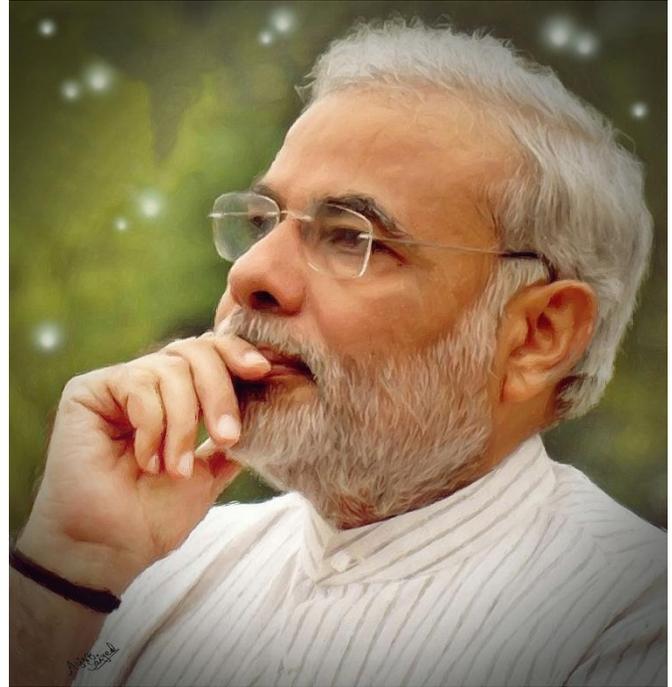


VISIONARY LEADERSHIP

“We do not need ACTS but ACTION”

Three years back, Shri Narendra Modi, Honourable Chief Minister of Gujarat initiated a drive to make the State Capital- Gandhinagar - A Clean, Green and Solar City. Hon'ble CM dared to dream to make Gandhinagar a solar City and then, on April 6th 2012, Hon'ble CM inaugurated first Government Building running completely on Solar Power, set up by Gujarat Pollution Control Board (GPCB) in Gandhinagar. Hon'ble CM has also emphasized to use our Traditional knowledge of Recycling and Reuse instead of going towards the Consumerism by blindly following the Developed Nation.



While initiating the drive to make Gandhinagar a solar city, the Government of Gujarat decided to follow our well known ancestral saying “Charity begins at home”, and thus an entire solar plant was installed in GPCB’s New Paryavaran Bhavan which is the first Green Government Building of Gujarat which is a IGBC’s LEED INDIA NC GOLD rated building, certified by Indian Green Building Council. Many other upcoming Gujarat Government Buildings are also adopting Green Building approach & Sustainable practices as per GRIHA and Indian Green Building Council programs, for example Raksha Shakti University, various regional offices of GPCB like Bhavnagar, Ankleshwar etc.



GREEN BUILDING COMMITTEE OF GOVT. OF GUJARAT

The movement of green building concept is advanced and it has been adopted widely. The concept of green building benefit in savings of the natural resources also helps in improved working conditions and enhanced productivity. Conservation of energy, use of renewable sources of energy, saving in water use, use of natural ventilation and wind are some of the key features of green building, which will lead to the sustainable built environment and would help for strong commitment for the climate change mitigation and adaption. In this regard State Government has passed a resolution - GR dated 5th July 2011 for the constitution of a committee for study of Green Building features while construction of 'Government Building'.

- The Principal Secretary, Forest & Environ. Dept.: Chairman
- The Principal Secretary, Road & Building Dept.: Member
- The Chief Engineer (P&P), Road & Building Department:
Member
- The Director (Environment) & Additional Secretary, Forests & Environment Dept.:
Member
- The Member Secretary, GPCB: Member
- Mrs. Mala Singh, Executive Committee member of Indian
Green Building Council
- Shri. Rajan U. Rawal, HOD, UG Program, CEPT Uni.: Member
- The Chief Architect & Town Planner, Gujarat Town Planner and Valuation Dept :
Member
- The Chief Engineer, Road & Building Dept. : Member Secretary

GREEN BUILDING & its BENEFITS

Making Green Building is a strong commitment for Climate change mitigation adaptation to achieve the goal of Sustainable Development.

A Green building is one which uses less water, optimizes energy efficiency, conserves natural resources, generates less waste and provides healthier spaces for occupants, as compared to a conventional building.

A Green Building depletes the natural resources to a minimum during its construction and operation. The aim of a Green Building design is to minimize the demand on non-renewable resources, maximize the utilization efficiency of these resources when in use, and maximize the reuse, recycling and utilization of renewable resources. It maximizes the use of efficient building materials and construction practices, optimizes the use of on-site sources and sinks by bioclimatic architectural practices, uses minimum energy to power itself, uses efficient equipment to meet its lighting, air-conditioning, and other needs, maximizes the use of renewable sources of energy, uses efficient waste and water management practices and provides comfortable and hygienic indoor working conditions.



Benefits of Green Buildings:

A Green Building has lower resource consumption as compared to conventional buildings. The following is the percentage reduction of various resources in a building and their respective reasons.

- Green Buildings consume 40%-60% (depending on the range of measures adopted) lesser electricity as compared to conventional buildings. This is primarily because they rely on passive architectural interventions in the building design, and high efficiency materials and technologies in the engineering design of the building.
- Green Buildings also attempt to work towards on-site energy generation through renewable energy utilization to cater to its energy needs. For instance, solar thermal systems can help generate hot-water and replace the conventional electrical geyser in buildings. Solar PV



panels can help generate electricity which can reduce the buildings dependence on grid power.

- Green Buildings consume 40%-80% (depending on the range of measures adopted) lesser water as compared to conventional buildings. By utilizing ultra low-flow fixtures, dual plumbing systems, waste water recycling systems and rain water harvesting, green buildings not only reduce their demand for water use but also look at on-site supply options to cater to its internal and external (landscape) water demands.



- Green Buildings generate lesser waste by employing waste management strategies on site. They may also employ waste to energy or waste to resource (like manure, or compost) strategies on site, to minimize their burden on municipal waste management facilities and landfills.



- Green Buildings generate lesser pollution both during construction as well as while in use. Through best – practices such as proper storage and disposal of waste during construction and operation, and so on, ensures reduced impact on the surrounding environment.
- Green Buildings ensure proper safety, health and sanitation facilities for the labour (during construction) and the occupants (while in use).
- Green buildings restrict the use of high ODP (Ozone depleting potential) substances in their systems as well as in finishes.
- Green Buildings offer higher image and marketability.

It is advisable to incorporate all Sustainability parameters in the design planning itself to achieve maximum benefits in terms of Construction & Operational savings. Support of Green Building accredited professionals as a part of your project team will help to achieve the objective of Green Building development from planning level to commissioning of the project.

GREEN BUILDING - A NEED OF THE HOUR



The term Sustainable Development was coined in 1987 in 'The Brundtland Report' as:

“Development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

Our Mother Earth has a treasure of natural resources which we are using since long time back in the history for our benefit and comfort. Human consumption of natural resources today overshoots the Earth's biological capacity by about 20%. Looking at the world's ecological footprint, which compares the consumption of renewable natural resources with nature's biologically productive capacity, we see that it would take 1.2 Earths to regenerate resources at the rate we are using them. Now it's the time when the overuse of these resources have lead to their scarcity and soon we won't have them anymore.

Using these valuable resources in an efficient manner and execution is the need of the hour. Among all different sectors, construction sector is the one, which is utilizing the resources at a greater pace and is posing a great impact on our Environment. Buildings are not only consuming the natural resources but also are responsible for their contribution to the problems such as GHG emissions, climate change, water pollution, water scarcity, excess waste generation & other associated impacts on health and environment. Major portion of the global energy use is ascribed to the building sector, so there is a close link between building energy consumption and climate change. Green Building concept is a sustainable approach & solution to overcome these problems. Green Building concept with inclusive approach will surely transform the existing communities into sustainable communities.

The construction sector poses a major challenge to the environment. Globally, buildings are responsible for at least 40 % of energy use. Buildings, when taking into account the manufacture, construction and operational period of buildings consume an estimated 42% of the global water consumption and 50% of the global consumption of raw materials. In addition, building activities contribute an estimated 50% of the World's air pollution, 42% of its greenhouse gases, 50% of all water pollution, 48% of all solid wastes and 50% of all CFCs (chlorofluorocarbons) to the environment.

India is witnessing tremendous growth in infrastructure & construction development. The construction industry in India is one of the largest economic activities & is growing at an average rate of 9.5% as compare to the Global average of 5%. As this sector is growing rapidly, preserving the environment poses a host of challenges.

GREEN BUILDING MOVEMENT IN INDIA

Presently, Indian Green Building Council & GRIHA are promoting Green Building Movement with the help of their defined standards & rating systems.

INDIAN GREEN BUILDING COUNCIL

To enable the construction Industry environmentally sensitive, CII – Sohrabji Godrej Green Business centre has established the Indian Green Building Council. IGBC is a consensus driven not – for – profit Council representing the building Industry consisting of more than 1150 committed members. The Council encourages, builders, developers, owners, architects & consultants to design and construct Green Buildings thereby enhancing the economic & environmental performance of the buildings. Green Building movement in India has been super headed by IGBC since 2001, by creating national awareness. The Council activities have been enabled a market transformation with regard to Green Building concepts Materials & technologies. IGBC continuously works to provide tools that facilitate the adoption of Green building practices in India.



Indian Green Building Council

IGBC defines, “A Green Building is the one which uses less water, optimizes energy efficiency, conserves the natural resources, generates less waste and provides healthier spaces for occupants as compared to a conventional building”.

The Concept behind the green buildings is a rediscovery of Indian Ethos i.e. Five elements of the nature - Earth, Water, Fire, Air and Sky. IGBC has defined various rating systems & sustainable approach to adopt for different type of project developments.

- For Residential – IGBC Green Homes Rating System
- For Commercial & Govt./ Institutions buildings – LEED INDIA CS & LEED INDIA NC
- For Industries – IGBC Green factory Rating systems
- For SEZ – IGBC Green SEZ rating system (Pilot)
- For Township – IGBC Green Township System
- For landscape – IGBC Green landscape system
- For Factory – IGBC Green Factory system
- For Existing Building – IGBC Green Existing Buildings (O & M)

These Rating systems have been used by various developers for their projects across India. Currently 2285 Buildings are registered with IGBC. Growth of Green Building Footprint in India has reached up to 1.72 Billion sq.ft. till now. Presently 427 Buildings are certified by IGBC.

TERI - GRIHA RATING SYSTEM

GRIHA i.e. Green Rating for Integrated Habitat Assessment is another rating tool, developed by TERI in association with MNRE, that helps people to assess the performance of their building against certain nationally acceptable benchmarks. It evaluates the environmental performance of a building holistically over its entire life cycle, thereby providing a definitive standard for what constitutes a 'green building'. The rating system, based on accepted energy and environmental principles, will seek to strike a balance between the established practices and emerging concepts, both national and international.



- SVA GRIHA - It is applicable for project having built up area less than 2500 sq.mts.
- GRIHA FOR LARGE DEVELOPMENT- It is applicable for total built up area greater than or equal to 1,50,000 sq.mt and/or total site area greater than or equal to 50 hectares.
- GRIHA RATING- It is applicable for all buildings having built up area more than 2500 sq.mts. (Except for industrial complexes).
- GRIHA PRE – CERTIFICATION- It is applicable for the project having built up area more than 20,000 sq.mts.

Currently 425 buildings are registered with GRIHA. Growth of Green Building Footprint in India has reached up to 1.25 million sq.ft. till now.

FASTER ENVIRONMENTAL CLERANCE FOR GREEN BUILDING PROJECTS

As per the Green initiative of Forest & Environment Department of Govt. of Gujarat, the projects which are Pre- certified by IGBC, LEED or GRIHA shall get priority for their consideration, out of turn, by the State Level expert appraisal committee of Gujarat. This initiative has been taken to promote Green Building movement & Sustainable development in the State of Gujarat. Also to encourage the Developers to adopt the Green & Sustainability concept from the planning level itself, which will in turn help to significantly protect & conserve our natural resources and also will benefit the project developers as well as the tenants to achieve Construction & Operational savings, will also help to achieve the ultimate goal of Sustainable Development for our Country.

“Its Time to GET GREEN – Join the Revolution to TO SAVE OUR PLANET”

