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आधुनिक तकनीक सुरक्षित निर्माण

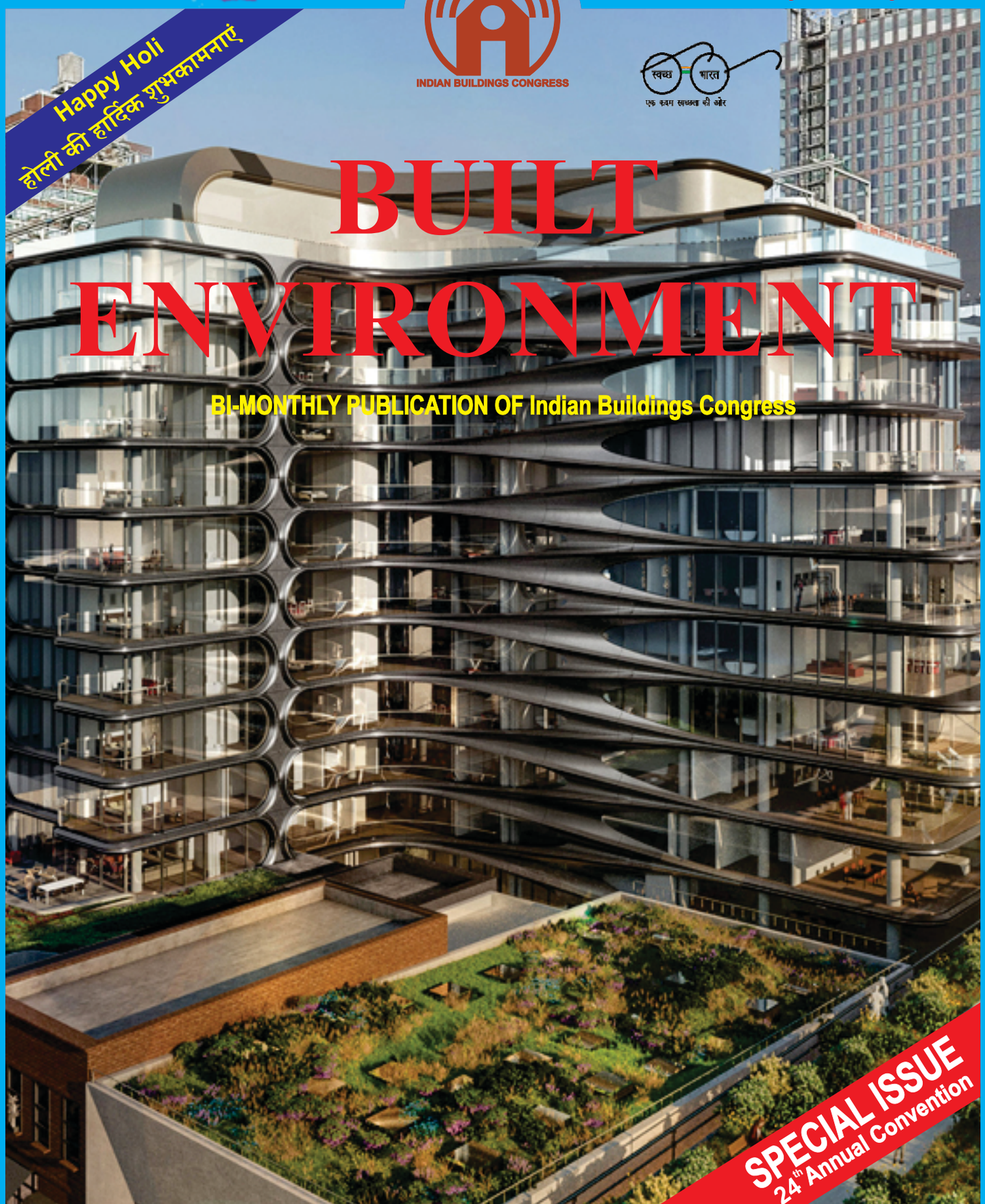
INDIAN BUILDINGS CONGRESS

स्वच्छ भारत
एक कदम स्वच्छता की ओर

Happy Holi
होली की हार्दिक शुभकामनाएं

BUILT ENVIRONMENT

BI-MONTHLY PUBLICATION OF Indian Buildings Congress



SPECIAL ISSUE
24th Annual Convention

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From President's Desk

It is my proud privilege and honour to take over as President, IBC a prestigious professional body which has contributed immensely towards efficient, economical and competitive technology driven built environment during the last 26 years. At the outset, I would like to convey my heartiest greetings and wish a very happy New Year -2020 and a very happy Holi to entire Indian Buildings Congress fraternity. Since the Hon'ble Prime Minister Shri Narendra Modi, in a bid to increase the use of modern technology has announced the 2019-2020 as the 'Year of Construction Technology', therefore, let us make all efforts to illuminate the minds of all the IBC members for promotion of use of modern technology in the field of Built Environment.

The National Seminar on 'Development of New Greenfield Townships' was recently concluded. Cities are the manifestation of human settlement which are evolved through various eras of civilisation depending on the three basic principles of food, shelter and clothing, thus creating a comfort zone for a sustainable development. With the massive increase in urbanization and demand for new housing and infrastructure, it is pivotal to understand that the development we are aiming at should also be sustainable. This is not just defined in terms of land acquisition, but also in our usage of topography, terrain, and the existing resources.

Any new town cannot just develop just anywhere without the availability of resources, thus making it imperative to understand their potential. The present scenario calls for a more decisive planning that will enable a smart yet sustainable growth for the city as well as its people. The need of the hour is to develop a net zero township, without any export from outside. This has to be catered through resource management in all - water, energy and solid waste. Through Rain water harvesting and creation of lakes, we can promote conservation of water.

Employing the use of non- conventional sources like solar and wind energy we can help in promoting energy efficiency. It is also of primary importance to keep the solid waste management in check in a way that does not pollute or become a hazard for the people as well as the environment. The Best mantra of 3Rs i.e. Reduce, Reuse and Recycle should be adopted for waste management. Creating an environment that responds to nature and bio-diversity with all the flora and fauna is the way to keep a balance within the ecosystem. We need to develop a holistic approach in all our developmental projects.

Ideally we all would like to see IBC become a major contributor in National Building and to help achieve the aim of Government in this direction. I would also welcome suggestions of IBC members for finalising the calendar of activities for the current year.

Pradeep Mittal

Proceedings of the 24th Annual Convention and National Seminar on "Development of New Greenfield Townships"

Inaugural Session

Shri Hardeep Singh Puri, Union Hon'ble Minister of State (Independent Charge), Ministry of Housing & Urban Affairs and Civil Aviation, Lighting the Ceremonial Lamp

The 24th Annual Convention and National Seminar on the theme "Development of New Greenfield Townships" was held in Vigyan Bhawan, New Delhi on January 6-8, 2020. The Inaugural Function of the 24th Annual Convention and National Seminar was held on January 6, 2020 which was attended by several high ranking dignitaries. Shri Hardeep Singh Puri, Hon'ble Minister of State (Independent Charge), Ministry of Housing and Urban Affairs and Civil Aviation, was the Chief Guest of the Inaugural function.

Dignitaries on Dais

The Inaugural Function started with lighting of ceremonial lamp by the Chief Guest, Shri Hardeep Singh Puri, Hon'ble Minister of State (Independent Charge), Ministry of Housing & Urban Affairs and Civil Aviation, who was joined by other dignitaries on the dais including Dr. Anoop Kumar Mittal, President, IBC; Shri O. P. Goel, Founder President; Shri Abhai Sinha, Past President; Shri C. Debnath, Vice President;

Shri R. N. Gupta, Vice President; Shri C.L.Verma, Vice President; Shri S.K. Agrawal, Vice President;

Shri Pradeep Mittal, Honorary Secretary, IBC and Shri Rajeev Singhal, Hony. Treasurer, IBC. The Chief Guest, was welcomed with plant sapling. The dignitaries on dais lighted the ceremonial lamp which was followed by recital of IBC Song.

Dr. Anoop Kumar Mittal, President, IBC Delivering the Welcome Address

In his welcome address, Dr. Anoop Kumar Mittal, President, IBC, thanked the Chief Guest Shri Hardeep Singh Puri, Hon'ble Minister of State (Independent Charge), Ministry of Housing & Urban Affairs and Civil Aviation, for sparing his valuable time for inaugurating the convention in-spite of his busy schedule and all the participants who had come from across the country to attend the Annual Convention and National Seminar.

Dr. Anoop Kumar Mittal, President, IBC, brought out the present chaotic condition of our Metropolitan Cities, major and old cities, which are full of encroachment, slums around, congestion, unhealthy environment, piles of garbage on periphery of cities, large scale unauthorised construction, poor and polluted environment, long queues of public on street water hydrants, choked drains and sewer system, traffic snarls and jams, 2-3 patients lying on bed in hospitals with long queues of patients seeking admission, inefficient and stinking public facilities, fear of safety of public, coupled with criminal activities. To take care of this chaotic & deteriorating situation of our metropolitan cities, major and old cities where the infrastructure has already reached its yield point, he emphasised the need of developing many New Greenfield township each for 1-2 million population as per new generation requirements, which are smart, intelligent, compact & green, where we can plan the townships from scratch without any constraints, use new technologies and construct sustainable, smart, compact Green townships to accommodate the growing population by catering to all their needs for the next 75-100 years.

Shri O.P.Goel Addressing the Gathering

In his address, Shri O.P.Goel, Founder President, IBC while throwing light on the successful journey of IBC during last more than 25 years, he further exoressed that migration from rural to urban areas, essentially for better employment is the trend all over India. It has caused creation of unplanned clusters of make shift shelters in the cities which have become slums with enormous deficiencies in services. To retrofit and redevelop such cities is an insurmountable challenge and therefore, development of new Greenfield Townships is the answer to this problem. He also informed that the potential of Indian Buildings Congress having professionals from all discipline in its fold playing role in various related directions, can be gain-fully exploited by the Central and State Governments.

IBC Life Time Achievement Awards

IBC has constituted "Life Time Achievement Award" which is given every year to persons who have given outstanding contribution in the field of Built Environment. The awards were given to following well known personalities by Shri Hardeep Singh Puri, Hon'ble Minister of State (Independent Charge), Ministry of Housing & Urban Affairs and Civil Aviation.

Dr. P.S.Rana, Receiving Life Time Achievement Award

1st Life Time Achievement Award-2019 was given to Dr. P.S.Rana, Past President, IBC and Former CMD, HUDCO. He is an eminent personality in promoting new concepts of urbanisation for sustainable and balanced regional development of the country through the use of Rail and Rivers as the prime corridor of development. Graduated in Civil Engineering from IIT, Delhi in 1970, he did his post graduation in Town and Country Planning from School of Planning and Architecture, New Delhi in 1972. He was awarded Ph.D., in transport Engineering and Management in 1983 by University of Newcastle Upon Tyne (U.K.). He joined his first job in Town and Country Planning Organization and had the privilege of working on the initial studies of the MRTS for Delhi, now popularly known as Delhi Metro. He was associated with Dr. Abdul Kalam to promote the concept of Planned Urbanization with Rural Ambience (PURA). He has received several awards. He is past President of IBC. Presently he is Chairman, Construction Industry Development Council (CIDC).

2nd Life Time Achievement Award-2019 was conferred posthumously on late Shri S.C. Kapoor, Former CMD, NBCC. The award was received by Mrs. S.C.Kapoor wife of Late Shri S.C.Kapoor. Born on 10th June, 1929, Late Shri Suresh Chandra Kapoor received his education at Allahabad University and University of Roorkee where he won multiple gold medals and joined public service with CPWD in 1954. A brilliant Civil and Structural Engineer, he was trained in Canada and Netherlands specializing in Soil Mechanics, Foundation Engineering and Construction Project Management. He undertook challenging task of high altitude construction of Nathula pass in 1961 and airfield construction during the 1965 war. As CMD, NBCC he was instrumental in major domestic and international construction projects, expanding the footprint of NBCC to foreign projects in Iraq and Libiya. Even after his retirement, he continued to apply his skills, notably in the design of the Liver and Biliary Institute. Shri Kapoor left for his heavenly abode on 20th November, 2016 with his successful career and noble service to society.

Life Time Achievement Award (Posthumously) of Late Shri S.C.Kapoor Being Received by Mrs. S.C.Kapoor & Son Shri Rajiv Kapoor

Next Life Time Achievement Award-2019 was given to Shri A. M. Naik, Group Chairman, Larsen & Toubro Ltd. Shri A. M. Naik, Group Chairman of Larsen & Toubro, a technocrat, Business strategist and a dynamic leader has served the organisation for over 54 years and is successfully leading it for the last 20 years. Under his dynamic leadership, the L&T has become a USD 18 Billion conglomerate that operates at the upper end of the technology spectrum in critical sectors. He has enabled the conglomerate through multiple challenges, enabling it to sustain its growth trajectory, despite stresses in the global economy and has driven L&T's thrust into high-tech., engineering and manufacturing expertise. Through his pivotal role, in wealth creation for stakeholders, market capitalization of the company has soared to well over INR 2 trillion in 2018. Due to his drive internationalize operations, overseas revenues of the company today account for 30% of turnover. In his personal capacity, Shri Naik is actively engaged in social upliftment programmes through initiatives of healthcare, education and skill building. He has served on various PAN-Industry role. He has transformed L&T into a Global Powerhouse. In 2019, the Government of India has awarded Shri Naik the Padma Vibhushan- one of India's Highest civilian honours. Due to some unavoidable circumstances he was unable to attend the function to receive the award. Shri Shailendra Roy, whole time Director & Senior Executive Vice President (Power), L&T Ltd., received the award on behalf of Shri Naik.

Outstanding Contribution to IBC Award

IBC has Constituted " Outstanding Contribution to IBC Award " for professional associated with IBC, who has made an outstanding contribution in the activities of the IBC.

1st Outstanding Contribution to IBC Award-2019 was given to Shri Deepak Kumar Baxi, Vice Chairman, Bihar State IBC Centre, Patna. Born on 28th February, 1963. He graduated with distinction in Civil Enginering and did his MSc. (Engg.) in Water Resources from Bihar College of Engg. (Now NIT), Patna.

Shri Deepak Kumar Baxi, Receiving Outstanding Contribution to IBC Award

His commendable work is low costing green housing for all by 2022 and interlinking of rivers for safe drinking water and flood management with sustainable ecology & environment under Namai Gange Project in Bihar was rewarded. He is associated with vision 2047 movement inspired by Dr. APJ Abdul Kalam for sustainable & inclusive development of India. He is life member of various bodies of National & International importance. He is recipient of many National and International Awards for Technology. His contribution in Workmen & Professional training in various projects developed by Govt. of Bihar has been commendable for quality, safety & productivity. His message is स्वच्छ भारत, दक्ष भारत व यक्ष भारत with Vision 2047 for New India.

2nd Outstanding Contribution to IBC Award-2019 was given to Shri C.L.Verma, Former Chief Engineer & Additional Secretary, Rajasthan PWD, Jaipur. Born on 19th September, 1958; Shri Chandra Lal Verma did his graduation in civil engineering from IIT, Kanpur. He Joined PWD, Rajasthan as Assistant Engineer in 1982. He superannuated as Chief Engineer and Additional Secretary, PWD, Govt. of Rajasthan. He executed various road, building & bridge works during his service

Shri C.L.Verma, Receiving Outstanding Contribution to IBC Award

tenure. Under his leadership as Chief Engineer incharge of PMGSY, Govt. of India sanctioned highest financial incentive for achieving targets for State. Rajasthan was also awarded for initiative in execution of new technology work under PMGSY in rural roads by Govt. of India. An important work of Road safety i.e. education & awareness programme through number of NGOs upto panchayat level & schools throughout State which is unique and first in India was done by him as Chief Engineer incharge of RRSMP, a World Bank funded project. Shri Verma has been instrumental in increasing the membership base of IBC by assisting in enrolment of good number of Life Members & Student Members. New local centres of IBC at Jodhpur, Udaipur and Kota were established through his efforts. Jaipur Centre of IBC was also reorganized with his candid contribution.

3rd Outstanding Contribution to IBC Award-2019 was given to Shri S.K.Agrawal, Proprietor, S.K. Agrawal & Associates, Raipur. Born on 5th September 1943,

Shri S.K.Agrawal, Receiving Outstanding Contribution to IBC Award

Shri S.K. Agrawal one of the most veteran Chartered Engineer and Valuer of Chhattisgarh, Graduated in Civil Engg. with Honours in 1975 from Government Engineering College (now NIT), Raipur as the University topper. He held the office of Chairman, Chhattisgarh State Centre of IBC from April 2014 to June 2016. Over 300% membership growth was recorded during his tenure, which increased from 96 to 300 plus. Centre also developed a strong financial base to sustain round the year activities of IBC. He transformed the Chhattisgarh Centre to a vibrant and one of the most active centres of IBC in the country. His visionary leadership resulted in various mega events which include: National Seminar on 'HIGH RISE BUILDINGS', in Oct. 2014; National Seminar on 'DEVELOPMENT OF SMART CITIES', in Jan 2016; Mid term session of IBC, in May 2016; Seminar on 'EMERGING TRENDS IN RURAL INFRASTRUCTURE DEVELOPMENT', in May 2017; Two days National Seminar on NATIONAL BUILDING CODE 2016 in association with Bureau of

Indian Standards, New Delhi, in July 2018; Hosting of IBC Executive Committee meeting; Seminar on 'GLASS AND GLAZING SYSTEM IN BUILDINGS', in January 2019 etc. Shri Agrawal volunteered to provide an office space of 400 sqft. for IBC Chhattisgarh Centre since last 3 years and finally managed to acquire an Office property of 722 sqft. at First Floor of Golden Tower of Alumni Association GEC NIT, Raipur on 22nd December 2019. He is recipient of Presidential Award 2018 at IBC National convention at Patna. Presently, he is serving IBC as Vice President and Executive Committee member since 2017. He Donated a Cath Lab to Sri Sathya Sai Sanjeevani Hospital, Naya Raipur worth Rs. 3.00 Crores for free cardiac treatment of Children entirely free of cost, he is recipient of 'LIFE TIME ACHIEVEMENT AWARD' of Rotary, Technical Member of Master Plan Committee of Raipur City in 2007 & Member of Human Rights Commission of Madhya Pradesh Govt. in 1999-2000.

Smt. Satya Goel Memorial Award

IBC has constituted "Smt. Satya Goel Memorial Award" to be given to an outstanding women building professional, every year for contribution to profession and remarkable achievments during the last three years.

IBC has also constituted Smt. Satya Goel Memorial

Ms. Sapna Kumar Receiving Smt. Satya Goel Memorial Award

Award which is given every year to outstanding woman professionals and is instituted in memory of Smt. Satya Goel wife of Shri O.P.Goel, Founder President, IBC. Smt. Satya Goel Award-2019 was given by Shri Hardeep Singh Puri, Hon'ble Minister of State (Independent Charge), Ministry of Housing & Urban Affairs and Civil Aviation to Ms. Sapna Kumar, Director (India), Chapan Taylor Studio LLP (UK). Born on 17th January 1970, Ms. Sapna Kumar has done her graduation in architecture in the year 1993 from Nagpur University. She has worked with renowned architectural firms after graduation. She had set up her own consultancy firm in the year 1995, and in 2007 she joined hands with Chapman Taylor LLP (UK), a multinational Architects and Planners. The credit for establishing Delhi Design Studio of Chapman Taylor in India goes to her. She is heading the Chapman Taylor studio in New Delhi since 2007 as Director (India). Ms. Sapna Kumar having over 26 years of experience in the field of architecture has designed number of projects of different genre located across India. She possesses in-depth knowledge of the complex regulations which is vital not only for expeditious statutory approvals but for concept design development process also. She has to her credit the first Redevelopment project of Government of India at East Kidwai Nagar, New Delhi on self-sustaining basis and the restoration and renovation of Indian Museum, Kolkata and helping it bring to the International standard Museum besides many other prestigious projects/buildings both in Government and private sector. Most of the projects designed by her have qualified for GRIHA ratings.

Excellence in Built Environment Awards of IBC

IBC has constituted awards for excellence in built environment. Trophies for the year 2018-19 were given to the following awardees by Shri Hardeep Singh Puri, Hon'ble Minister of State (Independent Charge), Ministry of Housing & Urban Affairs and Civil Aviation.

Award to 'The Statue of Unity, Narmada' for Excellence in Built Environment

On behalf of Larsen & Toubro Limited, Shri Mukesh Raval & Shri Shailesh Master, received the award for the Project of 'The Statue of Unity', Narmada.

Award to Project of 'Signature Bridge' Delhi for Excellence in Built Environment

On behalf of Delhi Tourism & Transport Development Corporation Ltd., New Delhi, Shri Shishir Bansal, Chief Project Manager & Shri R.P.Yadav, Chief Project Manager received the award for the Project 'Signature Bridge', Delhi

Award to Project of 'Dr. Ambedkar International Centre' Janpath, New Delhi for Excellence in Built Environment

On behalf of NBCC (India) Ltd., Shri P. K. Gupta, CMD, NBCC (India), Ltd., received the award for the project of 'Dr. Ambedkar International Centre' Janpath, New Delhi.

Award to Project of 'Office Building for Income Tax Deptt. Bandrakurla Complex, Mumbai' for Excellence in Built Environment

Shri Arun Sahai, COO, Ahluwalia Contracts India) Limited & MD, PCPL., New Delhi received the award for the project of 'Office Building for Income Tax Deptt. Bandrakurla Complex, Mumbai'.

Award to Project of 'The Bihar Museum', Patna for Excellence in Built Environment

On behalf of Larsen & Toubro Limited, Construction Buildings & Factories IC, Shri Ashok Kumar received the award for the Project 'The Bihar Museum', Patna'.

Award to Project of 'GRT Institute of Technology', Tiruteni, Tamilnadu, for Excellence in Built Environment

On behalf of Oscar & Ponni Architects, Chennai, Dr. Ponni M. Concessao & Dr. Oscar Concessao received the award for the Project 'GRT Institute of Technology', Tiruteni, Tamilnadu.

Award to Project of 'New Delhi District Court Complex' Rouse Avenue, New Delhi for Excellence in Built Environment

On behalf of Delhi PWD, Shri Sanjeev Rastogi, Chief Engineer along with his team members received the award for the Project "New Delhi District Court Complex', Rouse Avenue, New Delhi.

Award to Project of 'Restoration of Belvedere Building in National Library Complex', Kolkata for Excellence in Built Environment

On behalf of Nest Rehabilitation Engineers Pvt. Ltd., Kolkata, Shri Shiladitya Basu, Director, received the award for the Project 'Restoration of Belvedere Building in National Library Complex', Kolkata.

Award to Project of 'North- South Corridor' (From Transport Nagar to Charbagh) of Lucknow Metro Rail Corporation for Excellence in Built Environment

On behalf of Lucknow Metro Rail Corporation Ltd., Shri Arvind Kumar Dubey received the award for the Project 'North- South Corridor' (From Transport Nagar to Charbagh), Lucknow.

IBC Commendation Certificates for Excellence in Built Environment

IBC has also constituted Commendation Certificate for Excellence in Built Environment. Commendation certificate for Excellence in Built Environment for the year 2018-19 were given to the following recipients:

Shri Sanjay Shah Receiving the Commendation Certificate

On behalf of Roma Builders Pvt. Ltd., Mumbai, Shri Sanjay Shah received the Commendation Certificate for the Project 'Olympus A', Thane (West), Mumbai.

Roses may have thorns,but they're still beautiful.The greatest joys and pleasures in life are often accompanied by a little pain

Shri K..J. Naveen Receiving the Commendation Certificate

On behalf of 'B.G.Shirke Construction Technology Pvt. Ltd.' Shri K.J.Naveen received the Commendation Certificate for the Project 'District Office Complex' at Mysuru, Karnatka.

Shri Arun Kumar Receiving the Commendation Certificate

On behalf of HQ, Chief Engineer, Pune Zone, Military Engineer Services Shri Arun Kumar, received the Commendation Certificate for the Project 'Construction of Admin Block at COD Dehu Road', Pune.

Dr. Ponni M. Concessao & Dr. Oscar Concessao Receiving the Commendation Certificate

On behalf of Oscar & Ponni Architects, Chennai, Dr. Ponni M. Concessao & Dr. Oscar Concessao, received the Commendation Certificate for the Project 'Sandyy Waves, RCS Beach Resort', Havelock Island, Andaman & Nicobar.

Shri S.R.Shrivastava Receiving the Commendation Certificate

On behalf of Nava Raipur Atal Nagar Vikas Pradhikaran, Raipur, Shri S.R.Shrivastava received the Commendation Certificate for the Project 'Retail Building in Central Business District', Nava Raipur, Atal Nagar.

Shri Ajay Kataria & Shri Avnish Saxena Receiving the Commendation Certificate

On behalf of Architect Ajay Kataria, Arcons, Architectural Consultancy Services, Bhopal, Shri Ajay Kataria and Shri Avnish Saxena received the Commendation Certificate for the Project 'Government Medical College', Chhindwara.

Shri Vijay Singh Verma, Shri Ajit Chatterjee, Shri Piyush Agarwal and Shri Ashok Dobaria Receiving the Commendation Certificate

On behalf of PWD, PIU, Bhopal, Shri Vijay Singh Verma, Shri Ajit Chatterjee, Shri Piyush Agarwal and Shri Ashok Dobaria received the Commendation Certificate for the Project 'Government Medical College', Chhindwara.

Shri V.K.Tyagi Receiving the Commendation Certificate

On behalf of Ahluwalia Contracts (India) Limited, New Delhi Shri V.K.Tyagi received the Commendation Certificate for the Project 'Indian Institute of Management', Rohtak.

Col. Balram Gopal and Capt. Melvin Shaji Receiving the Commendation Certificate

On behalf of Assistant Garrison Engineer, Indian Coast Guard, Military Engineering Service, CEDZ, NOIDA, Col. Balram Gopal and Capt. Melvin Shaji received the Commendation Certificate for the Project 'Special Repairs/Addition and Alteration to Building' Kamath Enclave, Sector-52, Noida.

Shri Hitendra Mehta Receiving the Commendation Certificate

On behalf of Mehta and Associates LLP, Indore, Shri Hitendra Mehta received the Commendation Certificate for the Project 'Reconstruction/Up gradation of Infrastructure Facilities, Community Space, Logistic Par, Warehousing for Pithapur Industrial Area.

Shri Rakesh Kumar Receiving the Commendation Certificate

On behalf of Bihar State Building Construction Corporation Ltd., Patna, Shri Rakesh Kumar received the Commendation Certificate for the Project 'Dr. Kalam Agricultural College, Kishanganj (Bihar).

Shri P.K.Parmar, Shri V.K.Singh and Shri Rishabh Yadav Receiving the Commendation Certificate

On behalf of Delhi PWD, Shri P.K.Parmar, Shri V.K.Singh and Shri Rishabh Yadav received the Commendation Certificate for the Project 'Comprehensive Development of Corridor on Outer Ring Road' New Delhi.

Shri Shailender Verma, Shri Y.K.Dohare & Shri M.K.Sahu Receiving the Commendation Certificate

On behalf of M P Housing & Infrastructure development Board, Rewa, Shri Shailender Verma, Shri Y.K.Dohare & Shri M.K.Sahu received the Commendation Certificate for the Project 'Construction of Krishana Rajkapoor Auditorium' Rewa.

Shri Gian P. Mathur Receiving the Commendation Certificate

On behalf of Gian P. Mathur & Associates Pvt. Ltd., New Delhi, Shri Gian P. Mathur received the Commendation Certificate for the Project 'National Institute of Design', Bhopal.

CONGRATULATION

IBC congratulates Shri Puneet Kumar Vats, on his assumption of the office of Director General, CPWD on February 1, 2020 under the Ministry of Housing and Affairs, Govt. of India. Before his elevation on Director General, CPWD, he was Engineer-in-Chief in the grade of Director General (in situ) of Delhi PWD. He has also worked as Chief Engineer (Projects) in Delhi Development Authority from August 2012 to April, 2015. He has rich experience of varied nature of design, construction and maintenance projects. Born on May 27, 1960, he did his

B.Tech (Hons.) in Civil Engg. In the year 1981 from Punjab Engg. College, Chandigarh and Executive MBA degree from M.D.I. Gurgaon in the year 1998.

Release of Technical Publications

Shri K.B. Rajoria presenting IBC Journal Being Released by Hon'ble Minister

Shri Pradeep Mittal presenting Preliminary Publication of IBC Being Released by Hon'ble Minister

The following technical Publication prepared by Indian Buildings Congress were released by Shri Hardeep Singh Puri, Hon'ble Minister of State (Independent Charge), Ministry of Housing and Urban Affairs and Civil Aviation.

The fifth issue of IBC Journal was got released by Shri K.B.Rajoria, Past President, IBC whereas Preliminary Publication containing technical papers being presented during seminar and Annual Special Edition of Built Environment- Souvenir of IBC were got released by Shri Pradeep Mittal, Honorary Secretary, IBC.

Shri Hardeep Singh Puri, Hon'ble Union Minister of State (Independent Charge), Ministry of Housing & Urban Affairs and Civil Aviation, Chief Guest delivered the address. In his address, Shri Hardeep Singh Puri, informed that Indian towns and mega polis have come up in a more haphazard and chaotic manner and expressed his belief that the present year theme of the IBC 'Development of New Greenfield Townships' is very relevant to the work, to the challenges and most importantly to the ultimate objectives of meeting the challenges of Urbanisation and further what is more important is that we start acknowledging what is wrong with our urban space and we start taking remedial actions on war footing. He expressed that in India of 2030, there will be better utilisation of space, and we will be able to provide better services. 70% of India still needs to be rebuilt. He further mentioned that under the

Shri Hardeep Singh Puri, Hon'ble Union Minister of State (Independent Charge), Ministry of Housing & Urban Affairs and Civil Aviation, Chief Guest, Addressing the Gathering

flagship programme of Government for construction of 100 smart cities, New Greenfield Township was also one of the aspects. Out of 100 smart cities 90 are Brownfield and 10 are Greenfield townships. By June-July 2020, all the 100 smart cities projects will be operational. He further informed that he is in total agreement with the views of President IBC on the theme of the present year Seminar and expressed that each State Government should announce construction of at-least one Greenfield Township. He also informed that Land pooling scheme which is one of the parameter of Greenfield Township is being implemented in Delhi which will house nearly 80 lakhs people by providing world class services. In the end he wished very good deliberations in the seminar and expressed that by the time we meet next year we will have a lot to show in terms of the progress registered on the ground and in order to make our cities more liveable not only because we subscribed to goal-11 of inclusive cities under the sustainable development goals but I think India is moving slowly but surely on the path to become a model for new Urban Development.

To mark the occasion, IBC Memento was presented to the Chief Guest Shri Hardeep Singh Puri, Hon'ble Union Minister of State (Independent Charge), Ministry of Housing & Urban Affairs and Civil Aviation.

Memento Being Presented to Hon'ble Minister

Shri Pradeep Mittal, Honorary Secretary, IBC, Presenting the Vote of Thanks

Shri Pradeep Mittal, Honorary Secretary, IBC thanked Shri Hardeep Singh Puri, Hon'ble Union Minister of State (Independent Charge), Ministry of Housing & Urban Affairs and Civil Aviation, for inaugurating the 24th Annual convention and National Seminar of IBC by sparing his valuable time despite his busy schedule. He also thanked DG, CPWD and its Vigyan Bhawan Officials for all arrangements of function, Media for covering the inaugural Session and to all the participants in the function as well as IBC Sectt. to make the function a success.

The Inaugural Session concluded by recital of National Anthem.

अगर आपको देखना ही है तो हर एककी विशेङ्कतायें देखिये। अगर आपको कुछ छोड़ना ही है तो अपनी कमज़ोरियॉ छोड़िये।

View of Audience

Technical Session I

Shri K.B.Rajoria, Chairman, Shri I.S.Sidhu, Co-Chairman & Shri S.R.Gourkhede, Rapporteur on Dais

General

The Technical Session I was held on January 7, 2020 at Vigyan Bhawan, New Delhi. The sessions was chaired by Shri K.B.Rajoria, Past President IBC and Former E-in-C, PWD, Delhi. Shri I.S.Sidhu, Head (NR), KITCO Ltd., was the Co-Chairman & Shri S.R.Gourkhede, Superintending Engineer, M.P., PWD was the Rapporteur of the Session. At the outset, the Chairman, the Co-Chairman and Rapporteur of the session were welcomed.

Opening Remarks of the Chairman

Shri K.B.Rajoria, Chairman in his opening remarks welcomed the authors, delegates and other invitees present in the session.

Papers Presented

First Speaker was Shri V.Suresh, Chairman, IGBC on the subject " Indian Green Building Council (IGBC) Facilitating Greening of Cities". In his presentation he informed that IGBC is playing a catalytic role in the spread and growth of green building movement in India and all the systems of IGBC are designed to address National priorities in building a greener and healthier India. He emphasised the need of designing all new and upcoming cities as 'Green Cities" by addressing employment opportunities, walk to work, waste water treatment & reuse, open spaces & green cover and stakeholders participation as some of the focus areas of Green Cities.

Second speaker was Shri A.K.Jain, Ex Commissioner (Planning) DDA, on the subject "The Urban Debate Whether Greenfields or Brownfields". In his presentation with the help of cartoons, while bringing out the need of Development of New Greenfield Townships, he discussed that India with wide variations of geographics and demographies can adopt a mix of the two options based on a comprehensive urban policy.

Next speaker was Dr. Sunil Kumar Chaudhary on the subject "Environmental Sustainability for Green field Township Projects". With the help of five townships case studies he explained about environmental sustainability strategies/ best practices taken up by township projects and key principles for useful assessment of Greenfield township projects.

Next speaker was Dr. K.M. Soni on the subject "Greenfield and Brownfield Townships Development". In his presentation, he discussed the Comparison between Greenfield and Brownfield developments, Architectural planning and development strategy. He also informed that according to National Census, vacant houses constitute around 12 percent of the share of the total urban housing stock blocking huge finances and therefore, emphasised formation of development strategy in which greenfield and brownfield developments take place simultaneously by linking the requirements and sustainability to avoid wastage and blockade of natural and precious resources.

Next speaker was Shri Anish Kundu on the subject "Sustainability and Urbanization in Ecologically Sensitive Region – Case study LEH". In his presentation, he highlighted the expected rapid and largely uncentralised urbanization of LEH on grant of UT status and present practical recommendations for sustainable town planning in view of the impact of tourism on environment.

Next speaker was Dr. Oscar Concessao on the subject "Greenfield Smart Cities Shaping the Future of India". In his presentation he discussed various important elements to be considered while planning a smart Greenfield city, positive impact of Greenfield smart cities on the GDP growth and how Greenfield cities provide superior quality of life and infrastructure in urban India and challenges involved in Greenfield cities. He also discussed five urban strategies shifts such as digital twins & urban modeling, resilient cities, circular cities, micro mobility and smart spaces that will make smart cities surprisingly smarter.

Summing up

The session was summed up by Shri I.S.Sidhu, Co-Chairman. He briefly gave a gist of all papers presented in the session and highlighted the importance of New Greenfield Townships. He expressed that Greenfield townships are easy to develop though cost intensive having longer gestation period. If developed next to Brownfield, it will loose its relevance shortly as the infrastructure of such Greenfield will be stressed very fast by the population of the nearby Brownfield as has been experienced in Chandigarh & Delhi. The session I ended with closing remarks from the chairman, thanking the authors for nicely presenting the papers and the audience for patience hearing.

Distribution of certificates to the authors of papers

The Certificate of participation to the authors of technical papers were distributed by Dr. P.S.Rana, Past President, IBC .

Technical Session II

Shri Anant Kumar, Chairman , Shri I.S.Sidhu, Co-Chairman & Shri S.R.Gourkhede, Rapporteur on Dais

General

The Technical Session II was held on January 7, 2020 at Vigyan Bhawan, New D elhi. The Session was Chaired by Shri Anant Kumar, Additional Director General, CPWD. Shri I.S.Sidhu, Head (NR), KITCO Ltd., was the Co-Chairman & Shri S.R.Gourkhede, Superintending Engineer, M.P., PWD was the Rapporteur of the Session. At the outset, the Chairman, the Co-Chairman and Rapporteur of the session were welcomed.

Opening Remarks of the Chairman

Shri Anant Kumar, Additiona Director General, CPWD, the Chairman in his opening remarks welcomed the authors, delegates and other invitees present in the session.

Papers Presented

First Speaker was Smt. Usha Batra on the subject "Eco-Friendly Greenfield Development". In her presentation, she discussed the important criteria like site selection & planning, land use planning/ optimization, transport planning, infrastructural resource management, for Greenfield township alongwith case study of Naya Raipur & Amravati.

Second speaker was Shri K.T.Gurumukhi on the subject "Sustainability of Townships: Solutions for Pure Air, Water, Energy, Sewage, Garbage, Traffic & Environment". In his presentation he discussed various solutions like connectivity, active mobility, living environment, technology adaptation, greening, waste treatment etc for pure air, water, energy, sewage, garbage, traffic and environment etc., for sustainability of Greenfield township.

Next speaker was Shri Naveen Kumar on the subject "Infrastructural/Ecological Balance: Key to Sustainability of Greenfield Township". In his presentation he discussed the factors affecting sustainability with thrust on infrastructure planning, facilitator, water management, waste water management, recycling and re-use, solid waste management, techniques, clean and green environment, traffic/ transportation system, smart systems and monitoring tools.

Next speaker was Shri Charanjit Singh Shah on the subject "Holistic Greenfield Township planning Towards a Holistic Approach in the wake of Sustainability-Case Studies". In his presentation he emphasised the need of holistic approach in Greenfield Township planning by taking into account the local geographical, demographic and atmospheric condition of the specific place and by considering all operations / functions of the township. He also discussed the lessons learnt from the past in development of Jaisalmer, Chandigarh, Bilaspur Township, Jamshedpur towns.

Next speaker was Dr. J. Bhattacharjee on the subject "Environmental Sustainability of Smart Townships/ Cities in India". In his presentation he discussed about three main pillars of sustainability viz., social, economical and environmental for development of new Greenfield townships as well as many new techniques for converting waste to energy.

Summing up

The session was summed up by Shri I.S.Sidhu, Co-

Chairman. He briefly gave a gist of all papers presented in the session and highlighted the importance of New Greenfield Townships. The session I ended with closing remarks from the chairman, thanking the authors for nicely presenting the papers and the audience for patience hearing.

Distribution of certificates to the authors of papers

The Certificate of participation to the authors of technical papers were distributed by Shri Abhai Sinha, Past President, IBC and former Director General, CPWD.

Technical Session III

Maj. Gen. K.T.Gajria, Chairman , Shri H.P.Gupta, Co-Chairman & Shri Jagdeep Singh Rapporteur on Dais

General

The Technical Session III was held on January 7, 2020 at Vigyan Bhawan, New Delhi. The Session was Chaired by Maj. General K.T.Gajria. Shri Hitesh Paul Gupta, Consultant Proprietor, Hitech Engineering Consultants was the Co-Chairman & Shri Jagdeep Singh, Superintending Engineer, CPWD was the Rapporteur of the Session. At the outset, the Chairman, the Co-Chairman and Rapporteur of the session were welcomed.

Opening Remarks of the Chairman

Maj.General K.T.Gajria, the Chairman in his opening remarks welcomed the authors, delegates and other invitees present in the session.

Papers Presented

First Speaker was Dr.Pawan Kumar, on the subject "Development of New Greenfield Townships in Hilly Areas". In his presentation, he brought out the principles of settlement planning and comprehensive land use planning as important tools to develop Greenfield township in hilly areas. He emphasized the importance of Conservation, Preservation, Regulation, Planned growth, Strategic impact assessment, Environmental Impact assessment for integrated planning and promotion of Cable car as aerial Transit System for accessibility and mobility-a solution of poor mobility due to geographical, topographical and natural constraints in hilly areas having topographical barriers .

Next speaker was Dr. Santosh Hire, on the subject "Window Film: Sustainable Solutions for Building Industry". In his presentation he explained the use of window films a cost effective method for energy saving in buildings which ultimately contribute towards development of New Greenfield townships.

Next speaker was Ms. Nazera Mohiuddin, on the subject "Model of development of Greenfield Cities". In her presentation she discussed in detail the model of development of Dholera (Gujrat), GIFT (Gujrat), Magarpatta Pune & Naya Raipur.

Next speaker was Shri Purushottam P.Doijode, on the subject "Study and Analysis of Adani Group's - 'Shantigram', Ahmedabad and Emerging Port City-Dholera, The Greenfield Smart City Township in Gujarat". In his presentation he discussed the Gujrat Township policy alongwith case studies of Dholera & Adani Shantigram Greenfield Townships.

Summing up

The session was summed up by Maj. General K.T. Gajria, Chairman. He briefly gave a gist of all papers presented in the session and highlighted the importance of development of New Greenfield Townships. The session III ended with closing remarks from the chairman, thanking the authors for nicely presenting the papers and the audience for patience hearing.

Distribution of certificates to the authors of papers

The Certificate of participation to the authors of technical papers were distributed by Shri B. Majumdar, Past President, IBC and former Director General, CPWD.

Musical Evening

View of Musical Evening

An musical program in the evening was held on 7th January, 2020 at S.L. House, Malviya Nagar, New Delhi, followed by Dinner which was enjoyed by large number of participants of the Convention and Seminar.

Technical Session IV

Shri Gian P.Mathur, Chairman , Shri H.P.Gupta, Co-Chairman & Shri Jagdeep Singh Rapporteur on Dais

General

The Technical Session IV was held on January 8, 2020 at Vigyan Bhawan, New Delhi. The Session was Chaired by Shri Gian P.Mathur, Managing Director, M/s Gian Mathur Associates Pvt. Ltd. Shri Hitesh Paul Gupta, Consultant Proprietor, Hitech Engineering Consultants was the Co-Chairman & Shri Jagdeep Singh, Superintending Engineer, CPWD was the Rapporteur of the Session. At the outset, the Chairman, the Co-Chairman and Rapporteur of the session were welcomed.

Opening Remarks of the Chairman

Shri Gian P.Mathur, the Chairman in his opening remarks welcomed the authors, delegates and other invitees present in the session.

Papers Presented

First Speaker was Shri Jit Kumar Gupta, on the subject "Planning for Sustainable New Cities in India" In his presentation, he discussed urban challenges, site locating, re-inventing of smart planning, making cities compact, sustainable mobility, Green Building and smart technologies to make integral part of Greenfield townships.

Next speaker was Ms. Mrinal Pandey, on the subject "Sustainable planning of Greenfield Township- Solution for traffic, solid waste, Pure water & energy". In her presentation she analysed the solutions for traffic, pure air, solid waste, pure water, energy & pollution free environment which are the main ingredients of Greenfield Townships.

Next speaker was Shri Saurabh Gupta, on the subject "A Comparative Study of Global & Indian Parameters Used in Planning of Greenfield Townships" . In his presentation, he brought out the comparison on the key planning parameters for Greenfield townships in India against major Greenfield townships across the Globe. He also discussed the key planning parameters like city engagement, multi-disciplinary and phases by making comparative study of the Global & Indian parameters and has also identified the drawbacks of strategies used in some cases and has recommended strategies and techniques that can be used for sustainable development of Greenfield townships in India.

Next speaker was Prof. O.P.Gupta on the subject "Development of New Greenfield Townships". In his presentation he covered various important aspects of Greenfield & Brownfield developments, their comparative study, various engineering terms, relating Greenfield limitations, importance, significance advantages, & disadvantages of Greenfield developments besides system of ratings & Greenfield investment and approaches in achieving the success of Greenfield developments.

Next speaker was Ms. Vennamaneni Sruthi on the subject "Sustainable parking space in built environment". In her presentation she discussed about ill ventilation of parking spaces in high rise buildings where vehicle emission containing CO, CO_2, SOx and NOx alongwith air pollutants are source of health hazards to the occupants and has presented the need to introduce a monitoring and control system for exhaust fuel in parking basements.

Next speaker was Shri K.R.Ramana on the subject "Waste Disposal in High Rise Buildings – Adoption of Chutes to enhance the sustainability of the Built Environment". In his presentation he discussed waste disposal in high rise buildings through suction by adopting chutes, processing through mini bio gas plant to produce bio-gas a sustainable practice in all Greenfield Townships.

Next speaker was Shri Gaurishankar Dubey, on the subject "Surviving the Century: Facing Climate Chaos and Other Global Challenges in Greenfield Township". In his presentation he discussed five essential elements of sustainability and inclusive city viz access to public resources, urban renewal actions, reduction of CO_2 emission, favouring ethical consumption, Reduce, Reuse and Re-cycle, Constructible BIM & IOT for sustainability.

Last speaker in the Session was Shri Narender Singh, on the subject "Development of Integrated Greenfield Township within Manesar-Bawal Investment Region: A Holistic Approach". In his presentation he discussed the chronology of actions and the steps taken in construction of integrated Greenfield townships within Manesar-Bawal investment region.

Summing up

The session was summed up by Shri Gian P.Mathur, Chairman. He briefly gave a gist of all papers presented in the session and highlighted the importance of New Greenfield Townships. The session IV ended with closing remarks from the chairman, thanking the authors for nicely presenting the papers and the audience for patience hearing.

Distribution of certificates to the authors of papers

The Certificate of participation to the authors of technical papers were distributed by Shri Deepak Narayan, Past President, IBC and former Engineer-in-Chief, PWD, Delhi.

Author's Gallery

V. Suresh

A.K. Jain

Dr. Sunil Kumar Chaudhary

Dr. K.M. Soni

Anish Kundu

Dr. Oscar Concessao

Usha Batra

K.T. Gurumukhi

Naveen Kumar

Charanjit Singh Shah

Dr. J. Bhattacharjee

Dr. Pawan Kumar

Dr. Santosh Hire

Nazera Mohiuddin

Purushottam P Doijode

Jit Kumar Gupta

Mrinal Pandy

Saurabh Gupta

O.P. Gupta VSM

V. Sruthi Rao

K.R. Ramana

Gaurishankar Dubey

Valedictory Session- January 8, 2020

Dignitaries on the Dais

The Valedictory Function of 24th Annual Convention and National Seminar on "Development of New Greenfield Townships" was held on January 8, 2020 at Vigyan Bhawan, New Delhi. Shri Shankar Agrawal, IAS (Retd.), Former Secretary, MoUD, was the Chief Guest and Dr. Markanday Ahuja, Vice Chancellor, Gurugram University was the Guest of Honour of the Valedictory Function. Chief Guest and Guest of Honour were also joined on dais by Dr. Anoop Kr. Mittal, President, IBC; Shri O.P. Goel, Founder President, IBC; Shri Deepak Narayan, Convener of Technical Committee & Past President, IBC; Shri Pradeep Mittal, Honorary Secretary, IBC and Shri M.C. Bansal, Advisor (Tech.), IBC & Chief Rapporteur. The Chief Guest & Guest of Honour were welcomed with planter which is a symbol of green and symbol of life.

Guest of Honour Shri Markanday Ahuja, Vice Chancellor, Gurugram University being welcomed

Chief Guest Shri Shankar Agrawal, IAS (Retd.) being welcomed

The Valedictory function started with the Welcome Address by Dr. Anoop Kr. Mittal, President, IBC and former CMD, NBCC (India) Ltd. He thanked Shri Shankar Agrawal, IAS(Retd.) for having agreed to become Chief Guest and Dr. Markanday Ahuja, Vice Chancellor, Gurugram University, for having agreed to become Guest of Honour and sparing their valuable time for this Valedictory session.

He apprised that with the contributions of everybody present, the strength IBC membership has reached to around 7000. He recalled how policy for smart cities was conceived and how 100 smart cities will be selected during the period when Shri Shankar Agrawal, IAS(Retd.) was the Secretary in the then Union Ministry of Urban Development. He informed that during the deliberations in various technical sessions, many new issues relating to Brownfield and Greenfield have come up and the recommendations of the seminar will be sent to the Union MoHUA, all State Govt., and

Dr. Anoop Kr. Mittal, President, IBC, Delivering the Welcome Address

Municipal bodies for their consideration to implement. He expressed that the recommendations will be useful to stake holders and hoped that out of the smart cities under construction, one or two Greenfield will also be developed. He further informed that technical documents which have been published by IBC are of significant use for all technocrats and other stake holders and expressed his hope that IBC will continue to scale to new heights in future.

Shri O.P. Goel Addressing the Gathering

Shri O.P.Goel, Founder President, IBC. In his address while welcoming the Chief Guest, Shri Shankar Agrawal and Guest of Honour, Shri Markanday Ahuja, recalled from his memory and informed that the Chief Guest was also with us in past at an earlier Convention of IBC on 'Smart Cities' where IBC was benefitted from the discourse which Shri Agarwal had given on Smart Cities. He further mentioned that population has been growing, expansion of cities has not been possible leading to creation of slums and lack of services. Though the Government has been trying to improve the cities by various programmes, but the better alternative will be developing new townships as has been mentioned by the Hon'ble Minister in the inaugural session. He further mentioned that the presentation in the last two days on various aspects of Greenfield Townships has been very interesting, informative and useful to the stakeholders. At the end he wished IBC to contribute its bit in the development of infrastructure of Greenfield townships and Built Environment.

Shri Deepak Narayan, Chairman, Technical Committee, Presenting Overview of the Deliberations in Seminar

Shri Deepak Narayan in his address presented the overview of the presentations made during two days of the seminar. He brought out the challenges associated with urbanisation like Rising Population, fast pace of urbanisation, migration of population from rural to urban areas for employment and better living conditions which need to be addressed coupled with land acquisition issues, adequate financing for acquiring land for public use. While bringing out the advantages, freedom & flexibility in development of New Greenfield Townships, he stressed on the need of compliance of Environmental, Economical and Social sustainability parameters in setting up new townships. For development of Greenfield Townships in Hilly areas, he emphasised for giving special importance to geographical locations, growth factor, physical development, preservation of ecological system and conservation of natural resources for development of Greenfield townships.

A Lamp does not speak,

it introduces itself through its light.

Achievers never expose themselves,

but their achievement speaks for them.

RECOMMENDATIONS

Shri M.C. Bansal, Chief Rapporteur presenting the Recommendations

Shri M.C. Bansal, Advisor (Technical), IBC and Chief Rapporteur briefed the gathering about the important issues brought out by the presenters in the Technical Sessions on 'Development of New Greenfield Townships' and presented the Recommendations of the Seminar for consideration of all stake holders and implementation by the Central and State Governments.

1. Planning and development of New Greenfield townships needs to be taken up selectively in due consultation with stakeholders on realistic expected population growth; demand & supply analysis; impact analysis on existing cities; type of industrial, commercial and institutional requirements; economic centres; investment potential; waste management; environmental aspects; transport connectivity and employment opportunities after development to ensure its self sustainability.

2. The state Urban strategy should be to inter-connect the Greenfield townships , cities and towns with existing transport network by developing major transport corridors like road, rail, water and airports to complement the dispersal of population with economic development and create employment opportunities both for urban and rural population.

3. There should be only single Authority responsible and accountable in planning, implementation, monitoring, development, management and Governance of the township.

4. The major stress of the stake holders in township development should be to develop New Sustainable, smart & intelligent Greenfield Townships as a liveable place providing the diverse needs both present and future of the community, by offering a high quality of life to live, work and play in well planned, governed, safe and secure township by addressing the environmental, social and economic issues.

5. New mantra for development of thriving and prosperous New Greenfield townships should be – Population is not the problem but we need to plan and manage the resources differently with the aim to ensure higher quality of life and higher order of operational efficiency at affordable cost, mixed land use, Using transit oriented development, economy of services, conserving of non-renewable natural resources.

6. For achieving the aim of providing higher quality of life and to ensure higher order of operational efficiency at affordable cost, the Greenfield Townships should follow the concept of : Mixed land use, Compact, Vertical, Densified, Smart, Intelligent, Shelter & Services for all, Planning for flatted rather than plotted development; conservation of water, Integrated waste management, Integrated multi modal public transportation, Energy generation from renewable resources like Sun & Wind etc.

7. There is need to fix fair compensation by the competent authority to acquire the land for public purpose of township development to minimise the land acquisition court cases and delay in acquisition of land. For payment of fair compensation to the land owners, a compendium of the yardsticks adopted by different courts in India should be prepared and uniform guidelines so prepared to be utilised by the State Governments.

8. Land acquisition in India has been a contentious issue. For speedy land acquisition and disposal of land acquisition cases, time limit for deciding the land acquisition cases by courts on the pattern similar to Arbitration cases could be fixed in the Act.

9. The aim of the stake holders should be at developing sustainable and smart Greenfield townships which follow interplay between all the available resources such as sun, water, energy, wind and nature and their utilisation to give vision to creative ideas.

10. For providing capital to achieve the objectives of each stage of the project implementation, most appropriate source and financial instruments should be identified and decided in the beginning.

11. Greenfield development involves considerable expenditure and external development hence these could be developed on alternate funding mode like PPP. Government can fund the external development while internal development, commercial and residential spaces could be developed by private entrepreneurs.

12. For fast development of Greenfield townships, the Government should provide suitable financial mechanisms including budgeting and risks taking to support PPP along with long term tax holidays for the industries and commercial activities setup therein. Direct financial support from Government on infrastructure of the new Greenfield Township will further boost the economy of the township.

13. For ensuring the environmental sustainability of a Greenfield township, major factors to be considered are Reduction in building foot print, Rain water harvesting, Waste management, Use of Passive technologies for energy generation, Use of eco-friendly materials, Open

spaces, Provision of local farm lands, Minimizing pollution of air, water, soil and noise etc.,

14. Understanding the context where the development has to take place by using basic traditional knowledge systems of sun movement and wind pattern to maximise use of resources and design with respect to nature is important to earn green rating for buildings without installing artificial cooling systems.

15. For ensuring the Social sustainability of a Greenfield township, major factors to be considered are Provisions of Social interaction space, worship areas, community gathering area like community hall, community centres, recreational areas like malls, multiplex, shopping centres in the premises for peoples of different income groups, organisation of common activities like tree plantation, seminars, workshops, Senior citizen meeting places, Exhibition areas for cultural development etc.,

16. For ensuring the Economic sustainability of a Greenfield township, major factors to be considered are Provision of industry & commerce, Affordable housing, Use of recycled construction materials by adopting Reuse, Recycle and reduce mantra and cost reducing construction technologies , Use of passive technologies in planning to reduce the overall energy consumption, Local market places and local farming for generating the economy within a township itself, revenue generation, Employment generation etc.

17. The industry zone and freight complexes should be located along major road/ rail/water way corridors. These can also be located in the flight path.

18. Cluster theory of Economics for concentration of each type of specialized industries in separate district localities each separated by thick green belt with efficient connectivity needs to be adopted.

19. In hilly areas the economy is generally based on tourism industry. For development of Greenfield townships in hilly areas having fragile eco system, it is desirable to promote homestead tourism alongwith hotel tourism to provide accommodation as well as various services and facilities to the tourists through involvement of local communities, to generate employment and boost the economy.

20. For development of Greenfield townships in hilly areas where topography is very much challenging in difficult terrain and steep slopes having topographical barriers, Aerial Rope Transit (Cable car/ ropeway) transport technology should be promoted for maintaining the eco-system and to avoid degradation of earth and forest.

21. For providing all services, on line intelligent and smart digitised solution systems, sensors, Big data analytics, SCADA, ERP Solutions, integrated digital control/ command centres, disaster proof mechanism and satellite surveillance should be adequately planned and deployed for administration and governance of township.

22. The case studies of Dholera City, a part of Delhi Mumbai Industrial Corridor, GIFT city Ahmedabad, Naya Raipur, Chattisgarh and Amravati City in Andhra Pradesh as Greenfield Development have been discussed. We could replicate the lessons learnt in development of these Greenfield Townships for sustainable urban development.

23. Option of Greenfield development or Brownfield or judicious mix of the two options has to be seen in larger eco-system, and policy perspective having due regard to wide variations of geographics and demographics.

S.P. Jakhanwal Best Paper Award

Shri A.K. Jain Receiving S.P. Jakhanwal Best Paper Award

S.P. Jakhanwal Award for 2018-19, for the best paper was given to Shri A.K. Jain, Former Commissioner (Planning), DDA, for his paper on "Sustainable Building Design and Construction" presented by him during Mid Term Session and Seminar on "Construction Management Tools, Modern Technologies & Materials in Built Environment" held on June 21-22, 2019 at Pune.

IBC Awards for Best Paper

The IBC Awards for best papers presented during 23rd Annual Convention and National Seminar on "Rapid Building Construction- Emerging Technologies" held on Dec. 28-30, 2018 at Patna were given to following authors.

Shri Vinay Gupta, Director & CEO, Tandon Consultants Pvt. Ltd., New Delhi was awarded IBC Medal for his Paper on "Precast Concrete Stations for Metro Projects: A Challenge to Designers and Constructors".

Shri Vinay Gupta Receiving Medal

Dr. Ponni M. Concessao & Dr. Oscar Concessao, Consulting Architecs, Chennai were awarded IBC Medal for their Paper on "Construction and Emerging Technologies-Architects Role".

Dr. Ponni M.Concessao & Dr. Oscar Concessao, Receiving Medal

Dr. K. M. Soni, former Additional Director General, CPWD was awarded IBC Medal for his Paper on "Modern Construction Technologies in Engineering Perspective Precast".

Dr. K.M.Soni Receiving Medal

Shri A.K. Jain, Former Commissioner (Planning), DDA, was awarded IBC Medal for his Paper on "Fast Track Delivery of Buildings and Housing".

Shri A.K.Jain Receiving Medal

Shri V. Srinivasan & Shri K. Balasubramanian were awarded IBC Commendation Certificate for their Paper on "Rapid Construction Technologies for Mass Housing: Review".

Shri V. Srinivasan & Shri K. Balasubramanian Receiving Commendation Certificate

Ms. Usha Batra, Special DG, CPWD, was awarded IBC Commendation Certificate for her Paper on "Tunnel Formwork-Advantages and Limitations".

Ms. Usha Batra Receiving Commendation Certificate

Dr. J. Bhattacharjee, Advisor Civil Engineering Department, Amity University Noida, was awarded IBC Commendation Certificate for his Paper on "Emerging Technologies for Affordable Housing Construction in India".

Dr. J. Bhattacharjee Receiving Commendation Certificate

The IBC Awards for best papers presented during Mid-Term Session and Seminar on "Construction Management Tools, Modern Technologies & Materials in Built Environment" held on June 21-22, 2019 at Pune, were given to following authors.

Shri Jit Kumar Gupta, Former Advisor (Town planning), PUDA & Founer Director, College of Architecture, IET Bhaddal, Chandigarh was awarded IBC Medal for his Paper on "Reinventing Construction Sector in India".

Shri Jit Kumar Gupta Receiving Medal

Shri Pradeep Kumar Parmar, Chief Engineer and Shri Dhiraj Agarwal, Assistant Executive Engineer, Delhi PWD was awarded IBC Medal for their Paper on "Integrated Transit Corridor Development in and around Pragati Maidan, New Delhi-Case study".

Shri Pradeep Kumar Parmar and Shri Dhiraj Agarwal Receiving Medal

Dr. K. Kamal, DRDO Scientist and Shri Pulkit Tiwari, CED Faculty at AKGEC were awarded IBC Medal for their Paper on "3D-Concrete Mix Printer (3DcMP) Fitted with a Disposable Dispenser Cum Extruder Unit-A Modern Tool in Built Environment".

Dr. K.Kamal, DRDO and Shri Pulkit Tiwari Receiving Medal

Dr. Oscar Concessao & Dr. Ponni M. Concessao, Consulting Architecs, Chennai were awarded IBC Commendation Certificate for their Paper on "Influence of Technology on Architecture and Design".

Dr. Ponni M.Concessao & Dr. Oscar Concessao, Receiving Commendation Certificate

Shri Gaurishankar Dubey, Former ED, SAIL was awarded IBC Commendation Certificate for his Paper on "Steel Slag as a Substitute for Aggregates in Construction Industry for Sustainable Infrastructure Development".

Shri Gaurishankar Dubey Receiving Commendation Certificate

Dr. Alok Ranjan, Prof., Department of Architecture, MNIT, Jaipur and Ms. Shivangi Ajmera, P.G.Student (Young Professional author below thirty five years of age), were awarded IBC Commendation Certificate for their Paper on "Wood-Honeycomb Sandwich Construction".

Dr. Alok Ranjan and Ms. Shivangi Ajmera Receiving Commendation Certificate

Dr. Markanday Ahuja, Vice Chancellor, Gurugram University, the Guest of Honour, Delivering the Valedictory Address

Chief Guest Shri Shankar Agrawal, IAS (Retd.) & Former Secretary, MoUD, Delivering his valedictory address

Dr. Markanday Ahuja, Vice Chancellor, Gurugram University, the Guest of Honour in his address, raised the question of necessity for Development of New Greenfield Townships in the country which was full of nature, trees, mountains, hills and was having developed ancient civilization. He mentioned that we need to introspect ourselves to know how we have damaged our nature and how we can restore the same? He compared the present state of pollution of environment with that of distorted growth of Bonsai tree caused by regular cutting of its roots. He expressed that by cutting our roots in past, we have forgotten technology to a level leading to degradation of the nature. Many aggressors invaded our country in past, destroyed our culture and civilization and in turn destroyed our nature, therefore, we alone may not be responsible, and it is now our duty to restore the nature to its original form. All these seminars and conferences are for introspection. What we have been doing, we have to look within before giving any solution to the humanity. He complimented the organisers for having selected theme of present seminar as development of new Greenfield townships. It will reduce the maintenance cost, marketability will be higher, cities will be energy efficient & water efficient having proper waste management, approvals will be speedy and resource consumption will be reduced. These issue needs to be discussed, debated & deliberated. Some action needs to be taken urgently because they are the future cities where we are going to live. Let us leave the legacy for our future generation/ for our children so that they can breathe in nature, have pure air in atmosphere, do not get asthma and lung disease etc. By bringing out the present condition of air in the metro cities which is causing many respiratory diseases, he concluded by calling everybody to join in making our country clean, green & worth living.

Shri Shankar Agrawal, IAS (Retd.) & Former Secretary, MoUD, the Chief Guest of the Valedictory session, in his address shared his views on urbanisation specially Green cities. Before moving on urbanisation he gave the perspective of our country about our backwardness, illiteracy, poverty, aspirations, needs, our gains and losses, performance of Governance, national security, availability of sufficient foodgrains, economic development etc. alongwith challenges in last more than 70 years. He mentioned that despite our huge overall achievements, large number of population is very poor which do not have good quality of education, health services and access to good quality of water etc. Unless benefit of our achievements reaches the last person in the line, it is of no use. We have to hold their hand and bring them to mainstream. On the topic of development of green cities, he mentioned that the migration of people from rural to urban areas in serach of better employment, security, safety and social infrastructure is a natural migration phenomenon. To tackle this issue and bring prosperity among masses, by creating more jobs, the present government when it came to power in 2014, decided to develop our existing towns in a more and better planned way. Since India is world leader in IT industry, it was thought of using IT in a big way to make people happier and therefore, it was decided to create 100 smart cities. He informed that for making the cities much better and smart, it requires little bit of planning, finance and collaboration across inter-departments, inter disciplinary and inter-ministries. He emphasised the need of waste management, robust and reliable availability of electricity and robust and 24x7 water supply with a choice to users for availing the services at variable rates at different timings. He also emphasised the need of redevelopment of sub-optimally utilised areas like railway stations by taking the railway lines and railway stations below ground and utilising the surface as green cover with multi-storeyed residential and commercial townships.

For creating new and green cities, he emphasised the need to develop on the periphery of existing cities by promoting land pooling policies where a credible authority can be appointed for the urbanisation process. He further stressed the need of culture of innovations, environment for adoption of technology, creation of system & environment predictive in nature, use of technology in a big way in planning, designing, construction, maintenance and operation of the cities and for generation of more respectable jobs. He gave a call to all the stake holders to join in this endeavour. He also wished the organisation to scale newer heights in its endeavour under the collective leadership.

Shri Shankar Agrawal, IAS (Retd.) & Former Secretary, MoUD, being presented IBC Memento by Dr. Anoop Kumar Mittal President, IBC

Dr. Markanday Ahuja, Vice Chancellor, Gurugram University being presented IBC Memento by Shri O.P.Goel, Founder President, IBC

IBC mementos were also presented to the Chief Guest and Guest of Honour

Shri Pradeep Mittal, Hony. Secy., IBC Proposing Vote of Thanks

Shri Pradeep Mittal, Honorary Secretary, IBC Proposed the Vote of thanks. He thanked the Chief Guest of Valedictory Session Shri Shankar Agrawal, IAS (Retd.), Former Secretary, MoUD, and Guest of Honour, Dr. Markanday Ahuja, Vice Chancellor, Gurugram University for sparing their valuable time to grace the occasion despite their busy schedule. He also thanked them for giving their views and blessing the organisors. He mentioned that 24th Annual convention and National seminar on 'Development of Greenfield Township' held for 3 days was wonderful. He also conveyed his thanks to CPWD, & Vigyan Bhawan staff for making all the arrangements to make the seminar successful. He also thanked All co-organizers like NBCC (India) Ltd., Ramacivil India Construction Pvt. Ltd.; MES; Delhi PWD; NDMC, all Co-Sponsors, delegates, all authors, all media persons, Founder President, all the office bearers and members of GC who have helped immensely in organizing the 3 day event successfully. He also thanked the IBC Secretariat staff for their untiring efforts and continued support in making the event successful. He also expressed to get similar support from everybody in future.

The Valedictory Session concluded with playing of IBC Valedictory Song.

View of Audience during Valedictory Session

IBC GOVERNING COUNCIL MEETINGS

96th Governing Council

96th Governing Council Meeting in Progress

The 96th meeting of Governing Council of IBC was held on January 6, 2020 in Annexe Building in Vigyan Bhawan, New Delhi. About 78 Governing Council Members including permanent and Special Invitees were present. The following important decisions were arrived at during the Council Meeting.

- The financial statement of expenditure for construction of IBC HQ building alongwith details of the additional funds required to complete the building to be placed before the Governing Council in future.
- The Annual Report of IBC for the year 2018-2019 was approved by the Governing Council.
- The Council approved the Audited Accounts of IBC for the year 2018-19 ending March 31, 2019.

97th Governing Council

97th Governing Council Meeting in Progress

The 97th meeting of Governing Council of IBC was held on January 8, 2020 in Annexe building at Vigyan Bhawan, New Delhi. About 71 Governing Council Members and Special Invitees were present. The following important decisions were arrived at during the Council Meeting.

- Shri R.N. Gupta was co-opted to the new Governing Council under Rule 9.4.2 of Rules and Regulations of IBC.
- Shri P.K. Gupta, Chairman & Managing Director, NBCC (India) Limited; Shri Vijay Singh Verma, Engineer-in-Chief, MP PWD; Shri Anant Kumar, ADG (Tech.) CPWD; Shri R.N. Gupta, Chairman & Managing Director, Ramacivil India Construction Private Limited and Shri Chinmay Debnath, Superintending Engineer (Bldg), Tripura PWD were declared elected as Vice Presidents of IBC for the 2020.

- Shri Pradeep Mittal was installed as President for the year 2020.
- Shri Hitesh Paul Gupta, Consultant Proprietor, Hitech Engineering Consultants was appointed as as Hony. Secretary, IBC for the year 2020.
- Shri P.K. Jain, Joint Director General Works (Design) E-in-C's Branch was appointed as Hony. Treasurer, IBC for the next year 2020.
- Under Rule 9.4.2 of IBC, Governing Council authorized the new Executive Committee to co-opt remaining Governing Council members. Members were requested to send their suggestions regarding nominations, if any, positively within 15 days so that suggested names could be considered by the EC.
- The New Executive Committee was authorised to fill up vacancies that have remained vacant under Rule no. 9.1.3.1 to 9.1.3.10 of the Rules & Regulations of IBC.

24th Annual General Meeting

Dignitaries on Dais

24th Annual General Meeting was held on January 7, 2020 in Vigyan Bhawan, New Delhi. Besides the normal business, the following members of IBC were elected/nominated to serve on Governing Council for the year 2020, under various clauses of IBC Rules.

9.1.1. Designated Members –

9.1.1.1. Director General, CPWD	Shri Prabhakar Singh
9.1.1.2. Engineer-in-Chief, IHQ	Lt. Gen. S.K. Shrivastava, AVSM
9.1.1.3 Member Engg., Railway Board	Shri Vishwesh Chaube
9.1.1.4 CMD, HUDCO	Shri M. Nagaraj
9.1.1.5 Vice Chairman, DDA	Shri Tarun Kapoor, IAS
9.1.1.6 Director C.B.R.I., Rookee	Dr. N. Gopalkrishnan
9.1.1.7 Founder President IBC for Life	Shri O.P. Goel Former DG (W), CPWD
9.1.1.8 Immediate Past President, IBC for a period of three years	i) Shri Parimal Rai, IAS Chief Secretary, Goa ii) Shri Abhai Sinha Fmr. Director General, CPWD

	iii) Dr. A.K. Mittal Former CMD, NBCC (India) Limited
9.1.1.9 Immediate Past Secretary, IBC for a period of three years	Shri Pradeep Mittal
9.1.1.10 Chairmen of Local Chapters of IBC which have more than 100 Members.	
i) Chairman, IBC Bihar Centre	Shri Kashyap Kumar Gupta E-in-C-cum-Addl Commissioner-cum Spl Secretary, BCD
ii) Chairman, IBC Chandigarh Centre	Shri Mukesh Anand Chief Engineer & Spl Secretary
iii) Chairman, IBC Chhattisgarh Centre	Shri K.K. Verma
iv) Chairman, IBC Jaipur Centre	Shri M.L. Verma Retd. CE & Addl Secy, PWD
v) Chairman, IBC Jharkhand Centre	Shri Lalit Kumar Tibrewal CGM, JSBCCM
vi) Chairman, IBC Jodhpur Centre	Shri Jitendra Mal Mehta Managing Director, RSRDC Limited
vii) Chairman, IBC Madhya Pradesh Centre	Shri V.S. Verma Engineer-in-Chief, M.P., PWD
viii) Chairman, IBC Odisha Centre	Shri S.R. Sethi Chief Engineer (Bldgs.)
ix) Chairman, IBC Telangana Centre	Shri I. Ganapathi Reddy E-in-C (R&B) Bldg.
x) Chairman, IBC Tripura Centre	Shri S.K. Nandi Dy. Secretary, PWD
xi) Chairman, IBC West Bengal Centre	Shri B.K. Dam Retd. Chief Engineer
9.1.1.11 Heads of Pillar Member	Shri P.K. Gupta, CMD, NBCC (India) Limited

9.1.2 - Nominated Members

9.1.2.1. A Representative each of Ministry of Finance, Science & Technology, Urban Development, Rural Development & Planning Commission

i) Ministry of Rural Development	Shri Gaya Prasad, Dy. DG (RH)

9.1.2.2. Representatives from Participating Administrations:-

i)	Andhra Pradesh	Shri K. Nayeemulla, CE (Bldgs.)
ii)	Bihar	Shri Subhash Kumar, CE (Patna)
iii)	Delhi	Shri B.B. Makkar, Pr. Chief Engineer (M&F)

iv)	Himachal Pradesh	Shri Bhawan Kumar Sharma, CE (NH)
v)	Madhya Pradesh	Shri S.L. Suryavanshi, Addl. Project Director
vi)	Punjab	Shri Arun Kumar, CE (Bldgs.)
vii)	Tamil Nadu	Shri M. Raja Mohan, E-in-C (Bldgs.)

9.l.2.3 Representatives of:

i)	Bureau of Indian Standards	Shri Sanjay Pant, Director
ii)	B.M.T.P.C.	Dr. Shailesh Kumar Agarwal, ED

9.1.2.4 Representatives of -

i)	Council of Architecture	Ar. Vivek Gupta
ii)	Institution of Engineers (I)	Shri Dinesh Kumar, Fmr. E-in-C, Delhi PWD

9.1.2.5 Representatives of BAI and BFI

i)	Builders' Association of India	Shri Rajiv Goel

9.1.2.8 Addl. Representatives of Founder Members

i)	CPWD	Shri Anant Kumar, ADG (Tech.)
ii)	E-in-C's Branch,IHQ	Shri P.K. Jain, Joint Director Gen., MES
iii)	CBRI	Dr. Ashok Kumar, Chief Scientist

9.1.2.9 Addl. Representatives of Pillar Members

i)	NBCC (India) Limited	Shri Yogesh Sharma, ED (Engg.)

9.1.3. Elected Members:-

9.1.3.1 (i) – Representatives of State Housing Boards

(a) Shri Rajeev Singla from Chandigarh Housing Board

9.1.3.1 (iv) – Representatives of Private Sector Organisations

(a) Shri Hitendra Mehta, from Mehta & Associates

9.1.3.4 – (a) Shri K.P. Singh from North Delhi Municipal Corporation

9.1.3.5 – Representatives of Builders Associations (other than the Builders Association of India and Builders Federation of India)

(a) Shri Anil Vohra from Trans Yamuna DDA Contractors Welfare Association

(b) Shri Parvinder S. Kohli from Central Builders Association

(c) Shri Rajesh Bahl from MES Builders Association

(d) Shri Parduman Ahuja from DDA Builders Association

(e) Shri Hanwant Singh Anand from All Delhi DDA & MCD Contractors Welfare Association.

9.1.3.6 – Representatives of Architects

(a) Ar. Purushottam P. Doijode

(b) Shri Rimpesh Sharma

9.1.3.7- Representatives of Consulting Engineers

(a) Shri Harish Chandra Puri

(b) Shri P.S. Chadha

9.1.3.8 –(a) Shri Avadhesh Kumar from Public Health Engineering

(b) Shri Sudhir Kumar from Electrical Engineering,

(c) Lt. Col. Onkar C. Bhandurge from Mechanical Engineering

9.1.3.10 – Members of IBC and representatives of Institutional Members of IBC elected from respective States.

i) Bihar - Shri Binod Kumar Jha and Shri Sunil Choudhary

ii) Chandigarh – Shri C.B. Ojha and Shri Arvind Kumar Mahajan

iii) Chhattisgarh - Shri Alok Mahawar and Shri S.K. Agrawal

iv) Delhi –

1. Shri Vasu Dev
2. Shri Vishv Ratan Bansal
3. Shri Hitesh Paul Gupta

v) Gujarat – Shri P.J. Mishra and Dr. D.A. Patel

vi) Haryana – Shri Ajay Grover

vii) Karnataka – Shri K.L. Mohan Rao

viii) Madhya Pradesh –Shri Surendra Rao Gourkhede

ix) Maharashtra –

1. Maj. Gen. T.P.S. Rawat, AVSM,VSM
2. Shri Ajay Deorao Pohekar

x) Punjab – Shri Mukul Aggarwal.

xi) Rajasthan – Shri Laxmi Narayan Jalani and Shri Chandra Lal Verma

xii) Telangana – Shri N. Ramesh Alugani.

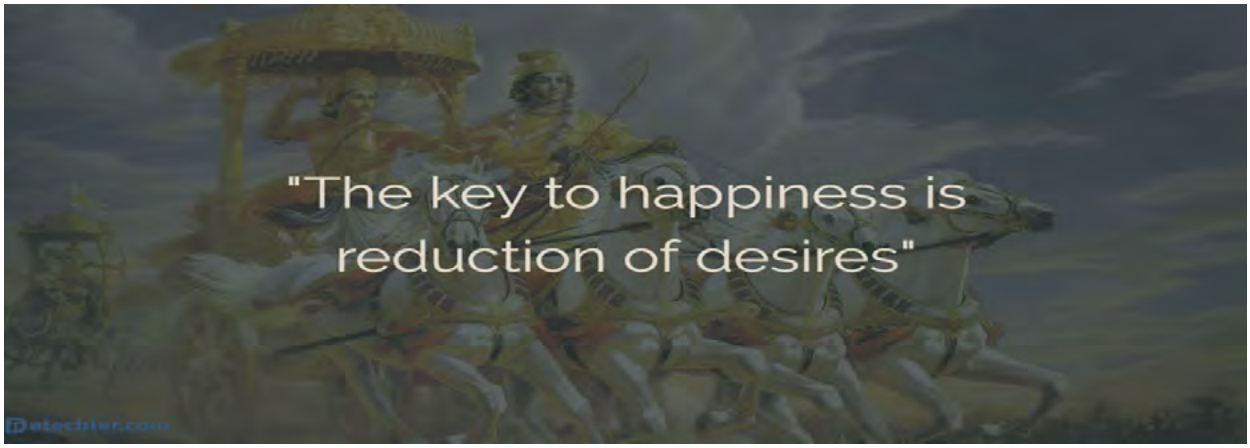
xiii) Tripura – Shri Chinmay Debnath and Shri R.K. Majumdar.

xiv) Uttar Pradesh – Shri Ashish Bhatnagar and Shri Kuldeep Khilariwal.

xv) Uttarakhand – Shri Kewal Krishan Verma.

AGM approved the Annual Report of the IBC for the year 2018-19 and Audited Statement of Accounts for the year 2018-19 along with Balance Sheet.

M/s N.K. Goel & Bros., Chartered Accountants were re-appointed as Auditors of IBC for the next term with an increase of 5% in last year's remuneration.



MEET THE NEW EXECUTIVE COMMITTEE OF IBC

Pradeep Mittal, President

Shri Pradeep Mittal, is MBA and a Builder by profession. He has attended Technology Exchange Programme on "Energy Efficient Building Materials" held in Germany. Apart from his involvement in the built environment, he is an active member of many social and philanthropic societies. He is holding the prestigious post of National Chairman of Akhil Bhartiya Aggarwal Sangathan. He is President of 'Snehi Path', an organization working for handicapped and old age people, He is General Secretary of GIEO GITA, an organization spreading the message of GITA all around the world. He is General Secretary of Shri Annshetra Ashram Trust which is constructing Gyan Mandir, a Rs 100 crore project at Kurukshetra which will be highest temple in world. He is also the Chairman of Sri Ram Technical Educational Society. His association with the Indian Buildings Congress is from the very inception of IBC. He actively contributes to the technical and other activities of the IBC. He earlier served as Vice President for one year and Honorary Secretary for eight years.

Dr. A.K. Mittal, Immediate Past President

Dr. Anoop Kumar Mittal, Former Chairman-cum-Managing Director of Navratna CPSE, NBCC (India) Limited, is an Indian industry veteran with more than 35 years of experience in fields of Civil Engineering, Consultancy & Project Management. Hailing from a humble background and leading an impeccable and unblemished professional career, Dr. Mittal holds a Bachelor's degree in Civil Engineering and has been conferred "Doctor of Philosophy" (Honoris Causa) by the Chancellor, Singhania University, by virtue of his attaining eminence in the field of Civil Engineering. Besides attending Post Graduation Course in U.K., he has undertaken training in Germany, England, France & Italy, on Trenchless Technology, Sewage Treatment Plant, Solid Waste Management, Building Technology etc.

Dr. Mittal scripted a glorious journey for NBCC (India) Ltd that saw the CPSE breaking all benchmarks of growth. Under his visionary leadership, NBCC became a Navratna (a rare distinction conferred by Govt. of India), its turnover nearly doubled and the order book increased by more than four times. The ingenuity he demonstrated coupled with his extraordinary leadership qualities has been reflected in the multi-fold enhancement in market capitalization of the company.

The proactive and excellent administration of Dr. Mittal has earned him huge appreciation and recognition. The most remarkable amongst his individual awards include CEO of the Year by Top Rankers Management Consultants at FORE Top Rankers Excellence Awards, 2018; 'Outstanding Contribution in Infrastructure' award of CNBC-AWAAZ CEO Awards, 2018; Asia Pacific Entrepreneurship Award 2017 and SCOPE Leadership Excellence Award under the category Maharatna/ Navratna.

O.P. Goel, Founder President

Former Director General, CPWD, Shri Goel was the prime force in establishing IBC, brick by brick as Founder President and has vast experience in all facets of Building Engineering which include besides various types of buildings viz. residential, Institutional and Infrastructural and highways, intricate projects like chimneys, towers, dams, barrages, bridges, water supply and sewerage plants in India, Nepal and Iraq. He was President of the Institution of Engineers (India), Indian Institution of Technical Arbitrators and International Council of Consultants. He was Vice-President of Indian Council of Arbitration and Indian Roads Congress. He has been conferred Lifetime Achievement Award by CPWD, IBC and Institution of Engineers (India). He continues to be a guiding force for IBC, giving valuable suggestions.

P.K. Gupta , Vice President

Shri P K Gupta is the Chairman & Managing Director of NBCC (India) Ltd., a Navratna CPSE, under the administrative Ministry of Housing & Urban Affairs, Govt. of India. Before taking over the charge of CMD, NBCC, he was Executive Director (Regional Projects) in RITES Limited, also a CPSE under the Ministry of Railways. Shri Gupta holds a Bachelor's degree in Civil Engineering from NIT, Kurukshetra and an M.Tech from IIT Delhi. He joined Indian Railway Service of Engineers in 1986 and now has 33 years of Civil Engineering works experience, serving in Railways and its constituents in various capacities. During Shri Gupta's tenure as Executive Director in the last organization, he has successfully supervised planning, designing and execution of more than 125 projects. His knowledge and expertise in the field of Civil Engineering is manifested by many landmark projects in areas of Metros and Rail Infrastructure which include Metro in Mauritius, Metro Rail Projects in India, Roads under/over Bridges and various buildings etc. he has undertaken and successfully executed.

Vijay Singh Verma, Vice President

Shri Vijay Singh Verma did his graduation in Civil Engineering; Post graduation in Foundation, Comprehensive Project Management, Material Design and Structural Design from Toronto University Canada. He has 38 years of work experience in planning, designing, managing construction, administering contracts for construction of roads/bridges/buildings. He completed about 400 km new road network in Chhindwara district, two major bridges on Narmada River, four new medical colleges and major upgradation of existing five medical colleges in Madhya Pradesh. At present, he is working as Project Director (Engineer-in-Chief), PWD (PIU), MP PWD Bhopal.

Anant Kumar, Vice President

Shri Anant Kumar graduated in 1984 from University of Roorkee and joined Central Engineering Services in CPWD in 1986. During his service carrier he worked in Delhi, Madhya Pradesh, West Bengal, J&K and held various positions. During his vast experience of 33 years, he got various prestigious projects completed. He also worked in NDMC as Chief Engineer for six long years and got executed number of projects. Presently, Shri Anant Kumar is working as Additional Director General (Tech.) in CPWD at New Delhi and is looking after all the technology issues in CPWD.

R.N. Gupta, Vice President

Shri Ram Niwas Gupta is Chairman and Managing Director, M/s Ramacivil India Construction Pvt. Ltd. (formerly Rama Construction Company) and has more than four decades construction experience of residential, hospital, commercial and infrastructure projects. He was Chairman of Builders' Association of India (BAI) Delhi Centre during 2014-16. He was Vice President of BAI North Zone during 2016-18 and was awarded Best Vice President Award. Since 1992, he is an active patron of Maharaja Agarsen Hospital, Punjabi Bagh, Dwarka, Rohini. He was awarded several times for excellent performance and for completing the projects before the stipulated contract period including the first Five Star rated GRIHA, building of CAG, Jaipur awarded by the Hon'ble President of India.

Chinmay Debnath , Vice President

Shri Chinmay Debnath, graduate in Civil Engineering is presently working as Superintending Engineer, PWD (Bldg.) Tripura. Important jobs executed by him during his 35 years of experience include high rise building of Agartala Govt. Medical College, Tripura Medical College, IGM Hospital and Water Treatment Plants in various places in Tripura. Shri Debnath was Secretary of IBC State Centre since its inception in 2005 and currently is Vice President (North East) of Indian Buildings Congress. He received IBC Outstanding Contribution Award in 2009 and IBC Presidential Award in 2013. He was Executive Member, IBC in 2007-09 and Governing Council Member since 2002. Presently, he is also Chairman of Indian Engineers Federation (INDEF), Chairman of Institute of Engineers (India), Tripura Centre and National Council Member of IEI during 2019-21. He was Vice President and General Secretary of State Engineers Association, Tripura. He was also Honorary Secretary of Institution of Engineers (India), Tripura State Centre earlier.

Hitesh Paul Gupta, Hony. Secretary

Shri Gupta did his graduation in civil engineering in the year 1984 and Post graduation in 'structures' in the year 1986. Initially, he joined Punjab State Electricity Board as Assistant Engineer in 1986. Later, he joined CPWD in 1988 in Group 'A' Engineering Services where he worked as Assistant Executive Engineer, Executive Engineer, and Superintending Engineer. He designed 15 Mega Watt Power Plant from Intake to Tale Race. He has vast experience in Design and Construction of Auditorium Buildings, Steel Bridges, Institutional, Hospital, and Residential building and services. He took voluntary retirement from CPWD in 2008. After his retirement he started his own consultancy where he is involved in designing of Mega Projects.

P.K. Jain, Hony. Treasurer

Born on 22nd September, 1961, Shri P.K.Jain, is a graduate in Civil Engineering from University of Roorkee in 1982 followed by Post graduation in Structures Engineering from University of Roorkee in 1984. He also did M.B.A in Operations Management from IGNOU, Delhi in 1999 and P.G.Diploma in Public Policy & Governance from MDI Gurgaon in 2010. Initially from Sept. 1982 to 02nd January 1985, he served as Scientist in Ministry of Non-Conventional Energy at Roorkee and thereafter in January 1985 he joined Group' A' Military Engineer Services as Assistant Executive Engineer. Presently he is working as Joint DGW(Design) in the grade of Chief Engineer (HAG) in the MES (HQ) at New Delhi. He has a vast professional experience of more than 37 years to his credit while serving in different capacities as AEE/EE/SE/CE in formulation of policies, planning, Design & execution of projects. He is also fellow of Institution of Engineers (India)

Sanjeev Kumar Lohia, Executive Member

Shri Sanjeev Kumar Lohia (IRSE-1987) has more than 29 years of experience in the transport and urban development sectors especially in Urban, Rail and bus based transportation systems. He is presently MD &CEO of the Indian Railway Stations Development Corporation (IRSDC) leading the world's largest Transit Oriented Development (TOD) and PPP programme. He has successfully awarded the first PPP project and first EPC project of Station redevelopment in the country and has been pioneer in partnering with State Govts for joint development of Railway stations. He has also served in the Ministry of Urban Development (MoUD), Government of India as Director and then an Officer on Special Duty (Urban Transport) and Ex-officio Joint Secretary where he was instrumental in evolving a National Urban Transport Policy drafting, working group reports for urban transport for two National Five-year Plans as well as National Transport Development Policy Committee, introduction of metro rail systems in about 15 cities etc. Shri Lohia has been a guest faculty at IIM-Ahmedabad, Centre for Environment Planning and Technology, Ahmedabad; and at School of Planning and Architecture, New Delhi. Shri Lohia is a National Talent Search scholar and merit cum means scholar from India's premier Indian Institute of Technology (IIT-Delhi) with MBA and a Bachelor's Degree (B.Tech) in Civil Engineering. He is presently pursuing his PhD in Urban Transportation from IIT Delhi. He is also a prestigious Chevening Gurukul Leadership and Governance fellow 2014 in public policy from Kings College, London.

V.R. Bansal, Executive Member

Shri V. R. Bansal is working as Chief Engineer in North Delhi Municipal Corporation. He has 35 years of experience in the field and has handled various buildings and road projects including construction of multi-level Car Parking, Road-Under-Bridges, besides having experience in structural design of buildings, maintenance works and implementation of Building Bye-laws. Some of the prestigious projects he has executed include India Population Project-VIII funded by World Bank and setting up of modern slaughter House at Gazipur. He has been actively associated with the activities of Indian Buildings Congress and is a member of Governing Council since 2007.

Kashyap Kumar Gupta, Executive Member

Shri Kashyap Kumar Gupta is presently Engineer-in-Chief –Cum-Additional Commissioner-Cum-Special Secretary, Building Construction Department, Govt. of Bihar, Patna. Born on June 10, 1960. Shri Gupta did his degree in Civil Engineering in 1985 from Bhagalpur College of Engineering, Bihar and joined PWD (RCD) in 1987. He is fellow of Institution of Engineers and life member of IRC and IBC. He completed successfully many major infrastructure projects of Bihar Govt., like Bihar Museum, Gyan Bhawan, Patel Bhawan etc.

C.L. Verma, Executive Member

Shri Chandra Lal Verma did his graduation in civil engineering from IIT, Kanpur. He Joined PWD, Rajasthan as Assistant Engineer in 1982. He Superannuated as Chief engineer and Additional Secretary, PWD, Govt. of Rajasthan. He executed various road, building & bridge work during his service tenure. Under his leadership as Chief Engineer incharge of PMGSY scheme by, Govt. of India sanctioned highest financial incentive for achieving targets for state. Rajasthan was also awarded for initiative in execution of new technology work under PMGSY in rural roads by Govt. of India. As Chief Engineer and Additional Secretary he functioned as important link between State Govt. and PWD Rajasthan in matters of administration etc. Another important work of Road safety i.e. education & awareness programme through number of NGOs upto panchayat level & schools throughout state which is unique and first in India was done by him as Chief Engineer incharge of RRSMP, a World Bank funded project.

S.K. Agrawal, Executive Member

Shri S.K. Agrawal is a Civil Engineering graduate and proprietor of M/s S.K. Agrawal & Associates with 43 years of construction experience. Apart from IBC, he actively works in various other organizations such as Institution of Engineers, Institution of Valuers, Indian Concrete Institute and Rotary International. Presently, he is chairman of Institution of Valuers, Raipur and National Council Member of Indian Concrete Institute. He is past president of Rotary International and deeply involved in social activities. He is recipient of Life Time Achievement Award of Rotary International and Presidential Award of Indian Buildings Congress. He is Chairman of Low Cost Housing Project at Raipur and Cath Lab project at Sathya Sai Hospital, Naya Raipur.

Hitendra Mehta, Executive Member

Shri Hitendra Mehta is a, promoter of Mehta and Associates Ltd.; one of the leading Architecture, Urban Planning and Project Management Consultancy firm in the country with over 200 specialized professionals and having operations in 10 states.

Mehta and Associates Ltd. is one of the 44 firms empanelled by Ministry of Urban Development, Govt. of India for preparing SMART CITY PLANS and also empanelled by MOUD,GOI for preparing Transit Oriented Development plans and NMT plans of various cities in the country. A Civil Engineering graduate from SGSITS (1987), Hitendra Mehta has been appointed by the Government of Madhya Pradesh as –

(i)Board Member in the Governing Board of SGSITS, Indore, the most premier engineering collage of Madhya Pradesh

(ii)Member of the Review Committee for Indore Development Plan–2021 and Bhumi Vikas Niyam 2012, Member in the Advisory committee for the Draft Real Estate Bill and many such other committee's of State Govt. and Govt. of India. As promoter of Mehta and Associates Ltd., Hitendra Mehta has been involved in conceiving, designing and execution of many award winning and Internationally acclaimed projects.

1st Executive Committee Meeting of IBC at New Delhi

The 1st Meeting of Executive Committee of IBC for Session 2020 was held on January 18, 2020 in Conference Hall, Garvi, Gujarat, New Delhi. The following important decisions were taken.

- The minutes of emergent meeting of last Executive Committee held on January 8, 2020 should be circulated among all members for their information.
- Executive Committee decided Hony. Secretary to meet Director, CBRI within the next month and to all other pillar members within next two months.
- Executive Committee took a decision to appoint New Chairman in due course in place of Shri H.S.Dogra who has withdrawn from the committee "Technical Committee for identifying the technical topics & formation of Sub-Committee to prepare technical documents".
- Executive Committee requested all the members to continue efforts for enhancing the membership base of IBC.
- Executive Committee authorized President to decide the date and venue for next meeting of Governing Council.
- On the proposal of President, IBC, Executive Committee approved co-opting of following as Governing Council members under Rule 9.4.2.

1. Maj. Gen. S.K. Khanna, DGW, Engineer-in-Chief Branch, MES
2. Shri Gian P. Mathur, Director, Gian P. Mathur & Associates
3. Shri D.K. Gupta, Managing Director, Sagarmala Development Company Limited
4. Shri Rajesh Goel, Fmr. CMD, Hindustan Prefab Limited
5. Shri Jatan Swarup Sharma, ADG, CPWD
6. Shri Gajender Singh, CE, DDA
7. Shri Ram Avtar, Class I Regd. Contractor, Swedeshi Construction Co. Limited
8. Shri Sajal Mitra, Executive Engineer, CPWD
9. Shri Ved Khurana, Director, Globe Civil Project Pvt. Ltd.
10. Shri Sanjeev Bansal, Contractor
11. Ms. Usha Batra, Spl DG, CPWD (Under ladies category)

- On the proposal of President, the EC approved the name of Shri Sanjeev Kumar Lohia, Managing Director & CEO, Indian Railway Stations Development Corpn Ltd to fill the vacancy in Governing Council under rule 9.1.3.1 in Public Sector undertaking.
- Executive Committee authorized the President to fill remaining vacancies under rules 9.1.3.1 to 9.1.3.10 after receipt of nomination from the concerned / authorities.
- On the proposal of President, under Rule 11.1, the Executive Committee approved the following names for EC members.

1. Shri Sanjeev Kumar Lohia, Managing Director & CEO, Indian Railways Stations Development Corpn Ltd.
2. Shri V.R. Bansal, Chief Engineer, North Delhi MC
3. Shri Kashyap Kumar Gupta, Engineer-in-Chief-cum-Addl. Commissioner-cum-Spl. Secretary, BCD, Patna.
4. Shri C.L. Verma, Fmr. Chief Engineer & Addl. Secretary, Rajasthan PWD
5. Shri S.K. Agrawal, Proprietor, S.K. Agrawal & Associates
6. Shri Hitendra Mehta, Managing Director, Mehta & Associates

Executive Committee allotted handling activities of IBC in all the eight North Eastern States to Shri Chinmay Debnath, Vice President. For other States, decision will be taken after consulting the Vice Presidents.

Two Days Training Programme on "Planning, Design and Installation of Plumbing Systems in Buildings"

Two days Training programme on "Planning, Design and Installation of Plumbing Systems in Buildings" was organised by Indian Buildings Congress in collaboration with Indian Plumbing Associations on 30-31 January, 2020 in the CPWD Conference Hall, Vidyut Bhawan, Cannaught Place, New Delhi.

Shri D.S. Sachdev, Director, IBC, Executive Training and Fmr. DG,CPWD introduced the Programme and appreciated Indian Plumbing Association (IPA) for collaboration to organise the most contemporary and commendable programme related to latest design methodology, sanitary materials and their application

in carrying out Plumbing works in Buildings. Shri M.K. Gupta, Chairman, Indian Plumbing Association Delhi Chapter welcomed the participants and stressed the importance of Good Plumbing in Building.

The programme was attended by 22 participants which included Architects and Engineers from DG, MAP; CPWD; DDA; Delhi PWD; RITES; Municipal Corporation, Hoshiarpur; Housing Board Haryana; MP,PWD and NBCC apart from 5 number M. Tech Students of Amity University on complimentary basis.

Senior Professionals from the Plumbing Industry comprising of Consultants, Contractors and manufacturers were invited to conduct the programme as faculty members. Topics related to efficient & modern plumbing systems, water efficient fixtures, sanitary fixtures in Health care service, waste water treatment and disposal system, pumping system were covered in the programme. Latest Plumbing Technique in High Rise buildings were also presented and discussed during the programme.

The officers who attended the programme, took keen interest in the deliberation and highly appreciated the programme content and the presentations. At the end of the programme, participation certificates were distributed to the participants.

Meeting with Director, Central Building Research Institute (CBRI), Roorkee

Shri Pradeep Mittal, President, IBC and Shri H.P. Gupta Honorary Secretary met Dr. N. Gopalakrishnan, Director, Central Building Research Institute on 6th February, 2020 at Roorkee. Dr. Gopalakrishnan welcomed the President and Hony. Secretary and other members present in the meeting.

Meeting in Progress

The meeting was attended by large number of Life members of IBC, Professionals of CPWD and IIT Roorkee. The President highlighted that though CBRI is founder Member of IBC, yet involvement of professionals from CBRI in technical activities of IBC is insignificant compared to magnitude of CBRI. President requested Director, CBRI to advise its professionals and scientists for participating in technical activities of IBC.

Dr. Gopalakrishnan, Director assured that henceforth more and more scientists and professionals from CBRI would be encouraged to take part in technical activities of IBC and submission of technical papers in IBC conferences and Seminars besides enrolment of many professionals from CBRI in near future as Life Members of IBC.

The following issues were discussed:

- It was decided to make efforts for opening of IBC Roorkee chapter within next two months, so that one Governing Council meeting can be organized in Roorkee in the month of July, 2020.
- Dr. Ashok Kumar, Prof. Rajesh Chandra and Dr. Kulkarni & CPWD official assured to make their best efforts for enrolment of CBRI and CPWD professionals as Life Members of IBC for increasing the membership base.
- Few members suggested for initiating the award in the Research category and also opined to improve the quality of IBC Journal from its present level so that it becomes a SCI and Referral Journal.

The meeting which was very good and fruitful with active involvement of all present was followed by lunch. The meeting ended with a vote of thanks by Dr. Ashok Kumar.

IBC Delegation meets Shri Puneet Kumar Vats, Director General, CPWD

IBC Delegation Congratulating Shri Puneet Kumar Vats, DG, CPWD

A delegation of Indian Building Congress (IBC) consisting of President Shri Pradeep Mittal; Vice Presidents Shri Anant Kumar & Shri R.N. Gupta; Executive Member Shri V.R.Bansal; G.C.Member Shri Jatan Swarup Sharma and Honorary Secretary Shri H.P. Gupta met Shri Puneet Kumar Vats, Director General, CPWD on February 12, 2020.

IBC delegation congratulated Shri Puneet Kumar Vats, on his recent appointment as Director General, CPWD. The Director General, CPWD warmly welcomed the IBC delegation.

During the meeting the President IBC apprised the DG that CPWD is one of the founder member of IBC and DG is also a designated Governing Council member of IBC. President further informed about the important technical activities being done by IBC at present and sought his support on the following issues:

a) To advice CPWD professionals to enrol as members of IBC so as to enable them to join a bigger pool of professionals for their knowledge sharing. The D.G., CPWD assured to take up with senior officers of the department to encourage the professionals working under their control for enrolment as members of IBC.

b) To associate Indian Buildings Congress in future in all technical Seminars being held by CPWD for better dissemination of knowledge among all stakeholders.

c) To grant adequate funds from CPWD & Ministry of Housing and Urban Affairs for construction of additional floors in existing IBC building.

DG, CPWD patiently heard the delegation and assured all-round support in IBC activities.

At the end the Honorary Secretary, IBC thanked the DG, CPWD for sparing his valuable time for IBC delegation and for his positive approach in various IBC activities.

मुज़फ़्फरनगर (उत्तर-प्रदेश)में IBC की बैठक

मुज़फ़्फरनगर में बैठक

इंडियन बिल्डिंग्स कॉग्रेस के अध्यक्ष्स श्री प्रदीप मित्तल व मानद सचिव श्री एच.पी. गुप्ता द्वारा जनपद मुज़फ़्फरनगर मे दिनांक 06/02/2020 को लोक निर्माण विभाग के निरीक्षण गृह पर प्रान्तीय खण्ड, मुज़फ़्फरनगर के अधिशासी-अभियन्ता श्री एस.पी. सिंह व अन्य सहायक अभियन्ता गण व एस.डी. इन्जीनिरिंग कालेज मुज़फ़्फरनगर के युवा स्नातक (सिविल) श्री एस.एन. राना व मुज़फ़्फरनगर विकास प्राधिकरण के अभियन्ता गण के साथ बैठक की गई। बैठक में अध्यक्ष द्वारा आई.बी.सी. द्वारा समाज के लिए महत्वपूर्ण योगदान पर प्रकाश डाला गया जिसमें कि दो दशकों से अधिक समय से निर्माण उद्योग और सरकार के बीच संपर्क स्थापित कर सतत अवसंरचना, नई प्रौधोगिकी के साथ-साथ हरित क्षेत्र को नुकसान पहुँचाए बिना पर्यावरण संरक्षण एवं समस्त स्तर पर कौशल विकास में समाज के प्रत्येक वर्ग को प्रशिक्षित किए जाने हेतु समय-समय पर आयोजित कार्यक्रम शामिल हैं। बैठक का आयोजन **Shri P.C. Sharma, Engr., MDA** द्वारा किया गया।

Activities of Local Centres

Mumbai State Centre-Maharashtra

A meeting to review activities of IBC Mumbai Chapter

A meeting to review activities of IBC Mumbai Chapter was held on 15.02.2020 at 201-A, Supreme Engicons (India) Pvt. Ltd., Sunteck Realty, S.V. Road, Vile Parle (W), Mumbai.

The meeting was chaired by Shri Pradeep Mittal, President, IBC. Meeting was attending by seven other members of Management Committee of IBC Mumbai Chapter including local members of IBC. The President shared history of IBC and its activities over the years in Nation building.

In the meeting it was decided to enroll new life members to increase the membership base of IBC; to hold Seminar at Mumbai or in other convenient city tentatively on 09.05.2020 on topic "Building rehabilitation or Structural Health Monitoring"; to approach Hon'ble Minister of Government of Maharashtra and the concerned Secretary to become Chief Patron and Patron respectively of IBC Mumbai Chapter; and to hold monthly meetings to review the progress of Chapter.

In the meeting the new designation were also allotted to the Local Committee members as under:-

- Shri Vinod T. Harisinghani, PMC-Arbitrator as Sr. Vice President, Mumbai Chapter of IBC.
- Shri Sirajuddin Mulani, Sectional Engineer, Maharashtra PWD; Ms. Ishita Manjarekar, Director (Technology), Sunanda Chemicals; Ms. Sneha Umbare, Junior Engineer, Maharashtra PWD and Shri Rajesh Debnath, Project Engineer, ARKS Designs Pvt. Ltd. as Executive Members.

Chhattisgarh State Centre –Raipur

एनर्जी सस्टैनेबिलिटी रोड मैप फॉर हैल्थ केयर एण्ड हॉस्पिटिलिटी पर संगोष्ठी

इसरे रायपुर सबचेप्टर द्वारा इण्डियन बिल्डिंग्स कॉग्रेस छत्तीसगढ़ राज्य केन्द्र रायपुर के सहयोग से ''एनर्जी सस्टैनेबिलिटी रोड मैप फॉर हेल्थ केयर एण्ड हॉस्पिटिलिटी'' पर 11 जनवरी, 2020 को होटल सेलीब्रेशन मे संगोष्ठी का आयोजन किया गया। संगोष्ठी में विशेषज्ञों द्वारा अस्पताल भवनों मे एयर कंडीशन की उपयोगिता, नई तकनीक और ऊर्जा बचत की जानकारी दी गयी जिससे 70% तक ऊर्जा की खपत को कम किया जा सकता है। नया सिस्टम फिल्टर के माध्यम से फैलने वाले बैक्टीरिया और किटाणुओं को खत्म कर देता है, साथ ही कम-से-कम बिजली खपत कर ग्रीन गैस के माध्यम से पर्यावरण को प्रदूषित होने से बचाता है। अस्पतालों में आई.सी.यू. तथा ऑपरेशन थियेटर में हैपा फिल्टर तकनीकि लगाना जरुरी है। पहले एयर कंडीशनरों में सी.एफ.सी. गैस भरी जाती थी जिससे ओजोन लेयर में क्षति पहुँचती थी जो कि त्वचा रोग तथा कैंसर की बीमारी को बढ़ाते थे। इस प्रकार नई तकनीक, पर्यावरण संरक्षण में सहायक सिद्ध होगी।

विशेषज्ञों ने बताया कि होटल में 24 घंटे ए.सी. चालू रखना पड़ता है इसलिए सैन्ट्रलाइज पद्धती लगाना होता हैं। पूर्व में होटल में लगाये जा रहे हिटींग वेंटीलेशन, नार्मल ए.सी. के जगह कैपासिटी के आधार पर सैन्ट्रलाइज सिस्टम की आवश्यकता है ताकि ऊर्जा एवं पर्यावरण को बचाया जा सके तथा लोगों के स्वास्थ्य पर बुरा असर न पड़े। उक्त कार्याक्रम में लगभग 150 व्यक्ति शामिल हुए।

Bihar State Centre-Patna

The Executive Committee of IBC Bihar State Chapter was held on January 19, 2020 under the Chairmanship of Shri Kashyap Kumar Gupta, E-in-C-cum-Commissioner – cum-Special Secretary of Bihar State Govt. and Chairman IBC State Centre. The committee expressed happiness over nomination of its Chairman, Shri Kashyap Kumar Gupta to Executive Committee of IBC H.Q. and passed resolution for expressing thanks and gratitude to the President. The meeting also took decision to get the account of IBC Bihar State Chapter audited from its beginning till date, to nominate Shri Amarpreet, C.A. as auditor, to obtain GST No. for the Centre by taking the services of Shri Amarpreet, C.A. and for flag hoisting in the compound of Bihar State Chapter on the occasion of Republic Day on 26th Jan., 2020 at 11:30AM. Shri Viond Choudhary, Executive Engineer, Patilpurta Bhawan Division, was given the responsibilities for making all preparations for Flag Hoisting.

National News

Indian Railways New Sivok-Rangpo Rail Project: Travel from West Bengal to Sikkim in just 2 hours

A new game-changing Indian Railways line is set to transform the heart of Northeast like never before! The upcoming Sivok Rangpo railway project connecting West Bengal to Sikkim promises an unimaginably breathtaking train journey, through the picturesque mountain terrains and forest reserves. The Northeast Frontier Railway (NFR) zone along with IRCON international Limited, has proposed to construct the 44.98 km long Sivok Rangpo railway line, which will enable travelling between Sivok in West Bengal to Rangpo in Sikkim in just two hours.

The proposed project has several benefits as the northeast part of the area from Sivok to Rangpo has a single road route which is not very smooth. The route mostly shuts down in monsoons due to landslides, jams and many other reasons. This makes traveling very tough over this route. However, the Sivok Rangpo rail line will come as the ultimate solution for regular passengers and tourists in this area. This route connects to Sikkim which shares borders with China so it will be easier for the Indian soldiers to commute easily. It will also make travelling faster and easier for the Indian Soldiers at the nearby Nathula border.

The journey will cover Sivok, Reang, Teesta Bazaar, Melli and Rangpo stations on its route. The Teesta Bazaar will be developed as an underground railway station. The rail line spans across a total length of 44.98 kms crossing as many as 19 bridges and 14 tunnels. The tunnels on the route covers a total length 38.55 kms, with the longest tunnel covering 5270 metres and the smallest tunnel covers 538 metres. Interestingly, these tunnels cover almost 85% of the total journey. The rail line will cut through mountains and valleys to connect Sikkim to the main Indian railway network for the very first time.

This new railway line is also a green project as it takes care of environmental concerns.The line will cross through Mahananda Wildlife Sanctuary, Kurseong forest division, Darjeeling forest division, Kalimpong forest division and the East Sikkim forest division. However, it will not disturb the environment and wildlife as the train will run through tunnels. The Sivok-Rangpo rail project is largely important as it will make travelling easy and satisfying not just for the people of West Bengal and Sikkim, but also for passengers/tourists from across the country and the world. It will also be a big boost for revenue generated through tourism as the route will connect many tourist places and hill stations such as Darjeeling, Kalimpong through the railway network. This will, in turn, make traveling easier for tourists.

This line will also improve trade of industries like medicine, hydropower projects which is main revenue generation source of Sikkim. It will be very helpful for students as this project, by connecting major states and towns, will open professional and academic opportunities for students.Traveling across these routes will be made much easier, cheaper and time saving hence improving the socio-economic welfare of the region.

An NFR spokesperson told Financial Express Online that the total cost of sanctioning the project is Rs 4085.58 crore and the construction has already been started on route. He added that the tentative time of commissioning of this rail line project has been set as June 2021.

ट्रांसफार्मर ब्लास्ट को रोकेगा एन.आइ.एफ.पी.एस

गर्म होने की वजह से ट्रांसफार्मर में कई बार ब्लास्ट हो जाता हैं इससे आर्थिक नुकसान तो होता ही है, साथ ही आगजनी होने से जानमाल के खतरे की आशंका भी बनी रहती है। ऐसे में चेन्नई स्थित इलेक्ट्रिक उत्पाद बनाने वाली निजी कंपनी ने ऐसी घटनाओं को रोकने के लिए एक

उत्पाद तैयार किया है। इसको उच्च क्षमता वाले ट्रांसफार्मर के साथ लगाया जाता है। इसमे लगा सेंसर उपकरण को सतर्क कर देता है। इसके बाद नाइट्रोजन गैस की मदद से गर्म हो चुके ट्रांसफार्मर को ब्लास्ट से पहले ठंडा कर दिया जाता है। इसका नाम नाइट्रोजन इंजक्शन फायर प्रोटेक्शन सिस्टम (एन.आइ.एफ.पी.एस) रखा गया हैं कंपनी ने जनवरी; 2020 में इंडिया एक्सपो मार्ट में चल रही इलेक्रामा प्रदशनी में इसे प्रदर्शित किया।

कंपनी के एग्जीक्यूँटिव आसिर ने बताया कि ट्रांसफार्मर में लोड बढ़ने से उसके टैंक में रखा ऑयल गर्म होने लगता है। इसमें आर्क (चिंगारी) उत्पन्न होते ही आग लगने से ट्रांसफार्मर ब्लास्ट हो जाता है। ऐसे में यह उत्पाद काफी कारगर है। हालांकि, बाजार में ऐसे कई सिस्टम मौजूद हैं लेकिन एन.आइ.एफ.पी.एस की विशेषता इसका आर्क सेंसर है। यह सिस्टम दो हजार लीटर तेल से अधिक क्षमता वाले ट्रांसफार्मर के लिए बनाया गया है। सिस्टम के तीन भाग होते हैं। पहला आर्क सेंसर, दूसरा स्वीच यार्ड क्यूबिक और तीसरा कंट्रोल पैनल। आर्क होते ही सेंसर स्वीच यार्ड को संदेश भेज देता है। यार्ड में रखे दो नाइट्रोजन के सिलेंडर से नाइट्रोजन गैस पाइप से होते हुए टैंक में जाकर तेल को ठंडा कर देती है। इससे आगजनी होने की घटना रुक जाती है।

International News

Electric Roads could be Way to Driverless Future

Electric vehicles can significantly reduce greenhouse gas emissions, at least in theory. But challenges to wide acceptance remain significant: Batteries are expensive, charging stations are few and far between, and recharging takes far more time than a fillup at the pump. A technological breakthrough is needed, and many companies are working on ways to make charging faster and travel range longer. A small Israeli start-up called 'Electreon' has another idea: electrify the roads to recharge vehicles as they are driven.

At its test site on a boarding school campus outside Tel Aviv, the company has placed copper coils under 900 feet of circular pavement that transmit recharging wireless energy to an electric Renault Zoe test car as it drive's by. Since there are countless miles of road around the world, Electreon is aiming to electrify urban bus and shuttle routes first, in an effort to clean Israel's city air and reduce the country's dependence on imported oil. Over time, Electreon executives hope to go global and make "all-electric city transport" the wave of the future. "This project has the potential to move the electrification revolution to mass implementation," said Noam Ilan, a company co-founder and vice president for business development.

But first Electreon is taking baby steps with two separate pilot projects planned. The city of Tel Aviv and the local, private Dan bus company are planning to deploy a mile of electrified road at the end of the year 2019 and gradually expand deployment of the coils to specified lanes around the city for buses, trucks and eventually autonomous cars. The Israeli Ministry of Transportation has granted $2 million in seed money for the project, while Dan has contributed an electric bus and invested $3.3 million in Electreon. Sweden is planning a similar project on the Baltic Sea island of Gotland using Electreon technology to recharge an airport shuttle bus supplied by Dan and an electric truck at a cost of $12 million, mostly financed by the Swedish government. The test will be an initial step in Sweden's plans to eventually build more than a thousand miles of electrified high-speed highways at a cost of $3 billion.

Up till now, wireless charging has been mostly limited to parked vehicles. Electric cars are becoming more popular around the world. But battery-charged buses have barely made a dent in the global market outside of China, which has developed a large fleet with government subsidies and other incentives. If proven to be economically viable, Electreon's "smart roads" concept could revolutionise urban public transportation. "The future for us is autonomous shuttles and trucks with tiny batteries, no driver and 24-7 operations. Drivers are going to disappear," Ilan said.

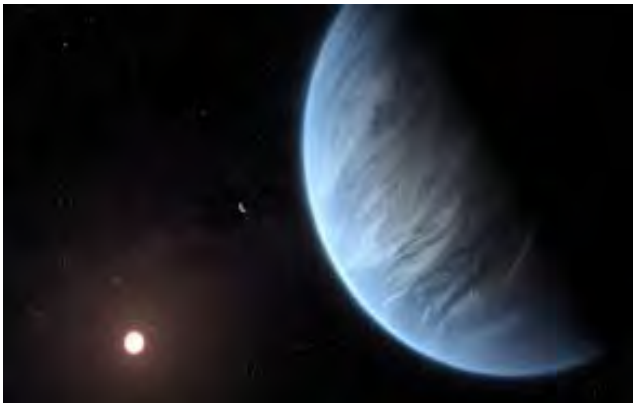
Water, Temperature Right for Life Found at Exoplanet

In a tantalising first, scientists have discovered water at a planet outside our solar system that has temperatures suitable for life. Two research groups announced that they've found water vapour in the atmosphere of a planet 110 light-years away in the constellation Leo. This so-called 'Super Earth' is just the right distance from its star to conceivably harbour life. It's the only exoplanet known so far to have both water and temperatures needed for life, the University College London team reported in the journal Nature Astronomy on Wednesday.

But lead author Angelos Tsiaras stressed, "This is definitely not a second Earth." Its star and atmosphere are so different than ours, "Earth-like conditions are not possible," Tsiaras told reporters. "The only question that

we're trying to ask here, and we're pushing forward, is the question of habitability.

A Canadian-led team announced similar findings recently. In a paper just submitted to the Astronomical Journal for publication, these scientists suggest it might even be raining there. "This represents the biggest step yet taken toward our ultimate goal of finding life on other planets, of proving that we are not alone," the study's lead astronomer, Bjorn Benneke of the University of Montreal, said. Discovered in 2015, the planet known as K2-18b is twice the size of Earth with



eight times the mass. While it's thought to be rocky, no one knows if water's flowing on the surface. Its star, a red dwarf, is considerably smaller and cooler than our sun,a yellow dwarf, and its atmosphere is also different than ours.

Nonetheless, Tsiaras said K2-18b could help determine, "Is the Earth unique?" The results are doubly exciting, Tsiaras noted, given this is not only the first Super Earth with water detected in its atmosphere but the planet also resides within the habitable zone of its star.

The research teams used archived data from the Hubble Space Telescope and other spacecraft to analyse the planet's atmosphere. Further observations are needed to determine whether the planet is indeed a true water world, using next-generation observatories like Nasa's James Webb Space Telescope and the European Space Agency's Ariel, both due to launch in the 2020s. For now, scientists know K2-18b takes 33 days to orbit its star, so one year there is one month here. At this distance, temperatures range from -73 degrees to -47 degrees Celsius.

The star, glowing red in the day sky, is believed to bombard the planet with radiation harsh enough to quickly inflict any human visitors with cancer, although "life there may have evolved differently" in order to survive, noted the London team's Ingo Waldmann. The cloud cover isn't too thick on K2-18b, otherwise it would have obscured the water vapour in the atmosphere, according to the scientists. The surface, meanwhile, could be wet or dry. The London data suggest water vapour makes up anywhere between 0.01% and 50% of the atmosphere — "quite a big range," Waldmann acknowledged. Either way, given the planet's mass, it would be difficult to walk on the surface.

CONGRATULATION

A Civil Engineer becomes CMD of Air India

IBC Congratulates Shri Rajiv Bansal on his appointment as the CMD of Air India. Born on 2nd August 1963, Shri Bansal is a graduate in Civil Engineering from IIT Delhi and is an IAS Officer of Nagland Cadre. Before his appointment as CMD, Air India, he was Additional Secetary in Ministry of Petroleum. He had earlier held additional charge of the Chief of Air India in August 2017 for about four months. In his long career, he has also served as Secretary, Central Regulatory Commission, Joint Secretary in department of heavy industries and director in aviation ministry.

Secretariat Building for Govt. of Delhi – Delhi Sachivalya

K.B. Rajoria

Former E-in-C, Delhi PWD & Past President, IBC

The Secretariat Building for Govt. of Delhi was completed in the year 2000 and since then it is occupied by Government of Delhi for offices of Chief Minister, Council of Ministers, Secretaries to the Government and the concerned staff. It is an impressive building adding to landscape of Delhi. It has an interesting background, as brought out here.

1. Background

The framed structure for this building was constructed by Delhi Development Authority during Asiad 82, in the Indira Gandhi Indoor Stadium Complex. While working as Chief Engineer DDA, after Asiad 82, the charge for Stadium complex was given to me. The building was in incomplete shape and only R.C.C. frame with some cladding work was completed. After Asiad 82, DDA did not have any plan for completion of this building. In fact, Sports Authority of India wanted to convert it into Sports Hostel. Somehow, the project did not materialize. During 1988-89, this building was handed over to Indraprastha Health Corporation Limited. They started repair and remodeling of the building. Some important changes done by them include, pedestrian ramps, dismantling of swimming pool, extension of first floor slab etc. This work also could not proceed on account of differences between Corporation and the Government. Thereafter, this building was taken over by Government of Delhi for Secretariat and work was entrusted to P.W.D. Delhi. At that time, I was Engineer-in-Chief, PWD Delhi. The project was implemented by Shri I.M. Singh, Chief Engineer and Shri D.S. Sachdev as Project Manager. The technical support for Electrical and Mechanical works was provided by Shri Anil Puri, Superintending Engineer (Electrical).

2. Condition of Building at the stage of taking over by PWD

2.1 During 1981-82, it was developed as a ten storeyed framed structure and left incomplete. The building was having three wings. The total built-up area was 40,000 Sqm and area at ground floor was 9000 Sqm. There were 1600 floor columns, 3200 beams and 1200 slab panels. It was planned to have 400 hostel rooms with cavity walls and attached toilets. There were five terraces in each of the three wings beyond fifth floor. The planters were provided outside each bay window of the rooms. During 1987-88, the remodeling works were done for conversion to hospital. Besides, at ninth floor, four bays were added in all the wings.

2.2 At the stage of taking over of the building by PWD it was in a bad shape.It was noted that the reinforcement was exposed at several places. There were cracks in the concrete and at places some concrete had fallen down. Isolated differential settlement was also observed in ground floor walls. There was water logging on various floors particularly on service floor at second floor level due to obstruction caused by inverted beams. Fortunately no structural cracks were noticed. It was decided to do retrofitting and extensive repair of the building to make it structurally sound.

3. Study of Distress Pattern and Non Destructive Testing

3.1 On computer generated model, the distress pattern of the building was studied. It was noted that some R.C.C. members were severely distressed. By and large, members on outer side were more distressed compared to other members. Beams near expansion joints and sunken floors were more distressed. There were cracks in concrete, on account of rusting of reinforcement bars. Sunken areas were more distressed due to seepage of water in slabs.

3.2 Non destructive testing as described was done in such a manner that all critical locations were covered. (a) By Re-bond Hammer test, the compressive strength of concrete was ascertained at different locations, (b) By UPSV Test, Pulse Velocity was ascertained at different places. It is measured in km/sec and is indication of quality of concrete. Co-relation with quality being (i) Excellent- above 4.5 (ii) Good- 4.5 to 3.5 (iii) Medium up to 3 and (iv) doubtful below 3. (c) Half Cell Potential test was done to get information regarding risk of corrosion of reinforcement bars embedded in the concrete. This test was undertaken at places where visible cracks or rust stains were absent.

It was done as per ASTM-C 876-1991. The range of test value indicated chances of corrosion in percentage. (i) Value 350 and above then chance of corrosion was 90% (ii) Value- 200 to less than 300, then chance of corrosion was 50% (iii) Value - less than 200, chance of corrosion was 10%. (d) Allowable limit for Chloride was 0.25% and allowable limit of sulphate was 0.39% of mass of concrete. Tests indicated that chloride and sulphate were within the limit. So there was no worry on account by Chlorides and sulphate.

3.3 The distress report was documented in a systematic manner. All structural members that is beams, columns and slabs were individually examined and distress details recorded. This included details such as honey combing, corrosion of reinforcement, laboratory and non destructive test results etc. On the basis of this report, decision was taken for each member, (a) whether it was to be demolished,(b) whether it required major repair, (c) whether it required patch repair and (d) whether it required no repair.

Before Completion

After Completion

4. Rehabilitation Work

4.1 After detailed investigations, the strategy for repair and rehabilitation work was drawn. Depending on condition of individual member, the repair/rehabilitation work was done. In first stage, the chipping of un-sound concrete was done. Thereafter, the reinforcement was cleaned with mechanical wire brushes, emery paper and sand blasting. On reinforcement, anti rust agent (Nitro Zink Primer) was applied. On concrete binding agent was applied. For columns and beams, binding agent applied was Nitro bond-EP and for slabs it was Nitro Bond-AR. Fins of columns were knocked down and then restored by using micro concrete. In beams and columns, wherever damage was more than 60% the same were fully re-casted. For less damaged, only localized concreting was done. Wherever reinforcement was found excessively rusted, additional reinforcement was added. For isolated repair work, grooves were cut along crack line and non shrink grout was injected with pump. To fill finer cracks, epoxy grout was injected. In excessive honey comb area, richer mix was used for the grout.

4.2 To check quality of work, several tests were performed on the repaired/retrofitted work, which included cube tests, polymer content test, USPV and anti-rust test etc. For restoration work, Rs. 150 lakh were spent. This amount was about 10% of cost of structure if reconstructed afresh at that point of time.

5. Architectural Planning

5.1 The building was to be remodelled as a Secretariat for Delhi Government. For Architectural planning, Shri Raja Aederi Consultants Pvt. Ltd, a famous Architect from Mumbai was selected. The original frame work of RCC structure was used by the Architect for architectural detailing. Additions and alterations, as considered necessary were also incorporated. The broad planning of the building was done in following manner.

(i) Ground floor- At this level V.I.P Parking, Auditorium with 200 seats, Banquet Hall, Canteen and other commercial facilities such as Bank, Post Office, shops etc. were planned. Besides, scooter parking was also accommodated in this floor. In adjacent service blocks. Air conditioning plant and electrical generators were provided. One multi- purpose hall was also planned at this floor.

(ii) First floor- At this level, two conference rooms and office space was planned.

(iii) Second floor- Chief Minister's office and the other office space was planned.

(iv) Third to eighth floor- open office space on modular concept was planned.

(v) Ninth floor- the guest rooms were planned at this floor.

5.2 Interior spaces were planned according to requirements of Secretariat Building. The building was made fully air conditioned. Besides, for control of entry to the building, CCTV cameras were installed. Moreover, exterior elevations were remodeled and permanent finish was provided, befitting to the Secretariat of Govt. of Delhi. It was planned as an intelligent building with harmonious amalgamation of energy management, fire detection system, security surveillance, data communication network, audio & video and tele-conferencing facilities.

5.3 For implementation of project, contractors were shortlisted and selected by tendering process. The project was completed in a little over 2 year period and the Delhi Secretariat is functioning since then in this building.

Acknowledgement

I am grateful to Shri D.S. Sachdev, retired Director General, Central P.W.D., who was Project Manager (Superintending Engineer) in-charge of the project, for giving details and information about this project. In fact his documentation for repair and rehabilitation of this building is excellent.

INVITATION OF PAPERS FOR IBC JOURNAL

THEME OF THE SEMINAR: "REPAIRS REHABILITATION AND RETROFITTING OF STRUCTURES"

All concrete structures in service are subject to chemical and physical changes due to factors such as variation in production, service life and subsequent attack by environmental factors. Repairs and Rehabilitation of Structures having undergone deterioration is considered critical for reducing the possibility of earthquake hazard damage in future. Retrofitting is suitable both for earthquake damaged buildings and for existing vulnerable buildings to protect the structure in future. Papers are, therefore, invited for IBC Journal (1000 to 2000 words) on the theme which may include repair materials, methods, and strategies or related to theme of the seminar or related subject.

The paper may be sent to IBC Secretariat by 31st May, 2020,

on Email Id: info@ibc.org.in, indianbldgscongress@gmail.com

Sustainability in Construction Including External Development In Building Projects

Nithya Chidam, B.Tech (Civil)

Abstract-We live in an era where concrete jungles are denser than real ones, natural resources are depleting every passing second and restoration seems like a far-fetched dream. The construction sector in India is the second largest consumer of resources and will surpass agriculture in 2020 in all likelihood owing to population growth. This leaves no room for sustainability and balance in the environment. Hence it is essential to develop effective and efficient plans for sustainable development in the infrastructure industry. This paper outlines ideals, ideologies and instances where sustainability in construction including external development in building projects can be implemented.

Introduction-Sustainable Development is a term that gained popularity from awareness after the Brundtland Commission Report, Our Common Future. The UN General Assembly took notice of the rapidly deteriorating rate of our environment and its natural resources. In an attempt to unite countries and pursue sustainable development together, The Brundtland Report was made. The construction industry in India consumes over two billion tonnes of material. It is alarmingly high and hence it is extremely essential to consider the environment in every step of construction. The objective is to develop in a way to meet present day requirements for housing, working environments, and infrastructure without compromising the ability of future generations to meet their own needs for shelter, spaces for work, and service provision. This paper considers the construction industry scenario pertaining to the Indian environment.

Environmental Sustainability- Three most important areas to focus are the environment, economic and social impact of construction. Environmentally, the objective is to design and manage buildings, ensurethe performance of materials throughout their whole use-cycles; and use renewable energy resources as well as their attendant technologies in building, operation, and maintenance to reduce global greenhouse gas emissions.

Economical Sustainability- Economically, the goal is to go from a linear to circular economy. Primarily it refers to the reduce, reuse, recycle principle. Incorporating renewable energy, material and waste recycling, water harvesting and preservation, transferable technologies, and the adaptability of structures to changes in use; innovative financing models premised on an economy of means that yields more with less; and the reinvestment of returns back into the common domain for collective benefit.The economic viewpoint reduces the carbon footprint to a great extent.

Social Sustainability-Socially, the aim is to benefit human beings; both on and off the site. Observing health and safety regulations, democratization of all processes pertaining to the production and use of the built environment as a common wealth. The social angle is the most explicit manner of bring sustainability into regular life.

What goes around comes around- Brilliant skyscrapers with storeys reaching the clouds was initially constructed to accommodate the growing population. Currently, the number of high rise buildings is growing alongside population which is draining our resources in multiple areas.

Consider a high rise building spread over 6000 square feet of land. There is a high concentration of utilities only to this building. Focussing on water requirement hundreds of gallons of water is consumed in this small area which in a horizontal development (individual houses) could be spread over many acres of land. This will ensure ground water level maintenance, soil fertility and overall quality of land.

Hence, like our old days, construction of individual small houses is sustainable to a large extent. Implementation of this is possible is sparsely populated areas, where high rise building construction can be avoided.

The trend in residential construction is such that, development of residential projects is around infrastructure. Typically, one can find IT companies and office spaces far from the city. It makes lifestyle easier and to cut transit time to office, residential buildings are made. During construction stage of the project

the transportation of materials alone will contribute significantly to pollution. Hence, it is suggested to reverse the pattern and develop infrastructure around the areas where major population resides.

Vital Principles of Green Building-Sustainability in construction can be achieved during the planning and execution stage of the building. In the planning stage considering the three vital principles of green building is crucial. They are –Design for climate, Design for environment and Designing for time. A design inclusive of the above factors will be an eco-friendly building.

Once designed, procuring materials should be of the best available quality so as to avoid repairing at a later stage. It is essential to use locally available resources to avoid transportation and reduction of carbon footprint.

S trategy to implement efficiency of energy and resource consumption -Efficiency of energy and resources consumption is the bottom-line of a green building. The following are some of the ways how this can be put into effect.

- Alternative materials: Cement plants are known to be a major source of carbon pollution. Cement is an integral part of concrete and using alternative materials such as flyash will reduce carbon dioxide emission.
- Motion Sensing Lights – In most modern buildings, motion sensing lights have been incorporated to save on energy to a large extent. A savings at micro-level in a large area conserves resources to a large extent.
- Pervious concrete pavements allow complete percolation of storm water. It recharges groundwater and forms a very effective rain water harvesting system.
- Use of Sewage Treatment Plant, Water Treatment Plant in high rise residential buildings is common. This is environment friendly and ensures recycling of sludge and waste water.
- Composting: Composting of perishable waste is gaining popularity in urban residencies. The manure as a by-product is useful for agriculture, nurseries and organic farming.
- Gardening: Buildings include hanging gardens or a lawn in the setback area. This is not only aesthetic but also a source of pure oxygen.
- Proper ventilation system –Ensuring a proper ventilation system will reduce electricity consumption. Good circulation of air and proper lighting will reduce need for lights and fans during the daytime.
- Solar System: The most readily available resource and reliable source of energy is the sun. The solar system can be used as a backup or a regular source depending on the location.
- Re-using construction debris as aggregates or fillers in sunken area of slab is effective waste management and reusing debris is a smart move.
- In a situation where none of the above has been implemented there is still a chance to be sustainable. Maintenance of existing structure will reduce repair work and hence conserve materials.

Conclusion - In conclusion, it can be confidently said that every step of construction is flexible enough to include eco-friendly and sustainable amendments. Advancement of technology in construction should be targeted towards being more green. Having the facilities and knowledge we do today, sustainability in construction is a very achievable goal. Channelizing our efforts and energy into environment friendly practises is the most ethical thing one could do being in the construction industry. Sustainable practises will have real tangible results and the future generation will be grateful to our efforts just as we are to our previous generations.

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From Editor-in-Chief Desk

Resilient Disaster Infrastructure and Built Environment

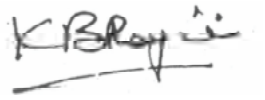
We are privileged to live in the modern society. For our comfort of living, infrastructure around us was developed and the process is still continuing. Infrastructure around us, include, bridges, roads, power houses, drains, sewer lines, etc. The living comfort is provided by water supply lines, sewer lines, electric supply lines, drains, roads etc., to our well built houses. The infrastructure is designed and developed by our Engineers, on the basis of data of the past collected by field surveys and compilation of information of several years.

Climate changes in the recent past have completely changed the outlook of world and particularly its infrastructure. Rains are unprecedented; temperature changes are severe and there is no past precedence. Snowfall is heavier and for longer period. Thus the designed infrastructure does not behave as per expectations. We find flooding in Chennai and Mumbai, heavy snowfall in Shimla, rains of high intensity in North India, flooding of vast areas in Bihar, Cyclones in Orissa etc. etc. Thus, recent climate change has caused miseries to our society, inspite of the fact that all services were designed on the basis of past information and data. This phenomenon is worldwide and not limited to India only.

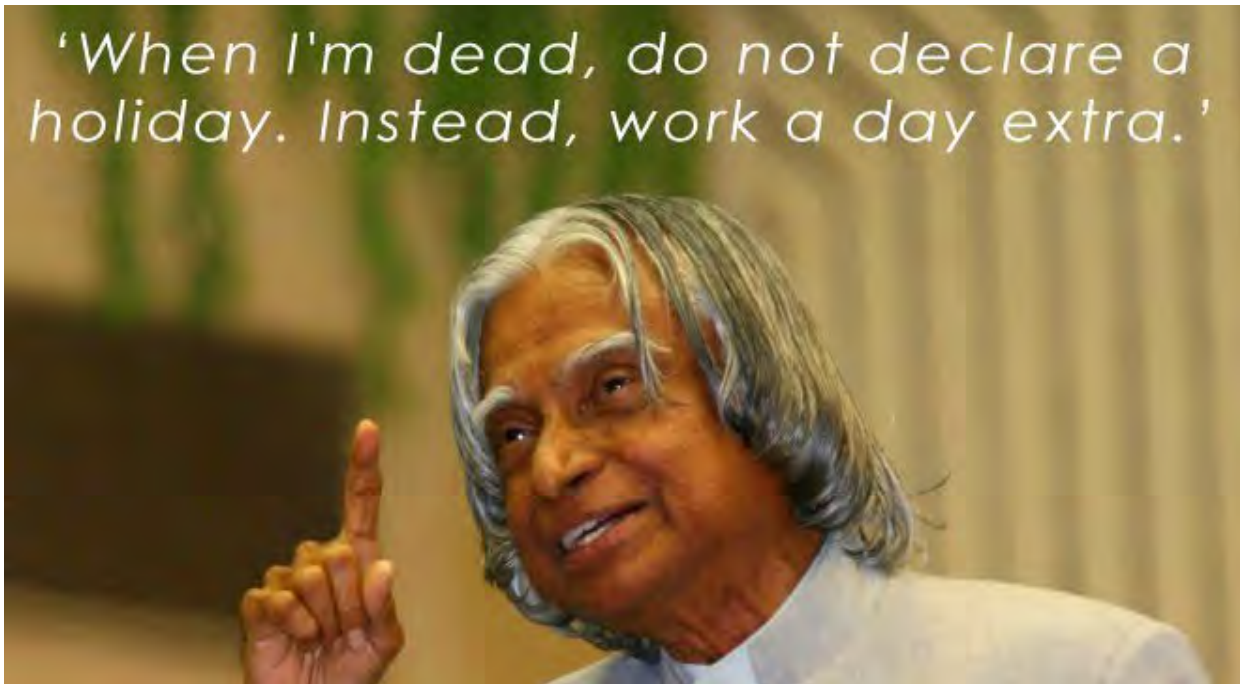
To overcome the impact of natural disasters, the International Coalition for Disaster Resilient Infrastructure was formed and India being member of this coalition has to move forward to mitigate impact for climate changes. They are working for establishing a regulatory frame work like National Green Tribunal.

The way forward will be to work out norms for developing resilient features for new design concepts. Besides, existing infrastructure will have to be strengthened. For this purpose guideline's, formulas, methodology etc. will have to be developed.

Professionals who are members of IBC should also see the impact of climate changes in built environment and review existing guidelines for design of infrastructure as also review the suitability of existing infrastructure. It will mitigate impact of future shocks.



(K.B. Rajoria)



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