 Closing Bank Balances</b>			
- Deposit with Canara Bank	18,05,15,520	21,34,12,259	
- Sweep with State Bank of India-LHP /NUHF/ARHC A/c	1,38,89,55,445	1,35,32,47,097	
<b>- Savings/Current Accounts:</b>			
- Canara Bank	64,94,199	26,31,995	
- State Bank of India	80,53,381	85,77,566	
- State Bank of India-LHP Agartala	10,08,746	10,07,483	
- State Bank of India-LHP Chennai	89,086	1,07,007	
- State Bank of India-LHP Indore	61,822	1,69,47,596	
- State Bank of India-LHP Lucknow	1,68,449	10,05,143	
- State Bank of India-LHP Rajkot	58,364	9,956	
- State Bank of India-LHP Ranchi	1,04,409	9,99,810	
- State Bank of India (NUHF)	94,26,09,693	1,07,761	
- State Bank of India (ARHC)	73,134	1,03,179	
- State Bank of India (DHP)	1,05,683	6,82,11,432	1,66,63,68,284
<b>TOTAL</b>	<b>21,03,62,54,453</b>	<b>21,33,67,91,677</b>	

**SIGNIFICANT ACCOUNTING POLICIES AND NOTES TO THE ACCOUNTS**

As per our report of even date attached.  
For KOMANDOOR & CO LLP  
Chartered Accountants  
FRN:001420S/S200034

CA Mangal Singh  
Partner  
M.No. 547176

Place: New Delhi  
Date: 15.10.2025



For Building Materials & Technology  
Promotion Council

Pankaj Gupta  
Finance Officer

Dr. Shailesh Kr. Agrawal  
Executive Director



## Building Materials & Technology Promotion Council

Ministry of Housing & Urban Affairs, Government of India

### SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2025

	Amount ( ₹ )	
SCHEDULE 1- CORPUS/CAPITAL FUND	2024-25	2023-24
Balance as at the beginning of the year	10,00,000	10,00,000
<b>TOTAL</b>	<b>10,00,000</b>	<b>10,00,000</b>
SCHEDULE 2- RESERVES AND SURPLUS	2024-25	2023-24
<b>1. Capital Reserve</b>		
Opening Balance	9,50,73,210	9,46,48,609
Addition during the year	4,38,969	9,55,12,179
<b>2. Excess of Income over Expenditure</b>		
Opening Balance	11,35,64,590	8,85,40,144
Add : Defect/Surplus transferred from Income & Expenditure A/c	(2,75,61,661)	2,54,49,047
	8,60,02,929	11,39,89,191
Less: Transferred to Capital Reserve	4,38,969	8,55,63,960
		4,24,601
<b>TOTAL</b>	<b>18,10,76,139</b>	<b>20,86,37,800</b>
SCHEDULE 3- LONG TERM LIABILITY	2024-25	2023-24
<b>National Urban Housing Fund</b>		
Loan from HUDCO for disbursement as Central Assistance to States/UTs under PMAY(U) Mission	2,00,00,00,00,000	2,00,00,00,00,000
<b>TOTAL</b>	<b>2,00,00,00,00,000</b>	<b>2,00,00,00,00,000</b>
SCHEDULE 4- EARMARKED FUNDS	2024-25	2023-24
<b>1 Received towards ARHCS</b>		
Opening Balance	61,86,30,457	64,53,50,457
Received during the year	-	-
Less: Amount Utilized during the year	23,76,00,000	38,10,30,457
		2,67,20,000
<b>2 National Urban Housing Fund</b>		
Opening Balance	21,040	21,040
Received during the year from (State Government of Gujarat)	94,25,09,000	-
Less: Disbursement during the year	-	94,25,30,040
		21,040
<b>3 Received towards TPQA</b>		
Opening Balance	-	56,23,022
Received during the year	52,87,252	1,83,11,808
Less: Amount Utilized during the year	52,87,252	-
		2,39,34,830
<b>4 Demonstration Housing Project at Ayodhya (UP)</b>		
Opening Balance	1,03,43,808	1,64,81,592
Received during the year (From Centre)	-	3,95,48,400
Less: Salary & Administration Expenses Apportioned	(10,44,205)	54,87,131
Less: Amount Utilized during the year	96,83,773	17,04,240
		4,01,99,053
<b>5 Demonstration Housing Project at Dimapur, Nagaland</b>		
Opening Balance	4,29,19,122	3,86,72,074
Received during the year	-	5,53,68,300
Less: Salary & Administration Expenses Apportioned	13,70,902	70,69,345
Less: Amount Utilized during the year	2,32,05,888	1,83,42,332
		4,40,51,907
<b>6 Demonstration Housing Project at Tiruppur, Tamil Nadu</b>		
Opening Balance	80,76,146	3,07,80,119
Received during the year	-	68,75,000
Less: Salary & Administration Expenses Apportioned	3,66,705	53,99,578
Less: Amount Utilized during the year	55,77,171	21,32,270
		2,41,79,395
		80,76,146





# Building Materials & Technology Promotion Council

Ministry of Housing &amp; Urban Affairs, Government of India

## SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2025

Amount ( ₹ )

SCHEDULE 4- EARMARKED FUNDS	2024-25	2023-24	
<b>7 Demonstration Housing Project at Guwahati, Assam</b>			
Opening Balance	5,51,38,870	3,16,95,979	
Received during the year (From Centre)	-	3,62,51,200	
Less: Salary & Administration Expenses Apportioned	12,043	14,83,867	
Less: Amount Utilized during the year	1,35,11,607	1,13,24,442	5,51,38,870
<b>8 Demonstration Housing Project at Ahmedabad, Gujarat</b>			
Opening Balance	(1,19,07,274)	(1,10,13,323)	
Received during the year	-	23,30,000	
Less: Salary & Administration Expenses Apportioned	(1,59,265)	18,21,873	
Less: Amount Utilized during the year	67,29,978	14,02,078	(1,19,07,274)
<b>9 Demonstration Housing Project at Bhopal, Madhya Pradesh</b>			
Opening Balance	8,51,172	24,46,806	
Received during the year	-	58,75,000	
Less: Salary & Administration Expenses Apportioned	-	45,34,032	
Less: Amount Utilized during the year	-	29,36,602	8,51,172
<b>10 Demonstration Housing Project at Chhambel, Goa</b>			
Opening balance	3,33,15,127	2,95,92,893	
Received during the year	-	-	
Add: Salary & Administration Expenses Reversed	-	37,22,234	
Less: Amount Utilized during the year	-	-	3,33,15,127
<b>11 Demonstration Housing Project at Bhalwal, Jammu &amp; Kashmir</b>			
Opening Balance	2,98,20,932	2,46,97,023	
Received during the year (From Centre)	-	3,90,65,800	
Less: Salary & Administration Expenses Apportioned	29,16,798	42,57,820	
Less: Amount Utilized during the year	3,37,16,960	2,96,84,071	2,98,20,932
<b>12 Demonstration Housing Project at Panchkula, Haryana</b>			
Opening Balance	-	(31,67,550)	
Received during the year	-	11,57,000	
Add: Salary & Administration Expenses Reversed	-	20,10,550	-
<b>13 Demonstration Housing Project at Agartala, Tripura</b>			
Opening Balance	-	(73,21,513)	
Received during the year	-	55,71,800	
Add: Salary & Administration Expenses Reversed	-	17,49,713	
Less: Amount Utilized during the year	-	-	-
<b>14 Global Housing Technology Challenge</b>			
Opening Balance	(87,81,968)	(96,94,810)	
Received during the year	-	-	
Less: Salary & Administration Expenses Reversed	-	9,12,842	
Less: Amount Utilized during the year	-	(87,81,968)	(87,81,968)
<b>15 Data Resource Cum Monitoring Centre</b>			
Opening Balance	(2,19,46,637)	(1,12,48,219)	
Received during the year	45,29,000	1,88,20,000	
Less: Transfer from amount recoverable	-	(99,72,477)	
Less: Utilization/Expenditure during the year	1,05,33,184	1,95,45,941	(2,19,46,637)
<b>16 Light House Project-Agartala, Tripura</b>			
Opening Balance	12,06,21,531	30,36,21,114	
Received during the year (From Centre)	37,59,32,829	-	
Received during the year (From State)	-	27,30,00,000	
Less: Amount Utilized during the year	17,34,18,649	32,31,35,711	45,59,99,583
			12,06,21,531





## Building Materials & Technology Promotion Council

Ministry of Housing & Urban Affairs, Government of India

### SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2025

	Amount ( ₹ )	
	2024-25	2023-24
<b>SCHEDULE 4- EARMARKED FUNDS</b>		
<b>17 Light House Project-Chennai, Tamil Nadu</b>		
Opening Balance	(54,67,526)	(21,80,851)
Received during the year (From Centre)	33,63,516	-
Received during the year (From State)	-	-
Less: Amount Utilized during the year	<u>(21,03,713)</u>	<u>(297) 32,86,675</u>
		(54,67,526)
<b>18 Light House Project-Indore, Madhya Pradesh</b>		
Opening Balance	3,91,24,059	7,75,94,511
Received during the year (From Centre)	3,36,79,474	-
Received during the year (From State)	-	14,33,60,000
Less: Amount Utilized during the year	<u>6,60,60,675</u>	<u>67,42,858 18,18,30,452</u>
		3,91,24,059
<b>19 Light House Project-Lucknow, Uttar Pradesh</b>		
Opening Balance	2,62,41,272	13,46,88,643
Received during the year (From Centre)	4,53,18,983	-
Received during the year (From State)	-	20,45,03,711
Less: Amount Utilized during the year	<u>6,47,19,797</u>	<u>68,40,458 31,29,51,082</u>
		2,62,41,272
<b>20 Light House Project-Rajkot, Gujarat</b>		
Opening Balance	(1,74,71,804)	(1,63,68,027)
Received during the year (From Centre)	1,38,86,348	-
Received during the year (From State)	-	-
Less: Amount Utilized during the year	<u>(27,27,191)</u>	<u>(8,58,265) 11,03,777</u>
		(1,74,71,804)
<b>21 Light House Project-Ranchi, Jharkhand</b>		
Opening Balance	(46,70,052)	4,31,65,649
Received during the year (From Centre)	5,80,03,079	-
Received during the year (From State)	3,14,55,000	59,72,35,371
Less: Amount Utilized during the year	<u>5,34,29,571</u>	<u>3,13,58,456 64,50,71,072</u>
		(46,70,052)
<b>TOTAL</b>	<b>1,72,67,16,177</b>	<b>91,48,68,275</b>
<b>SCHEDULE 5- PROVISION FOR GRATUITY AND LEAVE ENCASHMENT</b>		
	2024-25	2023-24
Gratuity	1,69,37,809	-
Leave encashment	52,29,339	-
<b>TOTAL</b>	<b>2,21,67,148</b>	<b>-</b>
<b>SCHEDULE 6- CURRENT LIABILITIES</b>		
	2024-25	2023-24
Outstanding Liabilities	76,31,097	64,27,602
Statutory Dues	1,69,826	12,19,424
Security (LHP) Projects	20,45,94,819	18,53,55,157
Security (DHP) Projects	1,81,77,514	1,00,38,939
Security/EMD (Others)	10,02,988	1,14,81,635
Amount Payable to TNUHDB /Rajkot Municipal Corporation	4,55,096	4,55,096
Amount refundable to MoHUA on account of interest on bank (LHP's)	10,00,82,809	10,54,81,871
Amount refundable to MoHUA on account of bank interest (ARHCs)	4,20,74,948	6,23,07,955
Interest accrued but not due to HUDCO on National Urban Housing Fund	2,50,40,48,447	2,57,06,03,176
Amount Refundable to MoHUA - NUHF	28,36,14,798	26,07,16,721
<b>TOTAL</b>	<b>3,16,18,52,342</b>	<b>- 3,21,40,87,676</b>





# Building Materials & Technology Promotion Council Ministry of Housing & Urban Affairs, Government of India

## SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2025

SCHEDULE 8- PROPERTY, PLANT & EQUIPMENT										Amount ( ₹ )	
	GROSS BLOCK				DEPRECIATION		NET BLOCK			2024-25	2023-24
	Cost as on 01.4.2024	Additions (upto 30.09.2024)	Additions (after 30.09.2024)	Sale/Del etion	Total	Upto 01.04.2024	Current year	Upto 31.03.2025	As on 31.03.2025	As on 31.03.2025	As on 31.03.2024
Office Building	3,43,19,817	-	-	-	3,43,19,817	1,94,26,353	14,89,346	2,09,15,699	1,34,04,118	1,48,93,464	
Furniture and Fixtures	37,93,415	-	-	-	37,93,415	33,26,907	46,651	33,73,558	4,19,857	4,66,508	
Office Equipments	2,08,93,119	32,909	76,705	-	2,10,02,733	1,96,02,825	2,04,233	1,98,07,058	11,95,675	12,90,294	
Computers/ Peripherals	2,19,79,023	1,21,000	1,28,200	-	2,22,28,223	2,09,46,015	4,87,244	2,14,33,259	7,94,964	10,33,008	
Software	4,58,000	-	80,155	-	5,38,155	3,41,072	62,802	4,03,874	1,34,281	1,16,928	
Air conditioners	10,35,166	-	-	-	10,35,166	9,43,164	13,800	9,56,964	78,202	92,002	
Fan & Coolers	81,224	-	-	-	81,224	72,995	1,234	74,229	6,995	8,229	
TV and VCR	4,03,117	-	-	-	4,03,117	3,71,287	4,775	3,76,062	27,055	31,830	
Exhibits, Panels, Display Models	1,20,84,905	-	-	-	1,20,84,905	1,18,57,711	34,079	1,18,91,790	1,93,115	2,27,194	
	9,50,47,786	1,53,909	2,85,060	-	9,54,86,755	7,68,88,329	23,44,164	7,92,32,493	1,62,54,262	1,81,59,457	
Previous Year (2023 -24)	9,46,48,609	4,02,231	22,370	25,424	9,50,47,786	7,41,28,192	27,60,137	7,68,88,329	1,81,59,457	2,05,20,417	





**Building Materials & Technology Promotion Council**  
Ministry of Housing & Urban Affairs, Government of India

**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2025**

Amount ( ₹ )		
SCHEDULE 8- RECOVERABLE FROM MoHUA	2024-25	2023-24
Amount Recoverable from MoHUA for repayment of loan taken from HUDCO for National Urban Housing Fund under PMAY(U) Mission	2,00,00,00,00,000	2,00,00,00,00,000
<b>TOTAL</b>	<b>2,00,00,00,00,000</b>	<b>2,00,00,00,00,000</b>

SCHEDULE 9 - CASH AND BANK BALANCES	2024-25	2023-24
<b>A. 1. Bank Balances</b>		
- Deposit with Canara Bank	18,05,15,520	21,34,12,259
-Sweep/ Deposit A/c with SBI	1,38,89,55,445	1,35,32,47,097
-Savings /Current Accounts:		
- Canara Bank	64,94,199	26,31,995
- State Bank of India	80,53,381	85,77,566
- State Bank of India(NUHF)	94,26,09,693	1,07,761
- State Bank of India(LHP)-Agartala	10,08,746	10,07,483
-State bank of india (ARHC)	73,134	1,03,179
-State bank of india (DHP)	1,05,683	6,82,11,432
- State Bank of India(LHP)-Chennai	89,086	1,07,007
- State Bank of India(LHP)-Indore	61,822	1,69,47,596
- State Bank of India(LHP)-Lucknow	1,68,449	10,05,143
- State Bank of India(LHP)-Rajkot	58,364	9,956
- State Bank of India(LHP)-Ranchi	1,04,409	9,99,810
<b>TOTAL</b>	<b>2,52,82,97,931</b>	<b>1,66,63,68,284</b>

SCHEDULE 10 - LOANS AND ADVANCES	2024-25	2023-24
1. Advances to staff	1,26,149	2,98,922
2. Amount Recoverable from MoHUA under NUHF-Central Assistance from EBR under PMAY(U)	2,50,40,48,447	2,57,06,03,176
3. Prepaid Expenses	11,70,621	-
4. Advances and other amounts recoverable in cash or in kind or value to be received		
a. Amount Recoverable - Others	53,78,121	2,98,69,379
b. Security Deposit (Office Space)	-	4,20,000
c. Tax Deducted at Source & GST Recoverable	69,90,214	69,82,406
<b>TOTAL</b>	<b>2,51,77,13,552</b>	<b>2,60,81,73,883</b>

SCHEDULE 11 - OTHER CURRENT ASSETS	2024-25	2023-24
Interest Accrued on Sweep/ FDR's/ Saving accounts with Banks	3,05,46,061	4,58,82,027
<b>TOTAL</b>	<b>3,05,46,061</b>	<b>4,58,82,027</b>




**Building Materials & Technology Promotion Council**

Ministry of Housing &amp; Urban Affairs, Government of India

**SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT  
FOR THE YEAR ENDED AS ON 31 MARCH 2025**

	Amount ( ₹ )	
<b>SCHEDULE 12- GRANTS -IN-AID (Irrevocable Grants &amp; Subsidies Received)</b>	<b>2024-25</b>	<b>2023-24</b>
1 Central Government (Ministry of Housing & Urban Affairs, Government of India)	7,50,00,000	7,50,00,000
<b>TOTAL</b>	<b>7,50,00,000</b>	<b>7,50,00,000</b>
<b>SCHEDULE 13 - FEES/SUBSCRIPTIONS/IMPLEMENTATION CHARGES</b>	<b>2024-25</b>	<b>2022-23</b>
1 Training Programmes/Site Scrutiny/Seminar Receipts/Navariti Fee	18,20,101	11,19,223
2 Receipts towards sale of publications, PACS etc	4,02,597	13,39,372
3 Implementation Charges	34,62,978	2,25,71,149
<b>TOTAL</b>	<b>56,85,676</b>	<b>2,50,29,744</b>
<b>SCHEDULE 14- OTHER INCOME</b>	<b>2024-25</b>	<b>2023-24</b>
<u>Interest On</u>		
1 Term Deposits With Scheduled Banks	1,47,67,174	1,52,69,736
2 Savings Accounts With Scheduled Banks	2,62,520	2,99,933
3 Staff Advances	74,400	89,581
4 Income Tax Refund	65,233	-
<b>TOTAL</b>	<b>1,51,69,327</b>	<b>1,56,59,250</b>
<b>SCHEDULE 15- EXPENDITURE ON SALARY, ESTABLISHMENT &amp; ADMINISTRATION</b>	<b>2024-25</b>	<b>2023-24</b>
1 Pay and Allowances	7,48,35,107	6,78,88,923
2 Gratuity	1,96,33,463	20,00,000
3 Leave encashment	66,87,544	41,600
4 LTC Expenses	8,13,055	1,98,115
5 Medical Expenses	27,39,944	29,53,982
6 Administration Expenses	1,14,74,981	1,17,73,429
<b>TOTAL</b>	<b>11,61,84,094</b>	<b>8,48,56,049</b>
<b>SCHEDULE 16 - EXPENDITURE ON DISSEMINATION / SEMINARS/WORKSHOPS, TRAINING PROGRAMMES, ETC.</b>	<b>2024-25</b>	<b>2023-24</b>
1 Exhibition, Seminar and Conference Expenses	32,02,190	12,64,348
2 Printing & Publication	6,23,004	1,20,592
3 Navariti E-Course Expenses	1,26,000	2,82,547
4 Performance Appraisal Certification Scheme	9,37,212	9,56,274
<b>TOTAL</b>	<b>48,88,406</b>	<b>26,23,761</b>







## Building Materials & Technology Promotion Council

Ministry of Housing & Urban Affairs, Government of India

### SCHEDULE 17: SIGNIFICANT ACCOUNTING POLICIES AND NOTES TO THE ACCOUNTS

#### Overview

Building Materials & Technology Promotion Council (BMTPC), established in 1990, is an autonomous grant-in-aid organization of the Ministry of Housing & Urban Affairs, Govt. of India. BMTPC is mandated to promote and transfer cost-effective, environment-friendly, energy-efficient and emerging building materials and housing technologies including disaster resistant construction practices for large scale field application.

#### 1 Significant Accounting Policies-

- a) **System of Accounting:** The accounts have been prepared to comply with all material aspects with applicable principles in India and notified Accounting Standards.
- b) **Property, Plant & Equipment:** Fixed assets are stated at cost of acquisition less accumulated depreciation provided as per Income Tax Act 1961. All the fixed assets are recognized as per the rules and regulations as provided in the General Financial Rules, 1963, amended upto date.
- c) **Depreciation:** Depreciation is provided at written down values rates and in the manner as specified in the Income Tax Act 1961.
- d) **Government Grants:**
  - (i) Government Grants received during the year are accounted in accordance with Accounting Standard 12 on 'Accounting for Government Grants' issued by ICAI.
  - (ii) Earmarked funds received for specific purpose are utilized for the purpose for which funds are received and the unspent balance of such funds are carried forward until fully utilized or refunded.
  - (iii) Interest earned on unutilized project funds received from the Ministry of Housing and Urban Affairs or other government agencies, where the terms stipulate refund to the funding agency, is not treated as income but recognized as a liability.
- e) **Retirement Benefits-**
  - (i) The Council contributes to its own Provident Fund Trust which is recognized by the Income Tax authorities and the contributions paid during the years to Provident Fund Trust are charged to revenue.
  - (ii) The Council has taken Group Gratuity Cash Accumulation Policy and Group Leave Encashment Policy with Life Insurance Corporation of India for payment of Gratuity and Leave Encashment to employees on retirement. During the year the Council determined the liability as on 31.03.2025 for leave encashment and gratuity and accordingly made provision in the books of accounts.
- f) **General:** Accounting policies not specifically mentioned are otherwise in consonance with generally accepted accounting practices.

#### 2 Contingent Liabilities: Claims against the Council not acknowledged as debts - NIL.

3 In opinion of the Management, the amount on realization of current assets, loans and advances in the ordinary course of business would not be less than the amount at which they are stated in the Balance Sheet. Further, provision for all known liabilities has been made in the accounts.

4 The Council is registered under sub clause (i) of clause (ac) of sub (1) of section 12A of the Income Tax Act and its income is exempt from Income Tax. It has been granted Unique Registration Number as AAATB0304QE20218. Provision for Income Tax has thus not been made in the accounts. The Council is regularly depositing TDS, GST and other statutory liabilities with the government authorities.





- 5 **Income and Expenditure:** Since there are large number of income and expenditure accounting heads, expenses and revenue of similar nature and falling under different Heads are clubbed together wherever required for better presentation of financial statements.
- 6 a) Ministry of Housing & Urban Affairs vide letter no. N-11022/1/2018-HFA-III-UD (C. No. 9035628) dated 14.03.2018 conveyed to BMTPC the following:
- The Cabinet in its meeting held on 20.02.2018 has approved, inter-alia, the proposal of our Ministry as under:
- Raising of funds through Extra Budgetary Resources (EBR) to the extent of Rs. 60,000 Crore through a lending agency or financial institution, over four years, for PMAY (Urban) projects, in consultation with the Ministry of Finance;
  - BMTPC to take loan on behalf of Government of India and disburse to the States / UTs and Central Nodal Agencies (CNAs), on the advice of the Ministry of Housing and Urban Affairs, for PMAY (Urban);
  - Government of India will amortize the loan and fulfill the repayment obligations at the agreed terms and conditions as decided by the Ministry of Finance.
- b) In view of the above, the amount of principal and interest is to be met out of the funds allocated by the Ministry of Housing & Urban Affairs and there is the virtual certainty of the amount, the expected amount recoverable is shown as a separate asset i.e. Non-Current Asset and the loan received from NSSF/HUDCO is shown as Long-Term Liability in the Balance Sheet.
- c) The principal and interest payable to the lenders on loans taken under National Urban Housing Fund (NUHF) for PMAY (Urban) program will be provided to the Council by the Ministry of Housing & Urban Affairs. The Interest on the loan borrowed on behalf of the Ministry will be paid from the receipts to be provided for this purpose by the Ministry on the due dates of Interest payment. Accordingly, the interest expenditure / income is not routed through Income & Expenditure Account but is shown as a current liability / current asset in the Financial Statements.
- d) Interest earned on funds received from Ministry of Housing and Urban Affairs for various Light House Projects and National Urban Housing Fund is refundable to the Ministry. Accordingly the interest earned on these funds has been shown as a Liability due to Ministry of Housing and Urban Affairs(refer schedule 6-current Liabilities and provisions).
- 7 Previous year figures have been rearranged & regrouped wherever required and all the above said information has been given by the management and relied upon by the auditors.
- 8 Schedules 1 to 17 annexed to form an integral part of financial statements for the year ended 31<sup>st</sup> March, 2025

As per our report of even date attached.

For KOMANDOOR & CO LLP  
Chartered Accountants  
FRN:001420S/S200034

CA Mangal Singh  
Partner  
M.No. 547176



For Building Materials & Technology  
Promotion Council

  
Pankaj Gupta  
Finance Officer

  
Dr. Shailesh Kr. Agrawal  
Executive Director

Place: New Delhi  
Date: 15.10.2025

## ANNEXURE I

### PARTICIPATION IN PROMOTIONAL EVENTS

#### I. WEBINARS/ CONFERENCES/TRAINING PROGRAMMES etc.

- A series of presentations for Post Graduate Students of Master of Planning (Housing) on the subject 'Materials & Technology' of SPA, New Delhi during January-May, 2024
- Training Programme on Disaster Risk Mitigation: Building Resilience for Educational Institutions organised by National Institute of Disaster Management from April 2-5, 2024
- India Green Summit & Expo 2024 on Transforming Indian Army with New Construction Technologies organised on World Earth Day by Military Engineering Services (MES) at Jhansi on April 22, 2024
- 18<sup>th</sup> Batch of NAVARITIH : Certificate Course on Innovative Construction Technology organised from May 3 to 10, 2024
- Stakeholders Consultation on Urban Resilience organised by National Institute of Disaster Management at New Delhi on May 21, 2024
- Chintan Shivir on "Reimagining Urban India" organised by Ministry of Housing and Urban Affairs at New Delhi on May 29-30, 2024
- Young Leader's Conclave on the theme Bharat Green Vision 2047 : Integrating Climate Actions, Nature Based Solutions, Health & Safety with DRR organised on the occasion of World Environment Day by NIDM at New Delhi on June 5, 2024
- Annual Conference of Relief Commissioners/Secretaries (DM) and SDRF, Civil Defence, Home Guard & Fire Services of States/ UTs to review the status of preparedness for South West Monsoon 2024 organized by Ministry of Home Affairs at New Delhi on June 11-12, 2024
- Round Table Session on Emerging Construction Systems organised by Indian chamber of Commerce at Guwahati on June 15, 2024

- Brainstorming Session for New Courses on Inclusive City Planning & Accessible Built Environment organised by IIT Kharagpur at New Delhi on July 8, 2024
- India Circular Economy Forum – Leading India’s Circular Transition : Emerging Technology & Innovation in Industry organised by GGGI at New Delhi on July 11-12, 2024
- Stakeholder Consultation on Establishing Embodied Carbon Database for Indian Construction Materials organized jointly with CEPT University Ahmedabad and Shakti Sustainable Energy Foundation at New Delhi on July 18, 2024
- Leadership Development Programme for the Chairpersons/ Directors of Housing Cooperatives of India organised by NCHF, National Centre for Cooperative Education at New Delhi on July 24-26, 2024
- Infracon 2024 – National Conference & Exhibition on Digital Construction Management & Emerging Technologies and Materials organised by BNRD and ISDA on August 1, 2024 at New Delhi
- National Faculty Development Programme on “Urban Infrastructure Resilience in context of Extreme Weather Events” organised by University of Delhi and NIDM at New Delhi on September 9-13, 2024
- Session on Emerging Construction Systems for Mass Housing organised by Department of Civil Engineering, Thapar Institute of Engineering & Technologies on September 12, 2024
- 19<sup>th</sup> Batch of NAVARITIH : Certificate Course on Innovative Construction Technology organised from September 6 to 13, 2024
- Webinar on Joshimath: A Wake-up Call for Himalayan Urban Resilience organised by SAIARD-Himalayan Climate Consortium on September 14, 2024
- Session on Steel based Emerging Construction Systems during Virtual Structural Steel Education Forum organised by IIT Roorkee on September 17, 2024
- Seminar on Sustainable Construction Techniques and Engineers Day Celebration organised by Concrete Engineers Association at New Delhi on September 25, 2024

- Climate and Health Solutions India Conclave organized by the Ministry of Health and Family Welfare and the Asian Development Bank at New Delhi on September 25, 2024
- GRIHA Council Stakeholders Meet 2024 organised by TERI at New Delhi on October 4, 2024
- National Conference on Futuristic Structural Engineering organised by Indian Association of Structural Engineers at New Delhi from November 8-10, 2024
- Training Programme on Earthquake Risk Mitigation & Management organised by National Institute of Disaster Management (NIDM) at NIDM Rohini campus, New Delhi from November 11-15, 2024
- National Workshop on Pradhan Mantri Awas Yojana – Urban 2.0 in New Delhi on November 18, 2024
- Conference on Indian Housing Landscape – Affordable to Accessible organised by CII in association with MoHUA at New Delhi on December 4, 2024
- 16<sup>th</sup> GRIHA Summit on “Accelerating Climate Action in the Built Environment” organised by TERI at New Delhi from December 4-5, 2024
- Workshop on Earthquake Risk Reduction – Key Opportunities : CoDRR Workshop 6 organised by National Institute of Disaster Management (NIDM) in association with National Centre for Seismology, Ministry of Earth Sciences at New Delhi on December 6, 2024.
- International Conference on Lightning & Extreme Weather Events on theme Social Justice and Empowerment of Most Vulnerable Communities in Building Resilience organised by NDMA, NRSC, IMD and CROPC at New Delhi on December 9-10, 2024
- Special Session on Vulnerability Atlas of India organised by India Meteorological Department (IMD) to celebrate 150 years of its establishment at New Delhi on January 8, 2025
- 20<sup>th</sup> Batch of NAVARITI : Certificate Course on Innovative Construction Technology organised from January 17 to 24, 2025



- Orientation Session for Master Trainers under Asia Low Carbon Building Transition Project organised by Global Green Growth Institute (GGGI) and FICCI at New Delhi on January 21, 2025
- Training Programme on Low Carbon Buildings Transition under Asia Low Carbon Building Transition Project organised by GGGI, CII and IGBC at New Delhi on January 27-28, 2025
- 2<sup>nd</sup> India Green Summit & Expo 2025 on Transforming Indian Army with New Construction Technologies, Green Initiatives & Climate Resilient Infrastructure organised jointly with Bhopal Military Station, CDRI, IISD and IIT Kanpur at Bhopal on February 10, 2025
- Real Estate & Building Technology – Building the Future of Innovative India organised by CII at New Delhi on February 20, 2025
- Real Estate & Building Technology (REBT) Expo 2025 - Building the Future of Innovative India organised by CII at New Delhi on February 20, 2025
- Workshop on National Capacity Building Programme on Earthquake Risk Reduction organised by NIDM and NDMA at New Delhi on March 4, 2025
- International Conference on “Sustainable Architecture: Circular Economy” with a focus in “Nation Building through Stainless Steel: embracing Circular Economy” organized by University School of Architecture and Planning (USAP) at New Delhi on March 4-5, 2025
- Global Sustainability Summit 2025 organised by Indian Institute of Sustainable Development (IISD) and CMI (Carbon Minus India) at New Delhi on March 6, 2025
- National Conference-cum-Expo on Innovative Building Materials & Construction Technologies organised at New Delhi on March 19-20, 2025
- National Seminar on Disaster Management & Resilient Infrastructure organized by Delhi Technological University at New Delhi on March 21, 2025

- Session on “New & Innovative Building Materials” as Part of 52 Weeks Foundation Training to CPWD Assistant Executive Engineer 2024 Batch at National CPWD Academy, Ghaziabad on March 21, 2025
- A series of lectures for Post Graduate Students of Master of Planning (Housing) on the subject ‘Materials & Technology’ of SPA, New Delhi during January-May, 2025

## **II. TECHNICAL COMMITTEE/WORKING GROUPS /MEETINGS etc.**

- Meeting CSIR-CBRI Research Council organized by CBRI at Roorkee on April 26, 2024
- Meeting of Project Review Committee of Ministry of Steel for promoting use of steel intensive construction in buildings through introduction of steel structural systems at Jaipur on May 10, 2024
- 6<sup>th</sup> Meeting of Inter-Ministerial Consultative Group on Climate Negotiation of MoEFCC organized by MoHUA at New Delhi on May 21, 2024
- Meeting of Technical Group for monitoring the progress of Demonstration Housing Projects and propagating emerging technologies at DHP Jammu on July 4, 2024
- Review meeting of the Central Training Institutes under the MoHUA chaired by Joint Secretary (CBUD/DAY-NULM/PM SVANidhi) at New Delhi on July 8, 2024
- Meeting of Assessment Committee organised by CSIR-CBRI at Roorkee on July 16, 2024
- Review meeting on Solarization of Government Buildings organized by Ministry of New and Renewable Energy through VC on July 26, 2024
- Meeting of Technical Advisory Committee (TAC) of Asia Low Carbon Buildings Transition (ALCBT) project for India, Vietnam, Thailand, Indonesia & Cambodia organised GGGI at New Delhi on July 30, 2024
- 16<sup>th</sup> Expert Committee on Climate Change meeting (ECCC) organized by MoEFCC at New Delhi on October 28, 2024

- 70<sup>th</sup> meeting of the Central Sanctioning and Monitoring Committee (CSMC) for Pradhan Mantri Awas Yojana (Urban) chaired by Secretary, HUA on October 29, 2024
- Site Adjacent Factory Employee (S.A.F.E.) Accommodation organized by NITI Aayog at New Delhi on November 21, 2024
- 71<sup>st</sup> meeting of the Central Sanctioning and Monitoring Committee (CSMC) for Pradhan Mantri Awas Yojana (Urban) chaired by Secretary, HUA on March 20, 2025
- 65<sup>th</sup> Executive Committee meeting of BMTPC under the Chairmanship of Secretary, HUA at New Delhi on September 11, 2024
- 66<sup>th</sup> Research Council meeting of CSIR-CBRI at Roorkee on October 3-4, 2024
- Meeting of CED 32 Sectional Committee organised by BIS at New Delhi on October 18, 2024
- Meeting during Vigilance Awareness Campaign and special lecture on EPC Contracts – Vigilance Perspective by Dr. K.M.Soni, ADG (Retd), CPWD at BMTPC on November 13, 2024
- Meeting of 3<sup>rd</sup> Technical Advisory Committee (TAC) under the Asia Low Carbon Buildings Transition (ALCBT) project in India at New Delhi on December 2, 2024
- 66<sup>th</sup> Executive Committee meeting of BMTPC under the Chairmanship of Secretary, HUA at New Delhi on December 10, 2024
- Meeting of Technical Committee under the Panel for Building Materials CED:46P3 of BIS for revision of Part-5 of National Building Code (NBC) organized by BIS at New Delhi on January 7, 2025

### **III. OTHERS**

- Providing guidance to students from SPA, Delhi, IIT Delhi & students from other colleges, professionals, Entrepreneurs working on New & environmental friendly building materials/ technologies, and sustainability parameters (embodied energy, thermal comfort, resource conservation & efficiency etc.) of the buildings using different technologies

- Representing in Committee on “Implementation of the Action Plan on Circular Economy in Scrap Metal (Ferrous & Non-Ferrous)” constituted by Ministry of Steel.
- Prepared inputs for Ministry towards “Best Practices in adoption of New Technologies in Construction/ Housing Sector” for NITI Aayog.
- Prepared inputs on “Circular Economy Strategy for Construction & Demolition (C&D) Waste Management in India-A Comprehensive Analysis of Policies, Practices and Challenges of India with a Focus on Uttar Pradesh- September 2024, prepared by Uttar Pradesh Climate Change Authority.
- Prepared draft Inputs for Ministry on “Performance of the National Action Plan on Climate Change (NAPCC)” pertaining to MoEF&CC.
- Prepared input on “Building Design and Building Material for the Inter-Ministerial Working group on Buildings Sector”
- Prepared input for proposal on “Action points on decision taken in 5<sup>th</sup> Apex Committee for Implementation of the Paris Agreement meeting”
- Prepared input for the Ministry on “Reconcile and harmonize the definitions used by IIPS and MoSPI concerning kutcha/pucca houses”
- Prepared input on “World Bank Report on Climate Resilient and Low Carbon Urban Transition in India under the Prospective National Urban Program”



## **ANNEXURE II**

### **PAPERS PRESENTED/PUBLISHED INCLUDING PRESENTATIONS MADE**

- A series of presentations for Post Graduate Students of Master of Planning (Housing) on the subject 'Materials & Technology' of SPA, New Delhi during January-May, 2024
- Presentation on Vulnerability Atlas of India during Training Programme on Disaster Risk Mitigation: Building Resilience for Educational Institutions organised by National Institute of Disaster Management from April 2-5, 2024
- Presentation on Emerging Housing Technologies for Mass Housing during India Green Summit & Expo 2024 on Transforming Indian Army with New Construction Technologies organised on World Earth Day by Military Engineering Services (MES) at Jhansi on April 22, 2024
- Presentation on Introduction to Emerging Housing Technologies for Mass Housing during 18<sup>th</sup> Batch of NAVARITI : Certificate Course on Innovative Construction Technology organised from May 3 to 10, 2024
- Presentation on Vulnerability Atlas of India – a Tool for Disaster Mitigation & Preparedness during Stakeholders Consultation on Urban Resilience organised by National Institute of Disaster Management at New Delhi on May 21, 2024
- Presentation on Emerging Housing Technologies for Mass Housing during Young Leader's Conclave on the theme Bharat Green Vision 2047 : Integrating Climate Actions, Nature Based Solutions, Health & Safety with DRR organised on the occasion of World Environment Day by NIDM at New Delhi on June 5, 2024
- Presentation on Vulnerability Atlas of India – a Tool for Disaster Mitigation & Preparedness during Annual Conference of Relief Commissioners/Secretaries (DM) and SDRF, Civil Defence, Home Guard & Fire Services of States/UTs to review the status of preparedness for South West Monsoon 2024 organized by Ministry of Home Affairs at New Delhi on June 11-12, 2024

- Presentation on Emerging Housing Technologies for Mass Housing during Round Table Session on Emerging Construction Systems organised by Indian chamber of Commerce at Guwahati on June 15, 2024
- Presentation on Emerging Housing Technologies for Mass Housing during Brainstorming Session for New Courses on Inclusive City Planning & Accessible Built Environment organised by IIT Kharagpur at New Delhi on July 8, 2024
- Presentation on Emerging Housing Technologies for Mass Housing during India Circular Economy Forum – Leading India’s Circular Transition : Emerging Technology & Innovation in Industry organised by GGGI at New Delhi on July 11-12, 2024
- Presentation on Sustainable Technological Solutions during Stakeholder Consultation on Establishing Embodied Carbon Database for Indian Construction Materials organized jointly with CEPT University Ahmedabad and Shakti Sustainable Energy Foundation at New Delhi on July 18, 2024
- Presentation on Emerging Housing Technologies for Mass Housing during Leadership Development Programme for the Chairpersons/Directors of Housing Cooperatives of India organised by NCHF, National Centre for Cooperative Education at New Delhi on July 24-26, 2024
- Presentation on Emerging Housing Technologies for Mass Housing during Infracon 2024 – National Conference & Exhibition on Digital Construction Management & Emerging Technologies and Materials organised by BNRD and ISDA on August 1, 2024 at New Delhi
- Presentation on Vulnerability Atlas of India – a Tool for Disaster Mitigation & Preparedness during National Faculty Development Programme on “Urban Infrastructure Resilience in context of Extreme Weather Events” organised by University of Delhi and NIDM at New Delhi on September 9-13, 2024
- Presentation on Emerging Housing Technologies for Mass Housing during Special Session organised by Department of Civil Engineering, Thapar Institute of Engineering & Technologies on September 12, 2024

- Presentation on Emerging Housing Technologies for Mass Housing during 19<sup>th</sup> Batch of NAVARITIH : Certificate Course on Innovative Construction Technology organised from September 6 to 13, 2024
- Presentation on Steel based Emerging Construction Systems during Virtual Structural Steel Education Forum organised by IIT Roorkee on September 17, 2024
- Presentation on Sustainable Technological Solutions during Seminar on Sustainable Construction Techniques and Engineers Day Celebration organised by Concrete Engineers Association at New Delhi on September 25, 2024
- Presentation on Emerging Housing Technologies for Mass Housing during Climate and Health Solutions India Conclave organized by the Ministry of Health and Family Welfare and the Asian Development Bank at New Delhi on September 25, 2024
- Technical Paper on “Implementation of Light House Projects using innovative technologies” for Jharkhand Engineers Service Association (JESA), in the Technical Conference Proceedings brought out on Engineers Day in September, 2024
- Presentation on Emerging Housing Technologies for Mass Housing during National Conference on Futuristic Structural Engineering organised by Indian Association of Structural Engineers at New Delhi from November 8-10, 2024
- Presentation on Vulnerability Atlas of India during Training Programme on Earthquake Risk Mitigation & Management organised by National Institute of Disaster Management (NIDM) at NIDM Rohini campus, New Delhi from November 11-15, 2024
- Presentation on Emerging Housing Technologies for Mass Housing during Conference on Indian Housing Landscape – Affordable to Accessible organised by CII in association with MoHUA at New Delhi on December 4, 2024
- Presentation on Emerging Housing Technologies for Mass Housing during 16<sup>th</sup> GRIHA Summit on “Accelerating Climate Action in the Built Environment” organised by TERI at New Delhi from December 4-5, 2024

- Presentation on Vulnerability Atlas of India during Workshop on Earthquake Risk Reduction – Key Opportunities : CoDRR Workshop 6 organised by National Institute of Disaster Management (NIDM) in association with National Centre for Seismology, Ministry of Earth Sciences at New Delhi on December 6, 2024
- Presentation on Vulnerability Atlas of India during International Conference on Lightning & Extreme Weather Events on theme Social Justice and Empowerment of Most Vulnerable Communities in Building Resilience organised by NDMA, NRSC, IMD and CROPC at New Delhi on December 9-10, 2024
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- Presentation on Emerging Housing Technologies for Mass Housing during Real Estate & Building Technology (REBT) Expo 2025 - Building the Future of Innovative India organised by CII at New Delhi on February 20, 2025



- Presentation on Vulnerability Atlas of India during Workshop on National Capacity Building Programme on Earthquake Risk Reduction organised by NIDM and NDMA at New Delhi on March 4, 2025
- Presentation on Emerging Housing Technologies for Mass Housing during International Conference on “Sustainable Architecture: Circular Economy” with a focus in “Nation Building through Stainless Steel: embracing Circular Economy” organized by University School of Architecture and Planning (USAP) at New Delhi on March 4-5, 2025
- Presentation on Emerging Housing Technologies for Mass Housing during Global Sustainability Summit 2025 organised by Indian Institute of Sustainable Development (IISD) and CMI (Carbon Minus India) at New Delhi on March 6, 2025
- Paper on Emerging Construction Systems for Mass Housing for the National Conference-cum-Expo on Innovative Building Materials & Construction Technologies organized at New Delhi on March 19-20, 2025
- Paper on Technology Transition through Light House Projects under PMAY-U for the National Conference-cum-Expo on Innovative Building Materials & Construction Technologies organised at New Delhi on March 19-20, 2025
- Presentation on Vulnerability Atlas of India during National Seminar on Disaster Management & Resilient Infrastructure organized by Delhi Technological University at New Delhi on March 21, 2025
- Presentation on Emerging Housing Technologies for Mass Housing during Session on “New & Innovative Building Materials” as Part of 52 Weeks Foundation Training to CPWD Assistant Executive Engineer 2024 Batch at National CPWD Academy, Ghaziabad on March 21, 2025
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