COUNTRY REPORT
ARCHITECTS COMMITTEE FOR GREEN AND SUSTAINABLE ARCHITECTURE

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member ACGSA, INDIA
GREEN BUILDING INDUSTRY IN INDIA
Green building is a holistic concept that starts with the understanding that the built environment can have profound effects, both positive and negative, on the natural environment, as well as the people who inhabit buildings every day.”
BENEFITS FOR PROPERTY OWNERS IN INDIA:

- 20-30% Energy savings
- Average 15% Water savings
- Extra FAR in Indian states
- Reduced operations cost by 19%
- More Occupant productivity
- Better market value of projects in India
- Promote Renewable and Clean energy
**Benefits on F.A.R Regulations**

**IGBC and Government . . .**

- Ministry of Environment and Forests (MoEF) Notification for Green Buildings
  - Faster Environmental Clearance to projects applying for IGBC Green Building Certification
- Jaipur Development Authority (JDA)
  - Additional FAR of 5% free of charge for IGBC rated Green Buildings
  - Plot size of 5,000 sq.m and above
  - Achieving a minimum of Gold rating

**WEST BENGAL**

- 10% additional FAR for Green Building is a **Welcome Move**
- No additional Cost for Extra FAR is Recommended as Green buildings cost at least 15% more than ordinary buildings
- Certain tax incentives should be granted like Concession in Property Tax post development
- This would enhance demand for Green Buildings
- Periodic Submission of Report is imperative

**RAJASTHAN**

**HARYANA**

- Punjab Urban Development Authority (PUDA)
  - Additional FAR of 5% free of charge for IGBC rated Green Buildings
- Development of State-wise Green Building Guidelines

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**Star Rating**

- FAR IN

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<tr>
<th>F.A.R</th>
<th>Star Rating</th>
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GREEN BUILDING SCENARIO IN INDIA:

- Green Building Industry in India to grow by more than 20% in 2018 than previous years.
- India ranks second after the US in terms of the green building projects and built-up area.
- Exponential green building growth in India driven by awareness, governments support, subsidies and sanctions/compulsions.
- 5,300 projects with about 7 billion sq. ft. of built-up area registered for green technology as of September 2017.
- The industry is expected to grow to more than 12 billion sq. ft. by 2022.
GREEN BUILDINGS RATINGS IN INDIA

Green building rating systems are developed to measure the “Greenness” of the buildings based on various criteria and principles.

The top rating systems in India are:

LEED  IGBC  GRIHA  GEM
IGBC has facilitated about 5.27 billion sq. ft. green print and aspires to touch 10 billion sq. ft. by 2022.

Godrej Garden City - IGBC Platinum
Embassy Tech Village - IGBC Platinum
EVENTS AND TRAINING BY IGBC

- World GBC’s Asia Pacific Leadership in Green Building Awards 2018
- Training programs on green buildings
- IGBC Green League
- Green Your School 2018
- Green building Congress
IGBC has laid down various green building rating systems (21 rating systems):

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<th>Category</th>
<th>Rating Systems</th>
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<tr>
<td>Commercial</td>
<td>IGBC Green New Buildings, IGBC Green Existing Buildings, IGBC Green Interiors, IGBC Green Campus, IGBC Green Data Centres</td>
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<td>Health &amp; Wellbeing</td>
<td>IGBC Green Healthcare Facilities Rating, IGBC Wellbeing Rating</td>
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<td>IGBC Green Factories, IGBC Green SEZ</td>
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<td>Built Environment</td>
<td>IGBC Green Cities, IGBC Green Existing Cities, IGBC Green Villages, IGBC Green Landscape, IGBC Places of Worship</td>
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<td>Residential</td>
<td>IGBC Green Homes, IGBC Green Residential Society, IGBC Green Affordable Housing</td>
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<tr>
<td>Education</td>
<td>IGBC Green Schools</td>
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<tr>
<td>Transit</td>
<td>IGBC Green Metro Stations, IGBC Green Existing Metros, IGBC Green Railway Stations</td>
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</tbody>
</table>
IGBC - Snapshots of Key Achievements

- 4,289 Green Building Projects
- 2,050 Founding Members (including 151)
- 2,662 IGBC Accredited Professionals
- Facilitated introduction of over 150 Green Building Products & Technologies
- 170 GreenPro Certified Products
- 140 Student Chapters
- Trained over 30,000 Professionals
- 23 Local Chapters
- 21 Green Building Rating Systems

5.27 Billion sq. ft.

2nd Country in the world in terms of largest registered green building footprint
DIVERSITY IN IGBC PROJECT TYPES

- 11,47,600+ Green Homes (Dwelling units)
- 200+ Green Factories
- 300+ Green Transit
- 1,600+ Green office
- 8 Green Villages
- 45+ Green Townships
- 3 Green Cities
- 1,125 IGBC Certified Projects

- Saves 15,000 MWh of Energy per million sq ft per annum
- Saves 45,000 KL of Water per million sq ft per annum
- Facilitated installation of 20 MW of Renewable Energy so far
- Reduced CO2 emissions by 12,000 Tons per million sq ft per annum
- Diverted 500 Tons of construction waste per million sq ft
1175 projects are being evaluated by GRIHA and 78 buildings have been rated so far. GRIHA is seeing increasing interest from building owners, design professionals and government agencies.
EVENTS AND TRAINING BY GRIHA

- GRIHA Regional Summit 2018
- One day GRIHA training programs
- Webinars
- National and regional conferences
- Three day GRIHA training programs
It will be a confluence of individuals from various backgrounds and shall provide an opportunity to promote sustainability, environmental responsibility and exchange of vital knowledge.
LEED IN INDIA

In India, there are more than 1,990 projects, comprising more than 822 million sq. ft. of space, participating in LEED.

India ranks third among top ten countries (excluding USA) in having LEED rated buildings only after China and Canada.

Suzlon One Earth- Pune, LEED Platinum

The Luminary- LEED GOLD
Green Build India is a flagship event for sustainability professionals in the green building community. It is an international conference and Expo hosted by the USGBC Green Build India. This year is to take place in Mumbai from 15th to 18th November.
OTHER SEMINARS AND EVENTS

MAS-SHIP SEMINAR MAINSTREAMING SUSTAINABLE SOCIAL HOUSING IN INDIA PROJECT

RANTHAMBORE FEST- CLIMATE OF DESIGN
COUNCIL OF ARCHITECTURE (COA), INDIA

Under the faculty development programme and curriculum updation the COA has, included the Green and Sustainable Practices in the curriculum for the architecture students in India.
ALL SYSTEMS COMBINED.....

WE ARE GLOBAL LEADER IN “GREEN BUILDING FOOTPRINT”

MORE THAN 7 BILLION SQ. FT.

UNDER VARIOUS GREEN RATING SYSTEMS
MAJOR CONCERN FOR US TODAY.....
Let me now give you some numbers.....

- 3,274 relief camps
- 1,447,496 People in camps
- 100 Year’s worst flooding in the Southern state of Kerela
- 57,000 hectares of agriculture crops have been destroyed
- 483 Died
- 10,000 Kms of Roads washed away
- 20,000+ Crores of Approx. estimates loss of property
- 98.5 Milimeters of Rain was predicted from August 9 to 15
- But the state got 352.2 mm
KERALA FLOODS: NATURAL DISASTER AGGRAVATED BY MAN?

What caused the killer floods in Kerala: Excess rain or human error?

TNN | Updated: Aug 23, 2018, 13:58 IST

HIGHLIGHTS

- Leader of opposition Ramesh Chennithala allegedly termed the floods as a man-made disaster.
- JNU professor Amita Singh also said the flood was not caused merely due to excess rain.
- Chief minister Pinarayi Vijayan termed the charge as baseless.
Did we see this coming?

Back in 2011, the Gadgil Committee put together a bunch of recommendations to the central government about ecologically-fragile regions in the Western Ghats. They found the highest number of vulnerable zones in Kerala and cited several reasons for them being classified as such.

Some reasons for its vulnerability were geographical, a challenge posed by its position amidst the Ghats. Many other causes – quarrying, mining, illegal repurposing of forests, and high-rise building constructions – were man-made, controllable factors that the state chose to brush aside.

“The flooding has definitely brought to light the existence of illegal stone quarries on a large number of unauthorised constructions on river beds,” Professor Madhav Gadgil said to PTI. "In this sense, it is definitely a man-made calamity where intense rainfall and human intervention have made it a serious disaster."

The quarrying Prof Gadgil refers to, along with deforestation in the region, has intensified the classification of the region as a disaster zone.
Kerala Floods: Achuthanandan Calls for Demolition of Illegal Constructions:
Veteran CPM leader VS Achuthanandan said the intensity of Kerala floods got multiplied by landslides and soil erosions which were a result of illegal constructions and encroachments.
Sample proposals developed by architects for cost effective but sturdy/ easily erectable houses.

Architects across the State are developing such proposals which will be exhibited for public at Cochin during the workshop.

Single Bed room unit - 377 sq. foot of area, same technology as above, will cost around Rupees four Lakhs and fifty thousand only.

The total cost of this 2 bedroom unit, with water tank, septic tank, epoxy floor finish, painting, toilet finishes etc. comes to Rupees five Lakhs and fifty thousand only.
GOING GREEN....KEEPS US ROOTED !!!
ARE JUST DISCUSSIONS ENOUGH??

“Politicians discussing global warming” — that’s what social media users have dubbed this tiny puddle sculpture by Spanish artist.
LET'S NOT FALL IN THE WAY OF NATURE’S FURY…..

THE ONLY WAY: GREEN WAY!!!

THANK YOU…..