Towards Urban Sustainability

The GRIHA Approach

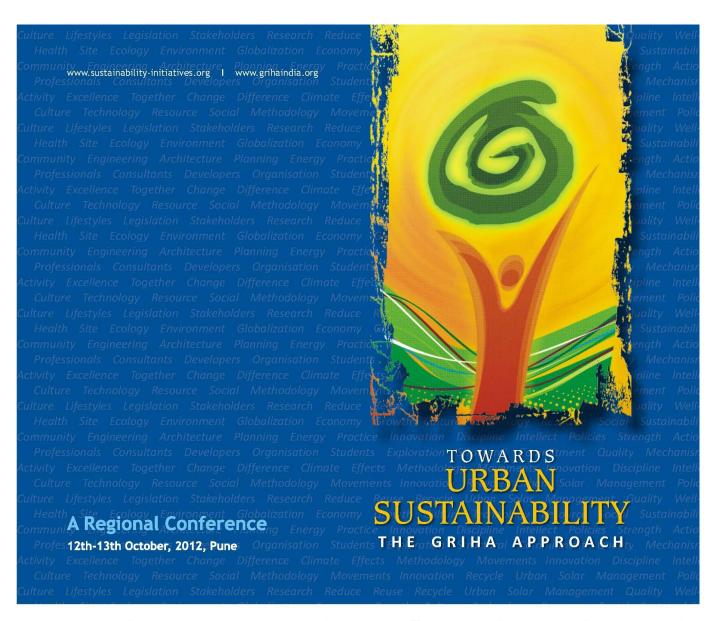


Post Conference Report of the two-day regional GRIHA conference



12- 13 October, 2012
At Suzlon One Earth, Pune

















Background

ADaRSH (Association for Development and Research on Sustainable Habitats) in association with Sustainability Initiatives (SI) organized a two day conference at Suzlon Campus, Hadapsar, Pune targeting the Western Region including the states of Maharashtra, Gujarat and Goa. The 2-day Regional Conference focused on broader issues of Urban Sustainability and the discussion will focus on how GRIHA approaches this goal through its certification mechanism. The conference sessions explored how the goal of urban sustainability can be achieved through policy mechanisms at various levels - from national level to a community level.

The aim of the conference was to bring together experts who will shed light on the inter-linkages of green projects with urban policy— at central, state and local governments and role of various stakeholders in the larger objective of Urban Sustainable Development in India. The event provided an excellent opportunity for participants to interact with a wide and diverse community, committed to the cause of urban sustainability. The conference became a platform for a collective intellectual brainstorming on linking urban policies and green projects to pave a path for a Sustainable Urban India.

Venue

Suzlon One Earth, Opp. Magarpatta City,

Hadapsar

Pune 411028

India.

Tel.:+91-20-67022000 / 61356135 / 67202500

Participants

The conference was attended by about 260 participants including delegates, invitees, speakers, volunteers and organizers. The participants included mainly professional engineers, architects, planners, representatives of developers, corporate and government organizations.

Associations

Organizers

- TERI, The Energy and Resources Institute
- o GRIHA, Green Rating for Integrated Habitat Assessment
- Sustainability Initiatives, Pune

Organizing partners

- Aapla Parisar
- AESA; Architects, Engineers and Surveyors Association
- o IIA, Indian Institute of Architects

Principal Supporters

o Goel Ganga Group

Supporters

- SRK Developers
- Saarrthi
- o ABIL
- o DSK
- o Ratan Homes
- Amit Enterprises
- Phadnis Group

Concept Partners

- ISLE, Indian Society of Lighting Engineers
- CEPT, Center for Environmental Planning and Technology
- o BNCA, Dr Bhanuben Nanavati College of Architecture for Women
- CREDAI Pune-Metro

Media Partners

o EPIC Media- CIA

Knowledge Partners

The Indo Italian Club for Infrastructure and Building

Venue Partners

Suzlon One Earth

Conference Programme

The 2-day conference focused on the following themes:

- Participatory Approach and Grassroots Initiatives: Strengthening democratic institutions
 through effective grassroots participation generally leads to better and more sustained
 management of natural resources. The session deliberated on the directions policy should take
 and showcased some commendable peoples' movements towards sustainability.
- 2. **Sustainability for Large Developments:** This session focused on means and methods to achieve sustainability in large developments.
- 3. **Green Building as a Tool for Sustainable Development:** The session established "Green building" as a tool to achieve urban Sustainability. GRIHA certified, innovative and path breaking green building projects were showcased as case examples.
- 4. **Multiple Perspectives on Sustainable Developments:** This session showcased multiple perspectives on sustainability of urban areas including GRIHA as one of the tools.
- 5. **Carbon Footprinting and Building Performance:** This session focused on means and methods to reduce their carbon footprint through GRIHA.
- 6. Capacity Building for Sustainable Development: This session focused on capacity building as tool to build capacity of the young professionals to think and practice Sustainability in their projects.

The programme of the conference was as follows:

	Time slot	Session Details	Speakers		
DAY 1					
Inaugural	10:15 to 11:40				
		Opening Remarks	Ar. Anagha Paranjape-Purohit		
			Member, Sustainability Initiatives		
		Felicitation of guests			
		Sustainability Initiatives	Ar. Shruti Vaishampayan,		
			Managing Trustee, Sustainability Initiatives		
		Aapla Parisar NGO-Principal	Mr. Ujwal Keskar		
		Partner	Founder, Aapla Parisar		
		AESA - Partner	Mr. Sachin Joshi President AESA		
		Chief Guest	Mrs Vaishali Bankar Hon Mayor, Pune Municipal Corporation		
		Guest of Honor	Ar. Mili Majumdar		
			Director, Sustainable Habitat Division, TERI & Secretary, ADaRSH		
		Vote of thanks	Ar. Poorva Keskar		
			Member, Sustainability Initiatives		
BREAK	11:40 to 12:15				
Session 1	Participatory Approach & Grassroots Initiatives for Sustainable Development				
	12:15 to 12:45	Biodiversity Conservation in the	Dr. Madhav Gadgil		
		Western Ghats-Policy to Action	Ecological expert and Member of National Advisory Council		
	12:45 to 13:15	Water Bank for Rurbanisation	Dr. Arun Deshpande		
			Experimenter farmer& scientist, Prayog Parivar		
	13:15 to 13:45	UrbanISM - a tool for participatory local area planning for Sustainability	Ar. Marcus Wilshere Director, Urban Initiatives, UK		
	13:45 to 14:15	Participatory Governance and Civil Politics	Mr. Vinay Hardikar Convenor, Pune Janhit Aghadi		
LUNCH	14:15 to 15:00				
Session 2	Sustainability for large developments				
	15:00 to 15:20	Corporate and Business Houses going Green	Ar. Jayesh Hariyani Senior Principal, Stantec Consulting Pvt Ltd (Formerly Burt Hill)		
	15:20 to 15:45	Less Ego More Eco: Towards Shared Sustainability	Ar. Leo Pasin Country Manager, Progetto CMR, Milan,		
			Italy		
	15:45 to 16:00	Green Buildings-A tool for Urban Sustainability	Mr. Sanjay Kulkarni Executive Engineer, Environmental Cell, PCMC		
	16:00 to 16:15	PANEL DISCUSSION	Mr. J R Tanti Managing Director, Synefra Engg and Construction Pvt Ltd		
BREAK	16:15 to 16:30				
Session 3	+	as a tool for Sustainable Building De	velopment		
	16:30 to 16:30	Ganga Skies: a residential project	Ar Anshul Gujarathi Consultant, Goel Ganga Group		
	16:30 to 17:00	PCNTDA: an office Building	Ar. Usha Rangarajan Landmark Design Group		
	17:00 to 17:30	Green Spaces Realtors: SvaGRIHA	Ar. Anagha Paranjape-Purohit VK:e environmental, Pune		
	17:30 to 18:00	PANEL DISCUSSION	Ar. Hrishikesh Kulkarni Member, Sustainability Initiatives		

DAY 02			
Session 4	Multiple Perspe	ctives on Sustainable development	
	9:50 to 10:20	PMPML Route Restructuring: A Vision for Pune's Sustainable Transportation	Ar. Nikhil Mijar
	10:20 to 10:40	Developing Methodology for Quantification of Carbon Emissions from Building Construction Activity	Ar. Reshma Kulkarni
	10:40 to 11:10	GRIHA for sustainable development	Ar. Priyanka Kochhar Programme Manager, Strategic Partnerships & Implementations, AdaRSH
	11:10 to 11:30	Exploring Energy Efficiency for me and my city!	Ar. Nilesh Gandhi
	11:30 to 11:45	PANEL DISCUSSION	Ar. Pranati Shroff Member, Sustainability Initiatives
BREAK	11:45 to 12:00		
Session 5	Carbon Footprir	nting and Building performance	
	12:00 to 12:30	Carbon Foot printing of a home - a Case Study at Baroda	Ar. Shreya Dalwadi Urban Planner, Harmony Architects, Baroda
	12:30 to 13:00	Carbon Foot printing - A tool to measure Carbon emissions of cities	Mr. Farhath Abbas Mirza Consultant, PE Sustainability Solutions Pvt. Ltd.
	13:00 to 13:20	GRIHA for Large Developments	Ar Mili Majumdar Director, Sustainable Habitat Division ,TERI & Secretary, ADaRSH
	13:20 to 13:45	PANEL DISCUSSION	Ar. Rajiv Mishra Principal, Sir J J College of Architecture; Architect member of the SEIAA Committee of Maharashtra
LUNCH	13:45 to 14:30		
Session 6	Capacity Buildir	ng for Sustainable Development	
	14:30 to 14:55	Kushal Initiative by CREDAI-PMR	Mr. Kapil Trimal and Mr Sameer Belvalkar Kushal Initiative
	14:55 to 15:20	Formal Education programs in Sustainability	Prof. Urvi Desai Faculty of Sustainable Environment and Climate Change, CEPT
	15:20 to 15:45	Lighting Education in India	Dr. Prakash Barjatia, Director, MIT School of Energy & Lighting, Pune
	14:45 to 16:00	PANEL DISCUSSION	Dr. Avinash Kulkarni Former President, ISLE
Concluding Session	16:00 to 16:35	Closing Key Note Energy Policy and Sustainable Urban Development	Dr. Ajay Mathur Former Director General, BEE; Member of Prime Minister's Council on Climate Change
	16:35 to 16:45	Vote of thanks	Mrs. Apoorva Kulkarni Member, Sustainability Initiatives
BREAK	16:45 to 17:00		
Session 7	17:00 to 19:00	Site Visit to PCNTDA and Interaction with project team	Ar. Usha Rangarajan Landmark Design Group

Proceedings

Inaugural Session:

The inaugural session started with lighting of lamp by dignitaries Hon Mayor of Pune Mrs Vaishali Bankar, Ar Mili Majumdar (Director, Sustainable Habitat Division, TERI & Secretary, ADaRSH), Mr J P Shroff (CMD Shroff Group, and Chairman, Kushal- a CREDAI-PMR initiative), Mr Ranjit Naiknavare (Kushal)

Mr Ujjwal Keskar (Founder, Aapla Parisar), Mr Sachin Joshi (President, AESA), along with Ar Anagha Paranjape- Purohit (Convenor) and Ar Poorva Keskar (Co-convenor).



The lighting of lamps was followed by opening remarks and welcome note including the thought behind this conference and goals by Ar Anagha Paranjape- Purohit, Member of Sustainability Initiatives and Convenor of the conference. Ar Shruti Vaishampayan, Managing Trustee of Sustainability Initiatives introduced the charitable organization and its objectives and current work to the participants. Following her speech, Mr Sachin Joshi and Mr Ujjwal Keskar introduced the organizations AESA and Aapla Parisar respectively. The Chief Guest Hon Mayor of Pune Mrs Vaishali Bankar established the need of sustainability in context of Pune City and she congratulated the organizers for organizing the conference to brainstorm on 'urban sustainability'.

The Guest of Honour Ar Ms Mili Majumdar addressed the audience with the presentation titled "Energy Efficiency in Building Sector: Practices, policies and programs". She established through her talk that the total energy use is on a constant increase in buildings. Further she explained various ways of bringing in



energy efficiency in buildings. This included passive ways for climate-appropriate architecture, and GRIHA as a rating system that guides the designer to achieve maximum energy efficiency. Current national as well as local government policies promoting energy efficient buildings were highlighted by her presentation.

Session 1: Participatory Approach & Grassroots Initiatives for Sustainable Development

In this session, the following four speakers made presentations: Dr. Madhav Gadgil, Ecological expert and Former Member of National Advisory Council (NAC); Mr. Arun Deshpande, Experimenter farmer & scientist, Prayog Parivar; Ar. Marcus Wilshere, Director, Urban Initiatives, UK; Mr. Vinay Hardikar, Convenor, Pune Janhit Aghadi.



Biodiversity Conservation in the Western Ghats-Policy to Action

Through his presentation, Dr Madhav Gadgil (top left) established that the current environmental regulation framework is highly exclusionary and supports the vested interests of some communities. Dr Gadgil mentioned that moving towards sustainable growth which is inclusive and establishment of participatory environmental governance is the desirable approach. To achieve the same, the 'measures called for' include empowerment of local bodies including gram-, taluka- and zilla- panchayat, nagarpalika and mahanagarpalika to take decisions regarding biodiversity and environment in their jurisdiction; empowering citizens to enable a feedback system regarding environmental issues; setting up an unbiased environmental impact assessments framework on local as well as regional levels; availability of pertinent databases etc.

Water Bank for Rurbanisation

Mr Arun Deshpande (top right) established through his presentation that the terms 'sustainability' and 'urban' are contradictory. There is a need to reexamine and reestablish the existing models of urban

development. The vision of a "rurban" (rural + urban), or "glocal" (global + Local) is his solution for sustainable development. Through his slides, he unfolded the story of farmer suicides in draught prone areas of Maharashtra due to the scarcity of water since the water has been redirected to urban areas. Mr Deshpande showed examples of water banks, soil banks, scrap banks, plant nurseries etc. and knowledge banks that document the appropriate technologies.

UrbanISM - A Tool for Participatory Local Area Planning for Sustainability

Ar Marcus Wilshere's (bottom left) presentation began with the current dichotomy of defending socially marginalized from the power of development, or promoting local responsibility in the face of bureaucratic control in the UK. His philosophy for physical planning emerges from the fact that urban conditions emerge from the complex interactions between people; and thus we should be engaging people in any kind of planning and design process. He further demonstrated a tool UrbanISM that his team at Urban Initiatives has developed to engage various stakeholders at large in physical planning exercises. The philosophy behind this tool is based on the premise that "communities do not present hurdles in development but they are a resource to help us make better places".

Participatory Governance and Civil Politics

Mr Vinay Hardikar (bottom right) established through his talk that all stakeholders of urban sustainability; namely people of all classes, policymakers and bureaucrats, professionals and activists- all need to be considered as essential parts of the process. Our current urban model seems to be more reactive than being proactive. Models for better urban habitats need to be envisioned, developed with a participatory approach. A hope for a better urban future needs to be created for all stakeholders.

Session 2: Sustainability for Large Developments

In this session, the following four speakers made presentations: Ar. Jayesh Hariyani, Senior Principal, Stantec Consulting Pvt Ltd (Formerly Burt Hill); Ar. Leo Pasin, Country Manager, Progetto CMR, Milan, Italy; Mr. Sanjay Kulkarni, Executive Engineer, Environmental Cell, PCMC. The panel discussion at the end of the session was chaired by Mr. J R Tanti, Managing Director, Synefra Engg and Construction Pvt Ltd.

Corporate and Business Houses going Green

Ar Jayesh Hariyani (top left) presented on the topic "Urban Sustainability through responsible design" with an integrated design matrix which is based on the principles of humanism, story, innovation, integration, sustainability, aesthetics and performance. He showcased the philosophy of his company with an integrated design approach through various case examples.

Less Ego More Eco: Towards Shared Sustainability

Ar Leo Pasin (top right) represented the philosophy of their company "Less Ego, more eco: towards shared sustainability" through various projects. As the title of the presentation suggests, this philosophy focuses on a sustainable approach that puts more weightage on the goal of sustainability and



Green Buildings-A tool for Urban Sustainability

Mr Sanjay Kulkarni (bottom left) presented the green building initiative by Pimpri Chinchwad Municipal Corporation's environmental cell. PCMC has adopted GRIHA formally and has set up a system of incentivizing through a system of rebates from property taxes for end users and discounts in premium paid by developers. Mr Kulkarni explained PCMC's vision to become a sustainable city by bringing energy and resource efficiency in built environment by way of adopting and encouraging GRIHA.

Session 3: Green Building as a Tool for Sustainable Building Development

In this session, three distinguished GRIHA case studies were presented by Ar Anshul Gujarathi (Consultant, Goel Ganga Group); Ar. Usha Rangarajan (Landmark Design Group); Ar. Anagha Paranjape-Purohit (VK:e environmental, Pune) presented these projects they consulted for. Ar. Hrishikesh Kulkarni, Member, Sustainability Initiatives chaired the panel discussion in the end of the session.

Ganga Skies: a residential project

Ar Anshul Gujarathi (top left) presented a case study of a multi-family residential project Ganga Skies by Goel Ganga Developers in PCMC, which has received a 3-star provisional certification of GRIHA. At the onset, she mentioned that GRIHA helped the project to achieve energy efficiency through overall methodology in construction process, material waste reduction, resource efficiency with almost 8% of cost reduction. GRIHA has also helped in setting up systems by occupants to maintain the garden and

landscaped areas as a shared responsibility. Apart from efficiency in energy and resources, labour health, safety and sanitation was especially addressed as per GRIHA's prescription.



PCNTDA: an office Building

Ar Usha Rangarajan (top right) presented the case study of an office building of Pimpri Chinchwad New Town Development Authority. The building responds first and foremost to the climate it is situated in, using maximum daylight for its office functions, thereby reducing the requirement for air-conditioning and additional energy use. The site layout, building orientation and building envelope have all contributed to a low energy footprint. Another striking feature of the building also includes 100 KWP solar PV system which has been recognized as an exemplary effort. This building has been awarded a provisional 5-star GRIHA rating.

Green Spaces Realtors: SvaGRIHA

Ar Anagha Paranjape- Purohit (bottom left) presented a SvaGRIHA building- an office building in Nasik developed by Green Space Realtors as their office. It is one of the first SvaGRIHA buildings in India. The architecture uses maximum natural daylight and ventilation through the use of skylights, light wells, turbo ventilators. Along with the passive measures, active measures such as radiant cooling have been incorporated. This building has received a provisional 4-star GRIHA rating for SvaGRIHA.

DAY 2

Session 4: Multiple Perspectives on Sustainable Development

In this session, three professionals Ar. Nikhil Mijar, Ar. Reshma Kulkarni, and Ar. Nilesh Gandhi brought out their perspectives to 'urban sustainability' through paper presentations. The session also included a presentation by Ar. Priyanka Kochhar, Programme Manager, AdaRSH. Ar Pranati Shroff, Member,

Sustainability Initiatives chaired the panel discussion in the end of the session.



PMPML Route Restructuring: A Vision for Pune's Sustainable Transportation

Ar Nikhil Mijar (top left) presented an example of Pune City's PMPML public bus transport system's existing routes and how restructuring the current routes is essential to optimally utilize current fleet strength.

Developing Methodology for Quantification of Carbon Emissions from Building Construction Activity

Ar Reshma Kulkarni (top right) demonstrated a method to quantify carbon emissions on site from construction activities, since construction activities have a high carbon emmissions from on-site activities.

Exploring Energy Efficiency for me and my city!

Through his presentation, Ar Nilesh Gandhi (bottom right) reviewed the concept of energy efficiency for an individual, the masses and in turn for the city as a whole.

GRIHA for sustainable development

Ar Priyanka Kochhar (bottom left) presented GRIHA, the rating system, as a tool for achieving urban sustainability as it emphasizes on resource and energy efficiency. GRIHA ensures mandatory compliance with national codes and standards, renewable energy integration, water and energy conservation, waste management and so on.

Session 5: Carbon Footprinting and Building Performance

Ar. Shreya Dalwadi, Urban Planner, Harmony Architects, Baroda; Mr. Farhath Abbas Mirza, Consultant, PE Sustainability Solutions Pvt. Ltd., and Ar Mili Majumdar, Director, Sustainable Habitat Division, TERI & Secretary, ADaRSH were speakers in this session. Ar. Rajiv Mishra, Principal, Sir J J College of

Architecture; Architect member of the SEIAA Committee of Maharashtra chaired the panel discussion at the end of the session.



Carbon Foot printing of a home - a Case Study at Baroda

Ar Shreya Dalwadi (top left) presented carbon footprinting and thermal comfort analysis of a unique case study of a house in Vadodara. This house has used passive techniques of climate response and also compressed earth blocks and filler slabs, lime plaster and salvaged material from the old houses have been used to ensure resource efficiency.

Carbon Foot printing - A tool to measure Carbon emissions of cities

Mr Farhath Mirza (top right) demonstrated the LCCA (Life Cycle Costs Analysis) approach towards sustainability in cities. Through the case study of Masdar City, Mr Mirza explained the concept of LCCA of various services and products in a city and demonstrated how it can be made possible with the help of various softwares developed by PE International.

GRIHA for Large Developments

Ms Mili Majumdar (bottom left) presented 'GRIHA for large developments, needs, issues and the way forward'. She explained through her talk that GRIHA for large developments considers a larger framework of macro issues of transportation networks, socio-economic and environmental frameworks, landuse planning; and micro issues of green building.

Session 6: Capacity Building for Sustainable Development

Mr. Kapil Trimal and Mr Sameer Belvalkar from Kushal Initiative; Prof. Urvi Desai, Faculty of Sustainable Environment and Climate Change, CEPT; Dr. Prakash Barjatia, Director, MIT School of Energy & Lighting, Pune were the speakers in this session. Dr. Avinash Kulkarni, Former President, ISLE chaired



Kushal Initiative by CREDAI-PMR

Mr Kapil Trimal and Mr Sameer Belvalkar (top left) showcased the Kushal initiative which was initiated in 2010 between CREDAI-Pune Metro and NSDC, govt of India. This is a capacity building programme for construction workers free of cost and has successfully completed skill building in more than 4,500 workers in 6 difference streams including bar tending, masonry, painting, plumbing etc. The trainers are trained through Kushal, and apart from classroom training, the trainees are also trained on site. At the end of the programme, the trainees are evaluated to provide them with certificates.

Formal Education programs in Sustainability

Professor Urvi Desai (bottom left) presented the philosophy and teaching methods for CEPT's Faculty of Sustainable Environment and Climate Change. This school bases its philosophy on an interdisciplinary and integrated approach by drawing interlinkages between environment, economics, markets, politics and people.

Lighting Education in India

Dr. Prakash Barjatia (bottom center) explained the need of lighting education highlighting the lack of awareness regarding and neglect towards the emerging market of lighting technologies and also issues concerning efficient lighting.

Concluding Session Key Note: Energy Policy and Sustainable Urban Development

Former Director General of Bureau of Energy Efficiency and member of Prime Minister's Council on Climate Change- Dr Ajay Mathur concluded the conference with his key note on Energy Policy and Sustainable Urban Development.

Dr Ajay Mathur began with highlighting that the 12th Plan notes that the urban population in India will increase to 600 milion by 2030. Providing basic services to this population for descent quality of life will be a challenge. Even if sustainability was not a challenge, this would have been a big challenge. But sustainability being very much an issue in terms of energy and resources, the gravity of the challenge has increased. We are facing a future in which there will be a problem of availability of energy and the available energy will be expensive. Environmental sustainability and equitable access to the basic services of transportation; water supply and sewage are key issues of the future.

Dr Mathur further highlighted that the first area of key concern is energy. While providing services is essential, using minimum energy is as important. He noted four points that concern this: 1. Costs matter!; 2. Knowledge information design – is not available; 3. Materials are easily available now. Reasonably good supply chains have emerged; 4. Consumer demand is tricky. Energy efficient buildings look exactly the same but cost 3-4% more. Thus convincing developers to adopt resource and energy efficiency in buildings is tricky. This is when a code like ECBC will be helpful, since the consumers can be assured of the product they get.

The other areas of concern in urban sustainability are water supply and sewage. Every single drop of water we supply to people needs pumping, and it also gets converted into sewage. Only about 30% of the sewage water in the metro cities is actually collected. Over 60% goes into the ground, natural drains, meets various water bodies. 30% is treated, and the treated water also goes to the same water bodies. The more that we try to provide drinking water, more we end up polluting.

Thus, a three pronged approach of reducing water requirements, local sewage treatment, promoting reuse and recycling of water should be adopted. Also in case of energy, a three pronged approach of increasing efficiency of appliances, enhancing efficiency of buildings, and renewable energy integration

Dr Mathur concluded his talk with a note that the urban future of India is challenging and exciting. It will be sustainable if energy, sustainability and urbanization can be woven together; otherwise we would be facing an unhealthy urban future.





Other Highlights:

Participants try their hands at the UrbanISM game by Ar Marcus Wilshere

As a parallel session on the second day of the conference, Ar Wilshere invited the participants to try their hands at the UrbanISM game. His invitation received a great response and the participants rushed to try their hands at this game. Urban ISM (Integrated Spatial Model) is a consultancy tool for measuring and delivering smart urbanism at a range of settlement scales.





Mr Farhath Abbas interacts with the participants for carbon footprinting

As a parallel session on the second day of the conference, Mr Mirza interacted with participants. Mr Mirza explained the LCCA of various materials with examples of how the choice of material could save energy consumption as well as cost of construction.

Site Visit to PCNTDA building in Pimpri Chinchwad

A site visit to the landmark GRIHA building of Pimpri Chinchwad New Town Authority was arranged at the end of the two day conference. Under the guidance of the architect of the building Ms Usha Rangarajan and landscape architect Ms Kshitija Kolhatkar, a small group of registered participants visited the entire building including rooftop installations of solar PV with manual tracking system.

Guided tour of Suzlon One Earth Building

It was only appropriate to host a sustainability conference at the Suzlon Campus in Hadapsar, as this a 5-star GRIHA rated building itself is an excellent example of a green building. The venue partners arranged a tour of the campus for the conference participants.



Thank you for your participation.

For further information and membership details, contact us:

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