



The GRIHA Summit 2015

12-14 MARCH, 2015 | IHC COMPLEX, LODHI ROAD, NEW DELHI-110 003

SUMMIT NEWSLETTER

DAY 1 • Thursday, March 12, 2015

GRIHA FOR HIGH PERFORMANCE HABITATS

Inaugural Session

Special Address: Prof. M V Rajeev Gowda, Member of Parliament, Rajya Sabha
Speakers: Dr Leena Srivastava, Acting Director-General, TERI & Acting President, GRIHA Council; Mr Amit Kumar, Senior Fellow, TERI & Vice President, GRIHA Council
Vote of Thanks: Ms Mili Majumdar, Director, Sustainable Habitat Division, TERI & Secretary cum Treasurer, GRIHA Council



The session began with the lighting of the lamp by the dignitaries. Prof. M V Rajeev Gowda in his special address said that to combat climate change, there is an urgent need to shift from current practices and consider the overall impact of buildings on people and surroundings. To showcase climatic difference, he highlighted the experiences gained from different Indian cities like Bengaluru, Mumbai and countries like China. He also urged the need of sharing and using the information related to best green construction practices on the Internet or social media to promote construction of sustainable habitat.

In his address, Mr Amit Kumar referred to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) and highlighted existing energy consumption and related emission of greenhouse gases. He added that India is developing at a fast pace, without paying attention to the availability of resources and

negative impact on the surroundings. There is a dire need therefore, to promote construction activity in such a way that buildings least impact everyone, including the environment and provide maximum gain to occupants in terms of healthy living and reduce resource consumption.

Dr Leena Srivastava stated that India is still heavily dependent on conventional energy sources like coal and oil. She said, "In India we have limited reserves of oil, so to meet the growing energy demand, we import almost 90 per cent of oil from other countries." She also stressed on the utilization of solar photovoltaic (SPV) system and highlighted that in India there is a potential of around 352 GW for generating power from the rooftop SPV system.

During the session, professionals were felicitated for their excellence in promoting and outreach of GRIHA in India. Those felicitated include, Mr Divakar Garg, DG, CPWD; Mr NP Aggarwal, ED, NBCC; Ms Anamika Prasad, Director, EDS; Mr Anurag Bajpai,



Director, GreenTree; Mr P Sahel, Vice Chairman, Lotus Greens; Ms Swati Pachapalli, Director, Terra Viridis; and Ms Poorva Kaskar, Principal, BRICK School of Architecture, Pune.

Ms Mili Majumdar delivered the vote of thanks to all dignitaries and attendees.

Dr Leena Srivastava inaugurated the GRIHA exhibition.

Highlights

It is high time the buildings are designed for net zero energy consumption while also allowing for optimization of resource use and reuse of waste generated.

There is a need for sharing of information and best green practices to promote sustainable construction.

“ It is high time the buildings are designed for net zero energy consumption while also allowing for optimization of resource use and reuse of waste generated. ” **Mr Amit Kumar**

Curtain Raiser—March 11, 2015

Enabling Understanding of Gaps and Ways of Effective Communication for Energy Efficiency in the Existing Built Environment

The session deliberated upon understanding key challenges and identifying ways to incorporate energy efficiency in the existing built environment. The track included an inaugural session followed by a panel discussion. Ms Mili Majumdar, Director—Sustainable Habitat Division, The Energy and Resources Institute (TERI) & Secretary cum Treasurer, GRIHA Council, gave the welcome remarks for the evening. Mr Sanjeev Yadav, Director, Strategy and Key Accounts, UTC, highlighted that energy efficiency is a critical element of sustainability. Dr Leena Srivastava, Acting Director-General, TERI, gave a special address pressing upon the need to fast track actions across the entire value chain in the buildings sector for greater energy efficiency.

The panel session was chaired by Mr Saurabh Kumar, Managing Director, Energy Efficiency Services Limited, Government of India. The panel discussion invited discussions from speakers with diverse backgrounds, including policymakers, architects, developers, sector experts, as well as private consultants.

Mr Ashok Lall mentioned that retrofitting older buildings is much easier than newer buildings, wherein retrofitting urban fabric will help in reducing urban heat island effect considerably. Mr Roger Platt stressed upon the need for benchmarking and right communication strategies for energy efficiency. Mr Sanjay Seth shared his experiences in implementing energy efficiency guidelines in existing public buildings. Dr Annapurna Vancheswaran highlighted the need for effective communication and incentives at the user end to influence behavioural changes. Mr P Sahel stressed that educating people and spreading awareness, on why should a building be sustainable, is extremely crucial. Finally, Mr Arun Bhatia emphasized on the need for a platform to share good practices in the buildings sector. Lack of awareness and multiplicity of owners—especially in the case of commercial buildings—were key challenges in incorporating energy efficiency in the buildings sector.



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BUILDING INDIA WITH GRIHA

Panel Discussion

Introductory Presentation: Ms Mili Majumdar, Director—Sustainable Habitat Division, TERI & Secretary cum Treasurer, GRIHA Council

Chair: Mr Gaurav Shorey, Team Member, PSI Energy

Speakers: Mr Tanmay Tathagat, Director Environmental Design Solution Pvt. Ltd; Mr Andrés Prera, Principal, LEED Fellow, 1/2ambiente, Guatemala; Ms Deepa Sathiararam, Executive Director, En3 Sustainability Solutions Pvt. Ltd; Mr Ashish Jain, Associate, Sustainability Solutions Group, AECOM; Mr Anurag Bajpai, Director Planning & Sustainable Design, GreenTree Building Energy Pvt. Ltd; Prof. Suresh Pakhare, Prof.Tr-2, Indian Railways Institute of Civil Engineering (IRICEN); Mr Sameer Divekar, Director, dBHMS



“The greenest way to make a green building is to not build it because the moment we make it, we damage the environment.”

Deepa Sathiararam



“Development comes from the thought process of people.”

Andrés Prera



“We can look back to move ahead even if we cannot afford the large forts and narrow streets.”

Ashish Jain

The panel discussion began with an introductory presentation by Ms Mili Majumdar.

Mr Anurag Bajpai through his Dehradun Project highlighted the various passive architecture features and reiterated on the fact that a green building is possible only when all the stakeholders put in their best efforts at every stage. He also said that innovation and environment could co-exist with team work.

Ms Deepa Sathiararam emphasized on sustainable construction practices, and operations and maintenance of a building. She also said that while a green building focuses largely on technologies, such as solar passive design techniques, very little emphasis is placed on the construction stage, where sustainability needs to be introduced.

Prof. Suresh Pakhare highlighted the various water conservation methods adopted in the Indian Railways Institute of Civil Engineering (IRICEN) project. He described the sustainable methodologies adopted in constructing a green building.

Mr Gaurav Shorey discussed about the various solar passive techniques and said that traditional architecture is an epitome of green building existence in India, and can bring in innovation along with climate responsiveness in the design. He also stressed that if the landscape design is made robust in any given design, it can significantly reduce the urban heat island effect, which is an emerging problem in cities today.

Mr Andrés Prera while showcasing a pilot project of GRIHA in Guatemala stressed that sustainable solutions require engaging people

and, therefore, integration of nature and human beings is essential.

Mr Ashish Jain opined that heritage buildings in India are the most sustainable buildings, standing comfortably even after 100 years. He highlighted ways to combine nature in our buildings via passive architecture and validate it through modern simulation tools.

Mr Sameer Divekar showcased his project where he used strategic integration of radiant cooling, with conventional chiller system. This system provided a good diversity for strategic operation in variable indoor and outdoor conditions.

Mr Tanmay Tathagat dwelled on the use of hatch tools for analysing the simple environmental effects in macro climate of a campus.

DESIGNED IN INDIA !

Panel Discussion

Chair: Mr Gaurav Shorey, Team Member, PSI Energy

Speakers: Keynote address by Mr Pradeep Sachdeva, Principal, Pradeep Sachdeva Design Associates; Keynote address by Padma Shri G Shankar, Founder and Chief Architect, Habitat Technology Group, Thiruvananthapuram; Mr N Murali, National Head – Sustainable Design, Saint-Gobain India-Glass Business



The session was chaired by Mr Gaurav Shorey who stressed on how the Gandhian concept of *swaraj* is truly applicable in making a green building. He also said that unity in diversity is a key feature of the world. The various aspects of sustainable habitat were also highlighted in the session.

Mr Pradeep Sachdeva stressed on the creation of democratic spaces for a better future and leaving behind a healthy and safe world for the future generations. Padma Shri G Shankar praised the unique heritage and vernacular style of India. He also spoke about the need for eco-sensitivity while constructing a green building and the significance

of the spiritual face of the built environment. Mr N Murali spoke about the safety of glass as being similar to thick walls. The speakers discussed spatial urban planning as the emerging issue for Indian cities. It was noted that the usage of efficient equipments or green materials is insufficient to make a building green; eventually, it is the sustainable

habitat that helps in creating a green environment. The proper design of streets, roads, pathways, and landscapes can help in achieving the goal of sustainability. Adopting locally available materials like mud, lime, and bamboo can make the path easier as lime is long-lasting and more durable than cement and bamboo is as strong as steel.



“Glasses are equally safe as our thick walls.”

Mr N Murali



“It is essential to work with the craftsmen so that the

skills stay alive.”

Mr Pradeep Sachdeva



“Architecture based on values, truth, and honesty is

green architecture.”

Padma Shri G Shankar



“Unity in diversity is a key feature of the world.”

Gaurav Shorey

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Aqua Access

Plenary Session-I

Speakers: Mr Vasu Padmanabhan; CEO, Piramal Sarvajal
Ms Savita Punde; Partner, Design Cell



“ We will have to pay for creating solutions that are sustainable for the environment. ”

Mr Vasu Padmanabhan

The plenary session was based on the theme, 'Aqua access'. Mr Vasu Padmanabhan raised the critical issues of drinking water availability and affordability. According to him, the community level purification installations managed by the community or water franchises would help ensure optimum utilization of water and decrease its wastage.

India requires a decentralized water services model to serve the needs of everyone. It calls for a business model wherein the government provides the initial capital expenditure and operating cost is handled by the end user with the support of subsidy or Corporate Social Responsibility (CSR) funds and also stressed on an effective monitoring mechanism.

Ms Savita Punde recalled that in India, right from the beginning, large underground tanks were used for water storage. However, with the passage of time, sources of water have been shifted from local to remote access, which has



created the issue of complex distribution system and high energy demand.

She added that we need to restructure our priorities to promote storage and use of rainwater and improve the groundwater reserves.

She also said that we need to use cities' open spaces for creating resilience and resources for the city dwellers. She also stressed on the need to reinterpret some of the traditional concepts used for water conservation and storage.

Innovating Urban Futures

Plenary Session-II

Chair: Mr Jagan Shah; Director, National Institute of Urban Affairs (NIUA)

Speakers: Mr Roger Platt; President, US Green Building Council; Dr Prashant Pradhan, Director, Smarter Planet Solutions, IBM India South Asia; Mr Raju Gulati, Zonal Product Sales Head-North India, Voltas Ltd; Dr A K Tripathi, Director, Ministry of New and Renewable Energy (MNRE), Government of India



The session began with introductory remarks by Mr Jagan Shah who stated that with the announcement of the "smart cities" initiative by the government, the time is ripe to discuss innovation. In this context, innovation would mean achieving integration across sectors using technology, knowledge, data network, etc., to tackle the issues of urban development. In order to build smart cities, designing smart or green buildings is a good starting point. A

green building is not just climate imperative, but also human health, social equity and economic imperative. In the present times, cities have become vulnerable to climate change disasters and so, they face huge financial implications. Therefore, it is important to plan cities smartly.

Dr A K Tripathi spoke about the various renewable energy initiatives taken up by the government such as, green campus, national green building programme, solar roof top programme, and solar city programme.

Mr Roger Platt highlighted that rating systems like GRIHA and LEED can play a vital role towards sustainable future by sending strong market signals for greener buildings.

Dr Prashant Pradhan discussed IBM's smart city initiatives in three Indian cities: Visakhapatnam (Vizag), Ajmer, and Allahabad. He also discussed the smart solutions provided by IBM in this context. The panel also discussed issues relating to the high cost of technology, indigenization, and frugal innovations.



“ Cities are solutions in themselves. ”

Mr Roger Platt



Mr Roger Platt



Dr Prashant Pradhan



Mr Raju Gulati



Dr A K Tripathi

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Practice to Perfect

Parallel Track-I

Chair: Mr Jaijit Bhattacharya, Partner – Infrastructure and Government Services, KPMG

Panellists: Mr Rajeev Talwar, Group Executive Director, DLF; Mr P Sahel, Vice Chairman, Lotus Greens Developers Pvt Ltd; Ms Mili Majumdar, Director—Sustainable Habitat Division, TERI and Secretary cum Treasurer, GRIHA Council; Mr Arun Bhatia, Director—Sales, Carrier India; Mr Satish Kejriwal, Principal Consultant, Tech Mahindra

The session was chaired by Mr Jaijit Bhattacharya, who focused on the idea of transforming people's life using renewable energy and set the stage for the panel discussion by posing a question related to the cost of energy.

Mr Arun Bhatia stressed on the fact that a smart and an intelligent building is one which can deliver to both the end user and the designer.

He also quoted that an integrated approach, takes in all the aspects, such as solid waste management, water optimization, and energy efficiency, while designing the concept of green buildings.

Ms Mili Majumdar spoke about the GRIHA journey, emphasizing on the use of passive technologies, referring to the fact that certain technologies seem good on paper but do not perform as well in reality.

Mr P Sahel gave an overview of the Indian energy sector and dwelled on the challenge of construction in India. He discussed the key hurdles from the developers' perspective for going green and the ways to circumvent them.

Mr Rajeev Talwar shared his experience of DLF's journey of more than three decades of building Gurgaon and the various strategies adopted so far, to turn their campuses to smarter neighbourhoods.

Mr Satish Kejriwal discussed the case studies of Mahindra World City in Jaipur and



Chennai and the various smart interventions made, encompassing strategies such as hub building (control centre), fed by stream of data

for enabling better services, building energy management, street lighting, smart parking, real time monitoring, etc.

Urban Infrastructure

Parallel Track-II

Chair: Mr Pradeep Kumar, Associate Director, TERI

Speakers: Dr Steve Kardinal Jusuf, Senior Research Fellow, National University of Singapore; Mr Rajesh Jain, Managing Director, Enhanced Wapp Systems (India) Pvt. Ltd; Mr Sanjay Mantri, Zonal Head (Projects), North & East India, Asahi India Glass Ltd; Mr Rishi Kapoor, Deputy General Manager, Johnson Control

The session was chaired by Mr Pradeep Kumar who stressed on the importance of energy, water, and waste management for a smart city to operate.

Dr Steve Kardinal Jusuf shared his experiences

from his research work in Singapore. He described buildings as large thermal masses which absorb heat during the day and radiate it during the night. He emphasized that greenery and plantation pockets can significantly help in controlling the heat island effect created by paved surfaces, built mass, and increased air conditioning load in the urban areas.

Mr Rajesh Jain emphasized on the use of integrated systems for sewage and solid waste treatment. He opined that segregation at the initial level both for grey and black water, and solid and wet waste is important.

Mr Sanjay Mantri spoke about the various applications of glass in buildings. He stressed on the fact that if used in a proper way and with a sense of responsible designing, glass can contribute to energy efficiency in buildings. Mr Rishi Kapoor introduced the concept



of district cooling. He explained how the use of district cooling can support better operation and maintenance of the systems by

professional agencies, hence minimizing the loss of energy.

Climate Resilience in Built Environment

Parallel Track-III

Chair: Prof. Chetan Vaidya, Director, School of Planning and Architecture, Delhi

Panellists: Mr G Padmanabhan, Emergency Analyst and officer-in-charge, Disaster Management Unit, UNDP; Dr Divya Sharma, Fellow, Sustainable Habitat Division, TERI; Mr Sohan Hatangadi, Environmentalist and Member, INTACH, Visakhapatnam; Mr Mahesh Rajasekar, Director, TARU Leading Edge Pvt Ltd; Mr Bijay Singh, Coordinator, Gorakhpur Environmental Action Group (GEAG); Mr Kalpit Ashar, Architect and Urban Designer, Founder MAD (E) in Mumbai; Mr Pavan Gupta, Institutional Systems Planning Center

The panellists discussed the significance of cities and urban areas towards economic growth of the country. In this context, the need for sustainable, inclusive, and climate resilient cities was emphasized. Prof. Chetan Vaidya mentioned the role of environment and municipal laws, as important instruments, to achieve climate resilience in the built environment. Mr Kalpit Ashar and Mr Bijay Singh spoke about flood resilient housing designs, focusing on Gorakhpur. The panellists highlighted the issues related to flood prone housing and suggested measures for achieving resilient housing structures. They also

emphasized on the need for capacity building of local masons and builders. The session also captured the issue of urban heat islands and the means to achieve thermal comfort. Mr Mahesh Rajasekar spoke about the various rooftop



technologies developed by TARU Leading Edge Pvt Ltd for Surat and Indore and discussed how various building materials can be used to achieve thermal comfort. The main topic discussed in the session was climate resilience in coastal cities.



Mr Sohan Hatangadi discussed the lessons learnt after the Hudhud cyclone, especially, from the city of Visakhapatnam (Vizag). Mr Pavan Gupta highlighted the need for unified settlement plans in India, in both rural and urban areas. The concluding presentation by Dr Divya Sharma reiterated the need to mainstream climate resilience in planning, policy making, designing, regulatory, and legislative processes. Lack of adequate capacity was identified as the biggest challenge in the country and it was stressed that India needs to build capacity to manage sustainable resilient cities.

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