



सत्यमेव जयते

Ministry of Environment & Forests
Government of India



SEARCH Foundation

Brief Report on

National Workshop-cum-Conference on

GREEN BUILDINGS: STRIDING TOWARDS ENVIRONMENT PROTECTION & CLEARANCE

(Held on 18-19 April, 2008 - India Habitat Centre, Lodi Road, New Delhi 110 003)

Organised by

SEARCH Foundation, New Delhi

In association with

**Ministry of Environment of Forests
Government of India**

A Conclave for Sustainable Development: Environment Clearance



Introduction

The country is witnessing unprecedented upsurge in development and construction activities. In order to conserve our natural resources and preserve environmental balance and ecology, we must promote construction of "green buildings". Building sector is the third largest consumer of energy after Industry and Agriculture. Environmentally-benign technologies, practices and materials in this sector can address sustainability issues and contribute sustainability to the conservation of national resources, besides saving on the operating costs. This will also facilitate faster and smoother process of obtaining Environment Clearance for the construction projects.

Advantages of Green Buildings (GBs)

- Reduce destruction of natural habitats.
- Ensure minimum disturbance to landscape and site conditions.
- Reduce air and water pollution.
- Consume less water.
- Are energy-efficient.
- Generate less solid waste; even 'zero' waste.
- Provide healthy environment to the users; thereby increasing productivity (12 to 15%) and efficiency. Working environment provides access to daylight and the visible views provide connection to exterior environment.
- Although GBs have 5 - 8% higher cost of construction, operating costs are less. Coupled with energy & water savings and higher productivity of occupants, the incremental cost gets paid back in 3 to 5 years time.

Green Buildings - A Reality Now

Latest improvements and innovations of designs, technology/techniques and materials have made 'green buildings' a reality. Today, all over the world, the focus is on constructing green buildings, which address environmentally sustainable issues in a holistic manner. About 40 GBs are coming up across the country.

Pre-requisites for Success of GBs

- Integrated design efforts on the part of all the team members i.e., architect, builder, consultant and vendors.
- Top level commitment and dedicated passion of the architect.
- Perseverance and determination of the entire team to achieve desired 'Rating' in GBs.

LEED India & GRIHA Rating Systems

Green design principles are universal. Most of the GB rating systems touch on the same chord-conservation of resources. However, LEED (Leadership in Energy and Environment Design) India Rating System has been adopted by IGBC (Indian Green Building Council) CII, Hyderabad. This is an indigenized version of the LEED rating system prevalent in the US. TERI has also taken initiative to evolve its own rating system. It is called GRIHA (Green Rating for Integrated Habitat Assessment). GRIHA adopts a holistic approach for shared responsibilities and accountability towards improved energy performance. This system has now been endorsed by Government of India.



National Workshop-cum-Conference

In view of the emerging and all-pervading importance of GBs, a 2-days National Workshop cum Conference was organized by SEARCH Foundation (an allied ISO-certified national level voluntary organization) on 18-19 April 2008. SEARCH Foundation is working in environment and social sectors at the national level. This Conference was organized in association with Ministry of Environment & Forests (GoI).

In this mega event, the following stakeholders participated:

- Officials of MoEF, GoI.
- Chairman and Members of EAC, MOEF (GoI).
- Officials of Central and States Pollution Control Boards.
- Chairmen and Members of SEACS and SEIAAs from various States across the country.
- Professionals actively engaged in implementing the components of GBs.
- Leading developers, architects, town planners and builders.
- Academicians, community leaders, regulators etc.

Technical Sessions

Sessions I	: Green Building Philosophy Chaired by Dr. S.K. Bhargava, Chairman, SEAC, U.P.
Sessions II	: Dynamics of Water Handling: Chaired by Prof. Arvind Kumar, Vice Chairman, EAC, MoEF, GoI
Sessions III	: Energy Aspects of GBs: Chaired by Mr. Sanjay Seth, Energy Economist, BEE, GoI
Session IV	: Planning for Sustainable Building: Chaired by Dr. G. Poyya Moli, Member SEAC, Puducherry
Session V	: Environment Clearance: Chaired by Dr. Paritosh C. Tyagi, Chairman, EAC, MoEF, GoI
Session VI	: Barriers of Green Buildings Concepts: Chaired by Dr. Vijay S. Kulkarni, Member, EAC, MoEF
Session VII	: CDM & GBs: Chaired by Prof. Daljit Singh, Chairman, SEIAA, Punjab
Session VIII	: Valedictory (Finalizing the recommendations):
Panel	Prof. Daljit Singh, Chairman, SEIAA Punjab, Chairman of Panel Dr. Vijay S. Kulkarni, Member, EAC, MoEF, GoI Prof. V. Subramanian, Member, SEAC, M.P. Dr. Ashok B. Lall, Dean, TVB School of Habitat Studies, Delhi Prof. B. Padmanabhamurthy, Member, SEAC, Haryana



This event had the blessings and support of eminent authorities and luminaries actively involved in the propagation of the concepts of sustainable development and preservation of environment. We place on record our thankful gratitude to the following dignitaries:

- Dr. Paritosh C. Tyagi** (Chairman, EAC, MoEF)
Prof. Arvind Kumar (Member, EAC, MoEF)
Mr. Kumar Gera (Chairman, CREDAI)
Mr. Sailen Sarkar (Minister of Parliamentary Affairs & Environment, West Bengal)
Mr. S. Raghupathy (Sr. Dir. & Head, CII- Godrej GBC)
Prof. K. T. Ravindran (Vice Chairman, EAC, MoEF)
Dr. S.K. Bhargava (Chairman, SEAC, U.P.)
Dr. Ajay Mathur (DG, BEE)
Prof. H.V. Bhavnani (Member, EAC, MoEF)
Shri T. Venugopal (Member, EAC, MoEF)
Dr. A. K. Saxena (Member, EAC, MoEF)
Dr. Suresh Attri (Member Secretary, SEAC, H.P.)
Dr. Vijay S. Kulkarni (Member, EAC, MoEF)
Shri S. Bhattacharya (Scientist, CGWA)
Prof. R. K. Celly (CEPT University, Ahmedabad)
Mr. Suresh C. Jain (Chairman, SEAC, MP)
Mr. Subroto Banerjee (Chairman SEIAA, MP)
Mr. P. P. Sharma (Chairman SEIAA, J&K)
Mr. J.N. Sharma (SPCB, J&K)
Prof. M. Anji Reddy (Chairman, SEAC, A.P.)
Dr. M.P. Ramanujam (Chairman SEAC, Puducherry)
Dr. P. Ram Babu (CDM Expert)
Dr. H.C. Sharad Chandra (Chairman, State Pollution Control Board, Karnataka)
Mr. Surender Kumar (Addl. Director, MoEF)
Mr. J.P. Gupta (Vice Chairman, Crown Group)
Dr. R.R. Rao (Chairman, SEAC, Karnataka)
Dr. Mohammad Jawed (IIT, Guwahati)
Ms. Meghana Dutta (GB Expert)
Prof. V. Subramanian (Member, SEAC, M.P.)
Mr. P. Sridhar (Member Secretary, SEAC, Karnataka)
Shri Raj Kumar (Secretary, G.D.A.)
Mr. P. K. Ghosh (Chairman, SEIAA, Gujarat)
Dr. K Sundaravadivelu (Mem. Sec. SEAC, Puducherry)
Dr. S. Ganapathy (Member, SEAC, Tamil Nadu)
Mr. B. K. Tiwari (Chairman, SEAC, Meghalaya)
Dr. Anil Kr. Jain (Chairman, SEAC, Punjab)
Shri Babu Ram (Member Secretary, SEAC, Punjab)
Dr. S.R. Shukla (Member Secretary, M.P.)
Ms. Madhulika (Principal Architect, FreeSpanz)
Mr. N.K. Sehgal (Vice President, APIL)
Shri Harinder Chand Thakur (Chairman, SEAC, H.P.)
Dr. Laila Rajwani (Chairman, UTEAC)
Dr. Krishna Gopal (Member, SEAC, Lucknow)
Ms. Priyanka Kochhar (TERI)
Ar. Alpana Jain (Green Buildings Expert)
Shri M.R.G. Reddy (Mem. Sec., UTEIAA & UTEAC)
Mr. Ajay Singh (DGM, Lloyd Insulation India Pvt.Ltd.)
Prof. Mukesh Sharma (Chairman, SEIAA, UP)
Mr. Abdulkader Bengali (Owens Corning, Mumbai)

Shri R.K. Jain (Member Secretary, SEAC, M.P.)
Shri M. Maqbool Shah (Mem. Sec., SEAC, J&K)
Shri K.M. Panchal (Chief Town Planner, Gujarat)
Shri R.C. Aggarwal (Rtd. Chief Town Planner, Haryana)
Mr. K. Surjit Singh (Rtd. Chief Town Planner, Haryana)
Mr. Birinderjit Singh (Member Secretary, Punjab Pollution Control Board and Mem. Sec. SEIAA, Punjab)
Shri B. Dutta (Director, Urban Affairs, Meghalaya)
Shri Anup Kumar Thakur (Principal Secretary, Urban Affairs, Meghalaya)
Ar. Sanjai B. Verma (Rtd. Chief Town Planner, Haryana)
Mr. Arup Roy Chowdhary (Chairman, NBCC Ltd., N.D)
Mr. B.L. Raghav (Addl. Dir., Urban Development, H.P.)
Mr. K.U. Mistry (Chairman, SEAC, Gujarat)
Mr. Anil Kr. Sharma (Ex. Mem. Sec., Chattisgarh)
Ar. Tanmay Tathagat (Green Buildings Expert, EDS)
Ms. Sheetal Rakheja (Partner Design & Development)
Mr. Subbaih Poopathi (Member, SEAC, Puducherry)
Dr. C. Ashokan (Chairman, Builder Asso. of India, T.N.)
Mr. Dwarka Nath (Sr. Scientific Officer, Delhi Pollution Control Committee)
Mr. B.K. Reddy (Member, SEAC, Meghalaya)
Ms. Balvinder Saini (Chief Architect, Urban Affairs, Punjab)
Ar. Vidur Bharadwaj (Green Buildings Expert, Design & Development)
Mr. Ashish Rakheja (Green Buildings Expert, Spectral Services)
Mrs. Ajita Aggarwal (Env. Engineer, Delhi Pollution Control Committee)
Shri Jawahar Reddy (Vice Chairman, Hyderabad Urban Development Authority)
Shri Anup Kr. Thakur (Principal Secretary, Urban Affairs, Meghalaya)
Shri Sunkari Ramakrishna Rao (Member, SEAC, A.P.)
Prof. Ashok B. Lall (Sr. Architect)
Mr. Sanjay Prakash (Green Building Expert)
Dr. S. Ganapati (Member, SEAC, Chennai)
Prof. Manjappa (Member, SEAC, Karnataka)
Dr. Raj Mohan (Member, SEAC, Karnataka)
Dr. G. Poyya Moli (Member, SEAC, Puducherry)
Mr. N. D. Kaushik (CES, IIT Delhi)
Mr. Chintan Shah (CDM Expert, Synergy Global)
Dr. Vishal Garg (Green Building Expert)
Mr. Sanjay Seth (Energy Economist, BEE)
Mr. Dinesh Aggarwal (GM, Deloitte Touche Tohmatsu)
Dr. R.K. Srivastava (Member, SEAC, UP)
Mr. Ashok Gupta (3M India)
Prof. K. Bayapu Reddy (Member, SEAC, A.P.)
Dr. M. P. Sharma (Member, EAC, MoEF)
Mr. A. P. Singh (Chairman, SEIAA, Chattisgarh)
Shri I. J. Juneja (Chairman, SEAC, Haryana)
Prof. B. Padmanabhamurthy (Member, SEAC, Haryana)
Shri S. L. Goyal (Secretary-Environment; Govt. of Maharashtra & Chairman, Maharashtra Pollution Control Board)
Prof. Daljit Singh (Chairman, SEIAA, Punjab)



Way Forward

It was the first time that officials of EAC (MoEF), SEACs, SEIAAs, Central & State Pollution Control Boards and Environmentalists were brought together in one forum for extensive dialogue about the latest technologies and knowledge transfer concerning Green Buildings and to integrate the concept of Green Buildings and CDM along with the Environmental Clearance mechanism, throughout the country. The Workshop-cum-Conference was a great success. All the delegates and stakeholders were of unanimous opinion that the subject of "Green Buildings" is really topical and contemporary. Lot of useful ideas, suggestions and recommendations emerged during the two-days conclave. There was a general consensus to organize similar workshops/seminars in other places like States Capitals.

The enthusiasm and focus generated by this event will be channelized to popularize the actual implementation of Green Buildings 'on the ground'. SEARCH Foundation is an allied organization of Grass Roots Research and Creation Pvt. Ltd. (GR&C), which is providing excellent consultancy services for Environmental Clearance and ISO Certifications for various types of organizations. GR&C is fully geared to provide consultancy services for conceptualizing, designing, construction and facilitate the awarding of ratings for such "green" structures.

For further details, please contact:



SEARCH Foundation

(An ISO 9001:2008 Certified Organisation)

(A Youth Initiative for Social Empowerment & Environmental Sustainability)

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