

# Annual Report

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## 2020–2021



**bmtpc**

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



# **Annual Report 2020-2021**



**Building Materials & Technology Promotion Council**

Ministry of Housing & Urban Affairs, Government of India

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

New Delhi – 110003





## FOREWORD

It my honour to present the 31<sup>st</sup> Annual Report of the Building Materials & Technology Promotion Council for the year 2020-2021, an autonomous organization under the auspices of Ministry of Housing & Urban Affairs, Govt. of India.

Since its humble inception in 1990, BMTPC has been in service of nation with a mandate to promote resource-efficient, climate-responsive sustainable building materials including disaster resistant construction practices, based on locally available materials and local skills for field level applications. In its journey towards bringing innovations in the building industry, BMTPC has aligned its goals & objectives in line with the aspirations of the nation several times and could successfully transfer know-how in the field. During the implementation of Pradhan Mantri Awas Yojana-Urban (PMAY(U)) since June 2015, the expedition to bring alternate and emerging construction systems from around the globe which can not only fast track delivery of livable sustainable houses but also comply with structural, functional and safety norms stipulated in Indian Standards gained importance. To accomplish this ardent task of providing affordable housing, the best construction systems which are time tested and proven elsewhere are being identified, studied, evaluated & certified by BMTPC. These systems are being straightway transplanted to suit Indian geo-climatic conditions for field level applications through demonstration construction, light house projects & handholding of states. There has been good response from public and private agencies including State Governments and these alternate systems are being now slowly picked up and used in construction projects.

For wider advocacy, better outreach & replication of emerging systems in the field, BMTPC is entrusted by MoHUA to undertake Demonstration Housing Projects in different parts of India using emerging technologies under PMAY(U). The objective is to spread awareness about new technologies and disseminate technical know-how in the States under the Pradhan Mantri Awas Yojana (Urban) – Housing for All Mission. Earlier, BMTPC has completed DHPs at Nellore, Andhra Pradesh; Bhubaneswar, Odisha; Lucknow, Uttar Pradesh; Bihar Shariff, Bihar and Hyderabad, Telangana using emerging technologies. The DHPs at Bhubaneswar, Lucknow and Bihar Shariff has already been handed over to the respective State Govts. During the year BMTPC has started construction of DHPs at Panchkula, Haryana and Agartala, Tripura in COVID-2019 Pandemic. The work for construction of DHPs at Ahmedabad, Gujarat and Chhambel, Goa was awarded. Further, with the approval of CSMC, four DHPs namely at Bhopal, Madhya Pradesh; Guwahati, Assam; Tirupur, Tamil Nadu and Ayodhya, Uttar Pradesh have also been initiated. Detailed Project Reports were prepared for these four DHPs for consideration by CSMC of PMAY-Urban.

Through Gazette Notification (No. I-16011/5/99 H-II in the Gazette of India No. 49 dated December 4, 1999), to promote innovation in the construction sector, BMTPC has been evaluating and certifying prospective construction systems & new materials and products under PACS. During the year, emerging technologies namely, Concrete Reinforced Autoclaved Aerated Concrete Panels, Factory assembled insulated sandwich panels using PUF and Factory assembled insulated sandwich panels using Mineral-wool have been awarded certificate under the Performance Appraisal Certification Scheme (PACS) and a number of products/systems are being evaluated. Till date, BMTPC has issued Performance Appraisal Certificates (PAC) to 73 products/systems covering various products, materials & technologies. With the efforts of the Ministry and BMTPC, CPWD has issued specifications and schedules of rates on most of the emerging technologies.

BMTPC is working as a technical resource institution for Ministry of Housing & Urban Affairs Mission schemes and extending its technical support for appraisal, monitoring, Third Party Inspection & Monitoring (TPIM) and handholding of ULBs under PMAY(U). Technology Sub-Mission under Pradhan Mantri Awas Yojana (Urban) aims to mainstream innovative and green technologies for sustainable development across states. BMTPC is the technical secretariat for the sub-mission and assists Ministry and States for deploying disaster resistant, energy efficient and environment friendly technologies. A number of meetings of the Technology Sub-Mission were organized. The Council has also been designated as appraisal and monitoring agency under PMAY(U) for projects in various states/UTs falling in Earthquake Zone IV and Zone V. The Council is also hand holding various State Govts. and other agencies in promotion and adoption of emerging technologies for mass housing.

BMTPC worked hand-in-hand as technical partner of the HFA Directorate, MoHUA in the organization of Global Housing Technology Challenge – India (GHTC-India). A basket of 54 proven technologies has been shortlisted under GHTC India in six broad categories by TEC. The proven technologies are now being showcased through execution of Light House Projects (LHPs) at six locations. These LHPs will act as live laboratories to establish

innovative and green construction practices across India and will help in sustainable construction. The Council has been designated as a Technical Partner by the Ministry and nominated for implementation of LHPs in close coordination with respective State Governments. BMTPC is regularly monitoring and interacting with the agencies in close coordination with the Ministry for any query resolution and smooth operationalization of LHPs. Under GHTC-India, it has also been planned to incubate and accelerate identified potential future technologies through Affordable Sustainable Housing Accelerator (ASHA) – India. The Council also provided technical support under Affordable Rental Housing Complexes (ARHCs) scheme and online drive of Technograhis.

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 are being 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 through BMTPC for 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 forte of BMTPC has been Disaster Mitigation & Management. BMTPC is committed to promote the proactive approach towards it and has been in the forefront in educating professionals and creating mass awareness amongst various stakeholders including common man. In order to spread awareness and understanding about natural hazards, helps identify regions with high vulnerability with respect to various hazards as provided in the third edition of Vulnerability Atlas of India, released by Hon'ble PM, an e-Course on Vulnerability Atlas of India has been started jointly with School of Planning & Architecture, New Delhi. BMTPC is constantly pursuing with stakeholders and departments for giving necessary directions to their engineers and architects for undertaking the course.

Like preceding years, on the occasion of World Habitat Day 2020, the Council brought out three publications namely, (i) Special Issue of Newsletter “Nirman Sarika” on the theme “Housing For All : A Better Urban Future” chosen by the UN-Habitat for the year; (ii) Pocket Book on Emerging Construction Systems, and (iii) Handbook on Performance Appraisal Certification Scheme (PACS). 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 is good response on website in the form of general enquiry about product and services. BMTPC in association with Ministry of Housing & Urban Affairs and School of Planning & Architecture, New Delhi has started a NAVARITI : Certificate Course on Innovative Construction Technologies to build capacities of professionals in the area of emerging construction systems. 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.

It is my privilege to acknowledge the valuable guidance, support and encouragement received from the President (Hon'ble Minister of Housing & Urban Affairs) and Members of the Board of Management, the Chairman (Secretary, Ministry of Housing & Urban Affairs) and Members of the Executive Committee of BMTPC and Ministry of Housing & 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, IPIRTI, CBRI, SERC, ICI, SPA, HUDCO, BIS, NHB, NCHF, HPL, CGEWHO, CPWD, NSIC, CIDC 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 & 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), established in 1990, is an autonomous organisation under the administrative control of Ministry of Housing & Urban Affairs, Government of India. BMTPC is mandated to promote resource-efficient, climate responsive, disaster resistant construction practices including emerging building materials and construction technologies for field level applications. BMTPC is also one of the resource institution for the Ministry to provide S&T support in the area of innovative building materials & construction systems including disaster mitigation & management.

Since its inception, BMTPC embarks upon multi-pronged approach through networking with academic and research institutions, public & private sector, NGOs, foreign institutions for successful transfer of building materials and housing technologies in the field. The Council has also been striving to create enabling eco-system for mainstreaming innovative, cost-effective, environment-friendly and energy-efficient alternate building materials and technologies in the construction industry.

To showcase field level application of emerging construction systems and reach out to the stakeholders, the Council also undertakes construction of model demonstration houses including other structures in different parts of country. As regards, technology development, promotion and dissemination efforts, the Council has promoted various technologies for use in housing and building construction including bamboo based housing solutions.

The Council in recent years has expanded its reach towards promotion of not only sustainable technologies but also propagating emerging industrialised housing systems from within the

country and abroad for affordable mass housing through identification, evaluation & dissemination. The Council along with Ministry is making concerted efforts to introduce various emerging technologies, which are successful elsewhere in the world so as to bring resource efficiency, economy, quality, environmental protection, speed and sustainability in housing construction.

BMTPC is actively involved in disaster mitigation and management activities and working in close liaison with NDMA, NIDM and other Institutions. Apart from bringing out the first ever Vulnerability Atlas of India in 1997 and 2006, the Council brought out the third edition of its Vulnerability Atlas of India in 2019 which was released by Hon'ble Prime Minister of India.

In order to educate and spread awareness about the Vulnerability Atlas of India and Disaster resistant design & construction practices, the Council organised webinars designed for engineers, architects and other stakeholders dealing with housing and infrastructure. An E-Course on Vulnerability Atlas of India, which was launched by Hon'ble Minister, was also started in association with School of Planning & Architecture, New Delhi. Besides, the Council regularly publishes valuable guidelines/ manuals on disaster resistant construction. Towards earthquake preparedness and disseminate earthquake resistant construction practices and seismic retrofitting, the Council has undertaken retrofitting of few buildings including life line buildings and organised training programmes for professionals.

Being technical agency of the Ministry, BMTPC is entrusted to take up various activities under Technology Sub-Mission under PMAY(U). Technology Sub-Mission aims to mainstream innovative and green technologies for sustainable

development across states. BMTPC is the technical secretariat for the sub-mission and assists Ministry and States for deploying disaster resistant, energy efficient and environment friendly technologies. The Council has also been designated as appraisal and monitoring agency under PMAY(U) for projects in various states/UTs falling in Earthquake Zone IV and Zone V. The Council is also hand holding various State Govts. and other agencies in promotion and adoption of emerging technologies for mass housing. BMTPC is also technical partner in the Global Housing Technology Challenge – India (GHTC-India), launched by the Ministry of Housing & Urban Affairs, Government of India.

The proven technologies shortlisted under GHTC-India are being showcased through execution of Light House Projects (LHPs) across India at six locations. The Council has been designated implementing agency by the Ministry for implementation of LHPs in close coordination with respective State Governments. The Council has also been associated in incubation and acceleration of identified potential future technologies through Affordable Sustainable Housing Accelerator (ASHA) - India. The Council also extended its technical support to the Ministry in Technograhis and Affordable Rental Housing Complexes (ARHCs) scheme. BMTPC in association with Ministry of Housing & Urban Affairs and School of Planning & Architecture, New Delhi has started a NAVARITI : Certificate Course on Innovative Construction Technologies to build capacities of professionals in the area of emerging construction systems which was launched by Hon'ble PM.

A National Urban Housing Fund (NUHF) has been created at BMTPC which is aggregating loans from lending agencies / financial institutions. Funds raised through Extra Budgetary

Resources (EBR) for NUHF are being 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 PMAY(U). A Data Resource cum Monitoring Centre (DRMC) is also being operationalised by BMTPC under PMAY(U) for monitoring, data analysis, compilation & dissemination, generation of periodic reports in electronic form, and other related ICT activities. A dedicated team of BMTPC officials 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 mass application 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)
- Project management and consultancy services.
- 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 & Urban Affairs
- ii. Executive Committee headed by the Secretary, MoHUA
- iii. Executive Director as head of BMTPC

The Board of Management of the Council consists of 16 Members from various Ministries and related organizations. The Executive Committee consists of 9 Members from Ministry of Housing & 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 hereunder:



## Board of Management

(as on 31.3.2021)

S.No.	Members	
1	Shri Hardeep S Puri Hon'ble Minister of State (I/C) for Housing & Urban Affairs, Government of India	President
2	Shri Durga Shanker Mishra Secretary Ministry of Housing & Urban Affairs, Government of India	Vice-President
3	Shri Parag Gupta Advisor (RD & HUA) NITI Aayog, Government of India	Member
4	Shri Kamran Rizvi Chairman & Managing Director Housing & Urban Development Corporation	Member
5	Shri B.B. Swain Secretary, Ministry of Micro, Small & Medium Enterprises, Government of India	Member
6.	Prof. Ashutosh Sharma Secretary, Ministry of Science & Technology, Government of India	Member
7	Dr. Inderjeet Singh Secretary, Ministry for the Development of North Eastern Region, Government of India	Member
8	Shri G.V.V.Sarma Secretary National Disaster Management Authority, Government of India	Member
9	Dr. Shekhar C. Mande Director General Council of Scientific & Industrial Research Government of India	Member
10	Shri V.K. Jaiswal Director General Central Public Works Department Government of India	Member
11	Prof. K.N. Satyanarayana Director Indian Institute of Technology (IIT) Tirupati	Member
12	Prof. Sudhir K. Jain Director Indian Institute of Technology (IIT) Gandhinagar	Member
13	Shri Shiv Das Meena Addl. Secretary (Housing) Ministry of Housing & Urban Affairs, Government of India	Member

S.No.	Members	
14	Shri Shyam S. Dubey Joint Secretary & FA, Ministry of Housing & Urban Affairs, Government of India	Member
15	Shri Amrit Abhijat Joint Secretary & Mission Director (HFA) Ministry of Housing & Urban Affairs, Government of India	Member
16	Dr. Shailesh Kr. Agrawal Executive Director, Building Materials & Technology Promotion Council	Member Secretary

### Executive Committee (as on 31.3.2021)

S.No.	Members	
1	Shri Durga Shanker Mishra Secretary Ministry of Housing & Urban Affairs, Government of India	Chairperson
2	Shri Shiv Das Meena Addl. Secretary (Housing) Ministry of Housing & Urban Affairs, Government of India	Member
3	Shri Shyam S. Dubey Joint Secretary & FA, Ministry of Housing & Urban Affairs, Government of India	Member
4	Shri. Amrit Abhijat Joint Secretary (HFA) Ministry of Housing & Urban Affairs, Government of India	Member
5.	Shri Kamran Rizvi Chairman & Managing Director, Housing & Urban Development Corporation	Member
6.	Dr. N. Gopalakrishnan Director Central Building Research Institute, Roorkee	Member
7.	Prof. Pradipta Banerji Head, Centre for Urban Science & Engineering Deptt. of Civil Engineering, IIT Bombay	Member
8.	Shri J.S. Gopinath Director & Chief Architect JSKM Architecture, Hyderabad	Member
9.	Dr. Shailesh Kr. Agrawal Executive Director, Building Materials & Technology Promotion Council	Member - Secretary

## MAJOR INITIATIVES AND ACTIVITIES DURING THE YEAR 2020-2021

### I. MODEL DEMONSTRATION CONSTRUCTION USING EMERGING TECHNOLOGIES

#### I. Demonstration Housing Projects using Emerging Technologies in different parts of the country

BMTPC propagates 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 Technology Sub-Mission of PMAY(U), MoHUA has taken an initiative to construct Demonstration Housing Projects (DHPs) through BMTPC.

The construction of Demonstration Housing Projects in different parts of the country aims to facilitate wide spread dissemination and adoption of new / alternate and sustainable building materials and technologies to replace conventional technologies. It further helps build confidence and create enabling environment for the large scale adoption of such materials & technologies suiting to different geo-climatic regions of the country, thus making housing more affordable and accessible. Earlier, BMTPC has completed DHPs at Nellore, Andhra Pradesh; Bhubaneswar, Odisha; Lucknow, Uttar Pradesh; Bihar Shariff, Bihar and Hyderabad, Telangana using emerging technologies. The DHPs at Bhubaneswar, Lucknow and Bihar Shariff has already been handed over to the respective State Govts. The DHPs at Nellore and Hyderabad are being handed over to the respective State Govts.

During the year BMTPC initiated construction of DHPs at Panchkula, Haryana and Agartala, Tripura. The details of these projects are as under:

#### *Demonstration Housing Project at Panchkula, Haryana*

##### *Salient Features of the Project:*

- Usage of the Project : Working Women Hostel
- Nodal Agency : Municipal Corporation Panchkula
- Location : Sector 27, Panchkula
- Plot Area for DHP : 1412.36 Sq.mts.
- Total Covered Area : 2015.95 Sq.mts.
- No. of Units/Rooms : 40 (G+3)
- Carpet Area of a unit : 21.86 Sq.mts.
- Each unit consist of a room with attached toilet and kitchen
- Other provisions includes Guest Room Medical Room, Care Taker Room, Daycare Centre, Common Room/Dining Room and Laundry.

##### *Technology being used:*

##### *Foundation*

- Isolated RCC column footing with Plinth beam

##### *Walling*

- Light Gauge Steel Framework System (LGSFS) with Cement Fiber board on both side of walls and infill of rock wool.

##### *Floor Slabs/Roofing*

- Light Gauge Steel roof truss with MS deck sheeting resting on web joist and concrete screed with false ceiling of gypsum board.

##### *Joinery & Finishing*

##### *Door frame/shutters:*

- Pressed steel door frame with flush shutters



*Demonstration Housing Project at Panchkula, Haryana using Light Gauge Steel Framework System (LGSFS) with Cement Fibre board on both side of walls and infill of rock wool*

- PVC door frame with PVC Shutters in toilets.

#### Window Frame/ Shutter:

- uPVC frame with glazed panel and wire mesh shutters.

#### Flooring:

- Vitrified tile flooring in Rooms & Kitchen
- Anti-skid ceramic tiles in bath & WC
- Vitrified Flooring in Common areas and granite stone on Staircase

#### Finishing:

- Weather Proof Acrylic Emulsion paint on external walls
- Oil Bound distemper over POP on internal walls.
- Wooden cup boards in living rooms and wooden cabinet under kitchen slabs
- Electrical fixtures such as Fans, LED lights etc.

#### Infrastructure Components

- CC Roads & Paver blocks in pavements,
- Rain water Harvesting,
- Solar Street Lights,
- Landscaped Court.
- Fire safety provisions as per NBC Norms

### **Demonstration Housing Project at Agartala, Tripura**

#### Salient Features of the Project

- Usage of the Project : Social Purpose
- Nodal Agency : Urban Development Department Tripura
- Location : Narsingharh, West Tripura
- Plot Area for DHP : 2360 Sq.mts.
- Total Covered Area : 1833.74 Sq.mts.
- No. of Units/Rooms: 40 (G+1)
- Carpet Area of a unit : 21.86 Sq.mts.
- Each unit consist of room with attached toilet and Pantry
- Other provisions includes Guest Room Medical Room, Care Taker Room, Com-

mon Dining Room with Kitchen and Activity Room.

#### Technology being used:

##### Foundation

- Isolated RCC column footing with Plinth beam

##### Walling

- Structural Stay in Place Steel Formwork (Coffor)
- Floor Slabs/Roofing Cast in situ RCC Slab

##### Joinery & Finishing

##### Door frame/shutters:

- Pressed steel door frame with flush shutter
- PVC door frame with PVC Shutters in toilets

##### Window Frame/ Shutter:

- uPVC frame with glazed panel and wire mesh shutters

##### Flooring:

- Vitrified tile flooring in Rooms & Kitchen
- Anti-skid ceramic tiles in bath & WC
- Kota Stone Flooring in Common area and Staircase

##### Finishing:

- Weather Proof Acrylic Emulsion paint on external walls
- Oil Bound distemper over POP on internal walls
- Wooden cup boards in living rooms and wooden cabinet under kitchen slabs
- Electrical fixtures such as Fans, LED lights etc.

##### Infrastructure Components

- CC Roads & Paver tiles in pavements,
- Provision for Rain water Harvesting,
- Solar Street Lights,





*Demonstration Housing Project at Agartala, Tripura using Structural Stay In Place Steel Formwork (Coffor)*

- Landscaped Court
- Fire safety provisions as per NBC Norms

The construction work for DHP at Panchkula, Haryana is nearing completion and likely to be completed shortly. In DHP at Agartala, Tripura, all structural work has been completed and finishing work is in progress.

During the year the work for construction DHPs at Ahmedabad, Gujarat and Chimbhel, Goa was awarded after completing the bidding process on CPPP and contract agreement was signed. The details of these projects are as under:

#### **Demonstration Housing Project at Ahmedabad, Gujarat**

1	Location of the Project	Hathijan, Ahmedabad, Gujarat
2	Usage of project	To be given to PMAY (U) Beneficiaries
3	Total plot area allotted by State Govt.	20000.00 Sq.mts.
4	Plot area used for DHP	2372.00 Sq.mts.
5	Total Built up area	2056.8 Sq.mts. (22131.17 Sq.ft.)
6	No. of Floors/Units	40 Nos. (G+3)
7	Carpet Area of each unit	35.78 Sq.mts.
8	DHP consists of	Block A – 16 DUs - 50.25 Sq.mts. each Block B&C – 24 DUs – 52.20 Sq.mts. each {Average Area per unit -51.42 Sq.mts (553.28 sqfts) having a Living room, a Bed room, a Kitchen, a Bath room, a W.C, a Lobby, a Verandah and a Wash area}
9	Infrastructure components	Roads & Pavements, Boundary wall & Gate, Sewerage, External water supply, Drainage, Underground water tank, Rain water Harvesting, External Electrification, Solar street lights, Fire-fighting works, Landscaping, etc.
10	Technology to be used	Integrated Hybrid Solution-One (HIS-ONE)

#### **Demonstration Housing Project at Chimbhel, Goa**

1	Location	Chimbhel, Goa
2	Usage of project	Old Age Home
3	Total plot area allotted by State Govt.	29275 Sq.mts.
4	Plot area used for DHP	2000 Sq.mts.
5	Total Built up area	1954.2 Sq.mts. or 21027.20 Sqfts.
6	No. of Floors/Units	G+1
7	DHP consists of	Rooms (single) – 5 nos., Rooms (twin sharing) – 2 nos., Room (triple sharing) – 1 no. Rooms (four sharing) – 4 nos., Room (6 sharing) – 1 no., Room (7 sharing) – 1 no., Room (10 sharing) – 1 no. <i>Other provisions</i> Activity room (1 no.), Prayer room (1 no.), Dining hall with kitchen (1 no.), Reading room (1 no.), Doctors room (2 nos.), Physio therapy Room (1 no.), Emergency care Room (1 no.), Nurses Room (1 no.), Caretaker Room (1 no.) Rm (1 no.), office (1 no.), Convenience St. (1 no.), lift room (1 no.) and separate toilets for ladies & gents, ramp
8	Infrastructure components	Roads & pavements, External water supply, Sewerage, Drainage, Septic Tank, Underground water tank, Borewell, Rain water Harvesting, External Electrification, Solar street lights, Firefighting provision, Landscaping, Boundary Wall with gate etc.
9	Technology to be used	Light Gauge Steel Framed Structure with Precast Concrete Panels on both side of wall and Light Weight Concrete as Infill

The architectural drawings for both the above DHPs have been prepared and submitted for their approval to respective Urban Local Bodies. Due to COVID-2019 Pandemic, the construction work on both DHPs is likely to start shortly.

Further, with the approval of CSMC, four DHPs namely at Bhopal, Madhya Pradesh; Guwahati, Assam; Tirrupur, Tamil Nadu and Ayodhya, Uttar Pradesh have also been initiated. Detailed





TYPICAL UNIT PLAN

*Layout Plan and Typical Unit Plan of Demonstration Housing Project at Ahmedabad, Gujarat using Integrated Hybrid Solution-One (HIS-ONE)*



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Project Reports were prepared for these Demonstration Housing Projects for consideration by CSMC of PMAY(U). Besides, field visits were undertaken to assess the suitability of sites for construction of demonstration housing projects in interested states along with the officials of respective State Governments. The tenders for DHPs at Bhopal, Madhya Pradesh have been invited through CPP Portal of NIC and technical bids have been opened. Financial bids will be opened after the technical evaluation of the received bids.

The tender for DHPs at Guwahati, Assam; Tirrur, Tamil Nadu and Ayodhya, Uttar Pradesh are under preparation and will be uploaded on CPP Portal of NIC for inviting bids.

Further, the remaining States are also being requested to showcase innovative technologies through Demonstration Housing Projects and adopt emerging technologies in their construction projects.

***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 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.

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

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

The Ministry of Housing & Urban Affairs, Government of India is implementing “Pradhan Mantri Awas Yojana (Urban) - Housing for All” Mission. 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 TPIM review and capacity building of functionaries of state local bodies. During the year, the Council has undertaken the following activities as per the direction of the Ministry:

#### **Site Scrutiny along with DPR Desk Scrutiny of projects under BLC vertical of PMAY**

- a. Desk Scrutiny Report, for construction of 1298 New Houses under Beneficiary Led Construction vertical of PMAY-HFA (U) for Silchar Town, Assam forwarded to ministry on 31<sup>st</sup> July, 2020.
- b. Desk & Site Scrutiny Report, for construction of 1520 New Houses under Beneficiary led Construction vertical of PMAY-HFA (U) for Thoubal Municipal Council (Phase-II), Manipur forwarded to ministry on 30<sup>th</sup> July, 2020 (Desk Scrutiny Report) and 28<sup>th</sup> September, 2020 (Site Scrutiny Report).
- c. Desk & Site Scrutiny Report, for construction of 871 New Houses under Beneficiary led Construction vertical of PMAY-HFA (U) for Kolasib Town, Mizoram, forwarded to ministry on 6<sup>th</sup> August, 2020.
- d. Desk & Site Scrutiny Report, for construction of 3669 New DUs under beneficiary led Construction at Agartala Town, Tripura forwarded to ministry on 30<sup>th</sup> July, 2020 (Desk Scrutiny Report) and 28<sup>th</sup> September, 2020 (Site Scrutiny Report).
- e. Desk & Site Scrutiny Report, for construction of 30 Enhancement DUs under beneficiary led Construction at Bilaspur, Himachal Pradesh forwarded to ministry on 6<sup>th</sup> August, 2020.
- f. Desk & Site Scrutiny Report, for construction of 64 New DUs under beneficiary led Construction at Poanta Sahib, Himachal Pradesh forwarded to ministry on 6<sup>th</sup> August, 2020.
- g. Desk & Site Scrutiny Report, for construction of 77 Enhancement DUs under beneficiary led Construction at Bilaspur, Himachal Pradesh forwarded to ministry on 10<sup>th</sup> February, 2021.
- h. Desk & Site Scrutiny Report, for construction of 37 Enhancement DUs under beneficiary led Construction at Roorkee town, Uttarakhand, forwarded to ministry on 31<sup>st</sup> March, 2021.
- i. Desk & Site Scrutiny Report, for construction of 863 New Houses under Beneficiary led Construction vertical of PMAY-HFA (U) for Jagiroad Town, Assam, forwarded to ministry on 31<sup>st</sup> March, 2021.
- j. Desk & Site Scrutiny Report, for construction of 3330 New Houses under Beneficiary led Construction vertical of PMAY-HFA (U) for Karimganj Town, Assam, forwarded to ministry on 31<sup>st</sup> March, 2021.
- k. Desk & Site Scrutiny Report, for construction of 2325 New Houses under Beneficiary led Construction vertical of PMAY-HFA (U) for Nambol Municipal Council (Phase-II), Manipur, forwarded to ministry on 31<sup>st</sup> March, 2021.
- l. Desk & Site Scrutiny Report, for Construction of 95 Enhancement DUs under Beneficiary Led Construction at Mokokc-

hung Town (Phase-II), Nagaland, forwarded to ministry on 31<sup>st</sup> March, 2021.

- m. Desk & Site Scrutiny Report, for construction of 1307 New Houses under Beneficiary led Construction vertical of PMAY-HFA(U) at Wokha Town (Phase-II), Nagaland, forwarded to ministry on 31<sup>st</sup> March, 2021.

### **Technology Sub-Mission**

A Technology Sub-Mission has been set up under “Housing for All (Urban) Mission” with the objective of providing “Sustainable Technological Solutions for Faster & Cost Effective Construction of Houses suiting to Geo-Climatic and Hazard Conditions of the Country”. The Technology Sub-Mission facilitates adoption of modern, innovative and green technologies and 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/SPAs. BMTPC is working as Technical Secretariat of the Technology Sub-Mission.

The 4<sup>th</sup> meeting of the Technology Sub-Mission under under Pradhan Mantri Awas Yojana – Urban (Housing for All Mission) was held on 10<sup>th</sup> November 2020 through video conferencing at Nirman Bhawan, New Delhi under the Chairmanship of Shri Amrit Abhijat, the then Joint Secretary and Mission Director (HFA), Ministry of Housing and Urban Affairs, Government of India. The Chairman emphasized on taking forward the agenda of Technology Sub-Mission through technological intervention and creating an enabling ecosystem for absorption and incubation of innovative technologies. To realise this objective, participation of both government and private sector is envisaged. It was suggested that the Technology Sub-Mission should also suggest on adoption of these new technologies which are disaster resilient and sustainable as well. The 5<sup>th</sup> and 6<sup>th</sup> Meeting of Technology Sub-Mission (TSM) under Pradhan Mantri Awas Yojana – Urban under the chairmanship of the then Joint Secretary and Mission Director (HFA), Ministry of Housing and Urban Affairs, Government of India at New Delhi were held on February 3, 2021 and February 25, 2021 respectively.



*5<sup>th</sup> Meeting of Technology Sub-Mission (TSM) under Pradhan Mantri Awas Yojana – Urban held under the Chairmanship of JS&MD(HFA), MoHUA, at New Delhi on February 3, 2021*





*6<sup>th</sup> Meeting of Technology Sub-Mission (TSM) under Pradhan Mantri Awas Yojana – Urban held under the Chairmanship of JS&MD(HFA), MoHUA, at New Delhi on February 25, 2021*

### **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 & Urban Affairs has pursued CPWD and BIS to come out with notifications, circulars, SORs, specifications etc. which will authorize State Governments to use these new construction technologies in housing projects.

In this direction, CPWD vide OM no. 17/SE (TAS)/BMTPC/2020/381 dated 23.09.2020 has approved all 54 technologies which were shortlisted under Global Housing Technology Challenge – India (GHTC-India) conducted by Ministry of Housing and Urban Affairs. These technologies are to be adopted in future projects irrespective of location and cost.

### **Light House Projects using Emerging Technologies shortlisted under Global Housing Technology Challenge – India (GHTC-India)**

The Council has been designated as a Technical Partner by the Ministry Global Housing Technology Challenge – India (GHTC-India) and nominated for implementation of LHPs in close coordination with respective State Governments. Under GHTC-India proven innovative and alternate construction technologies along with future potential sustainable technologies were presented. A basket of 54 proven technologies were shortlisted in six broad categories. These proven technologies are being showcased through execution of six Light House Projects (LHPs) across six locations namely, Indore, Rajkot, Chennai, Ranchi, Agartala and Lucknow, using distinct technologies from each of the six broad categories. The Foundation Stones of the six Light House Projects were laid by the Hon'ble Prime Minister on January 1, 2021.



Chennai, Tamil Nadu



Indore, Madhya Pradesh



Rajkot, Gujarat



Lucknow, Uttar Pradesh



Agartala, Tripura



Ranchi, Jharkhand

*Light House Projects (LHPs) at six locations namely, Chennai, Indore, Rajkot, Lucknow, Agartala and Ranchi using distinct technologies from each of the six broad categories shortlisted under GHTC-India*

BMTPC is regularly monitoring and interacting with the agencies in close coordination with the Ministry for any query resolution and smooth operationalization of LHPs. These LHPs will act as live laboratories to establish innovative and green construction practices across India and will help in established these systems as future construction systems.

### ***Preparation of Short Films on six distinct Technologies***

In order to showcase the technologies being used in six LHPs during the Foundation Laying ceremony of LHPs, the Council provided technical assistance in preparation of short films on (i) Prefabricated Sandwich Panel System with pre-engineered steel structural system (Indore, MP), (ii) Light Gauge Steel Structural System (Agartala, Tripura), (iii) Monolithic Concrete Construction system - Tunnel Form (Rajkot, Gujarat), (iv) Precast Concrete Construction System (Chen-

nai, Tamil Nadu), (v) Stay In Place Formwork System with pre-engineered steel structural system (Lucknow, UP) and (vi) Precast Concrete Construction - 3D Volumetric (Ranchi, Jharkhand).

### ***Preparation of Compendium on Innovative Emerging Technologies of 54 emerging construction systems shortlisted under GHTC-India***

BMTPC under the overall guidance of HFA Directorate, has prepared Compendium on Innovative Emerging Technologies which comprises of 54 emerging construction systems shortlisted under Global Housing Technology Challenge - India (GHTC-India). The Compendium was released by the Hon'ble Prime Minister during the Foundation Stone Laying ceremony on January 1, 2021. The Council also assisted HFA Directorate in preparation of a short film on the Compendium which was screened during the ceremony.

### ***Preparation of Short Film on Accelerator Workshop for Affordable Sustainable Housing Accelerators - India (ASHA-India) under GHTC-India***

The Council assisted HFA Directorate in preparation of a short film on Accelerator Workshop for Affordable Sustainable Housing Accelerators - India (ASHA-India) under GHTC-India. Hon'ble Prime Minister during the Foundation Stone Laying ceremony on January 1, 2021 facilitated winners of Post Prototype Technologies under Acceleration Support category namely, Saltech Design Labs, Ahmedabad; Green Forms, Faridabad; Gohemp Agroventures, Kandwal Village, Uttarakhand; Gouda-Torgerson Humengi Building System India, Gurugram and Prashak Techno Enterprises, Pune.

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

The Council has provided technical services under Affordable Rental Housing Complexes (ARHCs) scheme. The appropriate structure will be created at BMTPC for effective and efficient operationalization of ARHCs with regard to appraisal and monitoring of projects, fund release, development of dedicated website and maintenance, documentation and maintenance of records, printing of guidelines and other IEC materials.

### ***Online Enrolment Drive for Technograhis***

MoHUA has initiated an Online Enrolment Drive for all stakeholders to register themselves to visit Light House Projects, 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. They will act as Catalysts to Transform the Urban Landscape for New Urban

India to full the vision of AatmaNirbhar Bharat. Technograhis will be exposed to the innovative construction technologies through onsite activities to learn different phases of use of innovative technologies in LHPs as well as through offsite Workshops/ Webinars, Webcasting, Mentoring on Technical know-how/Module etc. BMTPC is providing technical support in implementation of Technograhis programme.

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

The Ministry of Housing and Urban Affairs (MoHUA) through BMTPC, has set up a Data Resource Cum Monitoring Centre (DRMC) for monitoring work, data analysis, data compilation, data dissemination, generation of periodic reports in electronic form, undertake field visits/physical verification in a friendly manner and also established a separate Monitoring Cell under the Mission Directorate in Nirman Bhawan for ease of data collection, analysis and generation of various housing and infrastructure reports, progress of construction etc. on day to day basis.

### ***Affordable Sustainable Housing Accelerator-India (ASHA-India)***

Under GHTC-India, it has also been planned to incubate and accelerate identified potential future technologies through Affordable Sustainable Housing Accelerator (ASHA) - India. A Meeting through video conferencing was organized by BMTPC along with the World Resource Institute (WRI) for ASHA-India Accelerator Winners on January 18, 2021. During the meeting, various aspects such as opportunities received by the winners, issues faced if any as regards acceptance of their product/ technology, further upgradation in the technology, expectations from Ministry/ BMTPC/WRI, if any, were discussed in details with assurance for all possible supports.

### **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 is aggregating loans from lending agencies or financial institutions. Fund raised through EBR for NUHF is being 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.

During the FY 2020-21, an amount of Rs. 10,000 crore has been received as EBR from NSSF and the same has been disbursed as per the sanction

letters issued by the Ministry of Housing & Urban Affairs. Besides, during the year, an amount of Rs. 4147.84 crore (approx.) has been received for payment of interest on EBR and the same has been disbursed to HUDCO and NSSF.

As such, Rs. 33,000 crore & Rs. 20,000 crore (totaling to Rs. 53,000 crore) has been received as EBR from NSSF & HUDCO, respectively, from March 2018 to March 2021 and the same has been disbursed as per the sanction letters issued by the Ministry of Housing and Urban Affairs, Government of India from time to time.



## IV. DISASTER MITIGATION AND MANAGEMENT

### I. E-Course on Vulnerability Atlas of India

As reported earlier, the Council has published the digital version of 3<sup>rd</sup> edition of Vulnerability Atlas of India which was released by Hon'ble Prime Minister of India on the occasion of Global Housing Technology Challenge - India (GHTC-India) on 2<sup>nd</sup> March, 2019. The third edition of Vulnerability Atlas of India is collation of the existing hazard scenario for the entire country and presents the digitized State/UT-wise Hazard Maps with respect to Earthquakes, Winds & Floods for district-wise identification of vulnerable areas.

Subsequently, BMTPC jointly with School of Planning & Architecture (SPA), New Delhi developed e-Course on Vulnerability Atlas of India under the guidance of Ministry of Housing & Urban Affairs. The Course was launched by Honble Minister. The e-Course is being offered jointly

by the School of Planning & Architecture, New Delhi and Building Materials & Technology Promotion Council (BMTPC), New Delhi. The registration to e-Course on Vulnerability Atlas of India is through SPA's website [www.spa.ac.in](http://www.spa.ac.in) and <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. The e-course will be a tool for effective & efficient disaster mitigation & management in the field of Architecture, Civil Engineering, Urban & Regional Planning, Housing & Infrastructure Planning, Construction Engineering & Management and Building & Materials Research. Till 31.3.2021, 770 persons registered for the e-Course. On successful completion, the participants are given e-certificates.



Website of E-Course on Vulnerability Atlas of India  
<https://ecourse.bmtpc.org>

BMTPC is constantly pursuing with various stakeholders, academic institutions and departments for giving necessary directions to their engineers and architects for undertaking the course. Also, a clause for inclusion of Vulnerability Atlas of India in tender documents have been prepared which can be included in the future projects to ensure disaster resistant construction.

## 2. Organisation of Webinars on Vulnerability Atlas of India

The third edition of Vulnerability Atlas of India is collation of the existing hazard scenario for the entire country and presents the digitized State/UT-wise Hazard Maps with respect to Earthquakes, Winds & Floods for district-wise identification of vulnerable areas. This edition contains additional digitized maps for Thunderstorms, Cyclones and Landslides. The Atlas also presents the district-wise Housing Vulnerability Risk Tables based on wall types and roof types

as per 2011 Census Housing data. The Atlas is a useful tool not only for public but also for urban managers, State & National Authorities dealing with disaster mitigation and management.

The Third Edition of the Vulnerability Atlas of India has also been made available at <https://www.bmtpc.org> with links on websites of Ministry of Housing & Urban Affairs i.e. <http://mohua.gov.in> and <https://ghsc-india.gov.in/> for wider access by various stakeholders.

In order to educate about the Vulnerability Atlas of India and Disaster resistant design & construction practices, the Council through video conferencing organized Webinars on e-Course on Vulnerability Atlas of India on 9<sup>th</sup> November, 2020 for SLNAs from Northern region, on 19<sup>th</sup> November, 2020 for SLNAs from North-Eastern region and on 2<sup>nd</sup> December, 2020 for NMIT Bangalore. NDMA also conducted panel discussions on multi-hazard resistant features of the Vulnerability Atlas of India.



*Glimpses of Webinars on e-Course on Vulnerability Atlas of India organised on 9<sup>th</sup> November, 2020, 19<sup>th</sup> November, 2020 and 2<sup>nd</sup> December, 2020*

### 3. Organisation of Webinar on Disaster Safe Rural Housing

National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in association with BMTPC organized a webinar session titled “Disaster Safe Rural Housing” on February 26, 2021 for a duration of one and half hours. This webinar topic was in compliance with PM 10 point agenda no. 5, 8 and 9 which state the importance of using technology for enhancing efficiency for DRR effects, building local capacity and learn lessons from the past experiences.

Over the years, rural settlements, especially in developing countries, are disproportionately vulnerable to natural hazards due to both biophysical and social vulnerability. When disaster occurs most devastation seem to affect the rural areas of our country mainly due to poor quality of construction, non-engineered constructions executed by unskilled masons and lack of regulatory frameworks, especially beyond the municipal boundaries. Community awareness and sensitization coupled with rigorous capacity building initiatives is needed to sensitize people to bring disaster resiliency in the rural areas.

The objectives of the webinar was (1) to discuss the good construction practices need to be followed in rural areas to achieve safety from disasters; (2) to discuss the challenges faced in rural constructions in India; (3) to discuss some good

traditional construction practices and methods to popularise the same among the rural communities; (4) to discuss the fire risk mitigation measures for the rural areas; and (5) to bring awareness in our participants for building resilience. More than 80 participants participated in the webinar.

### 4. Sharing of Data on Vulnerability Atlas of India

The Council has prepared the Vulnerability Atlas of India on ArcGIS platform by digitizing the various base maps w.r.t. earthquakes, wind/cyclones, floods, etc. Besides landslides incidence maps and thunderstorm incidence maps were created from the datasets. These maps now includes a number of layers for respective hazards and allied information.

The National Disaster Management Authority (NDMA) and National Institute of Disaster Management (NIDM) requested BMTPC for sharing of GIS shape files of hazards layers as given in the third edition of Vulnerability Atlas of India.

Being premier govt. agencies dealing with disaster mitigation and management, the following were shared:

1. Earthquake Hazard Maps – Shape files
2. Wind/Cyclone Hazard Maps – Shape files
3. Flood Hazard Maps – Shape files
4. Landslide Incidence Map – database file
5. Thunderstorm Incidence Map – database file
6. Vulnerability Risk Tables – Excel file

Sharing of the data related to disaster prone areas in India has helped these organizations in the domain of natural hazard mapping and assessment.

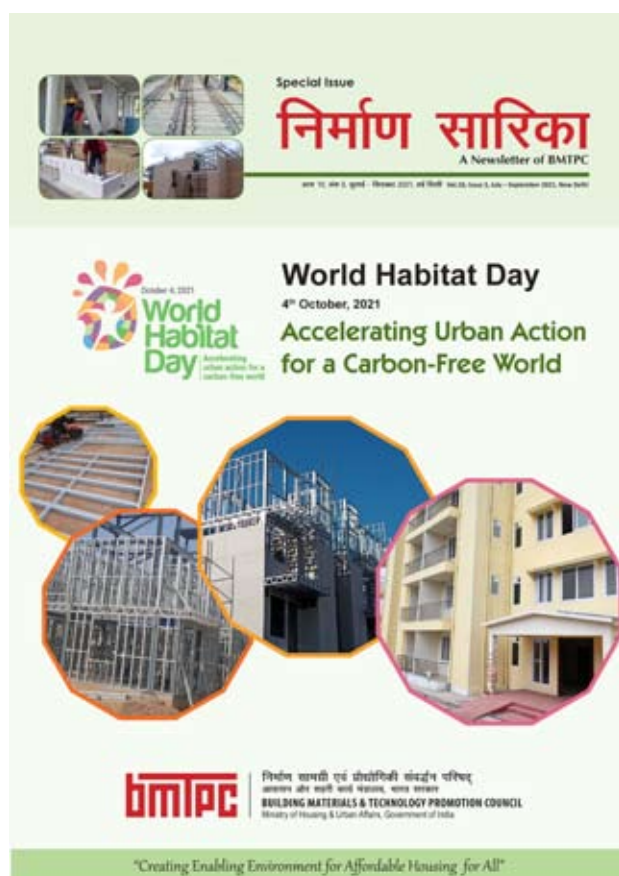




## V. STRENGTHENING THE INFORMATION AND DATABASE IN THE CONSTRUCTION SECTOR

### 1. Publication of the “Nirman Sari-ka” – Special Issue of BMTPC Newsletter

The Ministry of Housing & Urban Affairs celebrated the World Habitat Day 2020. To mark the occasion, BMTPC brought out a Special Issue of its Newsletter “Nirman Sari-ka” on the theme “Housing For All :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 Sari-ka” was released by Shri Hardeep S. Puri, Hon’ble Minister of State (I/C) for Housing & Urban Affairs in the presence of Shri Durga Shanker Mishra, Secretary, Ministry of Housing & Urban Affairs during the celebration ceremony of World Habitat Day held on 5<sup>th</sup> October, 2020 at New Delhi.

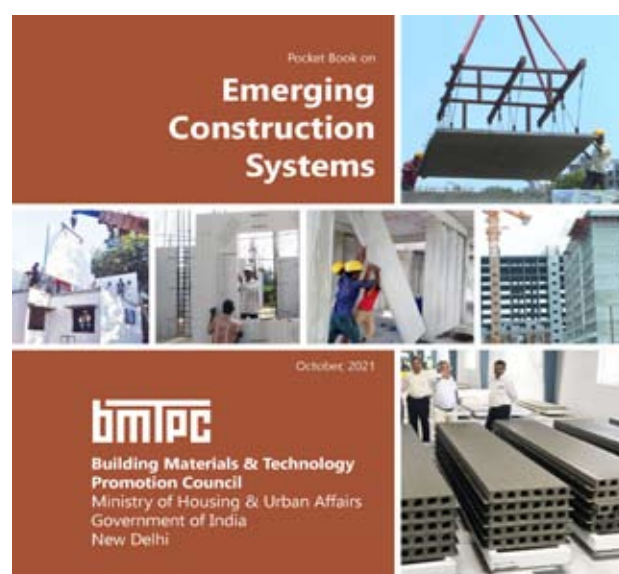


### 2. Publication of the Pocket Book on Emerging Construction Systems – Third Edition

BMTPC has been promoting alternate cost-effective, environment-friendly, energy-efficient and disaster resistant technologies. BMTPC took an initiative to study/select emerging and alternate cost effective technologies suitable to Indian geo-climatic conditions and advocate these technologies to the State Govt. for implementation in housing projects under various housing schemes of government in different parts of the country.

In order to mainstream the new emerging technologies, BMTPC have brought out the third edition of Pocket Book on Emerging Construction Systems with a view to sensitize professionals including common man. The revised Pocket Book presents general information on the 36 emerging technologies in pictorial form.

The Pocket Book on Emerging Construction Systems was released by Shri Hardeep S. Puri, Hon’ble Minister of State (I/C) for Housing & Urban Affairs during the celebration ceremony of World Habitat Day held on 5<sup>th</sup> October, 2020 at New Delhi.



### 3. Publication of the Handbook on Performance Appraisal Certification Scheme (PACS)

With the fast changing market scenario and technological developments, a large variety of new building materials, products, components and composites are emerging in building construction market. The architects/engineers construction agencies, builders and other customers are frequently confronted with the question of quality, durability, serviceability and performance of new building materials, products, components and systems.

Though status of national standards on building materials and construction techniques in India is far superior to many developing and even some developed countries but process of standardization is time consuming and requires the support of field performance of materials before standards are formulated. Further, standards cover generic qualities and properties that cannot be comprehensive enough to cover each and every emerging building materials /technologies and therefore, a large number of building products, components and composites are being marketed with several claims of superiority which cannot be substantiated either due to non-availability of relevant standards or lack of test and evaluation methods/or proprietary nature of products revealing not much about their character, design etc. As per practice in large number of industrialized countries, such a situation calls for providing Performance Appraisal/Evaluation Certification Services by an independent agency to guide the architects, engineers, builders and other users of building materials, products and building systems.

With the above background, the then Ministry of Urban Develop-

ment & Poverty Alleviation (now Ministry of Housing & Urban Affairs), Government of India, under the Gazette Notification has authorized BMTPC to issue Performance Appraisal Certificates (PAC) giving independent opinion of the fitness of new building materials, components, products, elements, construction system and assemblies for intended use, not yet covered by Indian standard. This scheme provides for a third party certification for certifying the performance of the product and in the process, it generates sufficient data needed for formulation of Indian Standard at later date. BMTPC has so far issued 73 Performance Appraisal Certificates (PACs) for various new materials & construction systems.

In order to give new fillip to PACS, BMTPC published updated edition of Explanatory Handbook on PACS which elaborates all the aspects of PACS and dispels the various doubts about the scheme for the benefit of prospective applicants.

The Explanatory Handbook was released by Shri Hardeep S. Puri, Hon'ble Minister of State (I/C) for Housing & Urban Affairs during the celebration ceremony of World Habitat Day held on 5<sup>th</sup> October, 2020 at New Delhi.



## 4. 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 emerging technologies in mass housing.

### Approval of PACs

Technical Assessment Committee (TAC) constituted for the purpose of approval of Performance Appraisal Certificate (PAC) in its 17<sup>th</sup> meeting held on January 16, 2021 approved issuance of PACs for the following new products/systems:

1. Dalmia Magic Premium Skim Coat
2. Koncrete Reinforced Autoclaved Aerated Concrete Panels
3. Factory assembled insulated sandwich

panels using PUF

4. Factory assembled insulated sandwich panels using Mineral-wool

### Approval of Renewal of PACs

Renewal of PACs for the following five systems/products were also approved in the TAC's 17<sup>th</sup> meeting held on January 16, 2021:

1. Stay in place PVC Wall Forms
2. Structural Stay in Place Formwork System
3. QuikBuild Panels
4. Precast Construction Technology
5. Bamboo wood Products

Due to COVID-19 pandemic situation, in place of physical inspection, inspection is being carried out through video conferencing.

### Applications under process for issuance of PACs

Detailed Application Forms for the following new products/systems have been received from the manufacturers for further processing for issuance of PACs:

1. Conecc Precast Compound Wall
2. uPVC Doors & Windows
3. Rapicon Walls Panel & Prefabricated Steel Structures

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

1. Solid Panel PVC Doors & Frames - M/s Rajshri Plastiwood Pvt. Ltd.
2. Grass Floor Bamboo Flooring Tiles – M/s Grass Ply
3. Sandwich Panels, Prefab & PEB Structures - M/s EPACK Polymers Pvt. Ltd
4. Insullite (Roof Tile) – M/s Ashapura Tiles & Miner
5. Modular Building /PEB/LGS Building – M/s Smard



6. Ferron Panel – M/s Dr.Arun Narhari Purnandare
7. Light Gauge Steel Framed Structures - M/s BahL Buildcon Pvt.Ltd.
8. Moducast Precast Concrete Buildings – M/s Moducast Private Limited
9. VASPAR Composite Honeycomb Construction Panels Pvt.Ltd.

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 73 PACs on various products and systems.

### 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.

## 5. Information Dissemination through Website of the Council

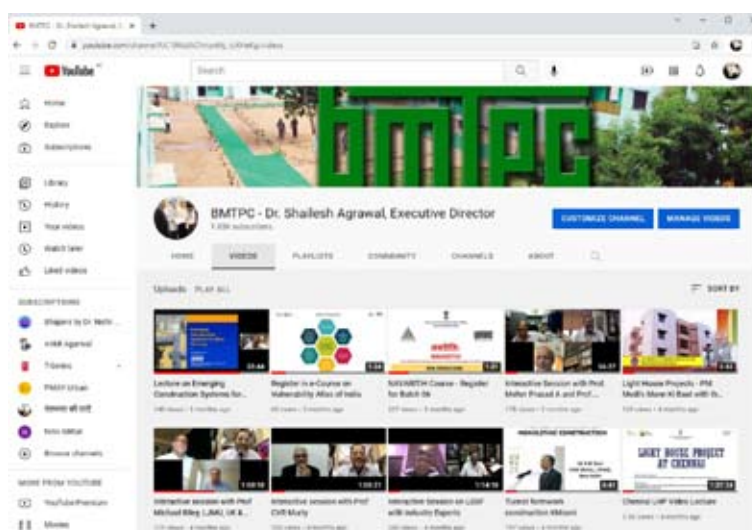
The Website of the Council ([www.bmtpc.org](http://www.bmtpc.org)) is being visited by professionals and others globally. It is being used as a reference resource in the area of innovative building materials and construction technologies. The website of the Council acts as a repository on alternate and 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 ([hindi.bmtpc.org](http://hindi.bmtpc.org)) as per the directions of the Rajbhasha Nideshalaya.

There has always been good response to BMT-PC'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.mhwa; 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 more than 1,40,000 views of various 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 (53,525 nos.), (2) EPS Based Panel System (48,018 nos.), (3) Monolithic Concrete Construction (7,219 nos.), (4) Stay in Place Formwork System (4,250 nos.), etc. The BMTPC youtube channel has got 1830 subscribers till now.



## VI. TECHNOLOGY IDENTIFICATION, TRANSFER AND PROMOTIONAL ACTIVITIES

### I. 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, during the year, following technologies were assessed and certified, which have potential to be used for mass housing in the country:

#### **KON\_CRETE Reinforced Autoclaved Aerated Concrete (AAC) Panels (PAC No. 1056-P/2021)**

KON\_CRETE Reinforced AAC wall & floor/roof panels are innovative Autoclaved Aerated Concrete (AAC) products, having properties such as light, high thermal efficiency, acoustics performance, energy efficiency & light weight.

These are steam cured cementitious materials manufactured from a mix of flyash, cement and other additives giving the material a unique cellular lightweight internal structure. The manu-

facturing process involves mixing of Fly ash slurry stored in slurry tanks, the binders (lime, cement and anhydrite) stored in silos & aluminum powder which is dispersed in the water. All the components are accurately weighed and released into the mixer in a pre-defined order. Recipe and temperature control system constantly monitors this process. The mix is then poured into the moulds & immediately after this, the reinforcement frame assembly is inserted, as per the design requirement. The product/cake pre-cures for 2-3 hours after which it is cut by high-precision cutting machines as per required dimensions.

The reinforced AAC panels can be used for all kinds of modern-day construction with applications as external, internal, partition walls & floor / roof etc. Along with suitability for versatile needs of the building process, AAC Panels also possess advantages over conventional building materials for an array of application areas; Multistoried residential construction, Small modular residential construction, Commercial construction, Industrial warehouse, Sheds etc.

#### **Factory assembled Insulated Sandwich Panels using Polyurethane Foam (PUF) (PAC No. 1058-P/2021)**

The panels are factory assembled insulated sandwich panels consisting of an insulating layer 'sandwiched' between two layers of metal sheets. These are manufactured using rigid Polyurethane Foam (PUF) bonded between pre-coated steel sheets to produce profiled finish panels. The steel sheets can either be PPGL or PPGL, with a maximum thickness of 0.8 mm. An insulation core provides insulation and sturdy bonding for better structural stability and facilitates better load bearing capacity and wider spans for panels.



*KON\_CRETE Reinforced Autoclaved Aerated Concrete (AAC) Panels*





*Factory Assembled Insulated Sandwich Panels using PUF*

These panels have high strength-weight ratio and ensure structural stability on the building envelope. The panels are used both as walling & roofing components for various applications such as residential and commercial buildings, school & training centers, steel structures, management blocks, site offices, etc. These panels come with brand names as Monowall panel, Glamet panel & Super wall panel.

Structures built using these panels can incorporate MEP (mechanical, electrical and plumbing) services along with architectural elements/features such as coving, cantilevers, mezzanine floors etc. The design and engineering of structures are done following guidelines specified in Indian Standards.

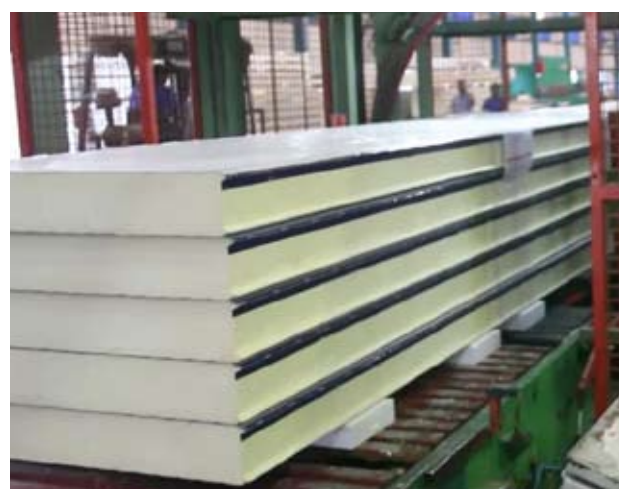
Panels are available in thickness from 30 mm to 120 mm, with standard width of 1000 mm and length as per customer requirement. The fixing mechanism of panels ensure precise interlocking, dimensional accuracy and also eliminates the risk of air gaps and thermal bridging. All joints are covered with butyl tape, sealants and flashings. It come with various facing options such as Pre-painted galvanized steel/aluminum, stainless steel and craft paper and perforated metal sheet for inner skin.

### **Factory Assembled Insulated Sandwich Panels using Mineral Wool (PAC No. 1057-P/2021)**

The panels are factory assembled insulated sandwich panels consisting of an insulating layer 'sandwiched' between two layers of metal sheets. These are manufactured using mineral wool bonded between pre-coated steel sheets to produce profiled finish panels. The steel sheets can either be PPGI or PPGL, and, with a maximum thickness of 0.8 mm. An insulation core provides insulation and sturdy bonding for better structural stability and facilitates better load bearing capacity and wider spans for panels.

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. The design and engineering of the structures is executed by following the norms & guidelines stipulated in relevant Indian Standards.

These panels have high strength-weight ratio and ensure structural stability on the building envelope. The panels are used as both walling & roofing components for various applications



*Factory Assembled Insulated Sandwich Panels using Mineral Wool*

such as residential and commercial buildings, school & training centers, steel structures, management blocks & site offices, porta cabins, etc. These panels come with brand names as Hiper-tec Wall & Hpertec roof.

Panels are available in thickness from 50 mm to 120 mm, with standard width of 1000 mm and length as per customer requirement. The fixing mechanism of panels ensure precise interlocking, dimensional accuracy and also eliminates the risk of air gaps and thermal bridging. All joints are covered with butyl tape, sealants and flashings. It come with various facing Options such as Pre-painted galvanized steel/aluminum, stainless steel and craft paper and perforated metal sheet for inner skin.

## **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 & Urban Affairs in collaboration with BMT-PC and School of Planning & Architecture (SPA), New Delhi has started a Certificate Course on emerging housing technologies namely NAVARITIH (New, Affordable, Validated, Research Innovation Technologies for Indian Housing). NAVARITIH : Certificate Course on Innovative Construction Technologies has been 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. The reading material as a Book for NAVARITIH: Certificate Course on Innovative Construction Technologies was also

released by Hon’ble Prime Minister. The Council also assisted HFA Directorate in preparation of a short film on the Certificate Course which was screened during the ceremony.

The objectives of the Certificate Course are to (a) Familiarise the professionals with the latest materials and technologies being used world-wide 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 and conducted from February 12 to 18, 2021 wherein 125 participants participated. The Second batch for Certificate Course through online classes was conducted from March 19 to 26, 2021 wherein 116 engineers, architects and other stakeholders participated. The third batch of the NAVARITIH Course has been announced and online classes will start from April 30, 2021 onwards. In view of prevailing global pandemic scenario, the Course is being conducted on virtual platform through online classes.

It is first of its kind course and the curriculum covers alternate & innovative materials and construction technologies. The content of the course are as given below:

### **DAY 1**

- Emerging Construction Systems – Introduction, opportunities, challenges
- Emerging Construction Technologies promoted through PACS/BMTPC/CPWD/GHTC-India/MoHUA

### **DAY 2**

- Formwork Systems – Introduction, Concepts and its features, design philosophy



Shri Narendra Modi, Hon'ble Prime Minister of India launched NAVARITI Course during Foundation Stone Laying ceremony of six Light House Projects (LHPs) on 1.1.2021



Shri Durga Shanker Mishra, Secretary, HUA inaugurating First Batch of NAVARITI on 11.02.2021





*First batch of NAVARITI: Certificate Course on Innovative Construction Technologies conducted from February 12 to 18, 2021 on virtual platform*



*Second batch of NAVARITI: Certificate Course on Innovative Construction Technologies conducted from March 19 to 26, 2021 on virtual platform*

- Formwork Systems – Construction methodology, implementation and case studies

## DAY 3

- Stay-In-Place Formwork Systems – Introduction, Concepts and its features
- Stay-In-Place Formwork Systems – Construction methodology, implementation and case studies

## DAY 4

- Precast Sandwich Panel Systems – Introduction, Concepts, construction methodology, implementation and case studies
- GFRG Panel Systems – Introduction, Concepts, construction methodology, implementation and case studies

## DAY 5

- Steel Structural Systems – Introduction, Concepts and its features
- Steel Structural Systems – Construction methodology, implementation and case studies

## DAY 6

- Light Gauge Steel Frame Systems – Introduction, Concepts and its features
- Light Gauge Steel Frame Systems – Construction methodology, implementation and case studies

## DAY 7

- Precast Concrete Construction Systems – Introduction, Concepts and its features
- Precast Concrete Buildings – Construction methodology, implementation and case studies

## DAY 8

- 3D Precast Volumetric System – Introduction, Concepts and its features
- 3D Precast Volumetric System – Construction methodology, implementation and case studies

The experts 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, a 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. The following lectures (2 hr. each lecture) were imparted during the semester:

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. “GRIHA Virtual Fest”

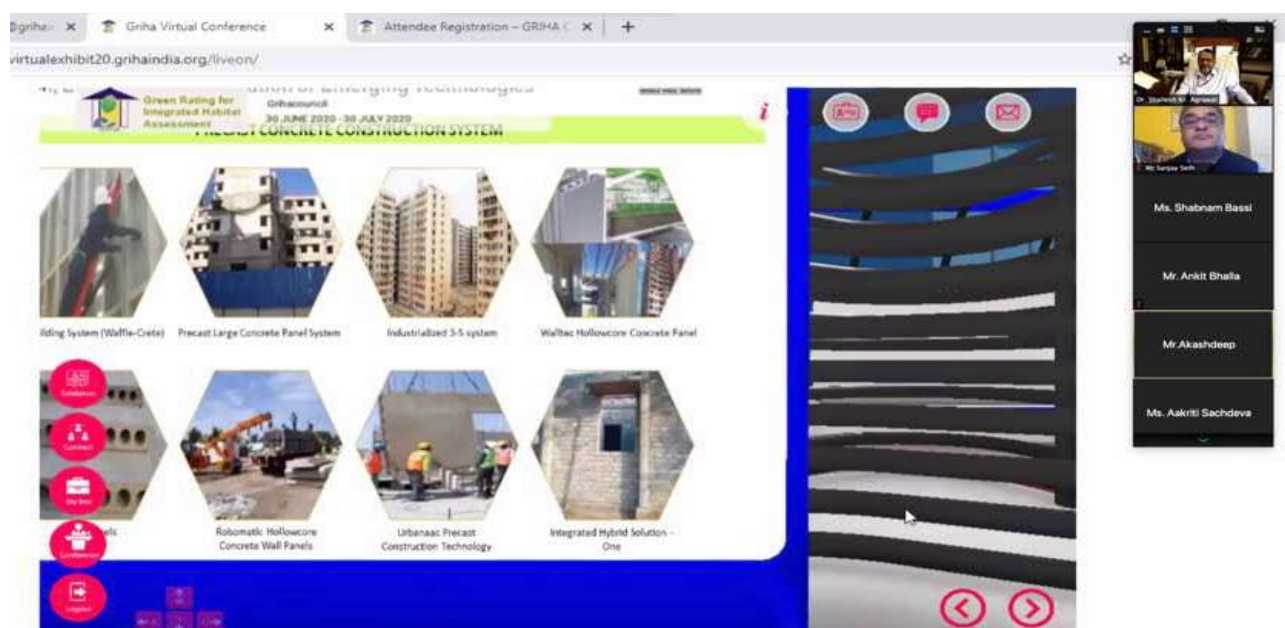
Green Rating for Integrated Habitat Assessment (GRIHA) Council, The Energy and Resources Institute (TERI) organized the “GRIHA Virtual Fest,” from July 21 – 25, 2020 where an opportunity was provided to the product manufacturers registered in GRIHA Product Catalogue to

disseminate information about their respective products (benefits, specifications and sustainability features of the product) to various stakeholders. GRIHA Product Catalogue is an online catalogue which has been developed to facilitate green building designers, architects, engineers, builders and clients with all necessary information on trustworthy green building products which can be used in order to make buildings GRIHA compliant.

The Ministry of New and Renewable Energy (MNRE), Government of India and The Energy and Resources Institute (TERI) has developed GRIHA (Green Rating for Integrated Habitat Assessment), which has been endorsed as the ‘National Rating System for Green Buildings in India’ in the year 2007.

BMTPC participated in the “GRIHA Virtual Fest” by putting up display of various activities of BMTPC in the exhibition space on the virtual platform.

This GRIHA Virtual Fest served as a platform to deliberate on innovative technologies and solutions which shall help in creating robust mechanism for developing sustainable solutions for the benefit of the entire community. The





event comprise of GRIHA's virtual exhibition held from July 21-25, 2020 and an online meet/webinar held from July 21-22, 2020 to explore new technologies and new concepts in the development of building technology and takes into account the safety, durability, health, liveability and sustainability for occupants. The emphasis were laid on the direct interaction of product manufacturers with the clients. The GRIHA Virtual Fest provided a technical platform where participants displayed multiple products and interacted with the audience.

## 5. World Habitat Day 2020 Celebrations

The Ministry of Housing & Urban Affairs cel-

ebrated the World Habitat Day 2020 through video conferencing on 5<sup>th</sup> October, 2020. The Council participated in the World Habitat Day 2020 celebrations and to commemorate the World Habitat Day, brought three publications namely, (i) Special Issue of Newsletter "Nirman Sarika" on the theme "Housing For All : A Better Urban Future", (ii) Pocket Book on Emerging Construction Systems, and (iii) Handbook on Performance Appraisal Certification Scheme (PACS). These publications were released by Shri Hardeep S. Singh, Hon'ble Minister of State (I/C) for Housing & Urban Affairs in the presence of Shri Durga Shanker Mishra, Secretary, Ministry of Housing & Urban Affairs on 5<sup>th</sup> October, 2020 at New Delhi.



*Shri Hardeep S. Puri, Hon'ble Minister of State (I/C) for Housing & Urban Affairs releasing the three publications brought out by BMTPC on the occasion of World Habitat Day on October 5, 2020 at New Delhi*

## VII. ORGANISATION

The organogram of BMTPC is shown at next page. As on 31<sup>st</sup> March, 2021, BMTPC had a staff strength 34 comprising 15 officers and 19 supporting staff. Also suitable technical/ professional/ supporting manpower is hired on contract basis on project to project and need basis.

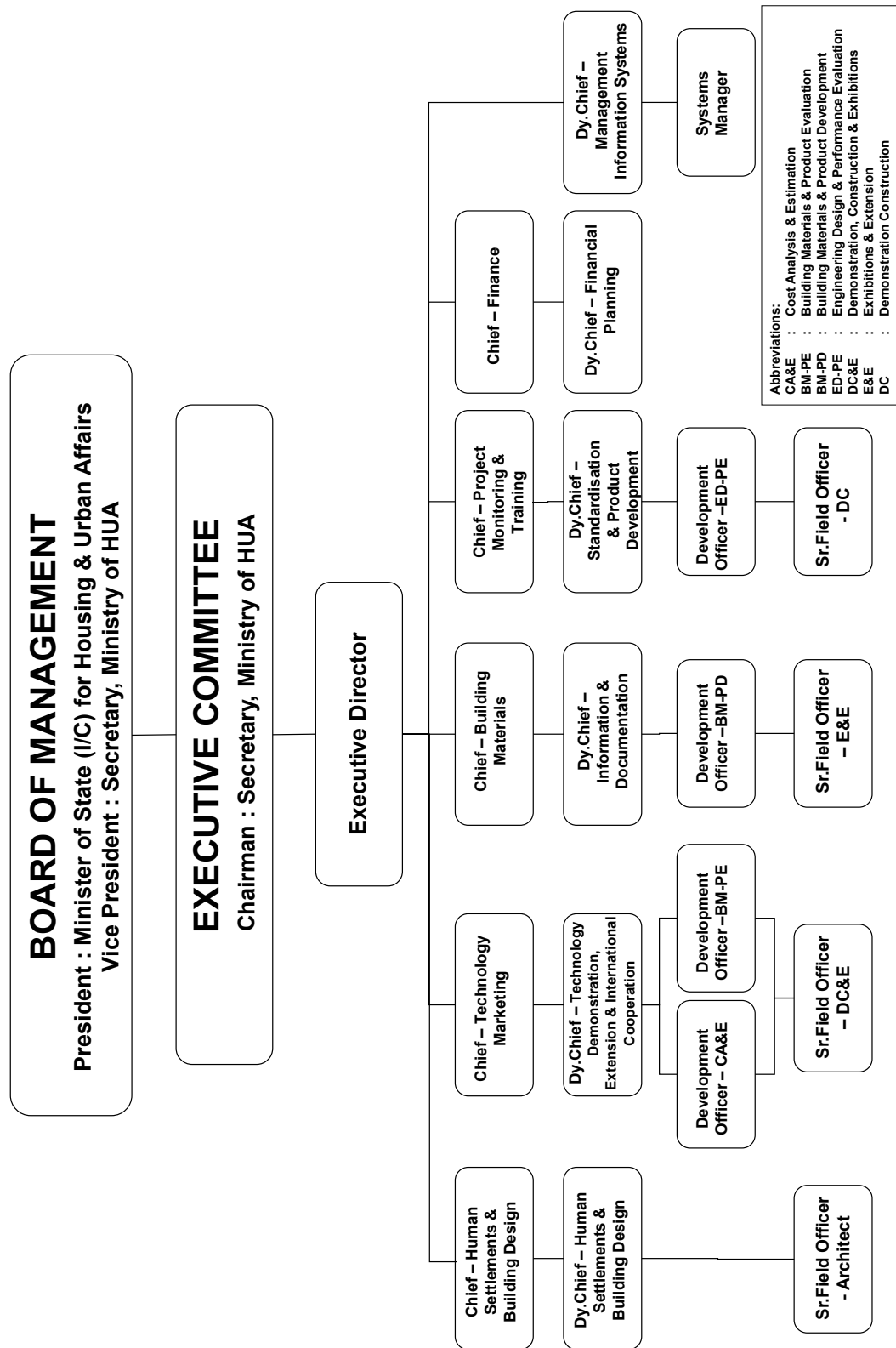
The Council has continued following administrative and financial measures for bringing transparency, accountability and discipline within the system:

- Implementation of extent MOA, Byelaws and other rules & regulations of Council.
- Internal Committee for smooth and harmonious functioning of the Council:
  - Investment Committee
  - Advertisement Committee
  - Construction Committee
  - Printing Committee
- GeM Committee
- Local Purchase Committee
- Store Purchase Committee
- Transport Committee
- Contractual Payment 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 welfare and development of Scheduled Casts & Scheduled Tribes
- Implementation of RTI Act, 2005
- Committee for Prevention of Sexual Harassment of women at workplace.



# BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL

## ORGANISATION CHART



## VIII. STAFF STRENGTH

(as on 31.3.2021)

S.No.	Name & Designation	Date of Joining
1.	Dr. Shailesh Kr.Agrawal <i>Executive Director</i>	17.01.08
2.	M. Ramesh Kumar <i>Chief- Human Settlements &amp; Building Design</i>	01.04.93
3.	S.K.Gupta <i>Deputy Chief- Technology, Demonstration Extension &amp; International Cooperation</i>	26.10.93
4.	Arvind Kumar <i>Deputy Chief- Management Information Systems</i>	15.04.99
5.	Chandi Nath Jha <i>Deputy Chief- Standardization &amp; Product Development</i>	09.09.99
6.	Pankaj Gupta <i>Deputy Chief-Information &amp; Documentation</i>	14.10.99
7.	Dalip Kumar <i>Senior Field Officer- Demonstration Construction &amp; Exhibition</i>	04.03.91
8.	Alok Bhatnagar <i>Senior Field Officer- Exhibition &amp; Extension</i>	05.10.98
9.	Akash Mathur <i>Senior Field Officer- Architect</i>	01.01.02
10.	Anita Kumar <i>Sr. Programmer</i>	03.10.96
11.	M.Ramakrishna Reddy <i>Liaison Officer</i>	29.10.03
12.	Pankaj Gupta <i>Finance Officer</i>	01.03.94
13.	Praveen Suri <i>Systems Analyst</i>	01.09.94
14.	S.S.Rana <i>Library Officer</i>	01.04.98
15.	D.Prabhakar <i>Field Officer</i>	29.01.04
	<i>Supperannuation</i>	
	S.Balasrinivasan <i>Chief-Finance</i> (Superannuated on 30.6.2020)	08.04.92
	<i>Resigned</i>	
	D.P.Singh <i>Development Officer-Engineering Design &amp; Product Evaluation</i> (Resigned on 11.6.2020)	05.10.98

## IX. ACCOUNTS

- The Council received grants of Rs. 5.50 Crore towards salaries from the Ministry of Housing & Urban Affairs, Government of India during the FY 2020-21. The receipts from other sources e.g. Fees, Consultancy, Training, GHTC, DHP, LHP, NHB, DRMC, Publications, Interest etc. were Rs. 162.49 Crore.
- In addition, an amount of Rs. 10,000.00 Crore was borrowed from National Small Savings Fund (NSSF) on behalf of MoHUA and the same has been disbursed to the States / UTs as per the sanction orders of the MoHUA. An amount of Rs. 11.86 crore was credited by SBI towards interest on the balance available in the NUHF account and Rs. 41,47,84,19,000 was credited by MoHUA in the said NUHF bank and TSA account towards interest payment on EBR loan. An amount of Rs. 41,47,84,19,000 has been disbursed as per sanction orders of MoHUA as interest payment to NSSF/ HUDCO.
- The total expenditure incurred was Rs. 1,41,87,78,91,716 during the year, as per Receipt & Payment Account Statement. A 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 materials & construction technologies	6,24,24,527
• Organisation and participation in various Seminars, Conferences, Workshops, Housing for All (Handholding, Documentation, Sensitization and Capacity Building), Mainstreaming Emerging Technologies through Dissemination, Knowledge Transfer with State Govt.	24,70,177
• Expenses towards activities relating to DRMC, GHTC, LHP and others	24,80,13,214
• Expenditure on Salary, Establishment & Administration expenses including office equipments, computer peripherals, etc.	679,56,998
• Interest payment on EBR loan/refund of security Deposits	41,49,70,47,840
• Central Assistance under Pradhan Mantri Awas Yojana (Urban) {PMAY (U)} - Housing For All from National Urban Housing Fund (NUHF) raised through Extra Budgetary Resource (EBR) borrowed from National Small Savings Fund (NSSF) disbursed to the States/ UTs as per the sanction orders of the MoHUA	99,99,99,78,960
<b>TOTAL</b>	<b>1,41,87,78,91,716</b>

The Accounts have been audited by M/s M.S. SEKHON & CO. Chartered Accountants. The balance sheet and the statement of accounts of the year 2020-21 is placed in the report.

**M. S. SEKHON & CO.**  
CHARTERED ACCOUNTANTS  
170, MADHUVAN  
DELHI-110092

**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<sup>st</sup> 2021, 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, 2021.
- (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 of accounting unless management either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

Phones & Fax : 91-11-42445194, 42445294, 42445394 E-mail : sekhonms@rediffmail.com





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

### **Emphasis of Matter**

We draw attention to Note no.7 to the Financial Statements, which describes the impact of Covid-19 on the operation and Financial Position of the Society.

Our Opinion is not modified in respect of the above matter.

### **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.



**Report on Other Regulatory Requirements**

Further, we report that :

- a) 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.
- b) In our opinion, proper books of account have been kept by the Society so far as appears from our examination of those books.
- c) 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 M.S. Sekhon & Co.  
CHARTERED ACCOUNTANTS  
FRN: 003671N

*Rajiv Tandon*

Rajiv Tandon  
Partner  
Membership No. 087343  
UDIN: 21087343AAAAFX3667

Place: DELHI  
Date : 24.11.2021



# Building Materials & Technology Promotion Council

Ministry of Housing & Urban Affairs, Government of India

## BALANCE SHEET AS ON 31 MARCH 2021

Amount ( ₹ )

	Schedule	2020-21	2019-20
<b><u>CORPUS/CAPITAL FUND AND LIABILITIES</u></b>			
CORPUS/CAPITAL FUND	1	1,000,000	1,000,000
RESERVES AND SURPLUS	2	185,496,689	182,668,645
LONG TERM LIABILITY	3	530,000,000,000	430,000,000,000
EARMARKED FUNDS	4	2,322,070,943	1,039,854,842
CURRENT LIABILITIES AND PROVISIONS	5	6,522,228,971	4,952,088,357
<b>TOTAL</b>		<b>539,030,796,603</b>	<b>436,175,611,844</b>
<b><u>ASSETS</u></b>			
PROPERTY, PLANT & EQUIPMENT	6	23,896,140	25,896,218
NON-CURRENT ASSETS	7	530,000,000,000	430,000,000,000
CURRENT ASSETS, LOANS & ADVANCES ETC.	8	9,006,900,463	6,149,715,626
<b>TOTAL</b>		<b>539,030,796,603</b>	<b>436,175,611,844</b>

SIGNIFICANT ACCOUNTING POLICIES AND  
NOTES TO THE ACCOUNTS

17

As per our report of even date attached.

For M S SEKHON & CO.  
Chartered Accountants

FRN: 003671N

*Rajiv Tandon*

Rajiv Tandon  
Partner  
M.No.87343



For Building Materials & Technology  
Promotion Council

*Pankaj Gupta*

Pankaj Gupta  
Finance Officer

*Sharad Kumar Gupta*

Sharad Kumar Gupta  
Chief - Finance (I/C)

*Dr. Shailesh Kr. Agrawal*

Dr. Shailesh Kr. Agrawal  
Executive Director

Place: New Delhi  
Date: 24.11.2021





# Building Materials & Technology Promotion Council

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

## INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 MARCH 2021

Amount ( ₹ )

	Schedule	2020-21	2019-20
<b>INCOME</b>			
Grants / Subsidies	9	55,000,000	50,000,000
Fees/Subscriptions	10	11,873,239	11,604,050
Income from Publications and PAC's Fee etc.	11	1,115,885	1,445,014
Interest Earned	12	8,798,376	10,258,406
<b>TOTAL (A)</b>		<b>76,787,500</b>	<b>73,307,470</b>
<b>EXPENDITURE</b>			
Expenditure on Salary, Establishment & Administration	13	66,198,498	70,432,593
Expenditure on Dissemination / Seminars/Workshops, Training Programmes,Housing For All etc.	14	2,470,177	4,217,557
Expenditure on Scientific & Technical (S&T) activities including Demonstration Housing Projects	15	1,284,786	2,122,055
Depreciation	6	2,942,862	3,205,762
<b>TOTAL (B)</b>		<b>72,896,323</b>	<b>79,977,967</b>
Surplus/Deficit for the year(A-B)		3,891,177	(6,670,497)
Prior Period Items		1,063,133	-
<b>BALANCE BEING SURPLUS/(DEFECIT) CARRIED TO BALANCE SHEET</b>		<b>2,828,044</b>	<b>(6,670,497)</b>

As per our report of even date attached.

For M S SEKHON &amp; CO.

Chartered Accountants

FRN: 003671N

Rajiv Tandon  
Partner  
M.No.87343

For Building Materials & Technology  
Promotion Council



Pankaj Gupta  
Finance Officer



Sharad Kumar Gupta  
Chief -Finance (I/C)



Dr. Shailesh Kr. Agrawal  
Executive Director

Place: New Delhi

Date: 24.11.2021





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

**RECEIPTS & PAYMENT ACCOUNT  
FOR THE YEAR ENDED 31 MARCH 2021**

	Amount (₹)	
	2020-21	2019-20
<b>RECEIPTS</b>		
1 Opening Balance		
Cash Balances in hand	-	-
Bank Balances		22,515,834
With Scheduled Banks:		
- Deposit with Canara Bank	132,936,634	39,600,000
- Deposit with State Bank of India-LHP A/c	144,590,000	-
- On Savings Accounts:		
- Canara Bank	75,220,837	631,081
- State Bank Of India	18,738,438	4,967,756
- State Bank Of India(NUHF)	96,518,683	88,620,245
- State Bank of India-LHP Agartala	139,998,064	-
- State Bank of India-LHP Chennai	161,278,065	-
- State Bank of India-LHP Indore	143,442,256	-
- State Bank of India-LHP Lucknow	1,008,063	-
- State Bank of India-LHP Rajkot	228,798,065	-
- State Bank of India-LHP Ranchi	141,118,065	-
	1,283,647,170	133,819,082
2 Grants-in-aid from Central Government (Ministry of Housing & Urban Affairs)	55,000,000	50,000,000
3 Receipts towards Fees/DRMC/GHTC/DHP Projects/TPQA/Training Programme, seminar receipts and other receipts	49,481,993	118,326,588
4 Loan & Advances(Net)	3,463,088	816,095
5 Security Deposit etc	7,814,901	33,886,532
6 Receipts towards EBR for NUHF Fund	100,000,000,000	150,000,000,000
7 Interest received on NUHF Fund & LHP Projects payable to MoHUA	130,184,234	157,898,438
8 Receipts from Ministry towards Demonstration Housing Project at Tripura/Gujarat/Haryana/GOA/Bhopal	135,156,496	63,227,350
9 Receipts towards Light House Projects	1,417,973,046	960,160,000
10 Receipts towards interest payment on EBR loan	41,478,419,000	30,690,425,000
11 Receipts from NHB towards Demonstration Housing Project at Bihar Shariff/Lucknow/Odisha	-	23,241,000
12 Receipts towards sale of publications, PACS etc	1,115,885	1,445,014
13 Interest Earned	9,910,236	6,160,778
<b>TOTAL</b>	<b>144,572,166,049</b>	<b>182,239,405,877</b>
<b>PAYMENTS</b>		
1 Purchase of Fixed Assets	942,784	680,888
2 Expenditure on Salary, Establishment & Administration	67,014,214	70,793,568
3 Expenditure on Training Programmes, Seminars/DRMC/Workshops, etc.	2,470,177	2,618,021
4 Expenditure on Scientific & Technical (S&T) activities including Demonstration Housing Projects	1,284,786	71,711,961
5 Security Deposit etc	18,628,840	5,583,930
6 Interest paid to HUDCO and NSSF on NUHF	41,478,419,000	79,676,407
7 Earmarked funds		17,329,877
- National Urban Housing Fund	99,999,978,960	30,840,425,000
- Light House Projects	219,280,731	150,000,000,000
- Demonstration Housing Project at Ahmedabad,Gujarat	592,773	-
- Global Housing Technology Challenge	13,721,045	-
- Demonstration Housing Project at Goa	542,210	4,147,548
- Demonstration Housing Project at Agartala	23,355,767	-
- Demonstration Housing Project at Panchkula,Haryana	36,648,991	99,120
- Data Resource Monitoring Cell	15,011,438	576,120
	100,309,131,915	13,504,635
		150,018,327,423





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

**RECEIPTS & PAYMENT ACCOUNT  
FOR THE YEAR ENDED 31 MARCH 2021**

Amount ( ₹ )

	2020-21	2019-20
<b>8 Closing Bank Balances</b>		
- Deposit with Canara Bank	219,630,069	132,936,634
- Deposit with State Bank of India-LHP A/c	2,164,810,068	144,590,000
- Savings/Current Accounts:		
- Canara Bank	81,440,596	75,220,837
- State Bank of India	7,431,549	18,738,438
- State Bank of India-LHP Agartala	1,007,416	139,998,064
- State Bank of India-LHP Chennai	1,000,322	161,278,065
- State Bank of India-LHP Indore	830,226	143,442,256
- State Bank of India-LHP Lucknow	1,007,413	1,008,063
- State Bank of India-LHP Rajkot	1,006,316	228,798,065
- State Bank of India-LHP Ranchi	1,007,416	141,118,065
- State Bank of India (NUHF)	215,102,942	96,518,683
<b>TOTAL</b>	<b>144,572,166,049</b>	<b>182,239,405,877</b>

As per our report of even date attached.

For M S SEKHON &amp; CO.

Chartered Accountants

FRN: 003671N

Rajiv Tandon  
Partner  
M.No.87343

For Building Materials & Technology  
Promotion Council



Pankaj Gupta  
Finance Officer



Sharad Kumar Gupta  
Chief -Finance (IC)



Dr. Shailesh Kr. Agrawal  
Executive Director

Place: New Delhi  
Date: 24.11.2021



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

**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2021**

Amount ( ₹ )

SCHEDULE 1- CORPUS/CAPITAL FUND	2020-21	2019-20
Balance as at the beginning of the year	1,000,000	1,000,000
<b>TOTAL</b>	<b>1,000,000</b>	<b>1,000,000</b>

SCHEDULE 2- RESERVES AND SURPLUS	2020-21	2019-20
<b>1. Capital Reserve</b>		
Opening Balance	91,015,224	90,334,336
Addition during the year	942,784	680,888
	91,958,008	91,015,224
<b>2. Excess of Income over Expenditure</b>		
Opening Balance	91,653,421	99,004,806
Less : Deficit transferred from Income & Expenditure A/c	2,828,044	6,670,497
	94,481,465	92,334,309
Less: Transferred to Capital Reserve	942,784	680,888
	93,538,681	91,653,421
<b>TOTAL</b>	<b>185,496,689</b>	<b>182,668,645</b>

SCHEDULE 3- LONG TERM LIABILITY	2020-21	2019-20
<b>National Urban Housing Fund</b>		
1.Loan from National Small Savings Fund for disbursement as Central Assistance to States/UTs under PMAY(U) Mission	330,000,000,000	230,000,000,000
2.Loan from HUDCO for disbursement as Central Assistance to States/UTs under PMAY(U) Mission	200,000,000,000	200,000,000,000
<b>TOTAL</b>	<b>530,000,000,000</b>	<b>430,000,000,000</b>





# Building Materials & Technology Promotion Council

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

## SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2021

		Amount ( ₹ )	
SCHEDULE 4- EARMARKED FUNDS		2020-21	2019-20
1 Data Resource Cum Monitoring Centre			
Received during the year	15,059,000		4,445,000
Add: Amount Recoverable during the year	-		9,059,635
Less : Utilization/Expenditure during the year	15,011,438	47,562	13,504,635
2 National Urban Housing Fund			
Received during the year	100,000,000,000		150,000,000,000
Less: Disbursement during the year( Schedule 16 )	99,999,978,960	21,040	150,000,000,000
3 Received towards TPQA			
Received during the year	9,966,906		-
Amount Recoverable during the year	-		-
Less: Amount Utilized during the year	-	9,966,906	-
4 Demonstration Housing Project at Bhopal,Madhya Pradesh			
Received during the year	33,569,000		-
Less: Salary & Administration Expenses Apportioned	-		-
Less: Amount Utilized during the year	-	33,569,000	-
5 Demonstration Housing Project at Agartala, Tripura			
Opening Balance	21,465,942		-
Received during the year	50,804,477		25,231,123
Less: Salary & Administration Expenses Apportioned	3,970,481		3,666,061
Less: Amount Utilized during the year	23,355,767	44,944,171	99,120
6 Demonstration Housing Project at Panchkula, Haryana			
Opening Balance	16,744,288		-
Received during the year	40,804,623		20,264,877
Less: Salary & Administration Expenses Apportioned	6,230,328		2,944,469
Less: Amount Utilized during the year	36,648,991	14,669,592	576,120
7 Demonstration Housing Project at Chimbhel,Goa			
Opening balance	18,163,812		-
Received during the year	13,664,340		21,251,660
Less: Salary & Administration Expenses Apportioned	92,176		3,087,848
Less: Amount Utilized during the year	542,210	31,193,766	-
8 Demonstration Housing Project at Ahmedabad,Gujarat			
Opening Balance	6,178,068		-
Received during the year	19,290,660		7,228,340
Less: Salary & Administration Expenses Apportioned	100,771		1,050,272
Less: Amount Utilized during the year	592,773	24,775,184	-
9 Global Housing Technology Challenge			
Opening Balance	17,142,732		-
Received during the year	-		21,900,000
Less: Amount Utilized during the year	13,111,325	4,031,407	4,757,268
10 Light House Project-Agartala,Tripura			
Opening Balance	140,000,000		-
Received during the year (From Centre)	120,000,000		140,000,000
Received during the year (From State)	185,000,000		-
Less: Amount Utilized during the year	16,250,000	428,750,000	-
11 Light House Project-Chennai,Tamilnadu			
Opening Balance	161,280,000		-
Received during the year (From Centre)	92,160,000		161,280,000
Received during the year (From State)	142,518,646		-
Less: Amount Utilized during the year	127,896,660	268,061,966	-







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

**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2021**

Amount (₹)

SCHEDULE 4- EARMARKED FUNDS	2020-21	2019-20
<b>12 Light House Project-Indore, Madhya Pradesh</b>		
Opening Balance	143,360,000	-
Received during the year (From Centre)	81,920,000	143,360,000
Received during the year (From State)	90,960,000	-
Less: Amount Utilized during the year	51,428,571	-
	264,811,429	143,360,000
<b>13 Light House Project-Lucknow, Uttar Pradesh</b>		
Opening Balance	145,600,000	-
Received during the year (From Centre)	83,200,000	145,600,000
Received during the year (From State)	294,800,000	-
Less: Amount Utilized during the year	13,090,000	-
	510,510,000	145,600,000
<b>14 Light House Project-Rajkot, Gujarat</b>		
Opening Balance	228,800,000	-
Received during the year (From Centre)	91,520,000	228,800,000
Received during the year (From State)	155,254,400	-
Less: Amount Utilized during the year	10,615,500	-
	464,958,900	228,800,000
<b>15 Light House Project-Ranchi, Jharkhand</b>		
Opening Balance	141,120,000	-
Received during the year (From Centre)	80,640,000	141,120,000
Received during the year (From State)	-	-
Less: Amount Utilized during the year	-	-
	221,760,000	141,120,000
<b>TOTAL</b>	<b>2,322,070,943</b>	<b>1,039,854,842</b>
<b>SCHEDULE 5- CURRENT LIABILITIES AND PROVISIONS</b>	<b>2020-21</b>	<b>2019-20</b>
<b>CURRENT LIABILITIES</b>		
- Outstanding Liabilities	539,263	901,566
- Security Deposits	11,540,992	22,354,931
- Amount refundable to MoHUA on account of interest on deposits with SBI (LHP)	37,044,491	-
- Interest accrued but not due to NSSF on National Urban Housing Fund	3,754,356,164	2,258,040,281
- Interest accrued but not due to HUDCO on National Urban Housing Fund	2,503,666,159	2,576,272,896
- Amount Refundable to MoHUA (Bank Interest on NUHF)	215,081,902	96,518,683
<b>TOTAL</b>	<b>6,522,228,971</b>	<b>4,952,088,357</b>



## SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2021

SCHEDULE 6- PROPERTY, PLANT & EQUIPMENT							Amount ( ₹ )	
	GROSS BLOCK			DEPRECIATION			2020-21	2019-20
	Cost as on 01.4.2020	Additions	Total	Upto 01.04.2020	Current year	Upto 31.03.2021	NET BLOCK As on 31.03.2021	NET BLOCK As on 31.03.2020
Office Building including Land	34,319,817	-	34,319,817	11,619,827	2,269,999	13,889,826	20,429,991	22,699,990
Furniture and Fixtures	3,778,015	15,400	3,793,415	3,083,238	70,248	3,153,486	639,929	694,777
Office Equipments	20,181,271	337,474	20,518,745	18,673,086	251,538	18,924,624	1,594,121	1,508,185
Computers/ Peripherals	19,154,376	589,910	19,744,286	18,817,957	252,550	19,070,507	673,779	336,419
Air conditioners	1,035,166	-	1,035,166	858,918	26,437	885,355	149,811	176,248
Fan & Coolers	81,224	-	81,224	65,459	2,365	67,824	13,400	15,765
TV and VCR	380,450	-	380,450	350,848	4,440	355,288	25,162	29,602
Exhibits, Panels, Display Models	12,084,905	-	12,084,905	11,649,673	65,285	11,714,958	369,947	435,232
	<b>91,015,224</b>	<b>942,784</b>	<b>91,958,008</b>	<b>65,119,006</b>	<b>2,942,862</b>	<b>68,061,868</b>	<b>23,896,140</b>	<b>25,896,218</b>
Previous Year (2019-20)	<b>90,334,336</b>	<b>680,888</b>	<b>91,015,224</b>	<b>61,913,244</b>	<b>3,205,762</b>	<b>65,119,006</b>	<b>25,896,218</b>	<b>28,421,092</b>





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

**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2021**

	Amount ( ₹ )	
<b>SCHEDULE 7- NON CURRENT ASSETS</b>	<b>2020-21</b>	<b>2019-20</b>
1. Amount Recoverable from MoHUA for repayment of loan taken from NSSF for National Urban Housing Fund under PMAY(U) Mission	330,000,000,000	230,000,000,000
2. Amount Recoverable from MoHUA for repayment of loan taken from HUDCO for National Urban Housing Fund under PMAY(U) Mission	200,000,000,000	200,000,000,000
<b>TOTAL</b>	<b>530,000,000,000</b>	<b>430,000,000,000</b>
<b>SCHEDULE 8 - CURRENT ASSETS, LOANS, ADVANCES ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
<b>A. CURRENT ASSETS:</b>		
1. Bank Balances		
- Deposit with Canara Bank	219,630,069	132,936,634
- Deposit with SBI (LHP)	2,164,810,068	144,590,000
-Savings Accounts:		
- Canara Bank	81,440,596	75,220,836
- State Bank of India	7,431,549	18,738,438
- State Bank of India(NUHF)	215,102,942	96,518,683
- State Bank of India(LHP)-Agartala	1,007,416	139,998,065
- State Bank of India(LHP)-Chennai	1,000,322	161,278,065
- State Bank of India(LHP)-Indore	830,226	143,442,256
- State Bank of India(LHP)-Lucknow	1,007,413	1,008,063
- State Bank of India(LHP)-Rajkot	1,006,316	228,798,065
- State Bank of India(LHP)-Ranchi	1,007,416	141,118,065
	2,694,274,333	1,283,647,170
<b>B. LOANS, ADVANCES AND OTHER ASSETS</b>		
1. Advances to staff	477,382	477,382
2. Amount Recoverable from MoHUA under NUHF-Central Assistance from EBR under PMAY(U)	6,258,022,323	4,832,313,177
3. Advances and other amounts recoverable in cash or in kind or value to be received		
a. Amount Recoverable & other Advances	7,688,959	3,348,687
b. Amount recoverable from MoHUA	9,059,635	9,059,635
c. Amount recoverable from NH&B	-	7,932,468
d. Security Deposit (Office Space)	420,000	420,000
e. Tax Deducted at Source & GST Recoverable	7,476,544	24,645,138
4. Interest Accrued on FDR's with Canara Bank	4,057,811	5,169,671
5. Interest Accrued on FDR's with SBI (LHP Funds)	25,423,476	-
<b>TOTAL (A + B)</b>	<b>9,006,900,463</b>	<b>6,149,715,626</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 2021

Amount ( ₹ )

SCHEDULE 9- GRANTS/SUBSIDIES (Irrevocable Grants & Subsidies Received)			2020-21	2019-20
1	Central Government (Ministry of Housing & Urban Affairs, Government of India)		55,000,000	50,000,000
<b>TOTAL</b>			<b>55,000,000</b>	<b>50,000,000</b>
SCHEDULE 10 - FEES/SUBSCRIPTIONS			2020-21	2019-20
1	Training Programmes/Seminar Receipts/Demonstration Housing Projects/Navariti Fee/VAI/Consultancy Fee		1,479,483	855,400
2	Salary & Administration Expenses Apportioned (DHP's)		10,393,756	10,748,650
<b>TOTAL</b>			<b>11,873,239</b>	<b>11,604,050</b>
SCHEDULE 11- INCOME FROM PACS FEE, PUBLICATION ETC.			2020-21	2019-20
1	Receipts towards sale of publications, PACS etc		1,115,885	1,445,014
<b>TOTAL</b>			<b>1,115,885</b>	<b>1,445,014</b>
SCHEDULE 12- INTEREST EARNED			2020-21	2019-20
1	On Term Deposits With Scheduled Banks		7,855,486	8,550,759
2	On savings Accounts With Scheduled Banks		932,111	1,282,756
3	On Advance to employees		9,689	403,063
4	On Income tax refund		1,090	21,828
<b>TOTAL</b>			<b>8,798,376</b>	<b>10,258,406</b>
SCHEDULE 13- EXPENDITURE ON SALARY, ESTABLISHMENT & ADMINISTRATION			2020-21	2019-20
1	Pay and Allowances		53,462,858	60,659,988
2	Leave Travel Concession		495,832	561,677
3	Medical Allowance		3,483,328	230,768
4	Honorarium		-	172,500
5	Administration Expenses		8,756,480	8,807,660
<b>TOTAL</b>			<b>66,198,498</b>	<b>70,432,593</b>
SCHEDULE 14 - EXPENDITURE ON DISSEMINATION / SEMINARS/WORKSHOPS, TRAINING PROGRAMMES, HFA, ETC.			2020-21	2019-20
1	Exhibition and publicity		50,000	527,870
2	Seminar and Conference Expenses		422,074	512,382
3	Printing, Publication & Advertisement		388,405	346,660
4	Books and Periodicals		-	72,947
5	Navariti E-Course Expenses		327,000	-
6	Documentation, Sensitization & Capacity Building, Disaster Mitigation under Housing for All		1,282,698	1,158,162
7	Preparation of Vulnerability Atlas of India		-	1,599,536
<b>TOTAL</b>			<b>2,470,177</b>	<b>4,217,557</b>





# Building Materials & Technology Promotion Council

Ministry of Housing & Urban Affairs, Government of India

## SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED AS ON 31 MARCH 2021

		Amount ( ₹ )	
SCHEDULE 15 - EXPENDITURE ON SCIENTIFIC & TECHNICAL (S&T) ACTIVITIES INCLUDING DEMONSTRATION HOUSING PROJECTS		2020-21	2019-20
<b>A</b>	<b>Building Materials &amp; Construction Technologies</b>		
1	Construction of demonstration housing project at Lucknow	77,400	1,219,113
2	Construction of demonstration housing project at Nellore	96,000	72,000
3	Construction of demonstration housing project at Bihar Sharif, Bihar	334,998	327,560
4	Performance appraisal certification scheme	736,079	32,613
5	Construction of demonstration housing project at Bhubaneswar	-	158,295
6	Construction of demonstration housing project at Telangana, Hyderabad	-	117,048
7	Sensitization Programme on use of new technologies in Mass housing under PMAY(Urban)	-	45,426
<b>Sub-Total (A)</b>		<b>1,244,477</b>	<b>1,972,055</b>
<b>B</b>	<b>Capacity Building &amp; Skill Development</b>		
1	National Seminar on Emerging Trends in Building Material & Sustainable Construction Technology	-	50,000
2	Workshop on Use of Fly Ash & Construction & Demolition products for Sustainable Construction	-	100,000
<b>Sub-Total (B)</b>		<b>-</b>	<b>150,000</b>
<b>C</b>	<b>Disaster Mitigation &amp; Management</b>		
1	Design, development & implementation of mobile application for earthquake hazard zoning maps of India	40,309	-
<b>Sub-Total (C)</b>		<b>40,309</b>	<b>-</b>
<b>TOTAL (A+B+C)</b>		<b>1,284,786</b>	<b>2,122,055</b>





**SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT  
FOR THE YEAR ENDED AS ON 31 MARCH 2021**

Amount (₹)

SCHEDULE 16 - NATIONAL URBAN HOUSING FUND-CENTRAL ASSISTANCE FROM EBR UNDER PMAY (U)		2020-21	2019-20
1	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 46 BLC Project	51,480,000	1,064,640,000
2	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 17 BLC Project	11,820,000	295,560,000
3	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 10 BLC Project	33,240,000	89,880,000
4	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 12 BLC Project	351,120,000	270,120,000
5	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 18 BLC Project	148,140,000	229,440,000
6	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 19 BLC Project	192,900,000	-
7	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 20 BLC Project	97,260,000	226,320,000
8	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 22 BLC Project	426,060,000	104,700,000
9	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 2 BLC Project	3,344,000	-
10	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 1 BLC Project	58,860,000	-
11	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 3 BLC Project	228,780,000	-
12	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 7 BLC Project	294,960,000	-
13	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 24 BLC Project	366,780,000	516,180,000
14	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 31 BLC Project	-	156,780,000
15	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 54 BLC Project	162,780,000	656,880,000
16	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for HUDCO for CLSS Schemes	1,500,000,000	-
17	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for HUDCO for CLSS Schemes	400,000,000	2,250,000,000
18	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Jharkhand for 36 BLC Project	34,320,000	413,760,000
19	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the National Housing Bank (NHB) (CLSS for EWS/LIG)	30,000,000,000	60,000,000,000
20	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the National Housing Bank (NHB) (CLSS for EWS/LIG)	14,500,000,000	-
21	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 50 BLC Project	-	46,020,000
22	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 130 BLC Project	-	234,480,000
23	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tripura for 20 BLC Project	-	522,273,000
24	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 46 BLC Project	319,080,000	-
25	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 264 BLC	3,980,220,000	-
26	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 296 BLC	4,536,780,000	-



		Amount (₹)	
SCHEDULE 16 - NATIONAL URBAN HOUSING FUND-CENTRAL ASSISTANCE FROM EBR UNDER PMAY (U)		2020-21	2019-20
27	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 47 BLC Project	212,040,000	-
28	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 154 BLC	2,280,120,000	-
29	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 13 BLC Project	86,460,000	-
30	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 121 BLC	1,624,200,000	-
31	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 19 BLC Project	60,240,000	-
32	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 133 BLC	1,752,300,000	-
33	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 29 BLC Project	140,280,000	-
34	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 113 BLC	1,400,298,860	-
35	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 438 BLC	-	4,523,100,000
36	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 01 AHP	27,240,100	-
37	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 02 AHP	-	34,962,800
38	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 04 AHP	-	134,700,000
39	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of West Bengal for 32 BLC Project	1,083,120,000	-
40	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of West Bengal for 34 BLC Project	226,440,000	-
41	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of West Bengal for 86 BLC Project	-	2,587,560,000
42	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of West Bengal for 91 BLC Project	-	1,430,220,000
43	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of West Bengal for 15 BLC Project	-	476,100,000
44	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Andhra Pradesh for 37 BLC	-	866,220,000
45	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Andhra Pradesh for 49 BLC	-	2,479,980,000
46	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Andhra Pradesh for 55 BLC	-	2,149,620,000
47	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Bihar for 57 BLC Project	-	165,301,700
48	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Chhattisgarh for 131 BLC Project	-	491,580,000
49	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Chhattisgarh for 221 BLC Project	-	724,260,000
50	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Chhattisgarh for 467 BLC Project	646,100,000	2,064,700,000
51	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Chhattisgarh for 50 BLC Project	-	254,220,000
52	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Chhattisgarh for 51 BLC Project	-	119,700,000
53	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Chhattisgarh for 55 BLC Project	-	269,340,000
54	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Chhattisgarh for 59 BLC Project	-	358,320,000
55	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Chhattisgarh for 61 BLC Project	-	275,760,000
56	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Chhattisgarh for 67 BLC Project	-	105,060,000
57	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Chhattisgarh for 72 BLC Project	-	455,040,000





		Amount (₹)	
SCHEDULE 16 - NATIONAL URBAN HOUSING FUND-CENTRAL ASSISTANCE FROM EBR UNDER PMAY (U)		2020-21	2019-20
58	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Chhatisgarh for 79 BLC Project	-	210,840,000
59	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Chhatisgarh for 87 BLC Project	-	182,520,000
60	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Gujarat for 122 BLC Project	-	454,500,000
61	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Gujarat for 97 BLC Project	-	383,700,000
62	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Haryana for 8 BLC Project	-	40,020,000
63	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Haryana for 89 BLC Project	-	247,260,000
64	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Haryana for 5 BLC Project	-	51,360,000
65	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Himachal Pradesh for 15 BLC	-	71,197,200
66	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Himachal Pradesh for 30 BLC	-	67,380,000
67	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Jharkhand for 33 BLC Project	3,840,000	-
68	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Jharkhand for 38 BLC Project	1,141,020,000	813,060,000
69	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Jharkhand for 24 BLC Project	13,200,000	77,640,000
70	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Jharkhand for 17 BLC Project	58,200,000	311,400,000
71	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Jharkhand for 16 BLC Project	322,320,000	46,800,000
72	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Jharkhand for 01 BLC Project	-	4,920,000
73	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Karnataka for 273 BLC Project	-	878,340,000
74	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Karnataka for 130 BLC Project	-	60,360,000
75	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Karnataka for 56 BLC Project	-	248,340,000
76	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Karnataka for 259 BLC Project	-	879,540,000
77	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Kerala for 72 BLC Project	-	804,900,000
78	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Kerala for 19 BLC Project	-	190,440,000
79	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Madhya Pradesh for 67 BLC	1,540,680,000	-
80	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Madhya Pradesh for 18 BLC	258,120,000	-
81	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Madhya Pradesh for 34 BLC	538,020,000	-
82	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Madhya Pradesh for 31 BLC	445,800,000	-
83	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Madhya Pradesh for 27 BLC	314,160,000	-
84	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Madhya Pradesh for 64 BLC	-	1,266,720,000
85	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Madhya Pradesh for 42 BLC	-	817,560,000
86	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Madhya Pradesh for 127 BLC	-	1,341,000,000
87	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Maharashtra for 01 AHP Project	-	385,200,000
88	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Maharashtra for 04 BLC Project	-	23,415,500



		Amount (₹)	
SCHEDULE 16 - NATIONAL URBAN HOUSING FUND-CENTRAL ASSISTANCE FROM EBR UNDER PMAY (U)		2020-21	2019-20
89	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Odisha for 109 BLC Project	720,240,000	-
90	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Odisha for 82 BLC Project	549,960,000	-
91	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of West Bengal for 57 BLC Project	197,880,000	-
92	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Odisha for 12 BLC Project	-	88,140,000
93	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Odisha for 124 BLC Project	-	214,860,000
94	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Odisha for 126 BLC Project	-	333,240,000
95	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Odisha for 29 BLC Project	-	246,540,000
96	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Odisha for 36 BLC Project	-	483,900,000
97	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Odisha for 38 BLC Project	-	194,580,000
98	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Odisha for 49 BLC Project	-	101,460,000
99	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Odisha for 66 BLC Project	-	316,500,000
100	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Odisha for 69 BLC Project	-	103,320,000
101	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Puducherry for 2 BLC Project	-	28,700,000
102	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Puducherry for 4 BLC Project	-	160,020,000
103	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Puducherry for 3 BLC Project	-	34,560,000
104	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Puducherry for 6 BLC Project	-	106,620,000
105	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Rajasthan for 25 BLC Project	-	116,920,000
106	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Rajasthan for 41 BLC Project	-	171,436,800
107	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for State Bank of India	14,000,000,000	-
108	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for State Bank of India	5,000,000,000	18,000,000,000
109	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 147 BLC Project	526,197,940	-
110	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 301 BLC Project	2,747,820,000	-
111	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 387 BLC Project	874,070,000	-
112	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 18 AHP Project	336,901,000	-
113	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 67 BLC Project	525,120,000	-
114	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 34 BLC Project	282,900,000	-
115	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 138 BLC Project	852,720,000	-
116	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 164 BLC Project	145,800,000	-
117	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 45 BLC Project	-	192,000,000
118	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 180 BLC Project	-	901,440,000





		Amount (₹)	
SCHEDULE 16 - NATIONAL URBAN HOUSING FUND-CENTRAL ASSISTANCE FROM EBR UNDER PMAY (U)		2020-21	2019-20
119	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 14 AHP Project	-	146,580,000
120	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 28 AHP Project	-	371,460,000
121	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 03 AHP Project	-	25,200,000
122	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 22 AHP Project	521,040,000	-
123	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 26 AHP Project	206,460,000	-
124	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 23 AHP Project	-	271,500,000
125	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 58 BLC Project	-	43,920,000
126	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 57 BLC Project	-	971,040,000
127	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 49 BLC Project	-	1,520,220,000
128	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 123 BLC Project	-	86,460,000
129	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 69 BLC Project	-	1,935,660,000
130	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 188 BLC Project	-	2,235,840,000
131	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Tamil Nadu for 40 BLC Project	-	643,020,000
132	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 142 BLC Project	-	3,974,820,000
133	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 157 BLC Project	-	3,300,960,000
134	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 179 BLC Project	-	191,460,000
135	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 19 AHP Project	-	130,913,000
136	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 304 BLC Project	-	6,966,360,000
137	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 413 BLC Project	-	7,401,180,000
138	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 45 BLC Project	-	1,087,980,000
139	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Punjab for 151 BLC Project	640,747,060	-
Total		99,999,978,960	150,000,000,000





## 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.
  - 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 year 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. The premium paid to LIC is charged to revenue in the year of payment.
  - 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 section 12AA of the Income Tax Act and its income is exempt from Income Tax. 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 The Council has not paid any premium during the year in respect of Group Gratuity Cash Accumulation(GGCA) Policy and Group Leave Encashment Scheme(GLES) Policy. The accumulated balance with LIC as on 31.03.2021 in respect of GGCA policy is Rs.2,34,33,748/- and in respect of GLES policy is Rs.2,22,47,099/-
  - 7 The outbreak of Covid-19 pandemic globally and resultant lock down in many countries has impacted activities of the Council. Management has assessed the potential impact of Covid-19 based on current circumstances and expects no significant impact on the continuity of operation or long term financial position.





- 8 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) During the year, the Council has received an amount of Rs.10,000 Crore (previous years Rs.15,000 Crore) from NSSF as loan on behalf of Government of India and an amount of Rs.9999.99 crore (previous year Rs.15,000 crore) has been disbursed to various States/UT's and Central Nodal Agencies under the PMAY(U) scheme. The detail of disbursement is at Schedule 16.
- d) 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.
- e) 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 5-current Liabilities and provisions)
- 9 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.
- 10 Schedule 1 to 17 annexed to and form integral part of financial statements for the year ended 31<sup>st</sup> March, 2021


As per our report of even date attached.  
**For M S SEKHON & CO.**  
**Chartered Accountants**  
FRN: 0036718

  
Rajiv Tandon  
Partner  
M.No.87343



  
Pankaj Gupta  
Finance Officer

**For Building Materials & Technology  
Promotion Council**

  
Sharad Kumar Gupta  
Chief-Finance (I/C)

  
Dr. Shailesh Kr. Agrawal  
Executive Director

Place: New Delhi  
Date: 24.11.2021

## ANNEXURE I

### PARTICIPATION IN PROMOTIONAL EVENTS

#### PARTICIPATION IN PROMOTIONAL EVENTS

##### I. VIRTUAL EXHIBITIONS

The Council participated in the “GRIHA Virtual Fest” by putting up display of various activities of BMTPC in the exhibition space on the virtual platform. The “GRIHA Virtual Fest” was organized by Green Rating for Integrated Habitat Assessment (GRIHA) Council, The Energy and Resources Institute (TERI) from July 21 – 25, 2020.

##### II. WEBINARS/VIDEO CONFERENCES/ /TRAINING PROGRAMMES etc.

- Online Training on Bamboo Housing & Construction organised jointly with IFGE and SABF on June 12-13, 2020
- 6<sup>th</sup> Smart Cities India 2020 Expo : Building & Construction Industry's way forward for post Covid-19 world on June 13, 2020
- Web-S Unlocking Sustainability: “Sustainable Building Materials: Markets, Certification and Circular Economy” by TERI on June 26, 2020
- GRIHA Virtual Exhibition cum Conference by TERI on July 21, 2020
- Session on Emerging Construction Systems for Mass Housing for North Eastern region in association with Tata & Assam Engineering College on July 25, 2020
- Webinar on Aatmanirbhar Bharat : Fostering Steel Usage in Housing & Construction and Aviation Sector on August 18, 2020
- Session on emerging construction systems for mass housing for CPWD engineers organised by CPWD on August 25, 2020
- Webinar on Light Gauge Steel Framing by Hindustan Zinc on August 28, 2020



- Webinar on Precast Construction Technologies in Housing in association with Deptt. of Housing, Govt. of AP and APSHC Amravati, August 31, 2020
- Webinar on Prime Minister's 10 Point Agenda (Items) I Disaster Risk Management through Sectoral Development and Business jointly organized with NIDM and NDMA on September 14, 2020
- Workshop on Rajbhasha on September 27, 2020 at New Delhi
- Session on Enabling Thermal Comfort in Mass Housing by Centre for science & Environment (CSE) on September 29, 2020
- Celebration of World Habitat Day 2020 through VC inaugurated by Hon'ble Minister of State (HUA) on October 5, 2020
- Circular Economy and Buildings, International Forum of UNFCCC un-der United Nations Environment Programme (UNEP) on October 7, 2020
- Session on Emerging Construction Systems for Mass Housing to the officials of Ministry of Development, Brunei Darussalam organised by HSMI on October 21, 2020
- Session on Emerging Construction systems for Mass Housing organised by Ultratech on October 24, 2020.
- Special Session on Emerging Construction Systems for PG students of Master of City Planning at IIT, Kharagpur on October 31, 2020
- C&D Waste Management Knowledge Workshop by FCDO, UK & CPWD with IPE Global on November 5, 2020
- Webinar on E-course on Vulnerability Atlas of India for PMAY(U) SLNAs from 10 States of North India on November 9, 2020
- Webinar on E-course on Vulnerability Atlas of India for PMAY(U) SLNAs from North Eastern States including Sikkim on November 11, 2020.
- Webinar on "LGSF/ CFS Construction Technology for Mass Housing in India organised by Institute for Steel Development & Growth on November 20, 2020

- Webinar on E-course on Vulnerability Atlas of India for NMIT, Bangalore on December 2, 2020
- Webinar on “Construction Technologies for Winters in Ladakh” organised by CPWD for professionals in Ladakh region including CPWD officials on December 17, 2020
- 3<sup>rd</sup> International Conference on Emerging Technologies organized by Amity on December 18, 2020
- Panel Discussion on Emerging Housing Technologies during India International Science Festival (IISF) on December 24, 2020
- Short Term TEQIP programme by IIT, Guwahati on December 26, 2020
- Foundation Stone Laying Ceremony of Six Light House Projects (LHPs) laid by Hon’ble Prime Minister of India through VC on January 1, 2021
- Training Programme on Sustainable and Affordable Housing by HUDCO-HSMI on January 7, 2021
- Short term course on ‘Advances in Structural Engineering by Deptt of Civil Engineering, NIT, Hamirpur, HP from January 11-15, 2021
- Workshop on New Innovative Technologies organized by Haryana Housing Board for its Engineers, Officials on January 22, 2021
- Training Programme conducted by National CPWD Academy Ghaziabad for paramilitary officers of CRPF, ITBP, SSB etc. on February 5, 2021
- First Batch of NAVARITI : Certificate Course on Innovative Construction Technologies, February 12 to 18, 2021
- Webinar on Disaster Safe Rural Housing by National Institute of Disaster Management and BMTPC on February 26, 2021
- E-workshop on “Disaster Resilient Society : Training Needs” on 10 Point Agenda outlined by Hon’ble Prime Minister for creating disaster resilient ecosystem in the region around Prayagraj organised by MNNIT, Prayagraj on March 6, 2021

- International Seminar cum Deminar on Alternative Materials and Innovative Technologies in Concrete Construction, organised by Indian Concrete Institute - Bangalore Chapter on March 16, 2021 at Bangalore
- Second Batch of NAVARITI : Certificate Course on Innovative Construction Technologies, March 19 to 26, 2021
- E-Symposium on 'Wood: The sustainable and versatile building material' to commemorate #WorldWoodDay by Institute of Wood Science and Technology, Bangalore on March 19, 2021
- 6<sup>th</sup> Smart Cities India 2021 Expo at Pragati Maidan, New Delhi organized by Exhibition India on March 24, 2021

### **III. TECHNICAL COMMITTEE/WORKING GROUPS /MEETINGS ETC.**

- 58<sup>th</sup> meeting of the Executive Committee of BMTPC held under the Chairmanship of Secretary, MoHUA on May 29, 2020 at New Delhi
- Meeting of Rajbhasha Implementation Committee to improve use of Hindi on 23<sup>rd</sup> June, 2021
- General Council Meeting of NAREDCO GC on July 3, 2020
- 39<sup>th</sup> meeting of BIS CED on July 23-24, 2020
- VC meeting with Additional Secretary, Ms. Alka Bhargwa, Ministry of Agriculture & Cooperation regarding 'Bamboo based technology on July 30, 2020
- Meeting regarding 'Affordable Rental Housing Complexes for Migrants (ARHCs) Scheme chaired by Secretary (HUA) at Conference Hall, Nirman Bhawan, New Delhi on July 31, 2020
- 51<sup>st</sup> meeting of the Central Sanctioning and Monitoring Committee (CSMC) for Pradhan Mantri Awas Yojana (Urban) chaired by Secretary, HUA on August 7, 2020
- Meeting of Project Monitoring Committee (PMC) under the chairmanship of JS & Mission Director, HFA at New Delhi on August 11, 2020

- Virtual meeting of IGBC on promotion & adoption of green & sustainable technological options on August 17, 2020
- Meeting of Rajbhasha Executive Committee of BMTPC on September 11, 2020
- Leadership Development Programme for Chairmen/Directors of Housing Cooperatives- through video conferencing, by NCHF, New Delhi during 16-18 September, 2020
- Meeting on Research Proposal with TIET, Patiala on September 19, 2020
- Meeting of Rajbhasha Implementation Committee to improve use of Hindi on 27<sup>th</sup> September, 2021
- Meeting with Beardshell for virtual Inspection of Quick Build Panels on September 28, 2020
- Online panel discussion on 'Enabling Thermal Comfort in Mass Housing on September 29, 2020 by Centre for Science and Environment
- Meeting on Built Environment with UNFCCC on October 7, 2020
- Panel discussion to discuss issues relating to 'House Owner's Role in Disaster Safety "Aapda Ka Saamna" on Doordarshan organized by NDMA on November 8, 2020
- 4<sup>th</sup> Meeting of Technology Sub-Mission (TSM) under Pradhan Mantri Awas Yojana – Urban through Video Conferencing at New Delhi on November 9, 2020
- Meeting of Standing Selection Committee (SSC-I for level -I3 –A for Scientists & Engineers) for DPC NCB Cadre– NCCBM on November 26, 2020
- Meeting of Joint Working Group on enhancing the use of Steel in Construction Sector on December 10, 2020
- 7<sup>th</sup> meeting of the Executive Committee on Climate Change (ECCC) by Virtual mode Chaired by Secretary (HUA) and AS(D) on December 16, 2020



- 17<sup>th</sup> meeting of Technical Assessment Committee (TAC) constituted for the purpose of approval of Performance Appraisal Certificate (PAC) on January 16, 2021
- 52<sup>nd</sup> meeting of the Central Sanctioning and Monitoring Committee (CSMC) for Pradhan Mantri Awas Yojana (Urban) chaired by Secretary, HUA on January 20, 2021
- 5<sup>th</sup> Meeting of Technology Sub-Mission (TSM) under Pradhan Mantri Awas Yojana – Urban through Video Conferencing at New Delhi on February 3, 2021
- Inauguration of NAVARITHI Certificate Course by Secretary (HUA) at New Delhi on February 11, 2021
- 53<sup>rd</sup> meeting of the Central Sanctioning and Monitoring Committee (CSMC) for Pradhan Mantri Awas Yojana (Urban) chaired by Secretary, HUA on February 22, 2021
- 6<sup>th</sup> Meeting of Technology Sub-Mission (TSM) under Pradhan Mantri Awas Yojana – Urban through Video Conferencing at New Delhi on February 25, 2021
- A series of meetings of Joint Working Group on enhancing the use of Steel in Construction Sector
- A series of online meetings of Working Group by Indian National Academy of Engineering (INAE) Forum on Civil Infrastructure (Housing) for preparation of White Paper on Housing.
- A series of preparatory meetings regarding conduction of foundation stone laying ceremony of LHPs at Nirman Bhawan, New Delhi
- A series of meetings of High Powered Committee for providing subsidy under Central Capital Investment Subsidy Scheme (CCIS), 2007 of Department of Industrial Policy and Promotion, Ministry of Commerce and Industry

**IV. OTHERS**

- Worked out technical & economic viability for various models of ARHCs (combinations of Dormitory beds, single room & double room accommodations) based on sizes & specifications of these units as per related codes/guidelines, available FSIs, cost of construction & operational costs of such complexes.
- Member of Working Group for 'National Brick Industry Mission'. The Bureau of Energy Efficiency (BEE), MoP under Indo German Energy Programme, has developed a market transformation strategy to enable energy efficiency in the Brick Industry through technological and product innovation.
- Guiding students from SPA, Delhi, IIT Delhi & students from other colleges, professionals, Entrepreneurs on New & environmental friendly building materials/ technologies, and sustainability parameters (embodied energy, thermal comfort, resource conservation & efficiency) of the buildings using different technologies.

## **ANNEXURE II**

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

- Presentation on Light Gauge Steel Framed Structural Systems (LGSF) during Webinar on Light Gauge Steel Framing by Hindustan Zinc on 28<sup>th</sup> February, 2020.
- Presentation on Bamboo based Technologies for Housing Construction during Online Training on Bamboo Housing & Construction organised jointly with IFGE and SABF on 12<sup>th</sup> & 13<sup>th</sup> June, 2020.
- Presentation on Emerging Construction Systems for Mass Housing during 6<sup>th</sup> Smart Cities India 2020 Expo: Building & Construction Industry's way forward for post Covid-19 world on 13<sup>th</sup> June, 2020.
- Presentation on Emerging Construction Systems for Mass Housing during Web-S Unlocking Sustainability: "Sustainable Building Materials: Markets, Certification and Circular Economy" by TERI on 26. June, 2020.
- Presentation on Emerging Construction Systems for Mass Housing during GRIHA Virtual Exhibition cum Conference by TERI on 21<sup>st</sup> July, 2020.
- Presentation on "BMTPC Role in Promotion of Sustainable Construction Systems" in the panel discussions organized by TERI during July 21 to 24 July, 2020
- Presentation during Session on Emerging Construction Systems for Mass Housing for North Eastern region in association with Tata & Assam Engineering College on 25<sup>th</sup> July, 2020.
- Presentation on Emerging Steel Based Construction Technologies for Mass Housing during Webinar on Aatmanirbhar Bharat : Fostering Steel Usage in Housing & Construction and Aviation Sector on 18<sup>th</sup> August, 2020.
- Presentation on Use of emerging construction systems for mass housing for CPWD engineers organised by CPWD on 25<sup>th</sup> August, 2020.

- Presentation on “Cost-Effective & Emerging Construction Systems for Mass Housing” in Leadership Development Programme for Chairmen/Directors of Housing Cooperatives through video conferencing by NCHF, New Delhi during 16-18 September, 2020
- Presentation on Emerging Construction Systems for Mass Housing during Session on Enabling Thermal Comfort in Mass Housing by Centre for science & environment (CSE) on 29<sup>th</sup> September, 2020.
- Presentation on Emerging Construction System for Mass housing during Webinar on Precast Construction Technologies in Housing in association with Deptt. of Housing, Govt. of AP and APSHC Amravati, 31<sup>st</sup> September, 2020.
- Presentation on Indian Perspective for Sustainable Development of Built Environment during Circular Economy and Buildings, International Forum of UNFCCC under United Nations Environment programme (UNEP) on 7<sup>th</sup> October, 2020.
- Presentation on Emerging Construction Systems for Mass Housing to the officials of Ministry of Development, Brunei Darussalam organised by HSMI on 21<sup>st</sup> October, 2020.
- Presentation on Emerging Construction systems for Mass Housing organised by Ultratech on 24<sup>th</sup> October, 2020.
- Presentation on Emerging Construction Systems for PG students of Master of City Planning at IIT, Khargpur on 31<sup>st</sup> October, 2020.
- Presentation on Construction & Demolition Waste Management – Indian Scenario during C&D Waste Management Knowledge Workshop by FCDO, UK & CPWD with IPE Global on 5<sup>th</sup> November, 2020.
- Presentation on Use of Vulnerability Atlas of India and importance of e-Course on Vulnerability Atlas of India during Webinar on E-course on Vulnerability Atlas of India for PMAY(U) SLNAs from 10 States of North India on 9<sup>th</sup> November, 2020.



- Presentation on Use of Vulnerability Atlas of India and importance of e-Course on Vulnerability Atlas of India during Webinar on E-course on Vulnerability Atlas of India for PMAY(U) SLNAs from North Eastern States including Sikkim on 19<sup>th</sup> November, 2020.
- Presentation on Light Gauge Steel Framed Structural Systems during Webinar on “LGSF/ CFS Construction Technology for Mass Housing in India organised by Institute for Steel Development & Growth on 20<sup>th</sup> November, 2020.
- Presentation on Emerging Construction Systems for Affordable Mass Housing during Short Term TEQIP programme by IIT, Guwahati on December 26, 2020.
- Presentation on efforts of Ministry of Housing & Urban Affairs & BMTPC towards introducing innovative & alternate construction systems for housing during Webinar on “Construction Technologies for Winters in Ladakh” organised by CPWD for professionals in Ladakh region including CPWD officials on December 17, 2020.
- Presentation on Use of Vulnerability Atlas of India and importance of e-Course on Vulnerability Atlas of India during Webinar on E-course on Vulnerability Atlas of India for NMIT, Bangalore on December 2, 2020.
- Presentation on “Emerging Technologies for Mass Housing” in online Training Programme on Sustainable and Affordable Housing organized by HUDCO-HSMI on January 7-8, 2021
- Presentation on Emerging Construction Systems during Short Course on Advances in Structural Engineering at NIT Hamirpur on January 11, 2021.
- Presentation on “Emerging Technologies” during workshop on New Innovative Technologies organized by Haryana Housing Board for its Engineers, Officials etc. on January 22, 2021
- Presentation on Emerging Construction Systems for Mass Housing during Training Programme conducted by National CPWD Academy Ghaziabad for paramilitary officers of CRPF, ITBP, SSB etc. on February 5, 2021.
- Presentation on Emerging Construction Systems for Mass Housing during First Batch of NAVARITI : Certificate Course on Innovative Construction Technologies, February 12 to 18, 2021.

- Presentation on Natural Disaster Prevention, Preparedness and Mitigation for Housing during Webinar on Disaster Safe Rural Housing organised by National Institute of Disaster Management and BMTPC on February 26, 2021.
- Presentation during the e-workshop on “Disaster Resilient Society :Training Needs” aiming at proposing an executable calendar of activities related to 10 Point Agenda outlined by Hon’ble Prime Minister for creating disaster resilient ecosystem in the region around Prayagraj organised by MNNIT, Prayagraj on March 6, 2021.
- Presentation on Emerging Construction Systems for Mass Housing & Technology Transition through Light House Projects during International Seminar cum Deminar on Alternative Materials and Innovative Technologies in Concrete Construction, organised by Indian Concrete Institute - Bangalore Chapter on March 16, 2021 at Bangalore.
- Presentation on Emerging Construction Systems for Mass Housing during Second Batch of NAVARITI : Certificate Course on Innovative Construction Technologies, March 19 to 26, 2021.
- A series of presentations for Post Graduate Students of Master of Planning (Housing) on the subject ‘Materials & Technology’ of SPA, New Delhi.

## **ANNEXURE III**

### **PUBLICATIONS BROUGHT OUT DURING THE YEAR**

1. Special Issue of Newsletter “Nirman Sarika” on the theme of the World Habitat Day 2020 “Housing For All :A Better Urban Future”.
2. Pocket Book on Emerging Construction Systems
3. Handbook on Performance Appraisal Certification Scheme (PACS)







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