



## **Innovative Technologies for Resilient Infrastructure Find Voice in 3<sup>rd</sup> International Conference for Clean and Sustainable Development**

**Chandigarh, February 19-20, 2020:** Driving talks on sustainability in construction and infrastructure, FICCI jointly with NITTTR organized third edition of International Conference on Innovative Technologies for Clean and Sustainable Development, from February 19-20, 2020 in Chandigarh.

### ***Day 1: February 19, 2020***

Prof. (Dr) Rakesh Wats, Head of Media Engineering Department, NITTTR Chandigarh inaugurated the conference by aligning it with the UN Sustainable Development Goals (SDGs), particularly with Goal 9 (Industrial Innovation and Infrastructure) and 17 (Partnerships for the Goals). Prof. (Dr) Sanjay Sharma, Head of Department of Civil Engineering, NITTTR Chandigarh followed with a thematic address, focussed on preventing environmental degradation from source itself. (Dr) Shyam Sunder Pattnaik, Director, NITTTR Chandigarh in his address, highlighted 'Clean', 'Sustainable', 'Development' as three focal points of the conference and identified partnership, networking and empowerment as means to these ends. While academic perspective was shared by Prof. (Dr.) Rakesh Kumar Gupta, Vice-Chancellor, Maharaja Agrasen University, Mr. S.D. Naskar, Vice-President, B.G. Shirke Construction Technology Pvt Ltd represented industry on the matter. Similar views were shared by Dr. Ashok Sharma, Managing Director, Cleantech International Foundation.

Mr. Rajiv Mahajan, Chief General Manager, NABARD Haryana, also the Guest of the Honour for the program, pointed at criticality of issues such as land degradation induced by excessive cultivation of water intensive crops; air pollution; fresh water resource contamination; biodiversity loss and solid waste management, four of which are under the jurisdiction of NABARD. Hon'ble Chief Guest, Dr N. Gopalakrishnan, Director of CSIR-CBRI Roorkee, Uttarakhand in his address challenged the thought process of "running at its pace" and urged the attendees to have a rational outlook towards sustainability, rather than taking it just for a word. "Carbon dioxide and cement are not bad but how they have evolved during the period has a created a mind-set. There are two sides of a coin; plants cannot really make food without CO<sub>2</sub>," he commented. Inaugural session concluded with vote of thanks by Er. A.K. Duggal, Associate Professor, Department of Chemical Engineering, NITTTR Chandigarh.

Academic and industry perspective on opportunities and challenges in clean and sustainable development was shared in first technical session. Session Chairman, Prof. (Dr.) Rajendra Kumar Anayath, Vice Chancellor, DCRUST University opened the discussion and suggested pillars of sustainability namely 'iteration' i.e. perfecting eventually and 'innovation' meaning value addition, to become agile in the backdrop of disruptions. While Mr. S.D. Naskar, Vice-President, B.G. Shirke

Construction Technology Pvt Ltd introduced the attendees to 3S Prefab System, '3S' being Speed, Strength and Safety as modern day requirement of every projects, Prof. (Dr.) Pankaj Aggarwal, Professor and Head of Department of Earthquake Engineering, IIT Roorkee talked about soft story buildings and methods to save them against earthquakes and similar natural disasters. He was followed by Mr Himanshu Ratan, Partner-KPMG, who interacted on topics including technology, building infrastructure, zero carbon buildings, mobility and waste management. He mentioned that only 40% of the waste generated is recycled in India and India had a long way to go to achieve sustainability goals.

With this effusion of cognition, first day of the conference came to an end.

### ***Day 2: February 20, 2020***

The theme of green infrastructure and materials dominated the first half of Day 2 of the conference. Mr. T.L. Satyaprakash, IAS, Secretary to Government, Haryana (Home-I) taking blue economy as an example, acknowledged the need to collide the researches from universities and institutions to the industrial problems to prevent inefficiency and hence, environmental degradation. Mr. HKL Magu, Chairman, Apparel Export Promotion Council followed the lead by sharing clean technology based initiatives of different companies that are now reaping benefits. Post his address, Mr. Jit Kumar Gupta, Chairman, Indian Green Building Council, Chandigarh directed the audience to the core of the session theme by highlighting the role of buildings in sustainability domain. Citing examples of energy positive buildings such as that of IIT Kanpur and platinum building IGBC, Hyderabad, he claimed that the concept of green buildings will be able to hit nine sustainable development goals at once.

This discussion was followed by the lecture of Mr. S.K. Singh, Senior Principal Scientist of CBRI, Roorkee, who explored the prospects of sustainable utilization of alkali activated fly ash in construction. Cement free material, building blocks made out of ashes of burnt coal, gro-polymer concrete and other such innovative methods for clean and green manufacturing were taken up by him with the audience. Japan's model of industry-academic collaboration as explained by Mr. Karan Magu, Senior Manager, Japan India Industry Promotion Association (JIIPA) intrigued the audience, as did information on the structure enveloping green building products by Mr. Rajdeep Choudhary, Head, Specifications and Application Engineer, Biltech Building Elements Ltd. Potential of imparting sustainability in construction phase of a building in terms of water, material an energy was put forth by Mr. Sandeep Narang, an industry expert.

With focus residing on textile sector, Mr. DK Sharma, Chief Engineer (Retd.), HP Pollution Control Board elaborated on emerging sustainable technologies including nano bubble technology for washing, heat transfer fabric printing and more easily adaptable methods like reusing dye bath, caustic recovery by vacuum evaporation and ultrasonic rinsing, that he claimed are capable of reducing 60% pollution and 80% energy use. Second day of the conference concluded with an address delivered by Mr. Naman Vig, a building biologist, on decoding fresh indoor air.

The conference received encouraging participation from industry and academia alike. About 150 papers were presented during the conference and found place in conference proceedings.