


32nd **Annual Report** **2021–2022**



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



32nd Annual Report 2021-2022



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 is my pleasant duty to present the 32nd Annual Report of the Building Materials & Technology Promotion Council, for the year 2021-2022, an autonomous organization under the administrative control of Ministry of Housing & Urban Affairs, Govt. of India.

Since its establishment in 1990, BMTPC is into promotion of resource-efficient, climate-resilient sustainable building materials & construction technologies including disaster resistant construction practices. The globally available best building technologies & alternate innovative building materials & components based on locally available materials & local skills & practices are successfully transferred by BMTPC for field-level applications. In its quest to bring innovations in the building industry, BMTPC has aligned its goals & objectives in line with the aspirations of the nation and helped bridging the gap between laboratory development & field applications. Through Technology Sub-Mission 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 under GHTC-India & certified by BMTPC. These systems are now being implemented to suit Indian geo-climatic conditions for field level applications through demonstration construction, light house projects & handholding of States. There have been positive response from public and private agencies including State Governments and innovative fast track 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, the Demonstration Housing Projects at Bhubaneswar, Odisha; Biharsharif, Bihar; Lucknow, Uttar Pradesh; and Hyderabad, Telangana were completed and handed over to respective State Governments. During the year, DHPs at Panchkula, Haryana and Agartala, Tripura were completed and also handed over to the respective State Governments. Besides, BMTPC initiated construction of DHPs at Ahmedabad, Gujarat; Bhopal, Madhya Pradesh; Guwahati, Assam; Ayodhya, Uttar Pradesh; Chimbhel, Goa and Tiruppur, Tamil Nadu. The construction work at DHPs at Ahmedabad, Gujarat, Bhopal, Madhya Pradesh have been started. The projects at Chimbhel, Goa, the Tiruppur, Tamil Nadu could not be grounded as respective State Govts have changed project sites due to agitation by locals and administrative reasons respectively and not yet handed over the land. For DHPs at Guwahati, Assam and Ayodhya, Uttar Pradesh the architectural and structural drawings are under finalisation.

To promote innovation in the construction sector, BMTPC has been evaluating and certifying prospective construction systems & new materials and products under PACS through Gazette Notification (No. I-16011/5/99 H-II in the Gazette of India No. 49 dated December 4, 1999). During the year, emerging technologies namely, Volumetric (3D) Concrete Printing Technology (VCPT), PUF Sandwich Panel with Pre Engineered Building Structure and Everest Rapicon Panel / Solid Wall Panel 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 77 innovative 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 lending its technical support to centrally sponsored schemes & mission of Ministry of Housing & Urban Affairs Mission besides appraisal of DPRs, onsite 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. 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. To build capacities, the Council also hand holds various State Govts. and other agencies towards adoption of emerging technologies for affordable social housing.

BMTPC worked hand-in-hand as technical partner of the HFA Directorate, MoHUA for the organization of Global Housing Technology Challenge – India (GHTC-India) and nominated for implementation of Light House Projects (LHPs) in close coordination with respective State Governments. Under GHTC-India, an expo cum conference on globally available innovative & proven construction technologies along with future potential sustainable technologies was organized which was inaugurated by Hon'ble Prime Minister. Through Challenge, a basket of 54 shortlisted proven technologies is created which are further classified into six broad categories. These proven technologies are being showcased through six Light

House Projects (LHPs) being built across six locations namely, Indore, Rajkot, Chennai, Ranchi, Agartala and Lucknow, using distinct technologies from each of the six broad categories. 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. In addition, BMTPC developed an e-knowledge pack for Technograhis under GHTC-India. Technograhis are enrolled online & given e-training on emerging technologies. A series of Webinars on Use of Emerging Construction Systems in Light House Projects (LHPs) were also organized in association with MoHUA and GIZ. The Council also assisted MoHUA with organization of Indian Housing Technology Mela (IHTM) as part of New Urban India Conference cum Expo in Lucknow, UP.

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 at MoHUA 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. Towards preparedness, prevention & mitigation, BMTPC is committed to adopt proactive approach towards it and has been educating professionals and creating mass awareness amongst various stakeholders including common man. In order to spread awareness and understanding about natural hazards, an e-Course on Vulnerability Atlas of India is being implemented jointly with School of Planning & Architecture, New Delhi. The Vulnerability Atlas of India helps identify regions with high vulnerability with respect to various hazards and its third digital edition was released by Hon'ble PM. BMTPC is constantly pursuing with stakeholders and departments for giving necessary directions to their engineers and architects for undertaking the course.

On the occasion of World Habitat Day 2021, the Council brought out three publications namely, (i) Special Issue of Newsletter “Nirman Sarika” on the theme of World Habitat Day 2021 “Accelerating Urban Action for a Carbon-free World” chosen by UN-Habitat, (2) Fourth edition of Pocket Book on Emerging Construction Systems, and (3) BMTPC and CSIR-CBRI Compendium on Building Technologies. 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 NAVARITIH : Certificate Course on Innovative Construction Technologies to build capacities of professionals in the area of emerging construction systems. So far nine batches of NAVARITIH has been conducted successfully wherein 858 participants, mainly civil engineers, architects, faculty & students from various engineering and architectural colleges, participated. 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, NBCC, DDA, 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 (MoHUA), Government of India. BMTPC is entrusted to promote resource-efficient, climate responsive, disaster resistant construction practices including innovative 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 alternate building materials & construction systems including disaster mitigation & management.

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

To showcase field level application of emerging construction systems and reach out to the stakeholders, the Council has been constructing model demonstration houses including other structures in different

State of country. As regards, technology development, promotion and dissemination efforts, the Council has promoted various cost-effective 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 sustain-

able technologies but also propagating emerging industrialised building systems from within the country and abroad for affordable mass housing. The Council along with Ministry is making concerted efforts to introduce various emerging technologies, which are successful elsewhere in the world to bring resource efficiency, economy, quality, environmental protection, speed and sustainability in building construction.

BMTPC is also actively involved in disaster mitigation and management activities and working in liaisoning with NDMA, NIDM and other related 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 (digital) 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 developed by BMTPC and launched by Hon'ble Minister of Housing & Urban Affairs, is also being successfully run 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 in the past 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 severe & most severe earthquake zones i.e. Zone IV and Zone V. The Council is also handling 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 from the globe short-listed under GHTC-India are being showcased now through execution of Light House Projects (LHPs) across India at six locations. The Council has been designated as technical partner by the Ministry for implementation of LHPs in close coordination with respective State Governments. The Council has also been associated in incubation and acceleration of identified potential future technologies through Affordable Sustainable Housing Accelerator (ASHA) – India, one of the component of ASHA-India. The Council also extended its technical support to the Ministry in educating & spreading awareness about innovative technologies through Technograhis. Also MoHUA initiated Affordable Rental Housing Complexes (ARHCs) through which rental housing using innovative technologies is being incentivized & promoted. 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 Central Nodal Agencies (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 technolo-

gies 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, exhibi-

tions 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 8 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 31.3.2022)

S. No.	Members	
1	Shri Hardeep S Puri Hon'ble Minister for Housing & Urban Affairs, Government of India	President
2	Shri Kaushal Kishore Hon'ble Minister of State for Housing & Urban Affairs, Government of India	Vice-President
3	Shri Manoj Joshi Secretary Ministry of Housing & Urban Affairs, Government of India	Vice-President
4	Shri Kundan Kumar Advisor (Urbanization Vertical) NITI Aayog, Government of India	Member
5	Shri Kamran Rizvi Chairman & Managing Director Housing & Urban Development Corporation	Member
6.	Shri B.B. Swain Secretary, Ministry of Micro, Small & Medium Enterprises, Government of India	Member
7	Dr. Srivari Chandrasekhar Secretary, Ministry of Science & Technology, Government of India	Member
8	Dr. Lok Ranjan Secretary, Ministry for the Development of North Eastern Region, Government of India	Member
9	Shri Kamal Kishore Member Secretary National Disaster Management Authority, Government of India	Member
10	Dr. Shekhar C. Mande Director General Council of Scientific & Industrial Research Government of India	Member
11	Shri Shailendra Sharma Director General Central Public Works Department Government of India	Member
12	Prof. K.N. Satyanarayana Director Indian Institute of Technology (IIT) Tirupati	Member
13	Prof. Sudhir K. Jain Former Director, IIT Gandhinagar Vice-Chancellor of Banaras Hindu University	Member
14	Shri Surendra Kumar Bagde Addl. Secretary (Housing) Ministry of Housing & Urban Affairs Government of India	Member

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

Executive Committee (as on 31.3.2022)

S. No.	Members	
1	Shri Manoj Joshi Secretary Ministry of Housing & Urban Affairs, Government of India	Chairman
2	Shri Surendra Kumar Bagde 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 Kuldip Narayan Joint Secretary & Mission Director (HFA) Ministry of Housing & Urban Affairs, Government of India	Member
5.	Shri Kamran Rizvi Chairman & Managing Director Housing & Urban Development Corporation	Member
6.	Dr. Anjan Ray 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.	Dr. Shailesh Kr. Agrawal Executive Director, Building Materials & Technology Promotion Council	Member Secretary

MAJOR INITIATIVES AND ACTIVITIES DURING THE YEAR 2021-2022

I. MODEL DEMONSTRATION CONSTRUCTION USING EMERGING TECHNOLOGIES

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

In order to transfer any innovation in the field, it is important to showcase the same through demonstration construction and at the same time spread awareness, educate professionals & artisans. With this intent, BMTPC has been entrusted the task of building model housing projects called Demonstration Housing Projects (DHPs) under Technology Sub-Mission of Pradhan Mantri Awas Yojana (Urban) PMAY(U).

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, the Demonstration Housing Projects at Bhubaneshwar, Odisha; Bihar Shariff, Bihar; Lucknow, Uttar Pradesh; and Hyderabad, Telangana have been completed and handed over to respective State Government. During the year, DHPs at Panchkula, Haryana and Agartala, Tripura were completed and handed over to the respective State Governments.

During the year, BMTPC initiated construction of DHPs at Ahmedabad, Gujarat; Bhopal, Madhya Pradesh; Guwahati, Assam; Ayodhya, Uttar Pradesh; Chimbhel, Goa and Tiruppur, Tamil Nadu

after completing the bidding process. The construction work at DHPs at Ahmedabad, Gujarat, Bhopal, Madhya Pradesh have been started. The projects at Chimbhel, Goa, the Tiruppur, Tamil Nadu could not be grounded as respective State Govts have changed project sites due to agitation by locals and administrative reasons respectively and not yet handed over the land. The architectural and structural drawings for DHPs at Guwahati, Assam and Ayodhya, Uttar Pradesh are under finalisation. The details of the ongoing projects are as under:

Demonstration Housing Project at Ahmedabad, Gujarat

Salient Features of the Project:

- Location: Vivekanand Nagar, Hathijan, Ahmedabad
- State Level Nodal Agency : Affordable Housing Mission, Ahmedabad
- Land Allotted by: Gujarat Housing Board
- Usage : PMAY(U) Beneficiaries
- Plot area of project : 3400 sqm.
- No. of houses : 40 (G+2)
- Carpet area of each unit : 35.78 sqm.
- Built up area of each unit : 51.42 sqm.
- Total built up area : 2179 sqm.
- Technology Used: Precast Concrete Construction System - Integrated Hybrid Solution-One
- Each Unit consists of living room, bed room, lobby kitchen, bath, WC, verandah and separate wash area.
- Includes Earthquake Resistant Features.
- Infrastructure facilities : CC Road, pathways with concrete pavers, water supply work, UGT, septic tank, horticulture work, drainage



Demonstration Housing Project (Working Women Hostel) under PMAY(U) constructed by BMTPC using Light Gauge Steel Framework System (LGSF) with Fibre Cement Board on both side and infill of rock wool at Panchkula, Haryana



Demonstration Housing Project (Hostel for Destitute Women) under PMAY(U) constructed by BMTPC using Structural Stay In Place Steel Formwork at Agartala, Tripura

& disposal and external electrification using solar panels, rain water harvesting, fire fighting system, etc.

Technology being used:

Foundation

- Strip foundation with plinth band

Walling

- Load bearing interlocking blocks (Hydra Form Blocks)

Floor Slabs/Roofing

- Precast RC Planks and Joists System with concrete screed.

Door frame/shutters:

- Pressed steel door frame with flush shutters
- 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

Wall Finishes:

- Weather Proof Acrylic Emulsion paint on external walls
- Oil Bound distemper over POP on internal walls

Others:

- Electrical fixtures such as ceiling fans, LED tube lights, exhaust fan; wooden shutters in cupboard and under kitchen cabinet.

Demonstration Housing Project at Bhopal, Madhya Pradesh

Salient Features of the Project

- Location: SPNIUM Campus at Bhour, Bhopal
- State Level Nodal Agency : Directorate of Urban Administration & Development, Bho-

pal

- Land Allotted by: Directorate of Urban Administration & Development, Bhopal
- Usage : Sports Hostel
- Plot area of project : 2709 sqm.
- No. of houses : 40 (G+3); Other Provisions includes Office with Toilet, Dining Hall with Kitchen and store, Common Room with toilet, Medical Room with toilet, Care Taker Room, Activity Rooms & Laundry
- Carpet area of each unit : 29.05 sqm.
- Built up area of each unit : 34.15 sqm.
- Total built up area : 2180 sqm.
- Technology Used: Stay In Place Formwork System - Insulating Concrete Forms (ICF).
- Each Unit consists of one room, dressing, combined Bath & WC and balcony.
- Includes Earthquake Resistant Features.
- Infrastructure facilities : CC Road, pathways with concrete pavers, water supply work, UGT, septic tank, horticulture work, boundary wall, drainage & disposal and external electrification using solar panels, rain water harvesting, fire fighting system, etc.

Technology being used:

Foundation

- Isolated RCC column/strip footing with Plinth beam

Walling

- Insulating Concrete Forms (ICF) Concrete filled Expandable Polystyrene (EPS) blocks.

Floor Slabs/Roofing

- RCC slab/Roof as per specifications

Door frame/shutters:

- Pressed steel door frame with flush shutters
- 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



Construction work in progress in Demonstration Housing Project at Ahmedabad, Gujarat using emerging technology - Integrated Hybrid Solution-One



Construction work in progress in Demonstration Housing Project at Bhopal, Madhya Pradesh using Load bearing Monolithic Walls using Insulating Concrete Forms (ICF) Block

- 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

Others:

- Electrical fixtures such as ceiling fans, LED tube lights, exhaust fan; wooden shutters in cupboard and under kitchen cabinet

Demonstration Housing Project at Guwahati, Assam

Salient Features of the Project

- Location: Fatashil Ambari, Guwahati
- State Level Nodal Agency : Mission Director, PMAY-HFA(U)-Assam, Guwahati
- Land Allotted by: Guwahati Municipal Corporation (GMC)
- Usage : Rental accommodation for Contratual Safai Karamchari of GMC
- Plot area of project : 1600 sqm.
- No. of houses : 40 (G+3)
- Community Centre having built up area of 336 sqm. consist of Single storey Multipurpose Hall with Kitchen, office, green room, shops and toilet.
- Carpet area of each unit : 31.06 sqm.
- Built up area of each unit : 36.09 sqm.
- Total built up area : 2190 sqm. including community centre
- Technology Used: Light Gauge Steel Structural System - Light Gauge Steel Framework System (LGSFS) with V-infill walls
- Each unit consist of a living room, a bed room, a kitchen, a bath room, a W.C., a lobby and a balcony.
- Includes Earthquake Resistant Features.
- Infrastructure facilities : CC Road, pathways with concrete pavers, water supply work, UGT, septic tank, horticulture work, boundary wall, tube well, drainage & disposal and external electrification using solar panels, rain

water harvesting, fire fighting system, etc.

Technology being used:

Foundation:

- Pile foundation /Isolated RCC column footing with Plinth beam

Superstructure:

- Light Gauge Steel Framework System (LGSFS) with V-infill walls
- Light Gauge Steel roof truss with MS deck sheeting resting on web joist with false ceiling of gypsum board.

Joinery & Finishing:

- Flush door shutters fitted in pressed steel door frames
- FRP door frames & shutter in toilets
- uPVC window frame with glazed panel and wire mesh shutter in rooms and toilet

Flooring:

- Vitrified tile flooring in Rooms, Kitchen & Balcony
- Marble stone on pantry/kitchen counter
- Anti-skid ceramic tiles in toilet
- Kota stone Flooring in common areas and staircase

Wall Finishes:

- Weather proof paint on external walls
- Oil Bound distemper over Putty on internal walls.

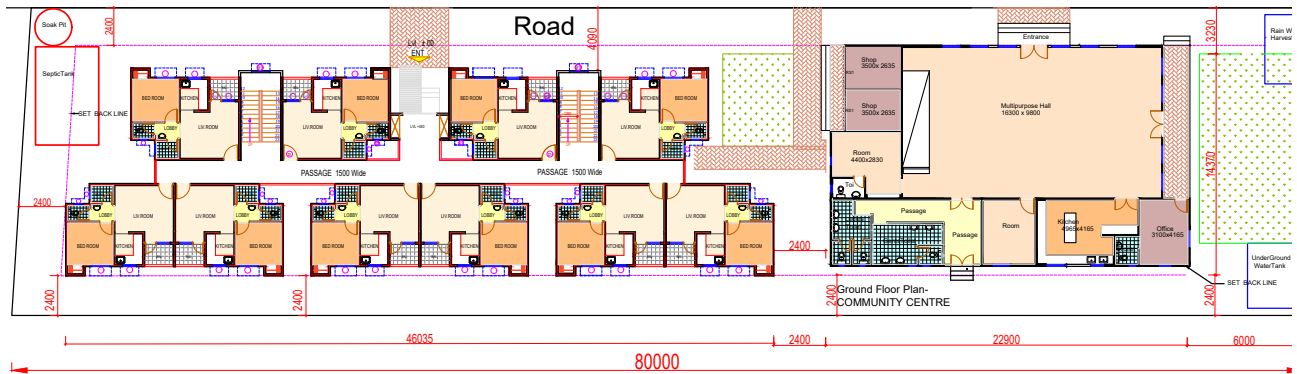
Others:

- Electrical fixtures such as ceiling fans, LED tube lights, exhaust fan; wooden shutters in cupboard and under kitchen cabinet

Demonstration Housing Project at Ayodhya, Uttar Pradesh

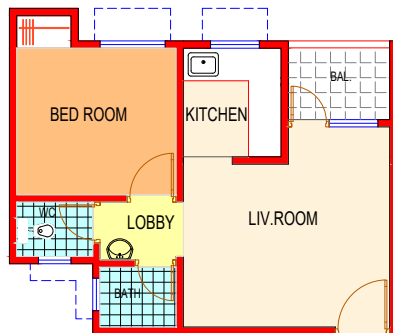
Salient Features of the Project

- Location: Village Malikpur, Pargana Avadh, Tehsil Sadar, Janpad, Ayodhya
- State Level Nodal Agency : State Urban Development Authority (SUDA), Lucknow
- Land Allotted by: Mahila Kalyan Vibhag/Siksha Vibhag, Ayodhya



Layout cum

Typical Floor Plan

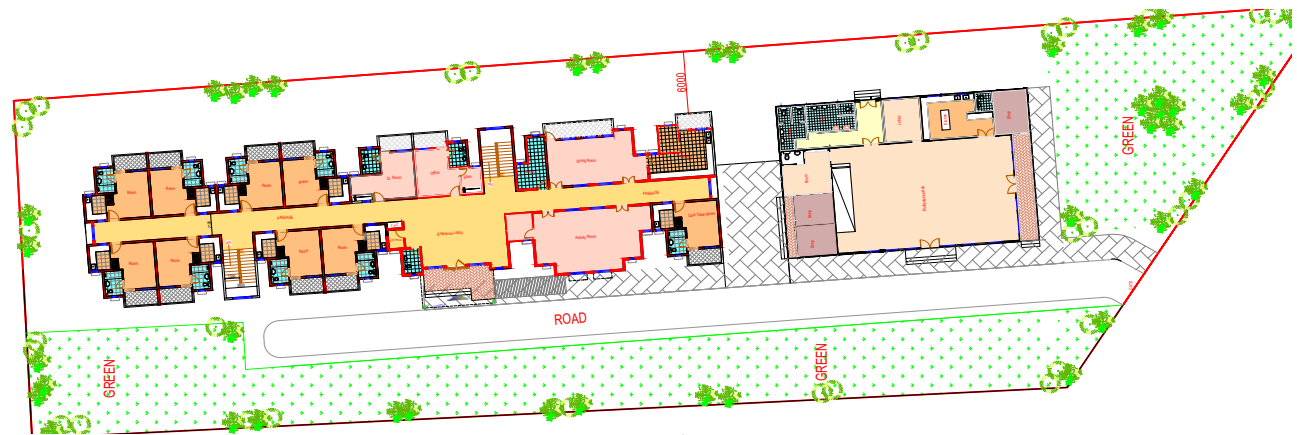


Typical Dwelling Unit Plan

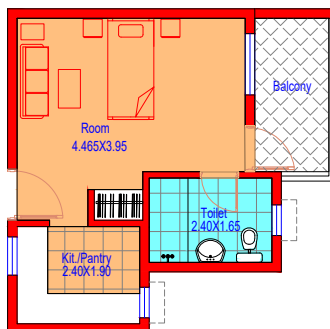


Community Centre Plan

Layout Plan of Demonstration Housing Project at Guwahati, Assam for contractual safai karamcharis of GMC and Community Centre using Light Gauge Steel Frame Structure with V-infill concrete wall



Layout Plan



Typical Dwelling Unit Plan



Community Centre Plan

Layout Plan of Demonstration Housing Project at Ayodhya, Uttar Pradesh Destitute widow Ashram & orphanage (G+2) and Community Centre using Light Gauge Steel frame structure with cement fibre board and mineral wool as in-fill

- Usage : Destitute Widow Ashram and Orphanage
- Plot area of project : 3600 sqm.
- No. of houses : 40 (G+2); Other provisions includes Dining Hall with Kitchen & store, Common Room with toilet, General office, Medical Room with toilet, Care Taker Room, Activity Rooms and Laundry
- Community Centre having built up area of 342 sqm. consist of Single storey Multipurpose Hall with Kitchen, office, green room, shops and toilet.
- Carpet area of each unit : 29.47 sqm.
- Built up area of each unit : 34.34 sqm.
- Total built up area : 2661 sqm. including community centre
- Technology Used: Light Gauge Steel Structural System - Light Gauge Steel Framework System (LGSFS)
- Each unit consist of a room with attached toilet, pantry and balcony
- Includes Earthquake Resistant Features.
- Infrastructure facilities : CC Road, pathways with concrete pavers, water supply work, UGT, septic tank, horticulture work, boundary wall, tube well, drainage & disposal and external electrification using solar panels, rain water harvesting, fire fighting system, etc.

Technology being used:

Foundation

- Isolated RCC column footing / Pile Foundation with Plinth beam

Walling

- Light Gauge Steel Frame structure with cement fiber board and rock wool as infill.

Roofing

- Deck sheet over Light Gauge Steel Structure with Screed Concrete.

Joinery & Finishing

- Flush door shutters fitted in pressed steel door frames
- PVC door frames & shutter in toilets

- uPVC window frame with glazed panel and wire mesh shutter in rooms and toilet

Flooring

- Vitrified tile flooring in Rooms, Pantry & Balcony
- Marble stone on pantry/kitchen counter
- Anti-skid ceramic tiles in toilet
- Kota stone Flooring in common areas and staircase

Wall Finishes

- Weather proof paint on external walls
- Oil Bound distemper over Putty on internal walls.

Others:

- Electrical fixtures such as ceiling fans, LED tube lights, exhaust fan; wooden shutters in cupboard and under kitchen cabinet

Demonstration Housing Project at Tiruppur, Tamil Nadu

Salient Features of the Project

- State Level Nodal Agency : Tamil Nadu Urban Habitat Development Board, Chennai
- Usage : Working Women Hostel & Widow Home
- Plot area of project : 2000 sqm.
- No. of houses : 40 (G+3); Other provisions includes a Dining Hall with Kitchen and store, Common Room with toilet, General office, Medical Room with toilet, Care Taker Room, Activity Rooms and Laundry
- Carpet area of each unit : 26.66 sqm.
- Built up area of each unit : 31.51 sqm.
- Total built up area : 2044 sqm.
- Technology Used: Precast Concrete Construction System –Precast Components Assembled At Site
- Each unit consist of a room with attached toilet, kitchen and balcony
- Includes Earthquake Resistant Features.
- Infrastructure facilities : CC Road, pathways with concrete pavers, water supply work, septic tank, tube well, horticulture work,



Layout Plan of Demonstration Housing Project at Tiruppur, Tamil Nadu for Working Women Hostel/Widow Home using Precast Construction System

boundary wall, drainage & disposal and external electrification using solar panels, rain water harvesting, fire fighting system, etc.

Technology being used:

Foundation

- Isolated RCC column footing with Plinth beam

Walling

- Precast Concrete wall Panels

Roofing

- Precast Concrete Slab

Joinery & Finishing

- Flush door shutters fitted in pressed steel door frames
- PVC door frames & shutter in toilets
- uPVC window frame with glazed panel and wire mesh shutter in rooms and toilet

Flooring

- Vitrified tile flooring in Rooms, Pantry & Balcony

- Marble stone on pantry/kitchen counter
- Anti-skid ceramic tiles in toilet
- Kota stone Flooring in common areas and staircase

Wall Finishes

- Weather proof paint on external walls
- Oil Bound distemper over Putty on internal walls.

Others:

- Electrical fixtures such as ceiling fans, LED tube lights, exhaust fan; wooden shutters in cupboard and under kitchen cabinet

Further, Detailed Project Reports (DPRs) were prepared for DHPs at Bhalwal, Jammu, J&K and Dimapur, Nagaland for consideration by CSMC of PMAY(U). With the approval of CSMC, two DHPs namely at Bhalwal, Jammu, J&K and Dimapur, Nagaland have also been initiated. 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 these two DHPs have also been invited through CPPP Portal. For DHP at Jammu, after due process the LOI has been issued to the contracting agency and for DHP at Dimapur, Nagaland, technical evaluation of received bids is under progress.

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. During the year, Technical Group meetings were conducted at following DHP sites being implemented by BMTPC:

- a) Ahmedabad, Gujarat held on March 10, 2022
- b) Bhopal, Madhya Pradesh held on March 4, 2022

Evaluation & Documentation of ongoing Demonstration Housing Projects (DHPs) on Sustainable & Green Parameters

The following Institutions have been involved for evaluation and documentation of Demonstration Housing Projects:

- 1) Punjab Engineering College, Chandigarh – for Panchkula
- 2) National Institute of Technology, Agartala

– for Agartala

- 3) CEPT University – for Ahmedabad

- 4) Smrat Ashok Technological Institute, Vidisha – for Bhopal

The agencies have submitted their reports of the DHPs namely, DHP at Panchkula and DHP at Agartala. As per the evaluation reports submitted by the above Institutions, the various technologies used in the DHPs have been recommended as sustainable technologies having lower energy consumption, higher speed of construction, non-use of burnt clay bricks in comparison to conventional structure.

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 professionals 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

- i. Desk & Site Scrutiny Report, for construction of 2025 New Houses under Beneficiary led Construction vertical of PMAY-HFA(U) for Aizawl town, Mizoram.
- ii. Site Scrutiny and Desk Scrutiny of 75 BLC (New Construction) at MC Kullu and 41 BLC (Enhancement) at MC Una, Himachal Pradesh.
- iii. Construction of Enhancement (100 DUs) under beneficiary led Construction at Jammu Town, U.T. Jammu & Kashmir.
- iv. Planning Area of Bhaderwah (U.T. Jammu & Kashmir) Master Plan, under Beneficiary Led Individual House Construction (New House-1523).
- v. Site Scrutiny and Desk Scrutiny of BLC (New) project Phase – VI under PMAY-HFA (U) Mission under Karimganj Development Authority, Karimganj, Assam with 2350 DUs during December 12-14, 2021
- vi. BLC New House Construction at Na-

harlagun, Arunachal Pradesh – Phase – II (1225 DUs)., forwarded to ministry on 31st March, 2021.

- vii. Site Scrutiny and Desk Scrutiny of 75 BLC (New Construction) at MC Kullu, Himachal Pradesh during February 9-13, 2022.
- viii. Site Scrutiny and Desk Scrutiny of 41 BLC (Enhancement) at MC Una, Himachal Pradesh during February 9-13, 2022.

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.

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/2022/105-HI dated 24.03.2022 has categorized the new technologies as per structural systems into Permanent Structures – Concrete and Steel Structural Systems respectively, Semi-permanent Structures – Structural Systems and Construction materials to show the suitability of the technology with respect to seismic zone and restrictions on number of storey for each technology for guidance.

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 for construction of Light House Projects (LHPs) in close coordination with respective State Governments. Under GHTC-India proven innovative and alternate construction technologies along with future potential sustainable technologies were shortlisted. 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.

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 are projected as live laboratories to establish innovative and green construction practices across India and will help in replication of these systems in future construction projects in the country.

Participation in the Indian Housing Technology Mela (IHTM)

The MoHUA organized Indian Housing Technology Mela (IHTM) as part of New Urban India Conference cum Expo during 5th-7th October 2021 in Lucknow, UP which was inaugurated by Hon'ble Prime Minister. The objective of IHTM was to provide a platform for domestic indigenous and innovative building materials, components, tools & equipment, construction processes and technologies that are sustainable and suitable for construction of low and medium rise (upto G+3 storey) houses for demonstration, cross learning, enabling better adoption, market linkages and achieving desired scale. During IHTM, 84 innovative technologies/systems/products/materials/ machinery were showcased by Indian Exhibitors. After due consideration and assessment, Technical Evaluation Committee (TEC), under the chairmanship of DG, CPWD, set up by MoHUA, has grouped them in four broad categories namely (i) Building Systems/ Products for construction of low rise houses (upto G+3) (ii) Products/Technologies Primarily from Recycling of Industrial/Agricultural wastes, Waste Management Systems (iii) Materials & Components (Doors, Windows, Construction Chemicals, Insulation, Plumbing, Plastering, Machinery) (iv) Technologies already shortlisted under GHTC-India & suitable for low rise housing. The Council provided technical support as part of TEC and organized sessions for assessment of technologies. The Council was also given responsibility to ensure participation of Technology Providers during the Mela. The Council has prepared a Compendium on the technologies presented during IHTM. Apart from this, the Council also prepared 60 video clips on display of technology providers who showcased during the IHTM.

Affordable Rental Housing Complexes (ARHCs)

The MoHUA is implementing the Affordable Rental Housing Complexes (ARHCs) scheme. The Council has been involved in 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, etc. Till now, the Council has appraised following ARHC proposals :

ARHC Proposals sanctioned in 55th Meeting CSMC held on 16.08.2021 & Appraised by BMTPC:

1. Proposal received under “Model-2: Construction, Operation and Maintenance of ARHCs” submitted by M/s SPR City Estates Pvt. Ltd., Sriperumbudur, Tamil Nadu covering the total dormitory beds of 18112.
2. Proposal received under “Model-2: Construction, Operation and Maintenance of ARHCs” submitted by M/s SPR Construction Pvt. Ltd., Sriperumbudur, Tamil Nadu covering the total beds of 3969 (1 Double Bedroom & 3968 Dormitories bed).
3. Proposal received under “Model-2: Construction, Operation and Maintenance of ARHCs” submitted by M/s Tata Electronics Private Limited (“TEPL”), Krishnagiri District, Tamil Nadu covering the total beds of 11500 (1500 Single Bedroom, 500 Double Bedroom & 9500 Dormitories bed).
4. Proposal received under “Model-2: Construction, Operation and Maintenance of ARHCs” submitted by M/s State Industries Promotion Corporation of Tamil Nadu (SIPCOT), Chennai, Tamil Nadu covering the total dormitory beds of 18720.
5. Proposal received under “Model-2: Construction, Operation and Maintenance of ARHCs” submitted by M/s Chennai Petroleum Corporation Limited, Chennai, Tamil Nadu covering the total beds of 1040 (200 Single Bedroom & 840 Dormitories bed).

6. Proposal received under “Model-2: Construction, Operation and Maintenance of ARHCs” submitted by M/s Indian Oil Corporation Ltd. (IOCL), Raipur, Chattisgarh covering the total beds of 2,222 (382 Single Bedroom, 80 Double Bedroom & 1760 Dormitories bed).
7. Proposal received under “Model-2: Construction, Operation and Maintenance of ARHCs” submitted by M/s Indian Oil Corporation Ltd. (IOCL), Kamrup Town, Guwahati covering the total beds of 2,222 (382 Single Bedroom, 80 Double Bedroom & 1760 Dormitories bed).
8. Proposal received under “Model-2: Construction, Operation and Maintenance of ARHCs” submitted by M/s Indian Oil Corporation Ltd. (IOCL), Allahabad, Uttar Pradesh covering the total beds of 1,112 (192 Single Bedroom, 40 Double Bedroom & 880 Dormitories bed).
9. Proposal received under “Model-2: Construction, Operation and Maintenance of ARHCs” submitted by M/s Mitsumi Housing Pvt. Ltd., Kosamba-Surat, Gujarat covering the total beds of 453 (129 Single Bedroom, 60 Double Bedroom & 264 Dormitories bed).

ARHC Proposals considered in 56th Meeting CSMC held on 23.11.2021 & Appraised by BMTPC:

1. Proposal received under “Model-2: Construction, Operation and Maintenance of ARHCs” submitted by M/s Sivaani Infra Pvt Ltd, Hyderabad, Telangana covering the total Dormitory beds of 14,490.
2. Proposal received under “Model-2: Construction, Operation and Maintenance of ARHCs” submitted by M/s SPR City Estates Pvt. Ltd., Perumbudur, Tamil Nadu covering the total beds of 5045 (5 Double Bedroom & 5040 Dormitories bed).

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 in collaboration with IITs and CSIR for ASHA-India Accelerator on June 7, 2021 to groom domestic innovations. 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, were discussed in details with assurance for all possible supports.

The proposals based on shortlisted potential future technologies under Incubation Category, from the following resource Institutions were assessed in terms of the activities & requirements envisaged under ASHA-India Guidelines and the observations/recommendations were submitted for the consideration of the Ministry:

S. No.	Name of the Technology/System	Incubation Support Institution
1	3D Printing technology for the construction of Building & infrastructure works	IIT, Madras
2	3D Volumetric Pre-cast System development for construction of the building	IIT, Madras
3	Developing Swarm Robotic System and Hybrid Construction method to facilitate Concrete 3D printing for Building construction"	IIT, Kharagpur
4	P r e f a b r i c a t e d Prefinished Volumetric Construction using Recycled Plastics	IIT, Roorkee

Technograhis – Implementation of Live Laboratories at six LHPs

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 being 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 with GIZ is providing technical support in implementation of Technograhis.

Software and Website Development under PMAY(U) and GHTC-India

MoHUA has entrusted BMTPC for upgradation, development of new modules, upkeep, designing and development of the following:



*Sensitisation of Technograhis at Light House Project organised by BMTPC
on July 29, 2021 at Rajkot, Gujarat*



*Sensitisation of Technograhis at Light House Project organised by BMTPC
on August 06, 2021 at Lucknow, UP*

- PMAY(U) website and modules
- GHTC-India websites, its various modules and software applications like New Urban India Module, Live Laboratory module, LHP module, DHP module, Status & progress module are being updated on daily basis as per the requirements
- Affordable Rental Housing Complexes (ARHCs) website and MIS of Model 1 and Model 2 along with the Knowledge Packs and Training Modules under ARHCs Khushiyan Ka Aashiyana - Short Film Contest 2021.
- IT Support to IEC team of MoHUA and DRMC
- Capacity Building Module
- IEC Module
- Public Grievance Redressal System
- Awas Par Samvad
- PMAY(Urban) Awards 2022
- Data Bank Module
- ANGIKAAR
- CMS for the website
- Dashboard and Reports
- CLAP Dashboard
- Integration of UMANG, MyGov, National Portal
- Various mobile applications such as: PMAY(U), GHTC-India, ANGIKAAR, Khushiyan Ka Aashiyana, Request for geo-tagging and Fund Release

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. Funds raised through Extra Budgetary Resources (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.

The Council is disbursing the central share under PMAY(U) to State Govts. as per the directions of the Ministry. So far, Rs. 33,000 crore & Rs. 20,000 crore (totaling to Rs. 53,000

crore) has been received as EBR from NSSF & HUDCO, respectively, till now and the same has been disbursed as per the sanction letters is-sued by the Ministry of Housing and Urban Affairs, Government of India from time to time. Till 31.3.2022, an amount of Rs. 11690.58 crore was paid by MoHUA towards the interest payment and same has been disbursed to NSSF and HUDCO as per the sanction letters of MoHUA. Ministry has released Rs. 33,000 crore to the BMTPC for bullet repayment of principal loan amount to NSSF and the same has been remitted to the NSSF towards bullet repayment of principal loan amount.

IV. DISASTER MITIGATION AND MANAGEMENT

I. E-Course on Vulnerability Atlas of India

BMTPC developed e-Course on Vulnerability Atlas of India which was launched by Honble Minister of Housing & Urban Affairs. 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 and 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 31.3.2022, 1257 participants registered for the e-Course. On successful completion, the participants are being given online certificates. BMTPC is constantly pursuing with various stakeholders, academic institutions and departments for giving necessary directions to their engineers and architects for undertaking the course.

2. Organisation of Webinar 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



Organisation of Webinar on e-Course on Vulnerability Atlas of India on September 20, 2021 through video conferencing

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://ghrc-india.gov.in/> for wider access by various stakeholders. Further, BMTPC has created a dedicated website <https://vai.bmtpc.org> for easy access & downloading various maps & hazard profiles for users.

In order to educate about the Vulnerability Atlas of India and Disaster resistant design & construction practices, the Council through video conferencing organized Webinar on e-Course on Vulnerability Atlas of India on September 20, 2021. The Webinar was structured specifically for participants of e-Course on Vulnerability Atlas of India and NAVARITH. Besides, number of sessions on Vulnerability Atlas of India were organized during various webinars.

3. 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 Capital Region Planning Board (NCRPB) and Government of Maharashtra 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

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

4. Hosting of e-course on Vulnerability Atlas of India on National Urban Learning Platform (NULP)

The Ministry of Housing and Urban Affairs (MoHUA) launched the National Urban Learning Platform (NULP) as a key capacity building initiative enabling the development of city ecosystems in India. Developed by the National Institute of Urban Affairs (NIUA), NULP aims to empower India's urban functionaries, administrators, elected representatives, civil society, industry actors and other ecosystem players, with the knowledge and key skills required to build smart, inclusive, sustainable and resilient cities. As the anchor institute for the program, NIUA has set-up the Centre for Digital Governance (CDG), under which Phase I of the NULP Programme was rolled out to 17 pioneering cities selected for the programme. Under the Sustainability and Scale-up phase, it was intended to design rich quality courses by addressing the learning needs of these 17 cities.

For this purpose, the NULP team requested BMTPC to share the e-course on Vulnerability Atlas of India and NAVARITIH. After finding them as relevant courses / materials, the e-courses have been hosted on NULP platform as well.

V. STRENGTHENING THE INFORMATION AND DATABASE IN THE CONSTRUCTION SECTOR

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

Like preceding years, the Ministry of Housing & Urban Affairs celebrated the World Habitat Day 2021. To mark the occasion, BMTPC brought out a Special Issue of its Newsletter “Nirman Sarika” on the theme “Accelerating Urban Action for a Carbon-free World”, chosen by United Nations. This special publication focused on the various issues related to the theme of the World Habitat Day besides highlighting the activities of the Council. The “Nirman Sarika” was released by Shri Hardeep S. Puri, Hon’ble Minister for Housing & Urban Affairs in the presence of the then Secretary, Ministry of Housing & Urban Affairs & other dignitaries from UN-Habitat and MoHUA on 5th October, 2021 at New Delhi during the event organized through video conferencing to celebrate World Habitat Day 2021.

2. Publication of the Pocket Book on Emerging Construction Systems – Fourth 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 fourth 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 39



Shri Hardeep S. Puri, Hon’ble Minister of Housing & Urban Affairs releasing Special Issue of its Newsletter “Nirman Sarika” on 5th October, 2021 at New Delhi during the event organized through video conferencing to celebrate World Habitat Day 2021.



Shri Hardeep S. Puri, Hon'ble Minister of Housing & Urban Affairs releasing Pocket Book on Emerging Construction Systems – Fourth Edition on 5th October, 2021 at New Delhi during the event organized through video conferencing to celebrate World Habitat Day 2021.

emerging technologies in pictorial form.

The Pocket Book on Emerging Construction Systems was released by Shri Hardeep S. Puri, Hon'ble Minister for Housing & Urban Affairs on 5th October, 2021 at New Delhi during the event organized through video conferencing to celebrate World Habitat Day 2021.

3. Publication of Compendium on Building Technologies

BMTPC jointly with CSIR-CBRI have brought out the Compendium on Building Technologies. CSIR-CBRI being premier research institute in the area of building science & technology for more than 7 decades has developed many such building materials, components & technologies and BMTPC since its inception has been into technology transfer for field level applications. Both the organization joined hands to bring out this compendium on Building Technologies. The

publication contains 66 existing technologies covering following broad components:

1. Floor/roof construction technologies
2. Roof construction technologies
3. Wall construction technologies
4. Foundation construction technologies
5. System level technologies
6. Services
7. Materials

Each system has been explained in detail along with technical specifications, tools & equipment, salient features, cost, sustainability & economic aspects, material requirements, limitations, market linkages, structural drawings/detailing and relevant standards & references. Also, the region-wise geo-climatic suitability of the technology has been specified. These building technologies are time-tested and proven and the data presented is the outcome of the R&D efforts of CSIR-CBRI and their field level applications over

the years. The document is ready to use and can be successfully used in the field for Beneficiary Led Construction for low-rise to mid-rise structures. The compendium will also serve as a useful resource for construction of individual houses and can help State Governments to introduce these systems in their ongoing housing schemes.

The compendium is a stepping platform to create a technical databank of various existing alternate materials & construction technologies which are time-tested & proven and can readily be used in the field. It is opportune time to promote technology & innovations in housing especially for low to mid rise structures based on local materials, local skills & construction techniques amalgamated with updated knowledge to achieve affordability, sustainability, disaster resilience facilitating faster construction. The com-

pendium is an attempt to bring together such indigenous innovations at a common platform and to take stock of alternate materials & technologies for field level applications.

The Compendium on Building Technologies was released by Shri Hardeep S. Puri, Hon'ble Minister for Housing & Urban Affairs on 5th October, 2021 at New Delhi during the event organized through video conferencing to celebrate World Habitat Day 2021.

4. Publication of Compendium of Indigenous Innovative Building Materials and Construction technologies showcased during Indian Housing Technology Mela

Under PMAY (U), more than 60% individual houses are constructed by beneficiaries them-



Shri Hardeep S. Puri, Hon'ble Minister of Housing & Urban Affairs releasing BMTPC - CBRI Compendium on Building Technologies on 5th October, 2021 at New Delhi during the event organized through video conferencing to celebrate World Habitat Day 2021.

selves which are primarily single or double storey houses through local masons/ artisans. The requirement of building materials and construction technologies is different for these individual houses than those required for multi storeyed mass construction. It was, therefore, imperative to identify innovative appropriate construction technologies, materials and processes available in India for their use in construction of houses. Accordingly, MoHUA organised Indian Housing Technology Mela (IHTM) as part of New Urban India Conference cum Expo during 5th - 7th October 2021 in Lucknow, UP. The objective of the Mela was to provide a platform for indigenous and innovative building materials, components, tools & equipment, construction processes and technologies that are sustainable and suitable for construction of low and medium rise (upto G+3 storey) houses for demonstration, cross learning, enabling better adoption, market linkages and achieving desired scale.

During IHTM, 84 innovative technologies/ systems/ products/ materials/ machinery were showcased by exhibitors. After due consideration and assessment, Technical Evaluation Committee (TEC), set up by MoHUA, has grouped all the technologies/ systems/ products/ materials in four broad categories namely (i) Building Systems/ Products for construction of low rise houses (upto G+3) (ii) Products/Technologies Primarily from Recycling of Industrial/Agricultural wastes, Waste Management Systems (iii) Materials & Components (Doors, Windows, Construction Chemicals, Insulation, Plumbing, Plastering, Machinery) (iv) Technologies already shortlisted under GHTC-India & suitable for low rise housing.

All the 84 technologies were published in the form of a Compendium which provides various details such as technology brief, salient features, economic aspects, sustainability aspects, suitability & availability, limitations, market linkages,

certifications/endorsement, its application in real projects in India and also provides contact details of technology providers. The compendium is a useful resource in the area of alternate building materials & technologies to policy makers, public & private construction agencies and other concerned stakeholders for its adoption in their future housing projects.

5. Standardization and Product Evaluation

Performance Appraisal Certification Scheme (PACS)

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

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

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



18th meeting of Technical Assessment Committee (TAC) of Performance Appraisal Certificate Scheme (PACS) held on March 11, 2022

Approval of PACs

Technical Assessment Committee (TAC) constituted for the purpose of approval of Performance Appraisal Certificate (PAC) in its 18th meeting held on March 11, 2022 approved issuance of PACs for the following new products/systems:

1. Volumetric (3D) Concrete Printing Technology (VCPT)
2. PUF Sandwich Panel with Pre Engineered Building Structure
3. Everest Rapicon Panel / Solid Wall Panel
4. WPC Door Shutter and WPC Frame

Approval of Renewal of PACs

Renewal of PACs for the following systems/products has been done during the year:

1. Quik Build Panels
2. Structural Stay-in-Place Formwork Sys-

tem

3. Bamboowood Flooring & Wall Cladding
4. Strand Woven Bamboo Wood Flooring, Wall Panels & Door/Window Frames
5. Bamboowood Products
6. Precast concrete construction

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. Manufacture of Artificial geopolymer fly-ash fine aggregates
2. Geopolymer coarse aggregates (GPCA)
3. Conecc Precast Wall Panel

4. Single Cast Concrete Construction (S3C)

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. Moducast Precast Concrete Buildings
2. Modular Building /PEB/LGS Building
3. Light Gauge Steel Framed Structures
4. EcoPro Cement Sheets
5. Solid Panel PVC Doors & Frames
6. Grass Floor Bamboo Flooring Tiles
7. Ferron Panel

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 77 PACs on various innovative materials, 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.

6. Information Dissemination through Website of the Council

The Website of the Council (www.bmtpc.org) is being visited by professionals and others glob-

ally. 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) 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.mhua; YouTube: BMTPC) to disseminate the information about the innovative building materials and disaster resistant technologies including other activities.

The YouTube Channel "BMTPC" is gaining popularity amongst the viewers mainly engineers, architects and other stakeholders day by day. The YouTube Channel attracted more than 1,82,000 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 (66,003 nos.), (2) EPS Based Panel System (59,287 nos.), (3) Monolithic Concrete Construction (9,979 nos.), (4) Stay in Place Formwork System (5,055 nos.), etc. The BMTPC youtube channel has got 2412 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:

Volumetric (3D) Concrete Printing Technology (VCPT) (PAC No. 1059-S/2022)

3D Printing, also known as additive manufacturing, is an automated process that produces complex shaped geometries from a 3D Model (Computer-aided design (CAD) model) on a layer-by-layer basis.

3D Concrete printing technology (3DCP) constructs concrete structures by selectively placing a special quick-setting concrete mix using a numerically controlled robotic printer layer by layer as per a 3D CAD model. The operation can be performed with minimal human intervention/ support and eliminating the need for formwork to construct walls. It is either executed on the site (Like cast In-situ) or Offsite in a centralised set-up (Like precast). In offsite 3DCP, the units or components are printed in the factory and then transported to the assembly site. In onsite 3DCP, the units are constructed at the site directly.

Special features of the system include;

- Eliminates the use of formwork
- Automated construction ensures excellent build quality and safety
- Rapid construction with significant improvement in productivity

- Cost optimisation possibilities that are constrained in conventional formwork & execution methods
- Innovative design possibilities to elevate aesthetics and convenience to end users
- Optimum usage of skilled workmen
- Highly digitised 3DCP workflow offers good predictability of the execution results
- 3D printers are lightweight systems that can be easily shifted, erected, and commissioned at job sites.

PUF Sandwich Panel with Pre Engineered Building Structure (PAC No. 1060-S/2022)

PUF Sandwich Panels with Pre Engineered Building structure is a combination of Structural Steel Framing System designed as per relevant Indian Standards, with PUF Sandwich Panels in wall and roofing system. PUF panels consist of a rigid PUF core sandwiched between color coated Galvanized Steel/Galvalume steel sheet facing on both sides, complete with joint sealants and fixing ancillaries, which is easy to install and affordable.

The sandwich panel offers high thermal efficiency, comes with variety of finishes and can be installed easily & quickly for being light in weight. The Steel structural system of Pre-engineered building offers flexible design option with diverse layout possibilities/ architecture. It helps achieve very fast installation & durable structure.

The typical applications of PUF Sandwich Panel with Pre Engineered Building Structures include exterior / interior wall and roof of Industrial buildings, Commercial buildings, Multistory Buildings, prefab buildings, Site offices, Cold storages, Warehouses, etc.

Everest Rapicon Panel/ Solid Wall Panel (PAC No. 1061-S/2022)

Rapicon panels are sandwich panels, made of two non-asbestos fibre reinforced cement facing sheets of Everest wall boards as per IS 14862, on either sides of a lightweight foam concrete core. The core is made from a mix of Portland cement, fly ash, cellulose, lime, gypsum, synthetic fibre, fillers & water. These panels have a unique tongue and groove jointing system that facilitates rapid construction and maximizes space utilization. The panels are light in weight & have high thermal efficiency.

The applications of the Panels include Partitions in Residential, commercial, educational and industrial buildings, Prefab Structures (Accommodations units, Schools, Army barracks ware house/godowns, Site offices, security rooms, etc.), cladding, fire separation walls etc.

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 BMT-PC 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.

The Course has received very good response so far. The following batches were conducted during the year:

S. No.	Batch	Dates
1	Third Batch	April 30 to May 7, 2021.
2	Fourth Batch	June 4 to 11, 2021.
3	Fifth Batch	July 16 to 23, 2021.
4	Sixth Batch	August 27 to September 3, 2021.
5	Seventh Batch	November 12 to 19, 2021.
6	Eighth Batch	January 14 to 21, 2022.
7	Ninth Batch	March 25 to April 1, 2022

In the nine batches, 858 participants, mainly civil engineers & architects, faculty & students from various engineering and architectural colleges, participated. It is first of its kind course and the curriculum covers alternate & innovative materials and construction technologies. The experts



Third Batch of NAVARITI : Certificate Course on Innovative Construction Technologies held from April 30 to May 7, 2021 through video conferencing



Ninth Batch of NAVARITI : Certificate Course on Innovative Construction Technologies held from March 25 to April 1, 2022 through video conferencing

for the Course are from SPA, BMTPC, IITs, CBRI & Industry.

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

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

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

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

house construction, infrastructure and housing area planning, ‘green’ housing. Role of BMTPC and other organizations in promotion of new and alternative technologies.

Therefore, as requested by SPA, New Delhi, the Executive Director, BMTPC took up the Course on Materials & Technology for Post Graduate Students of Master of Planning (Housing) during their second semester. The lectures were given during April 2021 session and January-February 2022 session. The following lectures were imparted during these two semesters:

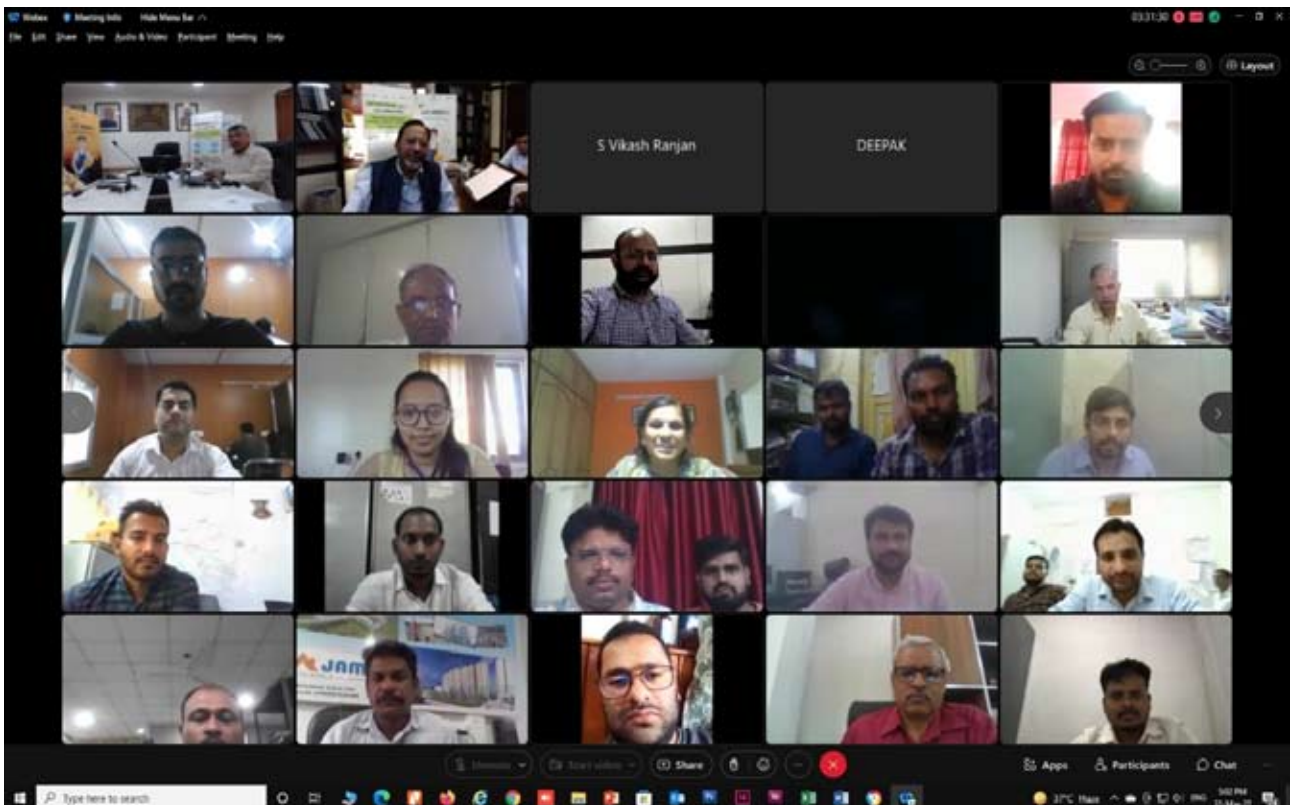
Lecture 1 to 3	Sustainable Building materials and construction technologies
Lecture 4	Building materials and products from agriculture, mineral and industrial wastes
Lecture 5	C&D Waste Management
Lecture 6	Energy in Buildings
Lecture 7	Green Buildings - GRIHA for Affordable Housing
Lecture 8 – 11	Disaster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

4. Webinars on Use of Emerging Construction Systems in Light House Projects (LHPs)

The Ministry of Housing and Urban Affairs, Government of India in collaboration with BMTPC and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) is organizing a series of Webinars on Use of Emerging Construction Systems in Light House Projects (LHPs). The objectives of organization of these webinar are to educate the participants about the new construction systems being used in the project, build capacities within India & make all aware about the initiatives taken by Govt. of India to introduce innovative construction systems which are resource-efficient, climate responsive, disaster-



Webinar on Use of Emerging Construction Systems in Light House Project (LHP) at Rajkot, Gujarat on March 11, 2022 through video conferencing



Webinar on Use of Emerging Construction Systems in Light House Project (LHP) at Lucknow, Uttar Pradesh on March 31, 2022 through video conferencing

resilient, energy-efficient and speedier. So far, webinars have been organized at following LHP sites:

S. No.	Name of Project site	Held on
1	LHP at Rajkot, Gujarat	March 11, 2022
2	LHP at Indore, Madhya Pradesh	March 24, 2022
3	LHP at Lucknow, Uttar Pradesh	March 31, 2022

5. RACHNA (Resilient, Affordable and Comfortable Housing through National Action)

The Ministry of Housing Urban Affairs in association with GIZ and BMTPC will be organising series of 75 trainings/workshops on Innovative Construction Technologies and Thermal Comfort for Affordable Housing named RACHNA (Resilient, Affordable and Comfortable Housing through National Action). The focus of these trainings is on creating awareness among stakeholders on thermal comfort, its necessity in the affordable housing sector and ways to achieve it. The training programs will deliver in-depth knowledge on thermal comfort, material influences, and its relationship with building physics. Moreover, it will familiarize participants with design strategies, construction techniques, low-cost solutions, policy documents, building codes, international practices, and other aspects relevant to thermal comfort in affordable housing.

The outcome of the training would be to make the stakeholders in the affordable housing sector understand the need for thermal comfort & urge them to include no cost or low-cost strategies in upcoming projects. Participants of the training program will be equipped with advanced knowledge and skillset to ensure provision of thermal comfort in India's affordable housing sector. The first programme in the series will be conducted on April 7, 2022 at Ranchi.

6. World Habitat Day 2021 Celebrations

The Ministry of Housing & Urban Affairs celebrated the World Habitat Day 2021 through video conferencing on 5th October, 2021 at New Delhi. The Council participated in the World Habitat Day 2021 celebrations and to commemorate the World Habitat Day, brought three publications namely, (i) Special Issue of Newsletter "Nirman Sarika" on the theme of World Habitat Day 2021 "Accelerating Urban Action for a Carbon-free World" chosen by UN-Habitat, (2) Fourth edition of Pocket Book on Emerging Construction Systems, and (3) BMTPC and CSIR-CBRI Compendium on Building Technologies. These publications were released by Shri Hardeep S. Singh, Hon'ble Minister for Housing & Urban Affairs on 5th October, 2021 at New Delhi.

VII. ORGANISATION

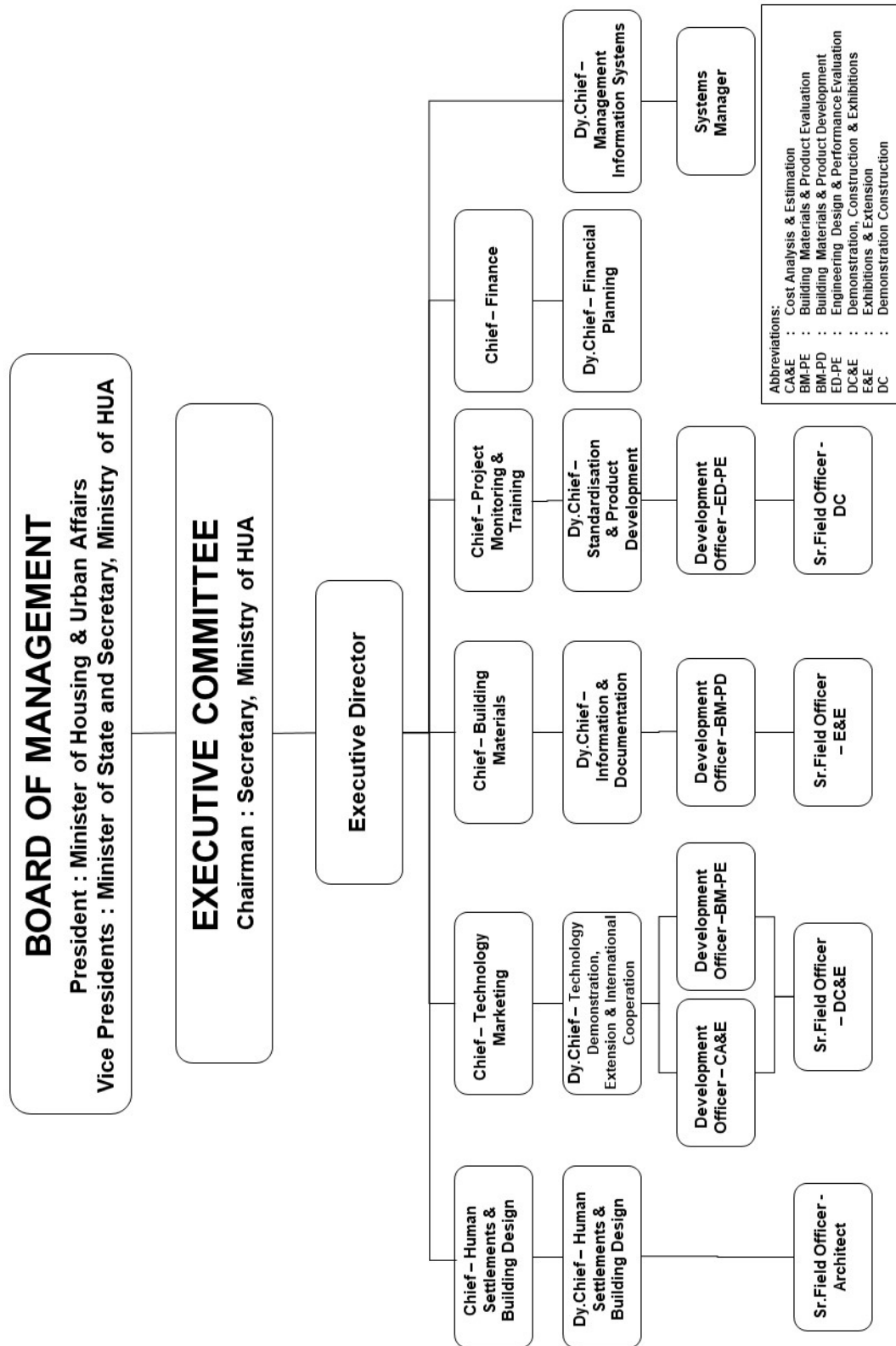
The organogram of BMTPC is shown at next page. As on 31st March, 2022, BMTPC had a staff strength 34 comprising 15 officers and 19 supporting staff. Also suitable technical/ professional/ supporting manpower is hired on contract basis on project to project and need basis.

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 31.3.2022)**

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 & Building Design</i>	01.04.93
3.	S.K.Gupta <i>Deputy Chief- Technology, Demonstration Extension & 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 & Product Development</i>	09.09.99
6.	Pankaj Gupta <i>Deputy Chief-Information & Documentation</i>	14.10.99
7.	Dalip Kumar <i>Senior Field Officer- Demonstration Construction & Exhibition</i>	04.03.91
8.	Alok Bhatnagar <i>Senior Field Officer- Exhibition & 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

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 2021-22. The receipts from other sources e.g. Fees, Consultancy, Training, GHTC, DHP, LHP, DRMC, Publications, interest etc. were Rs. 314.00 Crore.
- In addition, an amount of Rs.33,000.00 Crore was received from M/o HUA towards bullet repayment of EBR loans taken from NSSF, Ministry of Finance for PMAY-U and the same has been refunded to NSSF, GOI. An amount of Rs. 85.20 lakhs was credited by SBI towards interest on the balance available in the NUHF account and Rs.4458.69 crores (approx.) was credited by MoHUA towards interest payment on EBR loan. An amount of Rs. 4458.69 crores (approx.) has been disbursed as per sanction order of MoHUA as interest payment to NSSF/ HUDCO.
- The total expenditure incurred was Rs. 377,21,27,05,056 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 material & construction technologies	10,67,69,388
• Organization and participation in various seminars, Conference workshops, Housing for All (handholding, Documentation, Sensation and capacity Building), Mainstream Emerging Technologies through Dissemination, Knowledge Transfer with State Govt.	1,20,59,771
• Expenses towards activities relating to DRMC, GHTC, LHP and others	2,43,08,90,111
• Expenditure on salary, Establishment & Administration expenses including office equipment's, computer peripherals, etc.	7,60,63,786
• Interest payment on EBR loan/refund of security Deposits	44,58,69,22,000
• Bullet repayment of EBR loans taken from NSSF, Ministry of Finance for PMAY-U.	33000,00,00,000
Total	377,21,27,05,056

The Account have been auditing by M/s M.S. SEKHON & CO. Chartered Accountants. The balance sheet and the statement of accounts of the year 2021-22 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 31st 2022, 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, 2022.
- (b) In case Statement of Income and Expenditure Account, of the Surplus 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.

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
ERN: 003671N

Rajiv Tandon

Rajiv Tandon
Partner

Membership No. 087343

UDIN: *22087343AWKTUL6483*

Place: DELHI
Date: 29.09.2022



Building Materials & Technology Promotion Council

Ministry of Housing & Urban Affairs, Government of India

BALANCE SHEET AS ON 31 MARCH 2022

Amount (₹)

	Schedule	2021-22	2020-21
CORPUS/CAPITAL FUND AND LIABILITIES			
CORPUS/CAPITAL FUND	1	1,000,000	1,000,000
RESERVES AND SURPLUS	2	191,453,728	185,496,689
LONG TERM LIABILITY	3	200,000,000,000	530,000,000,000
EARMARKED FUNDS	4	2,717,059,760	2,322,070,943
CURRENT LIABILITIES AND PROVISIONS	5	6,841,201,470	6,522,228,971
TOTAL		209,750,714,958	539,030,796,603
ASSETS			
PROPERTY, PLANT & EQUIPMENT	6	21,748,902	23,896,140
NON-CURRENT ASSETS	7	200,000,000,000	530,000,000,000
CURRENT ASSETS, LOANS & ADVANCES ETC.	8	9,728,966,056	9,006,900,463
TOTAL		209,750,714,958	539,030,796,603

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: 29.09.2022



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

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 MARCH 2022

		Amount (₹)	
	Schedule	2021-22	2020-21
INCOME			
Grants / Subsidies	9	55,000,000	55,000,000
Fees/Subscriptions	10	15,583,891	11,873,239
Income from Publications and PAC's Fee etc.	11	1,518,695	1,115,885
Interest Earned	12	16,595,323	8,798,376
TOTAL (A)		88,697,909	76,787,500
EXPENDITURE			
Expenditure on Salary, Establishment & Administration	13	75,265,533	66,198,498
Expenditure on Dissemination / Seminars/Workshops, Training Programmes, Housing For All etc.	14	2,621,969	2,470,177
Expenditure on Scientific & Technical (S&T) activities including Demonstration Housing Projects	15	1,907,877	1,284,786
Depreciation	6	294,5491	2,942,862
TOTAL (B)		82,740,870	72,896,323
Surplus/Deficit for the year(A-B)		5,957,039	3,891,177
Prior Period Items		-	1,063,133
BALANCE BEING SURPLUS/(DEFECIT) CARRIED TO BALANCE SHEET		5,957,039	2,828,044

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: 29.09.2022



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

**RECEIPTS & PAYMENT ACCOUNT
FOR THE YEAR ENDED 31 MARCH 2022**

Amount (₹)

	2021-22	2020-21
RECEIPTS		
1 Opening Balance		
Bank Balances		
With Scheduled Banks:		
- 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
- On Savings Accounts:		
- Canara Bank	81,440,598	75,220,837
- 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	139,998,064
- 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 Raikot	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
2 Grants-in-aid from Central Government (Ministry of Housing & Urban Affairs)	55,000,000	55,000,000
3 Receipts towards Fees/DRMC/GHTC/DHP Projects/TPQA/Training Programme, seminar receipts and other receipts	9,209,563	49,481,993
4 Loan & Advances(Net)		3,463,088
5 Security Deposit etc	-	7,814,901
6 Receipts towards EBR for NUHF Fund	-	100,000,000,000
7 Interest received on NUHF Fund & LHP Projects payable to MoHUA	44,586,922,000	130,184,234
8 Receipts from Ministry towards Demonstration Housing Project at Agartala/ Ahmedabad/ Panchkula/ Goa/ Bhopal/ Ayodhya/ Guwahati	237,494,000	135,158,496
9 Receipts towards Light House Projects & DRMC	2,701,528,644	1,417,973,046
10 Receipts towards interest payment on EBR loan	330,000,000,000	41,478,419,000
11 Receipts towards sale of publications, PACS etc	1,518,695	1,115,885
12 Interest Earned	39,443,193	9,910,236
13 Security Received	92,117,375	-
14 Interest Refundable to MoHUA	58,689,489	-
TOTAL	380,476,197,292	144,572,166,049
PAYMENTS		
1 Purchase of Fixed Assets	798,253	942,784
2 Expenditure on Salary, Establishment & Administration	75,265,533	67,014,214
3 Expenditure on Training Programmes, Seminars/DRMC/Workshops, etc.	2,621,969	2,470,177
4 Expenditure on Scientific & Technical (S&T) activities including Demonstration Housing Projects	1,907,877	80,593,632
		1,284,786
5 Security Deposit etc		18,628,840
6 Interest paid to HUDCO and NSSF on NUHF	44,586,922,000	41,478,419,000
7 Repayment of Loan taken from NSSF for NUHF	330,000,000,000	
8 Loan & Advances (Net)	7,529,925	
9 Earmarked funds		
- National Urban Housing Fund (NUHF)	-	99,999,978,960
- Light House Projects	2,412,438,377	219,280,731
- Demonstration Housing Project at Ahmedabad, Gujarat	16,763,701	592,773
- Global Housing Technology Challenge	6,408,120	13,721,045
- Demonstration Housing Project at Goa	-	542,210
- Demonstration Housing Project at Agartala	42,898,635	23,355,767
- Demonstration Housing Project at Panchkula, Haryana	17,837,142	36,648,991
- Demonstration Housing Project at Ayodhya, U.P.	780,172	-
- Demonstration Housing Project at Bhopal, M.P.	16,940,839	-
- Demonstration Housing Project at Guwahati, Assam	5,140,779	-
- Data Resource Monitoring Cell (DRMC)	18,451,734	2,537,659,499
		15,011,438
		100,309,131,915





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

**RECEIPTS & PAYMENT ACCOUNT
FOR THE YEAR ENDED 31 MARCH 2022**

	Amount (₹)	
	2021-22	2020-21
10 Closing Bank Balances		
- Deposit with Canara Bank	248,801,413	219,630,069
- Escrow Accounts with State Bank of India-LHP A/c	2,355,212,358	2,164,810,068
- Savings/Current Accounts:		
- Canara Bank	15,387,784	81,440,596
- State Bank of India	12,466,960	7,431,549
- State Bank of India-LHP Agartala	1,005,868	1,007,416
- State Bank of India-LHP Chennai	10,000	1,000,322
- State Bank of India-LHP Indore	250,753,574	830,226
- State Bank of India-LHP Lucknow	1,008,796	1,007,413
- State Bank of India-LHP Rajkot	1,000,758	1,006,316
- State Bank of India-LHP Ranchi	10,000	1,007,416
- State Bank of India (NUHF)	223,622,943	215,102,942
- State Bank of India (ARHC)	101,801	-
- State Bank of India (DHP)	154,110,001	-
TOTAL	380,476,197,292	144,572,166,049

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 Rumar Gupta

Sharad Rumar Gupta
Chief -Finance (I/C)

Dr. Shailesh Kr. Agrawal

Dr. Shailesh Kr. Agrawal
Executive Director

Place: New Delhi
Date: 29.09.2022



Building Materials & Technology Promotion Council

Ministry of Housing & Urban Affairs, Government of India

SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2022

	Amount (₹)	
SCHEDULE 1- CORPUS/CAPITAL FUND	2021-22	2020-21
Balance at the beginning of the year	1,000,000	1,000,000
TOTAL	1,000,000	1,000,000
SCHEDULE 2- RESERVES AND SURPLUS	2021-22	2020-21
1. Capital Reserve		
Opening Balance	91,958,008	91,015,224
Addition during the year	798,253	92,758,261
		942,784
		91,958,008
2. Excess of Income over Expenditure		
Opening Balance	93,538,681	91,653,421
Add : Surplus/Deficit transferred from Income & Expenditure A/c	5,957,039	2,828,044
	99,495,720	94,481,465
Less: Transferred to Capital Reserve	798,253	98,697,467
		942,784
		93,538,681
TOTAL	191,453,728	185,496,689
SCHEDULE 3- LONG TERM LIABILITY	2021-22	2020-21
National Urban Housing Fund		
1. Loan from National Small Savings Fund for disbursement as Central Assistance to States/UTs under PMAY(U) Mission	-	330,000,000,000
2. Loan from HUDCO for disbursement as Central Assistance to States/UTs under PMAY(U) Mission	200,000,000,000	200,000,000,000
TOTAL	200,000,000,000	530,000,000,000
SCHEDULE 4- EARMARKED FUNDS	2021-22	2020-21
1 Data Resource Cum Monitoring Centre		
Opening Balance	47,562	
Received during the year	6,870,000	15,059,000
Add: Amount Recoverable during the year	-	-
Less : Utilization/Expenditure during the year	18,451,734	(11,534,172)
		15,011,438
		47,562
2 National Urban Housing Fund		
Opening Balance	21,040	
Received during the year	-	100,000,000,000
Less: Disbursement during the year(Schedule 16)	-	99,999,978,960
		21,040
3 TPQA Charges		
Opening Balance	9,966,906	
Received during the year	-	9,966,906
Less: Amount Utilized during the year	5,177,506	4,789,400
		-
		9,966,906
4 Demonstration Housing Project at Bhopal, Madhya Pradesh		
Received during the year	33,569,000	33,569,000
Less: Salary & Administration Expenses Apportioned	1,936,869	-
Less: Amount Utilized during the year	16,940,839	14,691,292
		-
		33,569,000
5 Demonstration Housing Project at Agartala, Tripura		
Opening Balance	44,944,171	21,465,942
Received during the year	-	50,804,477
Less: Salary & Administration Expenses Apportioned	3,463,781	3,970,481
Less: Amount Utilized during the year	42,898,635	(1,418,245)
		23,355,767
		44,944,171
6 Demonstration Housing Project at Panchkula, Haryana		
Opening Balance	14,669,592	16,744,288
Received during the year	-	40,804,623
Less: Salary & Administration Expenses Apportioned	-	6,230,328
Less: Amount Utilized during the year	17,837,142	(3,167,550)
		36,648,991
		14,669,592





Building Materials & Technology Promotion Council

Ministry of Housing & Urban Affairs, Government of India

SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2022

SCHEDULE 4- EARMARKED FUNDS	Amount (₹)	
	2021-22	2020-21
7 Demonstration Housing Project at Chimbhel, Goa		
Opening balance	31,193,766	18,163,812
Received during the year	-	13,664,340
Less: Salary & Administration Expenses Apportioned	-	92,176
Less: Amount Utilized during the year	-	-
	31,193,766	542,210
8 Demonstration Housing Project at Ahmedabad, Gujarat		
Opening Balance	24,775,184	6,178,068
Received during the year	-	19,290,660
Less: Salary & Administration Expenses Apportioned	341,757	100,771
Less: Amount Utilized during the year	16,763,701	7,669,726
	7,669,726	592,773
9 Demonstration Housing Project at Ayodhya (UP)		
Opening Balance	-	-
Received during the year	38,972,500	-
Less: Salary & Administration Expenses Apportioned	-	-
Less: Amount Utilized during the year	780,172	-
	38,192,328	-
10 Demonstration Housing Project at Guwahati		
Opening Balance	-	-
Received during the year	54,215,000	-
Less: Salary & Administration Expenses Apportioned	631,921	-
Less: Amount Utilized during the year	5,140,779	-
	48,442,300	-
11 Demonstration Housing Project at Jammu & Kashmir		
Opening Balance	-	-
Received during the year	46,278,500	-
Less: Salary & Administration Expenses Apportioned	-	-
Less: Amount Utilized during the year	-	-
	46,278,500	-
12 Demonstration Housing Project at Tiruppur		
Opening Balance	-	-
Received during the year	35,242,500	-
Less: Salary & Administration Expenses Apportioned	-	-
Less: Amount Utilized during the year	-	-
	35,242,500	-
13 Demonstration Housing Project at Dimapur, Nagaland		
Opening Balance	-	-
Received during the year	62,785,500	-
Less: Salary & Administration Expenses Apportioned	-	-
Less: Amount Utilized during the year	-	-
	62,785,500	-
14 Global Housing Technology Challenge		
Opening Balance	4,031,407	17,142,732
Received during the year	-	-
Less: Salary & Administration Expenses Apportioned	-	-
Less: Amount Utilized during the year	6,408,120	(2,376,713)
	(2,376,713)	13,111,325
15 Affordable Rental Housing Complexes		
Opening Balance	-	-
Received during the year	832,620,000	-
Less: Amount Utilized during the year	-	-
	832,620,000	-
16 Light House Project-Agartala, Tripura		
Opening Balance	428,750,000	140,000,000
Received during the year (From Ministry)	260,000,000	120,000,000
Received during the year (From State Government)	-	185,000,000
Less: Amount Utilized during the year	122,112,500	566,637,500
	566,637,500	16,250,000





Building Materials & Technology Promotion Council

Ministry of Housing & Urban Affairs, Government of India

SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2022

		Amount (₹)	
SCHEDULE 4- EARMARKED FUNDS	2021-22	2020-21	
17 Light House Project-Chennai, Tamil Nadu			
Opening Balance	268,061,986	161,280,000	
Received during the year (From Ministry)	253,440,000	92,160,000	
Received during the year (From State Government)	280,758,644	142,518,646	
Less: Amount Utilized during the year	846,679,464	(44,418,834)	127,896,660
			268,061,986
18 Light House Project-Indore, Madhya Pradesh			
Opening Balance	264,811,429	143,360,000	
Received during the year (From Ministry)	225,280,000	81,920,000	
Received during the year (From State Government)	100,000,000	90,960,000	
Less: Amount Utilized during the year	438,872,780	151,218,649	51,428,571
			264,811,429
19 Light House Project-Lucknow, Uttar Pradesh			
Opening Balance	510,510,000	145,600,000	
Received during the year (From Ministry)	228,800,000	83,200,000	
Received during the year (From State Government)	-	294,800,000	
Less: Amount Utilized during the year	313,560,662	425,749,338	13,090,000
			510,510,000
20 Light House Project-Rajkot, Gujarat			
Opening Balance	464,958,900	228,800,000	
Received during the year (From Ministry)	251,680,000	91,520,000	
Received during the year (From State Government)	-	155,254,400	
Less: Amount Utilized during the year	536,072,900	180,566,000	10,615,500
			464,958,900
21 Light House Project-Ranchi, Jharkhand			
Opening Balance	221,760,000	141,120,000	
Received during the year (From Ministry)	221,760,000	80,640,000	
Received during the year (From State Government)	40,320,000	-	
Less: Amount Utilized during the year	149,962,565	333,877,435	-
			221,760,000
TOTAL	2,717,059,760		2,322,070,943
SCHEDULE 5- CURRENT LIABILITIES AND PROVISIONS	2021-22	2020-21	
CURRENT LIABILITIES			
- Outstanding Liabilities	491,843		539,263
Statutory Dues	11,278,425		-
- Security Payable - Others	25,194,791		11,540,992
- Security Payable (DHP) Projects	2,050,014		-
- Security Payable (LHP) Projects	49,990,914		-
- Amount refundable to MoHUA on account of interest with SBI (LHP)	87,213,979		37,044,491
- Interest accrued but not due to NSSF on National Urban Housing Fund	3,873,600,000		3,754,356,164
- Interest accrued but not due to HUDCO on National Urban Housing Fund	2,552,587,958		2,503,666,159
- Amount Refundable to MoHUA (Bank Interest on NUHF)	223,601,903		215,081,902
- Amount Payable to TNSCB /Rajkot Municipal Corporation	15,191,643		-
TOTAL	6,841,201,470		6,522,228,971



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



SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2022

SCHEDULE 6- PROPERTY, PLANT & EQUIPMENT							Amount (₹)	
	GROSS BLOCK			DEPRECIATION		Upto 31.03.2022	NET BLOCK	NET BLOCK
	Cost as on 01.4.2021	Additions (before 180 days)	Additions (after 180days)	Total	Upto 01.04.2021		As on 31.03.2022	As on 31.03.2021
Office Building including Land	34,319,817		-	34,319,817	13,889,826	15,932,825	18,386,992	20,429,991
Furniture and Fixtures	3,793,415			3,793,415	3,153,486	3,217,479	575,936	639,929
Office Equipments	20,518,745		22,480	20,541,225	18,924,624	240,804	1,375,797	1,594,121
Computers/ Peripherals	19,744,286	238,400	79,373	20,062,059	19,070,507	380,747	610,805	673,779
Software	-	208,000	250,000	458,000	-	133,200	324,800	-
Air conditioners	1,035,166		-	1,035,166	885,355	22,472	127,339	149,811
Fan & Coolers	81,224		-	81,224	67,824	2,010	11,390	13,400
TV and VCR	380,450		-	380,450	355,288	3,774	21,388	25,162
Exhibits, Panels, Display Models	12,084,905		-	12,084,905	11,714,958	55,492	314,455	369,947
	91,958,008	446,400	351,853	92,756,261	68,061,868	2,945,491	21,748,902	23,896,140
Previous Year (2020 -21)	91,015,224	-	942,784	91,958,008	65,119,006	2,942,862	23,896,140	25,896,218





Building Materials & Technology Promotion Council

Ministry of Housing & Urban Affairs, Government of India

SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31 MARCH 2022

Amount (₹)

SCHEDULE 7- NON CURRENT ASSETS	2021-22	2020-21
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
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
TOTAL	200,000,000,000	530,000,000,000

SCHEDULE 8 - CURRENT ASSETS, LOANS, ADVANCES ETC.	2021-22	2020-21
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A. CURRENT ASSETS:

1. Bank Balances			
- Deposit with Canara Bank	248,801,413	219,630,069	
-Sweep/ Deposit A/c with SBI (LHP)	2,355,212,358	2,164,810,068	
-Savings Accounts:			
- Canara Bank	15,387,764	81,440,596	
- State Bank of India	12,466,960	7,431,549	
- State Bank of India (NUHF)	223,622,943	215,102,942	
- State Bank of India (LHP)-Agartala	1,005,868	1,007,416	
-State bank of india (ARHC)	101,801	-	
-State bank of india (DHP)	154,110,001	-	
- State Bank of India (LHP)-Chennai	10,000	1,000,322	
- State Bank of India (LHP)-Indore	250,753,574	830,226	
- State Bank of India (LHP)-Lucknow	1,008,796	1,007,413	
- State Bank of India (LHP)-Rajkot	1,000,758	1,006,316	
- State Bank of India (LHP)-Ranchi	10,000	1,007,416	2,694,274,333

B. LOANS, ADVANCES AND OTHER ASSETS

1. Advances to staff	263,365	477,382	
2. Amount Recoverable from MoHUA under NUHF-Central Assistance from EBR under PMAY(U)	6,426,187,958	6,258,022,323	
3. Advances and other amounts recoverable in cash or in kind or value to be received			
a. Amount Recoverable & other Advances	609,204	703,802	
b. Amount Receivable from Ministry (Fee for site Scrutiny under PMAY (U) Mission	8,644,631	-	
c. Amount Recoverable - Others	16,041,792	16,044,792	
d. Security Deposit (Office Space)	420,000	420,000	
e. Tax Deducted at Source & GST Recoverable	6,673,453	32,389,080	24,645,138
4. Interest Accrued on FDR's with Banks	6,633,417	7,476,544	29,481,287

TOTAL (A + B)	9,728,966,056	9,006,900,463	
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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 2022

Amount (₹)

SCHEDULE 9- GRANTS/SUBSIDIES (Irrevocable Grants & Subsidies Received)		2021-22	2020-21
1	Central Government (Ministry of Housing & Urban Affairs, Government of India)	55,000,000	55,000,000
TOTAL		55,000,000	55,000,000

SCHEDULE 10 - FEES/SUBSCRIPTIONS		2021-22	2020-21
1	Training Programmes/Seminar Receipts/Demonstration Housing Projects/NavaritiH Fee/VAI/Consultancy Fee	1,178,563	1,479,483
2	Fee for Site Scrutiny Under PMAY (U) Mission	8,031,000	-
2	Salary & Administration Expenses Apportioned (DHP's)	6,374,328	10,393,756
TOTAL		15,583,891	11,873,239

SCHEDULE 11- INCOME FROM PACS FEE, PUBLICATION ETC.		2021-22	2020-21
1	Receipts towards sale of publications, PACS etc	1,518,695	1,115,885
TOTAL		1,518,695	1,115,885

SCHEDULE 12- INTEREST EARNED		2021-22	2020-21
1	On Term Deposits With Scheduled Banks	16,200,253	7,855,486
2	On savings Accounts With Scheduled Banks	371,955	932,111
3	On Advance to Employees	6,600	9,689
4	On Income Tax Refund	16,515	1,090
TOTAL		16,595,323	8,798,376

SCHEDULE 13- EXPENDITURE ON SALARY, ESTABLISHMENT & ADMINISTRATION		2021-22	2020-21
1	Pay and Allowances	56,565,254	53,462,858
2	Leave Encashment	1,696,885	-
3	Gratuity	3,650,000	-
4	Leave Travel Concession	451,937	495,832
5	Medical Allowance	3,673,701	3,483,328
6	Administration Expenses	9,227,757	8,756,480
TOTAL		75,265,533	66,198,498

SCHEDULE 14 - EXPENDITURE ON DISSEMINATION / SEMINARS/WORKSHOPS, TRAINING PROGRAMMES, HFA, ETC.		2021-22	2020-21
1	Exhibition and publicity	218,541	50,000
2	Seminar and Conference Expenses	317,019	422,074
3	Printing, Publication & Advertisement	660,731	388,405
4	NavaritiH E-Course Expenses	295,122	327,000
5	Documentation, Sensitization & Capacity Building, Disaster Mitigation under Housing for All	1,130,556	1,282,698
TOTAL		2,621,969	2,470,177





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 2022

	Amount (₹)	
	2021-22	2020-21
SCHEDULE 15 - EXPENDITURE ON SCIENTIFIC & TECHNICAL (S&T) ACTIVITIES INCLUDING DEMONSTRATION HOUSING PROJECTS		
A Building Materials & Construction Technologies		
1 Construction of demonstration housing project at Lucknow	-	77,400
2 Construction of demonstration housing project at Nellore	1,016,935	96,000
3 Construction of demonstration housing project at Bihar Sharif, Bihar	18,000	334,998
4 Performance appraisal certification scheme	776,634	736,079
5 Construction of demonstration housing project at Telangana, Hyderabad	96,308	-
Sub-Total (A)	1,907,877	1,244,477
B Disaster Mitigation & Management		
1 Design, development & implementation of mobile application for earthquake hazard zoning maps of India	-	40,309
Sub-Total (C)	-	40,309
TOTAL (A+B+C)	1,907,877	1,284,786





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 2022

		Amount (₹)	
SCHEDULE 16 - NATIONAL URBAN HOUSING FUND-CENTRAL ASSISTANCE FROM EBR UNDER PMAY (U)		2021-22	2020-21
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
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
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
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
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
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
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
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
14	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
15	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for HUDCO for CLSS Schemes	-	1,500,000,000
16	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for HUDCO for CLSS Schemes	-	400,000,000
17	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
18	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
19	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
20	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 46 BLC	-	319,080,000
21	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
22	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
23	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 47 BLC	-	212,040,000
24	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
25	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 13 BLC	-	86,460,000



		Amount (₹)	
SCHEDULE 16 - NATIONAL URBAN HOUSING FUND-CENTRAL ASSISTANCE FROM EBR UNDER PMAY (U)		2021-22	2020-21
26	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
27	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 19 BLC	-	60,240,000
28	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
29	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Uttar Pradesh for 29 BLC	-	140,280,000
30	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
31	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
32	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
33	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
34	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for the Government of Chhatisgarh for 467 BLC Project	-	646,100,000
35	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
36	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
37	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
38	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
39	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
40	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
41	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
42	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
43	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
44	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
45	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
46	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
47	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
48	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for State Bank of India	-	14,000,000,000
49	Central Assistance under Pradhan Mantri Awas Yojna (PMAY) (URBAN)-Housing for All Mission for State Bank of India	-	5,000,000,000
50	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
51	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
52	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
53	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
54	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
55	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



		Amount (₹)	
SCHEDULE 16 - NATIONAL URBAN HOUSING FUND-CENTRAL ASSISTANCE FROM EBR UNDER PMAY (U)		2021-22	2020-21
56	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
57	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
58	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
59	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
60	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





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.

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.NIL(previous years Rs.10,000 Crore) from NSSF as loan on behalf of Government of India and an amount of Rs.NIL (previous year Rs.9999.99 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 31st March, 2022

As per our report of even date attached.

For M S SEKHON & CO.

Chartered Accountants

FRN: 003671N

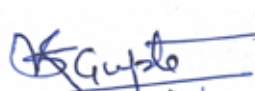

Rajiv Tandon
Partner
M.No.87343

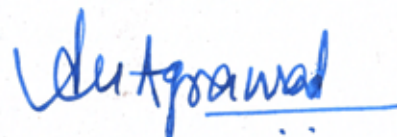


Pankaj Gupta
Finance Officer

For Building Materials & Technology

Promotion Council


Sharad Kumar Gupta
Chief-Finance (I/C)


Dr. Shailesh Kr. Agrawal
Executive Director

Place: New Delhi

Date: 29.09.2022

ANNEXURE I

PARTICIPATION IN PROMOTIONAL EVENTS

PARTICIPATION IN PROMOTIONAL EVENTS

I. EXHIBITION

The Council participated in the “Indian Housing Technology Mela” by putting up display of various activities of BMTPC in the exhibition. The “Indian Housing Technology Mela” was organized by Ministry of Housing & Urban Affairs from October 5-7, 2021 at Lucknow, U.P. The Mela was inaugurated by Hon’ble Prime Minister.

WEBINARS/VIDEO CONFERENCES/ /TRAINING PROGRAMMES etc.

II.

- Webinar on Optimizing Housing Technologies & innovation - A way forward organized by ASSOCHAM, New Delhi on April 29, 2021
- 3rd Batch of NAVARITIH: Certificate Course on Innovative Construction Technologies from April 30 – May 7, 2021
- 4th Batch of NAVARITIH: Certificate Course on Innovative Construction Technologies from June 4 – 11, 2021
- 5th Batch of NAVARITIH: Certificate Course on Innovative Construction Technologies from July 16 – 23, 2021
- On-site training at Light House Project Rajkot to final year students of civil engineering on tunnel formwork systems and their faculty members, Technograhis on July 30, 2021
- On-site training to Technograhis on Light House Project Lucknow using Steel Structural Systems with pre-finished stay in place PVC wall forms on August 7, 2021
- National Workshop on Earthquake Resistant Practices in the Built Environment organised by NICEE and IIT Kanpur on August 9, 2021
- Webinar on Next Generation Defence Technologies, organised by University School of Information and Communication Technology and University School of Engineering, Gautam Buddha University, Greater Noida, on August 19-20, 2021
- Webinar on “Inclusive Urbanism & Green Technology” organised by South Asian Institute for Advanced Research & Development (SAIARD) in association with Smart Cities Mission on August 23, 2021

- “Awas par Samvad” – Seminar on “Technology & Innovation” by MITS, Gwalior in association with UADD, Govt. of MP on September 2, 2021
- 6th Batch of NAVARITIH: Certificate Course on Innovative Construction Technologies from August 27 – September 3, 2021
- Celebration of World Habitat Day 2021 through VC inaugurated by Hon’ble Minister of State (HUA) on October 5, 2021
- CII Global Steel Summit on November 11-12, 2021 through Virtual Platform on ‘Development India as a Global Hub’.
- 7th Batch of NAVARITIH: Certificate Course on Innovative Construction Technologies from November 12 -19, 2021.
- Faculty development programme organised by Council of Architecture on November 29, 2021
- Session on “Urban Housing & Use of New Technologies” during All India Mayors’ conference in Varanasi on December 17, 2021.
- Training Programme on “Capacity Enhancement for Disaster Risk Reduction and Resilience” by NIDM in Collaboration with Delhi Disaster Management Authority at New Delhi on December 22, 2021
- Concrete Day celebrations organised by ICI & Ultratech on December 23, 2021 at Gurugram
- 25th Annual Convention and National Seminar on “Sustainable Built Environment for Future’ by IBC on January 4, 2022 at New Delhi
- 5 day National online Faculty Development Programme (FDP) on “Outcome Based Education : Best Practices in Architecture & Planning Education” organised by Council of Architecture (COA) - Training & Research Centre in association with MBS SPA on January 13, 2022
- 8th Batch of NAVARITIH: Certificate Course on Innovative Construction Technologies from January 14 -21, 2022.
- Special Plenary Session on Urban Infra: “New Era of Living through Better Housing” during BCC&I Infrastructure e Conclave on February 9, 2022.
- Online session for BPCL engineers & professionals on Emerging Construction systems for buildings & infrastructure on March 4, 2022

- Webinar on Light House Project at Rajkot on imparting training on new technologies followed by virtual tour of Rajkot site on March 13, 2022
- Webinar on Light House Project at Indore on imparting training on new technologies followed by virtual tour of Indore site on March 24, 2022
- Seminar on “Contribution of Construction Industry in Building of Independent India” organised by Indian Building Congress at New Delhi on March 30, 2022
- 9th Batch of NAVARITIH: Certificate Course on Innovative Construction Technologies from March 25 to 1st April, 2022

III. TECHNICAL COMMITTEE/WORKING GROUPS /MEETINGS ETC.

- Virtual meeting to discuss the Vulnerability Atlas of India organized by NDMA on April 7, 2021
- 60th meeting of the Executive Committee of BMTPC held under the Chairmanship of Secretary, MoHUA on June 4, 2021 at New Delhi
- Meeting for Affordable Sustainable Housing Accelerator (ASHA)-India to groom domestic innovations in collaboration with IITs & CSIR on June 7, 2021
- 54th meeting of the Central Sanctioning and Monitoring Committee (CSMC) for Pradhan Mantri Awas Yojana (Urban) chaired by Secretary, HUA on June 8, 2021
- 4th meeting of Project Monitoring Committee (PMC) held on 09.06.2021, under the chairmanship of Secretary, MoHUA to review the progress of Light House Projects (LHPs) under GHTC-India
- Virtual meeting regarding status report of LHPs projects chaired by Hon’ble Prime Minister July 3, 2021
- 5th meeting of Project Monitoring Committee (PMC) held on 16.07.2021 under the chairmanship of Secretary, MoHUA to review the progress of construction of LHPs at six States under GHTC-India
- 55th meeting of the Central Sanctioning and Monitoring Committee (CSMC) for Pradhan Mantri Awas Yojana (Urban) chaired by Secretary, HUA on August 16, 2021

- 6th meeting of PMC held on 17.08.2021 through video conferencing under the Chairmanship of Secretary, MoHUA to review the progress of construction of LHPs at six States under GHTC-India
- 120th Meeting of Governing Council of NAREDCO on August 27, 2021
- 23rd Annual General Meeting of NAREDCO on September 14, 2021
- 56th meeting of the Central Sanctioning and Monitoring Committee (CSMC) for Pradhan Mantri Awas Yojana (Urban) chaired by Secretary, HUA on November 23, 2021
- 57th meeting of the Central Sanctioning and Monitoring Committee (CSMC) for Pradhan Mantri Awas Yojana (Urban) chaired by Secretary, HUA on December 23, 2021
- Meeting of Committee for “Accreditation Of New Materials and Techniques” held on December 23, 2021, at MORTH, Gol, New Delhi through Hybrid Mode
- 61st meeting of the Executive Committee of BMTPC held under the Chairmanship of Secretary, MoHUA on January 21, 2021 at New Delhi
- 58th meeting of the Central Sanctioning and Monitoring Committee (CSMC) for Pradhan Mantri Awas Yojana (Urban) chaired by Secretary, HUA on February 15, 2022
- 18th Technical Assessment Committee (TAC) meeting of Performance Appraisal Certification Scheme (PACS) on 11.3.2022 at New Delhi
- 59th meeting of the Central Sanctioning and Monitoring Committee (CSMC) for Pradhan Mantri Awas Yojana (Urban) chaired by Secretary, HUA on March 23, 2022
- 60th meeting of the Central Sanctioning and Monitoring Committee (CSMC) for Pradhan Mantri Awas Yojana (Urban) chaired by Secretary, HUA on March 30, 2022
- 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 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

- Providing guidance to 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

- Book titled “Alternate & Innovative Construction Systems for Housing” jointly published by BMTPC and School of Planning & Architecture New Delhi and I. K. International Pvt. Ltd., New Delhi
- Presentation on Vulnerability Atlas of India to officials of Policy & Plan Division, National Disaster Management Authority on April 7, 2021
- Presentation on Emerging Housing Technologies during Webinar on Optimizing Housing Technologies & innovation - A way forward organised by ASSOCHAM, New Delhi on April 29, 2021
- Presentation on Emerging Construction Systems for Mass Housing during Third Batch of NAVARITIH : Certificate Course on Innovative Construction Technologies, April 30 to May 7, 2021
- Presentation on Innovative Construction Technologies to engineers of Indian Institute of Coal Management (IICM) Ranchi on May 20, 2021
- Presentation on Emerging Construction Systems for Mass Housing during Fourth Batch of NAVARITIH : Certificate Course on Innovative Construction Technologies, June 4 to 11, 2021
- Presentation on Emerging Construction Systems for Mass Housing during Fifth Batch of NAVARITIH : Certificate Course on Innovative Construction Technologies, July 16 to 23, 2021
- Presentation on Disaster Mitigation & Management – Hazard Vulnerability in India at NIDM on August 3, 2021
- Presentation on Vulnerability Atlas of India during National Workshop on Earthquake Resistant Practices in the Built Environment organised by NICEE and IIT Kanpur on August 9, 2021
- Presentation on Emerging Construction Technologies for Mass Housing during the Webinar on Next Generation Defence Technologies, organised by University School of Information and Communication Technology and University School of Engineering, Gautam Buddha University, Greater Noida, on August 19-20, 2021

- Presentation on Emerging Construction Systems for Sustainable Development during Webinar on “Inclusive Urbanism & Green Technology” organised by South Asian Institute for Advanced Research & Development (SAIARD) in association with Smart Cities Mission on August 23, 2021
- Presentation on Emerging Construction Systems for Mass Housing during Sixth Batch of NAVARITI : Certificate Course on Innovative Construction Technologies, August 27 to September 3, 2021
- Presentation on Vulnerability Atlas of India during Webinar on Vulnerability Atlas of India on September 20, 2021
- Presentation on Sustainable Building Materials & Construction Technologies during Indian Housing Technology Mela organised by MoHUA at Lucknow from October 5-7, 2021
- Presentation on Standardisation and Certification of new Materials/ Technologies during Indian Housing Technology Mela organised by MoHUA at Lucknow during 5-7 October, 2021
- Presentation on Emerging Steel Based Construction Technologies for Mass Housing during Expert Group Meeting on Steel constituted by Ministry of Steel on November 8, 2021
- Presentation on Emerging Housing Technologies during CII Global Steel Summit on November 11-12, 2021 through Virtual Platform on ‘Development India as a Global Hub’.
- Presentation on Emerging Construction Systems for Mass Housing during Seventh Batch of NAVARITI : Certificate Course on Innovative Construction Technologies, November 12 to 19, 2021
- Presentation on Emerging Construction Systems for Mass Housing during 8th India Housing Forum 2021 organised by Habitat for Humanity India on November 23, 2021
- Presentation on Emerging Construction Systems for Mass Housing during 75th Anniversary of India’s Independence by National CPWD Academy on December 1, 2021
- Presentation on Emerging Construction Systems for Mass Housing during Concrete Day celebrations organised by ICI & Ultratech on December 23, 2021 at Gurugram

- Presentation on Emerging Construction Systems for Mass Housing during National Online Faculty Development Programme (FDP) on “Outcome Based Education : Best Practices in Architecture & Planning Education” organised by Council of Architecture (COA) - Training & Research Centre in association with MBS SPA on January 13, 2022
- Presentation on Emerging Construction Systems for Mass Housing during Eighth Batch of NAVARITI : Certificate Course on Innovative Construction Technologies, January 14 to 21, 2022
- Presentation on Emerging Construction Systems for Sustainable Development during Special Plenary Session on Urban Infra: “New Era of Living through Better Housing” during BCC&I Infrastructure e Conclave on February 9, 2022.
- Presentation on Emerging Construction Systems for Mass Housing during Online session for BPCL engineers & professionals on Emerging Construction systems for buildings & infrastructure on March 4, 2022
- Presentation on Emerging Construction Systems for Sustainable Development during Seminar on “Contribution of Construction Industry in Building of Independent India” organised by Indian Building Congress at New Delhi on March 30, 2022
- Presentation on Emerging Construction Systems for Mass Housing during Ninth Batch of NAVARITI : Certificate Course on Innovative Construction Technologies, March 25 to April 1, 2022
- 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 World Habitat Day 2021 “Accelerating Urban Action for a Carbon-free World”
2. Fourth edition of Pocket Book on Emerging Construction Systems
3. BMTPC and CSIR-CBRI Compendium on Building Technologies
4. Booklet on Use of Innovative Housing Technologies under PMAY(U)
5. Compendium of Indigenous Innovative Building Materials and Construction technologies showcased during Indian Housing Technology Mela



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