

10 pockets. 93 Ha. of area from Old Railway Bridge to ITO Barrage (Western Bank) already developed. 90 Ha. of area on Eastern Bank from Old Railway Bridge to ITO Barrage and 100 Ha. of area on Western Bank from NH-24 to DND has been taken up for execution of works. 115 Ha. of an area from DND to Kalindi By-pass is being developed as Biodiversity Park and 15 Ha. on its Eastern Bank is being developed as wetlands near the Hindon Cut.



Restoration and Rejuvenation of floodplains of Yamuna

24.09 Horticulture Department



Plantation Drive carried out by Shri Hardeep Singh Puri, Hon'ble MoS Housing and Urban Affairs (I/C)

Preparation of Bougainvillea Garden, Rose Garden and Herbal Garden

S. No	Name of Division	Name of Scheme	Area for the Development of Garden (In Acre)	Timeline	Remarks
1.		District Park at HauzKhasi/c Rose Garden	2.00	31.03.2020	Rose Garden/ Yet to start
2.	Hort. Div.-IV	District Park at Vasant Vihar (VasantUdhyan)	0.50	31.03.2020	Bougainvillea/ Yet to start
3.		Aff. M.P. Green Area at Sanjay	1.00	31.03.2020	Herbal Garden/ Yet Vanto start
4.	Hort. Div.-VI	M. P. Green area at Lado Sarai Ph-II (Indian Garden)	1.00	31.01.2020	Tendering was completed
5.		Park at PulPrehladpurPh-I	1.00	31.01.2020	Tendering was completed
6.		Chirag Nursery.	0.25	31.01.2020	Tendering was completed
7.	Hort. Div.-VII	Green Area Sanjay Lake at TrilokPuri.	1.00	31.12.2019	Rose Garden/ Yet to start
8.		Distt. Park Patparganj	0.50	31.12.2019	Bougainvillea/ yet to start
9.		Green Area CWG Village at Akashardham	0.50	31.12.2019	Herbal Garden/ yet to start
10.	Hort. Div.-IX	Park at Rose Garden between FerozshahKotla to Ring Road	2.00	28.02.2020	Tendering in process
11.		Distt Park at PreetVihar near Rly. Line	0.50	28.02.2020	Tendering in process
12.		NHP at New Rajdhani Enclave	0.50	28.02.2020	Tendering in process



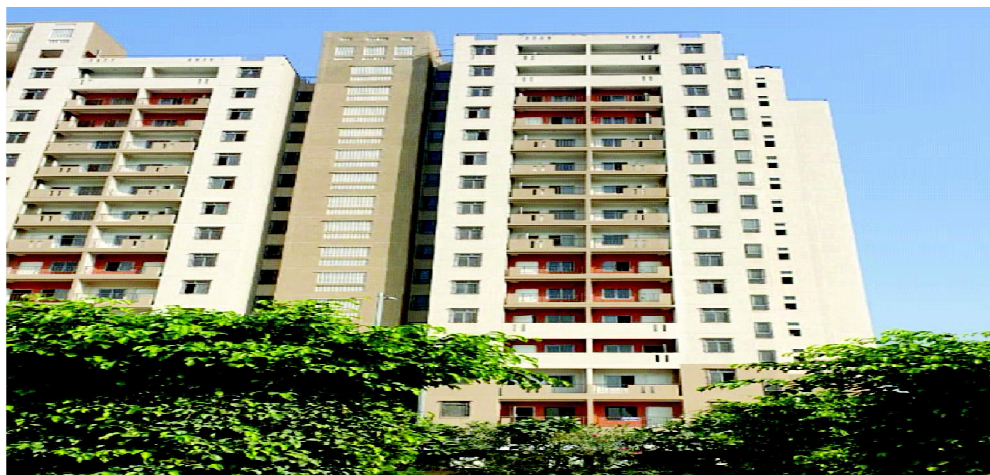
Astha Kunj, Delhi

24.10 Housing Department

Achievement of the Housing Department, DDA for the year 2019-20.

- i. Housing Activity has been taken up by the Delhi Development Authority since 1967-68. From time to time, DDA announce schemes for allotment of flats under various categories. The first registration scheme was opened in the year 1969. Thereafter 48 more schemes have been launched till date.
- ii. Housing Scheme-2019: DDA launched the Housing Scheme-2019 for about 17,922 flats of various categories in different localities w.e.f 25.03.2019 and draw for the same was held on 23.07.2019 and 8,438 flats of various categories have been allotted to general public.
- iii. Conversion of flats: Total 7,892 Nos. CD papers have been issued for conversion from lease held to free hold under existing policy guidelines w.e.f 01.04.19 to 30.11.2019.
- iv. Online Running Housing Scheme: DDA launched an online running scheme for disposal of old inventory of flats of Housing Scheme -2017 on first come first serve basis. It was launched on 18.01.19 for disposal of 3,655 flats.
- v. Online Running Scheme for Gallantry Award Winner: DDA has launched online scheme for gallantry awards/war widows on first come first serve basis. Approx. 1000 flats of LIG/ One Bedroom Category have been included in the scheme for disposal.
- vi. Online Running Scheme for SC/ST: DDA has launched online Scheme for SC/ST on 05.09.2019 and last date to apply was 30.11.2019 for disposal of 269 flats at various locations like Jasola, Rohini, Dwarka etc.

- vii. Online running Scheme for EWS flats at Narela: DDA has launched online Scheme for EWS flats on 30.08.2019 and last date to apply was 30.11.2019 for disposal of 6273 flats at Narela.



EWS Flats - Narela

24.11 Sports Department

The sports infrastructure development, maintained and operated by the DDA is as under :	
Sports Complexes	15 (5 in South Zone, 3 each in the North and West Zone and 4 in East Zone)
Mini sports complexes	3 (Munirka (south), Pratap Nagar (west) & Kanti Nagar (East))
Swimming pools	17 Nos.
Fitness centre in sports complex	19 (including 1 gym exclusively for ladies)
Multigym in Green area	N.A
Mini football grounds	10 (2 in green area & 8 in sports complexes)
Golf course	2 (Lado sarai (QGC) & Bhalaswa)
Mini Golf Course	1 (Siri Fort)
Golf Driving range	3 (Siri Fort, Lado Sarai (QGC) & Bhalaswa)
Temporary play fields	11 play fields taken over from Delhi Police (list enclosed)
Proposed sports complexes	5 (3 in Dwarka, 1 in Rohini & 1 in Narela)

Proposed golf course	1 (sector 24, Dwarka)
Proposed football stadium	1 (sector-19B, Dwarka)
Proposed Community Sports Complexes	4 Nos.:
	<ul style="list-style-type: none"> i. Maharaja Surajmal Stadium ii. Sultanpuri iii. Sukhdev Vihar iv. Vasant Kunj
Sports Complex under Development	1 (Sector -17. Dwarka)

List Of Temporary Play Fields

Sl.No.	Temporary Play Field
1.	Maharana Pratap Park, Krishna Nagar
2	Play field in front of PS Vivek Vihar, Petrol pump
3	MTNL Park, Yamuna Vihar, Delhi
4	DDA land near Usmanpur, Delhi.
5.	Park at G Block, Sector-15, Rohini
6	Vacant land behind Swarna Jayanti Park, Sector-12 Rohini
7	Vacant land behind Ryan Public School in sector-25, Pocket-6, Rohini.
8	Jasola village khasra No.160, 461, 457 & 455
9	Khasra no.109, Nasirpur village
10	Plot adjacent to Police station Dwarka south, sector-9, Dwarka
11	DDA park near water treatment plant, Keshopur, Delhi.



Bhalswa Golf Course



Qutab Golf Course



Siri Fort Sports Complex

24.12 Systems Department

IT / E-Governance

Initiatives taken recently in DDA for online service delivery to public and for transparency:

- i. **Online Housing Schemes** : All housing schemes for flats and all auctions of properties have been done online. In 2019 , total 5 housing schemes for allotment of flats and 3 auctions of properties have been done completely online.
- ii. **Implementation Of E-Office** : E-office has been made operational in Housing, Land Disposal, Land Management Systems , Accounts and all public dealing Deptts .Most of the files now move in electronic form in DDA which saves a lot of time in service delivery to the public. About 2500 live files are now in movement on e-office in DDA.
- iii. **Online Application/Portal For Land Pooling:** For taking requests/expression of interests with land details from the public this application was made live in 2018 and as of now about 7000 land owners have submitted their land details.
- iv. **Mobile Application For Public Grievance Redressal And Portal For Special Task Force Complaints Management Made Operational :**
 - A web enabled portal and the mobile app is operational in DDA for Grievance Redressal of general public.
 - The Grievances are replied online and if needed the appointments can also be sought online from the concerned officers by the general public.
- v. **Online Records Room Management:**
 - Record rooms of DDA have been made computerized. Record Management Application has been made operational in Record Rooms of DDA. Initially 47000 files have been fed to record management system and the record keepers are continuously feeding files in this system. Every movement of files is tracked.
- vi. **Application For Managing 'VC' Public Hearing Online**
 - VIP references monitoring system
 - Department's target monitoring system
 - E-OFFICE and File Tracking operational

vii. Online Allotment of Staff Quarters :

- All applications for staff quarters online
- All allotments online through online draw
- Status appraisal, vacancy status etc. online
- Surrender/cancellations online

viii. Online Pro-Vakil Application for Court Case Monitoring :

- About 23000 pending court cases of DDA uploaded for day to day legal proceedings monitoring
- Almost realtime status of any court case in Supreme Court, High Court and District Court can be seen
- Provision of automatic alerts through SMS, Emails etc.

ix. Computerised Call Centre :

- Every call centre operator has a computer, ear head phone
- Public queries data base being created
- Access to every operator provided to various softwares and DDA website
- A dedicated call centre software running

x. Measures for Ease of Doing Business :

- Almost 100% payments received in DDA online.
- RDS, RTGS/NEFT and BHIM UPI are operational.
- Application for online mutation of properties started in aug 2019
- Module for online calculation of dues for Rohini plots and ground rent for group housing started in October 2019

24.13 Accounts Department (Finance & Expenditure]

The comparative statement reflecting achievements for the period 1st January, 2019 to 31st December, 2019 and forecasted figures upto 31st March,2020 along with achievements of the previous two years is as under:

S. No.	Categories of Paras	Total no. of replies sent during the year 2017-18	Total no. of replies sent during the year 2018-19 (01.04.2018 to 31.03.2019)	Total no. of replies sent during the year 2019-20 (01.04.2019 to 31.12.2019)	Total no. of replies forecasted to be sent till March, 2020
1.	PAC Para	2	2	3	1
2.	PSC (Parliamentary Standing Committee)	-	-	-	-
3.	CAG Para	1	1	-	-
4.	Draft	1	7	4	3
5.	Statement of Facts (SOF)	1	1	-	3
	Total	5	11	7	7

24.14 Training Department

During January to December, 2019 (as per Internal & External Training Calendar 2019-2020 (attached), the Training Department has successfully conducted the following various Training Programs through Workshops, Seminars and Conferences in DDA as well as outside Delhi in collaboration with Institutions i.e. NPC, DPC, ISTM, UTCS, NIDEM, FRI, NHA I & CBI Academy, NIMMA, NIHA, Project Appraisal Consultants etc. on the basis of approval obtained from the Competent Authority:

SL. No.	Description (01.01.19 to 31.12.19)	No. of Programme	No. of Participants
1	Internal Calendar Trg./Pre-promotional Trg./ Thematic Trg./	93	2710
2	Induction Trg./H.R.D./ External Trg. in Delhi and UTCS	77	1000
3	External Trg. Outside Delhi	18	57
4	Foreign	02	02
	Total	190	3769

24.15 Personnel Department

The achievements of Personnel Department during the year 2019 may be reckoned as the following:

- i. A total of 213 vacancies in 21 categories were notified during this year. Appointment has been/is being made on 164 vacant posts in 19 categories. The recruitment process in the remaining two categories is underway and is expected to be finalized soon.
- ii. A total of 102 candidates were selected for appointment on compassionate grounds during the year 2019. Appointment letters are being issued to 17 candidates.
- iii. The unsuccessful candidates in the above said recruitment on compassionate grounds are to be appointed on contractual basis.
- iv. A total of 100 retired employees of DDA i.e., 50 ex-Asstt. Directors (Ministerial) and 50 ex-Asstt. Section Officers were engaged on contractual basis to man the Help Desks established for regularization of unauthorized colonies in Delhi under PM-UDAY.
- v. Limited Departmental Examinations (LDEs) and Limited Departmental Competitive Examinations (LDCEs) were conducted for the posts of SSA, JSA and ASO. The successful candidates have been promoted.
- vi. Recruitment to the post of Assistant Director (Ministerial) by the way of Limited Departmental Competitive Examination (LDCE) is also underway.



Inauguration of DDA's Call Centre by Hon'ble LG Shri Anil Baijal

II National Institute of Urban Affairs (NIUA)

24.16 The National Institute of Urban Affairs (NIUA) established in the year 1976, as an autonomous body under the Societies Registration Act., is a premier Institute for research, Capacity building and dissemination of knowledge for the urban sector in India. It conducts research on urbanization, urban policy and planning, municipal finance and governance, land economics, transit-oriented development, urban livelihood, environment & climate change and smart cities.

24.17 Ongoing Projects at NIUA 2019-20

The projects executed by NIUA are led by its core research team and executed by a number of project teams containing regular and contract staff.

- i. **14th Finance Commission Cell** : The cell is evaluating proposals for Basic and Performance Grant: examining data on municipal finances and managing MIS for cities and states across India. The cell is involved in the 14th FC grant release mechanism and has been verifying claims from the states with reference to the commission grants as per Ministry of Finance and MoHUA guidelines. The 14th FC Cell has also supported the Ministry in preparation of "Urban Memorandum" on behalf of MoHUA for 15th Finance Commission.
- ii. **Integrated Capacity Building Programme** : The programme is for enhancing functional knowledge, improving on the job skills and changing the attitude of municipal functionaries through capacity building. Providing single window service to the Ministry/ States/ULBs as part of integrated capacity building programme. Continuously supporting to Ministry for assessment of training entities and programme implementation for release of funds. The funding agency is MoHUA.
- iii. **NIUA- CIDCO Smart City Lab** : The Lab has been functioning for last 5 years. The main objective is to strategizing capacity development - delivering objectives of CIDCO's training policy through UJJWAL portal. Preparing knowledge products viz. quarterly reports, newsletters, TOD, value capture finance etc. Imparting knowledge exchange and making presentations at major urban forms.
- iv. **Review of Urban Social Policy Framework** : This case study of three large - sized Indian cities (Mumbai, Kolkata, Bhopal) is to develop an understanding of the current scenario on access to social schemes and protection for urban vulnerable population.
- v. **Preparation of Heritage Conservation Plan for Walled City of Ahmedabad** : The study is to prepare the heritage conservation plan for a UNESCO World Heritage city. Building an understanding towards integrating cultural heritage conservation and sustainable urban development of historic areas of Ahmedabad.
- vi. **Master Plan of Delhi-2021 as an Enabling Strategic Plan** : Developing a guiding framework to define the contours of Delhi's future urban development. Reviewing and gap analysis of existing plan framework, developing GIS-based spatial data base. Formulating/reformulating the existing / new policies for the master plan. The key highlights are the Land Pooling Policy, transit-oriented policy as per MPD 2021, walkability policy, green-blue infrastructure policy and baseline for Delhi.

- vii. **Implementation of Transit Oriented Development (TOD) in Indian Smart Cities** : The study is about energy efficient transport to demonstrate the importance of a programmatic approach in taking forward the TOD implementation in India with focus on financial mobilization, land assembly, legal reform and institutional arrangements.
- viii. **Child Friendly Smart Cities** : The objective is to build environment that facilitate overall development of children and make growing up in cities fun. The partnership with the Bernard van Leer Foundation (BvLF) is to build knowledge and advocacy towards developing Child -Friendly Smart Cities in India.
- ix. **National Mission for Clean Ganga** : The study is to address the urban divers of river health in the Ganga Basin. The study sponsored by Ministry of Jal Shakti and its objective is to promulgate sustainable urban development that makes judicious use of vital natural riverine resources. Also building capacities of multiple levels of stakeholders.
- x. **Urban Resilience Unit** : The unit was established to promote development of resilient cities across India. Established in collaboration with 100 Resilience Cities (100 RC) Program of the Rockefeller Foundation. The unit is involved in bringing together theoretical frameworks and practical city assessment for developing evidence and policy framework that can be used by the MoHUA, state and city level development agencies and ULBs to build local capacity and mainstream resilience in the urban discourse.
- xi. **Sustainable, Healthy, Learning Cities and Neighbourhood** : This comparative study of urban neighbourhood (SHLC) is funded by the United Kingdom Research and Innovation. The project aims to build research knowledge in UK, Asia and Africa to help address urbanization related challenges in developing countries. Under the project comparative studies of urbanization with neighbourhoods in India are being conducted to address the challenges associated with rural-to-urban migration, health and education. The project is going simultaneously in 14 cities, two in each of the seven countries. The project has two components (i) comparative research addressing development challenges (ii) growing research capacities.
- xii. **Climate Smart Cities** : The project is an initiative under urban development - small cities vertical of the Sustainable Urban Development Cluster of GIZ in India. It is part of the technical cooperation to the German Federal Ministry for Environment, Nature Conservation and Nuclear Safety, under the International Climate Initiative. The three implementing partners of the project, NIUA (India), Difu and TU Berlin (Germany) focus on supporting cities through various instruments (technical handholding, training, peer learning) and adaptation. The aim is to anchor climate friendly solutions for urban infrastructure projects.

xiii. **Capacity Building for Low Carbon and Climate Resilient City Development in India (CapaCITIES)** : The CapaCITIES project endeavours to understand the climate

change implications, strengthening capacities of the city authorities, formulating the climate action plans and strategies across priority sectors to lower greenhouse gas emissions and build resilience in selected four partner cities. The project is funded by Swiss Agency for Development and Cooperation (SDC) under its Global Programme on Climate Change.



xiv. **Sanitation Capacity Building Platform** : Sanitation Capacity Building Platform (SCBP) has been created by NIUA to bring together credible national organization that have substantial experience in the field of water and sanitation in India. This platform supports Urban Local Bodies in implementing decentralised and non sewerred sanitation solutions for India. The program also supports technical assistance, developing and delivering training contents and modules, research and policy advice to Urban Local Bodies, nodal National Training Institutes, academia and private sector.

xv. **Building Capacities of ULBs under Swachha Bharat Mission (SBM) - Phase III & IV** : NIUA is a designated capacity building partner for Ministry of Housing & Urban Affairs has been involved in training ULBs towards achieving the objective of the SBM. During Phase- I of the SBM workshops were conducted by NIUA, which were to modernise, incentivise, help ULBs innovate and achieve compliance of Solid Waste Management rules of 2016. Under Phase -II of the programme, similar workshops were conducted by NIUA in batches including additional peer learning experience.

- a) In Phase - III which was initiated in year 2018 and was successfully completed the SBM team at NIUA carried out the following tasks: (i) Eighty city cluster workshops were held, wherein more than three thousand officials were trained from more than fifteen hundred ULBs (ii) field visit manuals for NCR were prepared (iii) solid waste management practices in urban India were conducted (iv) workshop reports and analysis on questionnaire and feedback forms collected.
- b) The Phase -IV stated in August 2019, under which workshops are being conducted under Swachh Bharat Mission (Urban) to sensitize functionaries of ULBs on Liquid waste management (including FSSM) and Solid Waste management. The goal of Phase- IV of SBM Exposure Workshops is to reach out to 1200 ULBs and 2000 participants all over the country through 40 City Cluster Workshops for ULB officials and 10 for Elected Representatives. These workshops for Elected Representatives are intended to help the participants recognize issues, challenges and constraints of SWM, and extend their support, leadership and guidance to the efforts and initiatives being put-in by the municipal functionaries.

- xvi. **Smartnet** : This programme is a flagship initiative of the MoHUA under the Smart Cities Mission, envisages solution exchange for urban transformation of India. The programme was launched by Hon'ble Prime Minister in June 2016. It provides horizontal learning and knowledge sharing platform for exchange between cities, practitioners, academia, researchers and technologists. Evolving a comprehensive framework to visualise and articulate the government's urban sector missions viz. smart cities, AMRUT, housing for all, HRIDAY and Swachh Bharat.
- xvii. **Capacity Building for Smart Data and Inclusive Cities** : NIUA has undertaken a joint action -research on above said with IDS Sussex. The study is for three years and is funded by the European Commission. The project aims to strengthen the technical and institutional capacities of urban authorities and civil society to ensure that smart cities are also inclusive and resilient cities. Four cities have been selected for this project viz. Kochi, Faridabad, Bhopal, Jabalpur with no financial commitments on the part of the cities for collaborating on this project.
- xviii. **Cities Investments to Innovate, Integrate and Sustain (CITIIS)** : The Program to fund Smart City projects through a challenge process aim at putting in place on complementary instrument to the Smart Cities Mission and provide a financial incentive and technical support to demonstrative projects selected in a competitive process. CITIIS is the main component of the program, which intends to bring financial and technical support to twelve selected smart city projects across the country. It aims to implement innovate a sustainable integrated urban projects in selected cities while developing a Peer Learning Mechanism facilitated by state partner and Government of India. The project is being coordinated and managed by Project Management Unit at the NIUA.
- xix. **Third Party Audit (TPA) of the Online Building Plan Approval System (OBPAS)** : The primary objective of the Audit of the OBPAS process for building sanctions at Municipal Corporations in Delhi and Mumbai was to provide MoHUA an accurate picture and recommend steps for improving in India's performance in construction permits indicator of the Doing Business report of the World Bank. The project brought about a major shift towards efficient processes under OBPAS through its pointed recommendations. The achievement was documented in the Doing Business Report 2019. The OBPAS has support of TCPO team.
- xx. **National Urban Innovation Stack (NUS) of the MoHUA (New Project)** : This is a digital platform launched by MoHUA and NIUA as a national digital infrastructure for urban e-governance service to states. The Institute has been entrusted with task of coordination with North-East and Himalayan states. The objective of the NUS to deploy state wide governance platforms with high priority applications with ability to rapidly configure as per the North-East and Himalayan State's needs. NIUA has established

a National PMU with secondment of staff from e-Governments Foundation to handhold states and coordinate on behalf of MoHUA. The program has three tracks - Operationalization (reference implementation) institutionalization (standards) and advancing data driven governance in partner states.

- xxi. **Morgenstadt Global Smart Cities Initiative (New Project)** : This initiative at NIUA (2019-2021) is in partnership with University of Stuttgart funded by German Federal Ministry of Ministry of Environment, Nature Conservation and Nuclear Safety (BMU) - International Climate Protection Initiative 2017. The expected outcome of this initiative is city labs: a data-driven implementation strategy, that promotes sustainable urban development, minimizes urban environmental pollution, reduces resource consumption and (indirectly) reduces greenhouse gas emission. The focus of the Morgenstadt initiative is on the identification of sustainable cross-sectoral solutions and transformation processes. NIUA as an implementation partner to Kochi Smart City is responsible for data collation and processing as well as support of measures development. It also plays a role in anchoring and linking the project with national research and 100 smart city initiative.
- xxii. **Sustainable Cities Integrated Approach Pilot in India (New Project)** : The United Nations Industrial Development Organisation (UNIDO) is implementing the project along with the Ministry of Housing and Urban Affairs (MoHUA). The core objective of the project is to build resilience in five pilot cities - Jaipur, Bhopal, Mysore, Vijaywada and Guntur- by integrating sustainability concepts into urban planning and management strategies. The project comprises three components viz. Sustainable urban planning and management, Technology and Investment support for innovative: low carbon pilot projects in 5 target cities, Partnership: Knowledge management and capacity building. With the support from UNIDO and under the guidance of MoHUA, NIUA is undertaking the implementation of component 3- Partnership, Knowledge Management and Capacity Building that aims to develop partnership with private, public and civil society organisations for implementing initiatives for sustainable cities and building capacity of major players and stakeholders for better governance and project implementation in cities: sharing of experiences among Indian cities and between Indian cities and those abroad which have advanced in building sustainable cities and also those which can learn from Indian experience.

24.18 Completed Research Projects

- i. **Innovation Hub for Urban WASH Solutions (IHU- WASH)** : NIUA setup the Innovative Hub for Urban WASH Solutions in 2016. It leads activities that support the national and state urban initiatives (AMRUT, SBM, Smart City Mission) and proactively engages with a wide range of partners including the private sector to discover and develop innovations and device intervention strategies and business modules for

delivering effective, affordable and sustainable WASH solutions in the Indian context. The objective is to contribute significantly to achieving the Sustainable Development Goals (SDG) for clean water and sanitation to all.

III. Building Materials And Technology Promotion Council (BMTPC)

24.19 Building Materials & Technology Promotion Council (BMTPC), since its inception in 1990, has been promoting appropriate building materials and construction technologies for field level applications. Being promotion Council, BMTPC has been involved into multifarious activities such as identification and evaluation of emerging construction systems, demonstration construction, appraisal & monitoring, disaster mitigation & management, capacity building, skill development, organisation of seminars, conferences & exhibitions, development of guidelines, manuals and publications etc. Major initiatives and activities undertaken during 2019-2020 (up to 31st December 2019) are as given below:

Building Materials & Construction Technologies

24.20 BMTPC is constructing model demonstration houses in different parts of India using emerging technologies with the objective of spreading awareness and build confidence about new technologies and disseminate technical know-how in the states under Pradhan Mantri Awas Yojana (Urban). As reported earlier, the Demonstration Housing Project at Bhubneshwar, Odisha has already been completed and handed over to State Government. The status of the other projects at three locations are as follows:

Sl. No.	Location	No. of DUs	Emerging Technologies	Status
1	Gachibowli, Hyderabad, Telangana	32 (G+3)	Structural Stay in Place Formwork System (coffor) - 16 DUs and Light Gauge Steel Frame structure (LGSF) -16 DUs	Completed and being handing over shortly.
2	Aurangabad Jagir, Lucknow, Uttar Pradesh	40 (G+1)	Stay in Place EPS based double walled panel System (Sismo)	Completed and being handing over shortly.
3	Bihar Shariff, Bihar	36 (G+2)	Structural Stay in Place Formwork System (Coffor)	Completed and being handing over shortly.

24.21 The revised Operational Guidelines for undertaking Demonstration Housing Projects have been issued by the Ministry. Based on revised Guidelines, State Governments namely Jharkhand, Puducherry, Tripura, Goa, Haryana, Chhattisgarh, Gujarat, Assam and Rajasthan have shown interest in undertaking the Demonstration Housing Projects. The sites at Jharkhand,

Puducherry, Tripura, Goa and Haryana have been visited by BMTPC. After the approval by CSMC in its 44th meeting held on 28.6.2019, the e-tenders for DHPs at Haryana and Tripura were invited through CPPP Portal of NIC and the work has been awarded. In the 50th CSMC meeting held on 27th December, 2019, the DHPs at Goa and Gujarat has been approved. The Council has started preparation of e-tender for Goa and Gujarat. Preparation of other DPRs for other States will also be taken up once the data and other details are made available by the respective States.

24.22 As an ongoing activity, the Council has so far certified 36 emerging construction systems under Performance Appraisal Certification Scheme (PACS). Apart from emerging technologies, new products and materials are also being certified.

24.23 Technical Assessment Committee (TAC) constituted for the purpose of approval of Performance Appraisal Certificate (PAC) in its 15th & 16th meetings held on 29th March, 2019 & 17th December, 2019 respectively, has approved issuance of PACs for the following new products/systems:

- i. Stay-in place PVC Wall Forms
- ii. K-Wall Panel
- iii. Precast Construction Technology
- iv. V-Infill Walls
- v. Integrated Hybrid Solution - ONE
- vi. Bamboo Wood Flooring
- vii. Permanent Wall Forms (PVC)
- viii. Strand Woven Bamboo Wood Floor Tiles & Wall panel
- ix. MS Closed Door & Window Frame Sections
- x. Magic XP- Elastomeric Paintable Plaster
- xi. Bamboo Flooring and Wall Cladding

24.24 Technical Assessment Committee (TAC) constituted for the purpose of approval of Performance Appraisal Certificate (PAC) in its 16th meeting held on 17th December, 2019 has approved renewal of PACs for the following products/systems:

- i. Sound Proof Drainage Piping System
- ii. Rising EPS (Beads) Cement Panels
- iii. Underground Water Storage Tank ((Sump)
- iv. PVC Profile Door.

- v. PIR Dry Wall Prefab Panel System
- vi. Continuous Sandwich (PUF) Panel with Steel Structure.
- vii. Prefabricated Fibre Reinforced Sandwich Panels
- viii. Insulating Concrete Forms

24.25 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:

- i. Conecc Precast Wall Panels
- ii. Exterior Drywall System
- iii. Insulated Sandwich Panel (Glamet)
- iv. Insulated Sandwich Panel (Monowall)
- v. Insulated Sandwich Panel (Super Wall)
- vi. Insulated Sandwich Panel (Hipertec Roof)
- vii. Insulated Sandwich Panel (Hipertec Wall))
- viii. LGSF Building Components and on-site erection with all finishes as a building.
- ix. Rapicon Wall Panels & Prefabricated Steel Structures.
- x. Dalmia Magic Premium Skim Coat
- xi. Hybrid Building Bodyguard (Ready to use plaster)

24.26 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 69 PACs on various products and systems.

24.27 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 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 undertaking the activity as per the directions of the Ministry. During the current F.Y., an amount of Rs. 10,000 crore has been received as EBR from NSSF and the same has been disbursed as per the sanction letters issued by the Ministry of Housing & Urban Affairs. Besides, during the year, an amount of Rs.2001.81 crore has been received for payment of interest on EBR and has been disbursed to HUDCO and NSSF respectively.

24.28 BMTPC provided technical support for Launch of GHTC-India on 14th January, 2019 and main event of Global Housing Technology Challenge - India (GHTC-India) organized from 2-3 March, 2019 at New Delhi. Under GHTC-India proven innovative and alternate construction technologies along with future potential sustainable technologies have been shortlisted. As part of the Technical Evaluation Committee, BMTPC pursued and prepared technical details of Proven Technology Providers. The proven technologies will now be showcased through execution of Light House Projects (LHPs) across six locations namely, Indore, Rajkot, Chennai, Ranchi, Agartala and Lucknow. These LHPs will act as live laboratories to establish innovative and green construction practices across India and will help in sustainable construction. The Council has been designated as a Technical Partner by the Ministry and nominated for implementation of LHPs in close coordination with respective State Governments. Under GHTC-India, it has also been planned to incubate and accelerate identified potential future technologies through Affordable Sustainable Housing Accelerator (ASHA) - India.

24.29 In consultation with BMTPC, CPWD has approved 16 new and emerging technologies for adoption in CPWD works for the benefit of all users vide OM No. 133/SE(TAS)/DSR/2019/115-H dated 12.03.2019:

- i. Monolithic concrete construction system using Aluminium Formwork
- ii. Monolithic concrete construction system using Plastic-Aluminium Formwork
- iii. Reinforced EPC Panel Systems
- iv. Light Gauge Sheet Framed Structures (LGSF)
- v. Industrailized 3-S system using RCC precast with or without shear walls, columns, beams, cellular light weight concrete slabs/semi-precast solid slab
- vi. Speed floor system
- vii. Glass Fibre Reinforced Gypsum (GFRG) Panel Building System
- viii. Factory made Fast Track Modular Building System
- ix. Non Asbestos fibre Reinforced aerated sandwich wall/roof/floor light weight solid core panel (Prefabricated Fibre Reinforced sandwich panels)
- x. EPS Cement sandwich wall/roof/floor light weight solid core panel (Advanced Building System-BMMEDVE)
- xi. Block Masonry using AAC blocks
- xii. Block Masonry using Fly as bricks
- xiii. Reinforced Soil Technology using Technical Textiles
- xiv. Use of self-compacting Concrete

- xv. Use of Confined Masonry
- xvi. Use of C&D waste Products in Construction

24.30 In addition to the above, following 13 new and emerging technologies have also been approved by CPWD vide OM No.133/SE(TAS)/DSR/2019/376-Hi dated 17.09.2019:

- i. Advanced building system-EMMEDUE
- ii. Rapid panels
- iii. QuickBuild 3D panels
- iv. Concrete panel system
- v. Bau Panel system
- vi. Flyash EPS (Beads) cement sandwich panels
- vii. Rigid EPS (Cellular plastic material) blocks
- viii. Light Gauge Steel Framed Structure with infill Concrete panel technology
- ix. SRPL Building System (Waffle-Crete)
 - x. Precast Large concrete Panel System
 - xi. Walltech Hollow core concrete panel
 - xii. Robomatic Hollow concrete wall panels
- xiii. Stamping concrete

So far, CPWD has approved 29 new and emerging technologies for housing and building construction.

24.31 The Council participated in the World Habitat Day 2019 celebrations organized by the Ministry of Housing & Urban Affairs. The Council organized a Painting Competition for Differently Abled Children on the theme of World Habitat Day i.e. "Frontier Technologies as an Innovative tool to Transform Waste to Wealth". The exhibition of the winning entries was also organised on the occasion. On this occasion, the Council brought the Special Issue of Newsletter "Nirman Sarika" which was released by Hon'ble Minister of State (I/C) for Housing & Urban Affairs on 4th October, 2019 at New Delhi. The special publication focuses on important issues related to the theme.

24.32 The Council participated in the number Seminars/Workshops/ Training Programmes / Exhibitions for propagation of alternate and cost effective building materials and disaster resistant construction technologies.

Disaster Mitigation & Management

24.33 The Council has finalised and published digital version of 3rd edition of Vulnerability Atlas of India. The Hon'ble Prime Minister released the digital version of Third Edition of Vulnerability Atlas of India on the occasion of Global Housing Technology Challenge - India (GHTC-India), Construction Technology India 2019 Expo-cum-Conference on 2nd March, 2019 at New Delhi. The third edition of Vulnerability Atlas of India is collation of the existing hazard scenario for the entire country and presents the digitized State/UT-wise Hazard Maps with respect to Earthquakes, Winds & Floods for district-wise identification of vulnerable areas. This edition contains additional digitized maps for Thunderstorms, Cyclones and Landslides. The Atlas also presents the district-wise Housing Vulnerability Risk Tables based on wall types and roof types as per 2011 Census Housing data. The Atlas is a useful tool not only for public but also for urban managers, State & National Authorities dealing with disaster mitigation and management.

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

24.35 In order to educate about the Vulnerability Atlas of India and Disaster resistant design & construction practices, the Secretary, Ministry of Housing & Urban Affairs, Govt. of India had written letters to Chief Secretaries of State/UTs, IITs, CPSUs and Central Ministries/Deptt. to organize state level one-day workshops. These workshops are designed for engineers, architects and other stakeholders dealing with housing and buildings.

24.36 Three Thematic Workshops on Vulnerability Atlas of India and Disaster resistant design & construction practices, has been organized successfully so far. The first thematic workshop was organized for the educational institutes under the Ministry of Human Resource Development on 3rd May, 2019 at New Delhi; second for engineers of Engineers India Ltd. on 4th June 2019 at EIL campus Gurugram; and third for Town & Country Planning Department Puducherry on 11th September, 2019 at Puducherry.

24.37 The first workshop was attended by more than 150 participants from 56 educational institutions of the MoHRD; second workshop was attended by more than 120 EIL engineers and third workshop was attended by more than 250 participants from State Government, Chartered Engineers, Faculties & Students from Engineering & Management Colleges, Contractors, Architects etc. The third workshop at Puducherry was inaugurated by Hon'ble Chief Minister, Puducherry and Secretary, Ministry of Housing & Urban Affairs, Govt. of India. The faculty for these workshops were from BMTPC, Department of Earthquake Engineering, Indian Institute of Technology Roorkee; Indian Institute of Technology Chennai; CSIR-SERC, Chennai; Department of Hydrology, Indian Institute of Technology Roorkee.

24.38 Shri Hardeep S Puri, Hon'ble Minister of State (I/C) for Housing and Urban Affairs launched the e-Course on Vulnerability Atlas of India on August 29, 2019. The e-course is being

offered by the School of Planning & Architecture (SPA), New Delhi and BMTPC. The registration to e-Course on Vulnerability Atlas of India is through SPA's website www.spa.ac.in. It is a unique 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 is 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.

24.39 Capacity Building and Skill Development

- i. A series of activities have been envisaged by the Ministry of Housing & Urban Affairs for implementation under GHTC-India. As part of "Construction Technology Year 2019-20", it is planned to initiate a Certificate Course on Use of Innovative Construction Technologies titled "NAVARITI" by BMTPC in collaboration with School of Planning & Architecture, New Delhi. The objectives of the Certificate Course are to (a) Familiarise the professionals with the latest materials and technologies being used worldwide for housing, (b) Provide an awareness of the state of art of materials and technologies in terms of properties, specifications, performance, design and construction methodologies so that professionals can successfully employ these in their day to day practice and (c) Provide exposure to executed projects where such materials and technologies have been implemented. The Course will be available for any person having B.E. / B.Tech (Civil) or B.Arch. (or equivalent) or Diploma in Civil with 5 years' experience. A number of meetings to conceptualize the Certificate Course were held in the Ministry with BMTPC and SPA New Delhi. The Council is finalising the reading material for the Course with the help and support of SPA, New Delhi.
- ii. BMTPC organizes capacity building programmes on regular basis in various States to enhance the capacity of engineers & architects in the area of quality control and good construction practices and also to introduce them with the emerging technologies in housing sector for construction of houses under PMAY (Urban) and other schemes of the state/central Government. In the series, the Council organised Sensitization Programme on "Use of New Technologies in Mass housing" under PMAY (Urban) on 17 June 2019 at Lucknow with SUDA, Lucknow. During the programme, the participants were made aware of benefits of new technology i.e. Stay in Place EPS based double walled panel System, used in Demonstration Housing Projects at Lucknow.
- iii. The Council organised a National Conference on Use of Fly Ash on December 11-12, 2019 at P.J.Telangana State Agricultural University (PJTSAU), Hyderabad in association with Centre for Fly Ash Research & Management (C-FARM). The experts from academia, R&D, Industry, statutory bodies across the country shared their expertise, experiences, technical & scientific developments and case studies.

- iv. The Council is organising a Workshop on "Use of Fly Ash and C&D Products for Sustainable Construction", on 21st January, 2020 at Mumbai in association with Centre for Fly Ash Research & Management (C-FARM). The workshop would be attended by representatives of construction agencies, Housing Boards, CIDCO, MHADA, MMRDA, Municipalities, Pollution Control Boards etc.

Project Management & Consultancy

24.40 BMTPC is working as secretariat of the Technology Sub-Mission under Pradhan Mantri Awas Yojana - Housing for All (Urban) Mission. The Council has been designated appraisal and monitoring agency under PMAY(U) for projects in various states/UTs falling in Earthquake Zone IV and Zone V. Activities as desired by the PMAY(U) Mission Directorate is being undertaken on regular basis. Following has been undertaken as per the direction of the Ministry:

- i. DPR Desk Scrutiny for construction of 13,715 New Houses under Beneficiary led Construction vertical of PMAY-HFA(U) for Imphal Municipal Corporation, Imphal, Manipur, 22 to 23 February, 2019
- ii. Site Scrutiny along with DPR Desk Scrutiny of Dibrugarh DA (1033 New Construction houses) project in the State of Assam, July 9 - 10, 2019
- iii. DPR Desk Scrutiny for construction of 129 DUs under Beneficiary Led Construction at Mairang, Meghalaya, June 27 - July 1, 2019
- iv. DPR Desk Scrutiny for construction of 765 New DUs under Beneficiary Led Construction at Nongstoin Town, Meghalaya, June 27 - July 1, 2019
- v. Desk & Site Scrutiny of the Tuli (577 New Construction houses) projects in the State of Nagaland, July 11-14, 2019
- vi. Desk & Site Scrutiny of the Tseminyu (95 Enhancement houses) projects in the State of Nagaland, July 11-14, 2019
- vii. Site Scrutiny along with DPR Desk Scrutiny of Dhemaji MB (1569 New Construction Houses) projects under PMAY (U) in the State of Assam, July 25-27, 2019
- viii. DPR for construction of 160 DUs under Beneficiary Led Construction (Enhancement) & 59 New Construction at Bilaspur Town, Himachal Pradesh, 29-30 August, 2019
- ix. Site Scrutiny along with DPR Desk Scrutiny of Projects under BLC (New) (399 DUs) vertical of PMAY (U) in Manglaur, Haridwar, Uttarakhand, 26-27 September, 2019
- x. Site Scrutiny along with DPR Desk Scrutiny of project of 1419 DUs New Construction in Dhubri-Gauripur Development Authority (DGDA), Assam under BLC vertical of PMAY (U), 14-15 November, 2019

- xi. Site Scrutiny along with DPR Desk Scrutiny of project of (717 DU's New House) & (120 Enhancement houses) in Pftusero TC, Nagaland under BLC, 16-18 November, 2019
- xii. DPR Desk Scrutiny of project of 402 DUs New Construction & 167 under Enhancement at Tura Town, Meghalaya under BLC vertical of PMAY (U), November 26-27, 2018
- xiii. Site Scrutiny along with DPR Desk Scrutiny of Projects under BLC vertical of PMAY (U) at Kotdwar, Uttarakhand, 2 - 5 December, 2019



Thematic Workshop on Vulnerability Atlas of India and Disaster Resistant Design & Construction Practices organized on 3rd May, 2019 at New Delhi



Thematic Workshop on Vulnerability Atlas of India and Disaster Resistant Design & Construction Practices organized on 4th June 2019 at EIL campus Gurugram