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A CASE FOR GREEN BUILDINGS

Introduction

The debate between growth and conservation is not a new one. As we all know, the objective of national growth on one hand and the conservation of environment on the other hand are inversely related to each other and the promotion of one affects the other. For any country promoting economic growth is absolutely essential in order to fund socio-economic welfare programs. But the promotion of growth comes at the cost of environmental damage. Because economic growth requires exploitation of natural resources and this leads to severe damage to environment and biodiversity. While promoting economic growth is of paramount importance, it is equally important to conserve our environment and biodiversity. Because the damage to the environment and biodiversity ends up effecting the weaker and vulnerable sections of the society so it is essential to strike a balance between these 2 objectives. The answer lies in the sustainable development of the society.

The interaction between environment and human dwellings cannot be avoided especially with the ever increasing use of technology in the construction and use of human dwellings. This interaction right from the initiation of construction, its usage, till its demolition is continuous. Throughout its life, a building consumes energy and resources in the form of electricity, material, water, et cetera. This interaction has been recently noticed by humans that is producing negative results to the environment, ecology and biodiversity at large. Buildings during their usage produce huge amount of wastage, demolition debris and only a meagre amount of solid waste is either composted or recycled.

Having said that, it is to be noted that the construction of buildings be it residential or commercial are exponentially increasing. No doubt buildings have a numerous benefits including providing shelter to homeless, however this cannot be done at the cost of environment. Here comes the concept of 'Green Building' which is been mooted and recognized not

only by the India Regulatory Authorities like TERI but also by various countries including international multi-lateral organizations around the world. This article aims to examine the concept of Green building in the light of recent developments.

A look at the data

As per a media briefing of Centre for Science and Environment (CSE) which is a non-profit organization based out of Delhi, buildings in India use 40% energy available and 30% raw material. The buildings account for 40% carbon emissions, 30% solid waste generation and 20% water effluents.

What is Green Building?

Recently in 2016, the Governor of West Bengal has issued an order which defines Green Building, specify the incremental fees/charges on the additional Floor Area Ratio (FAR) and laid down the guidelines for certification and grant of additional FAR and also designated agencies for the said purpose in New Town, Kolkata.

As per the said Order, the 'Green building' means, inter alia, "a structure created by using processes that are environmentally responsible and resource efficient throughout the building's life cycle i.e. from design, construction, operation, maintenance, renovation and demolition".

The common objective of green buildings is to reduce the overall impact of the built environment on human health and the natural environment by:

- 1 Efficiently using energy, water and other resources.
- 2 Protecting occupant health and improving employee productivity.
- 3 Reducing waste, pollution and environmental degradation.

Even the green rating model is backed up with incentives like additional FAR has not yielded the intended results. As was seen in the case of NOIDA where lack of proper performance evaluation led to the failure of the Green building systems.



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GRIHA

'Green Rating for Integrated Habitat Assessment' commonly also known as GRIHA model has been developed by The Energy and Resource Institute (TERI). This GRIHA model was later adopted as the national rating system for green buildings by the Government of India in 2007. This tool has been adopted by the Ministry of New and Renewable Energy. This tool, by its qualitative and quantitative assessment criteria is able to rate a building on the degree of its greenness. GRIHA attempts to quantify aspects such as energy consumption, waste generation, renewable energy adoption, etc. so as to manage, control and reduce the same to the best possible extent.

GRIHA is a rating tool that helps people assess the performance of their building against certain nationally acceptable benchmarks.

Where the problem lies?

The major issue with the people is that either lack or inadequacy of information. Moreover, even if the people want to look for the information then there is hardly any public place or domain where they can find it readily. Where the rating mechanism is in force, the performance of buildings are not been properly recorded which makes the mechanism ineffective and useless. As has been seen in other countries like United States of America (USA), in the absence of proper building performance monitoring, probability of the green buildings performing better than non-green buildings, in terms of environment improvement, reduces.

Another issue is the exponential increase in migration of people from rural to sub-urban and urban areas. This has led to the unplanned development of the buildings in the sub-urban and urban areas.

Recent EIA Draft Rules, 2020

Environment Impact Assessment (EIA) is a tool to anticipate the likely environmental impacts that may arise out of the proposed development activities and suggest mitigation measures and strategies. In short, EIA is a management tool which helps in estimating the potential damage that a large scale development project can do to the environment. It helps us to understand the environmental impact for developmental project and it also provides for mitigation measures and strategies. So, EIA helps in promoting the sustainable development that is balancing the opposing objectives of promoting economic growth and promoting environment conservation. This assesses the environmental impact of a project and also suggests the mitigation measures.

The concept of EIA was first introduced in India in the year 1978 for river valley projects. Later, in 1994 the 1st EIA notification was issued by the Government of India under the provisions of Environment Protection Act, 1986. This 1994 EIA Notification was later superseded by the EIA notification of 2006 which continues to be in effect. Recently, the Ministry of Environment, Forest and Climate Change (MoEFCC) has proposed a new draft EIA notification which proposes to amend and replace 2006 EIA Notification. As per the 2006 EIA Notification, the whole process involves 4 stages (screening, scoping, public hearing and appraisal). Here, the responsibility lies with the project proponent himself for conducting EIA of the project. For this purpose he can seek the help of consultants and institutions like National Environmental Engineering Research Institute (NEERI), The Environment Research Institute (TERI) and even private institute like Ernst & Young (E&Y).

The 2006 EIA Rules prescribes a period of 30 days to be given to the local community to respond. The Draft 2020 EIA Notification proposes to bring down this period to just 25 days. So, this will eventually reduce time available to the local community to bring forth their objection to the project. Further, as per 2006 Rules, the entire process has to

be conducted in 45 days. The Draft notification brings down this period to 40 days. So, the main objective of the newly drafted EIA notification is to speed up the whole process of Environmental clearances by cutting down the time available for public hearings. This seems to help speed up the execution of projects which is good for growth, but on the other hand at the cost of affecting the ability of local community to raise the objections. Moreover, as of now, the EIA requirement is only for certain category of projects and does not apply to all the projects.

Conclusion:

In the interest of balancing growth and conservation, every building whether residential or commercial must go through the green building assessment process and must comply by it. Otherwise, the increasing construction activities make the lives unbearable and unlivable. Considering that by 2030 a large number of building constructions has to take place, a course correction measure can be taken to prevent the environmental damage. The course correction requires guided construction as well as demolition which include choice of appropriate location, design of the architecture, appropriate material and guided management. If appropriate policies are implemented then resources can be saved and can be used effectively. As per the study, upto 70% energy can be saved with the help of proper implementation of the energy efficient lighting and infrastructure design. As per the McKinsey report published in 2010 estimated that by improving the energy efficiency of the buildings and operations the national power demand can be reduced by 25% in the year 2030. Even the existing buildings have the potential to save energy upto 30-40% and reduce the water demand as per the Bureau of Energy Efficiency.