

GREEN INFRASTRUCTURE FOR INSTITUTIONAL BUILDINGS

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Abstract— Institutional are the store house of knowledge development. They are a big source of developing knowledge. It provides a clear path for students to achieve in life.

Institution play a catalyst role in social transformation. These include any building used for school, college or day-care purposes involving assembly for instruction, education or recreation and which is not covered by assembly building. The quality of a country's institutions matter for its. Indeed, the repeated failed interventions in these and other developing societies suggest that ensuring comprehensive institutional change is difficult. They play an important role in social development. They are centers for innovation and development. Let's plan the campus which will educate my next generation more generously and in practical manner. Definitely it will come back in multifold from our next generations.

1. INTRODUCTION

Green infrastructure (GI) holds different interpretations for different people. In an Institutional building sector, from a social and recreational perspective it may involve the integration of several technical approaches (like swales, green roofs, gardens and open green spaces) applied to facilitate various environmental benefits (Water management, Carbon storage and removal, Reduced energy use in buildings, Air quality improvement, Social benefits, Ecological benefits, Human health and well-being benefits). To capture this potential, careful planning is required at various scales. In essence, built environment is a huge concrete mass that gives green nowhere to go. In the coming years as development intensify with the onset of many drivers; building sector will have to address the fact that existing patterns of development are often incompatible with green strategies. Sustainable or green building practices have been adopted

recently by many higher education institutions for their new campus buildings and major renovations.

To date, lesser studies have considered the essential integration of green infrastructure into institutional buildings. We have not learnt everything from our books or in our classroom, but have learnt from nature, from friends, our school campus. School campuses are the learning centers for our next generation. We can use institutional campus to show them better path of nature and energy conservations.

2. AIM

To develop and implement an effective green infrastructural strategy for an Institutional building.

3. OBJECTIVES

To study enhance, conserve and restore biodiversity by inter alia increasing spatial and functional connectivity between natural and built spaces. And to identify existing features and character of the site and how they could be enhanced.

To implement green materials horizontally and vertically at building scales.

To implement water demand, storm water runoff, wildlife habitats, carbon, energy, air quality and the restoration and recovery of ecosystems at building and site level.

To prepare and develop the green infrastructure plan at the site and building scale. And to effectively implement GI plan, with regular monitoring and management.

4. GREEN INFRASTRUCTURE

In line with triple bottom-lines framework of people, planet and profits – is the ecological structure needed for environmental, social and economic sustainability. In short, it is a nation's natural life sustaining system. Green infrastructure differs from conventional approaches to open space

planning because it looks at conservation values and actions as an intrinsic aspect of land development, growth management and built infrastructure planning. Other conservation approaches typically are undertaken in isolation or even in opposition to development.

The Green Infrastructure approach analyses the natural environment in a way that highlights its function and subsequently seeks to put in place, through regulatory or planning policy, mechanisms that safeguard critical natural areas.

4.1. PRESENT SCENARIO

Although the situation is still bleak in the Indian context, a growing number of infrastructure companies have responded to issues pertaining to environment degradation by adopting energy-efficient technologies. Many infrastructure projects are being completed using environment-friendly version of basic raw materials such as cement; and a growing number of infrastructure companies are consulting environmentalists. Many companies have started to invest more in research and development to address green infrastructure issues including improving designs in water and energy related services.

One such company is Paharpur Business Centre & Software Technology Incubator Park (PBC) in Delhi that proves building sector – which takes up 40% of world's energy and 40% of world's natural resources at construction stage – can also go green. A 25-year old building built to government design, PBC is the first USGBC LEED Platinum certified retrofit green building in India, and also a certified Bureau of Energy Efficiency 5 star building. PBC is retrofitted with various energy and water efficient technologies which have not only helped reduce its environmental footprint but also make energy and water savings thereby reducing operational costs considerably.

4.2. WAY FORWARD

Over the next several decades, the world will spend \$30 trillion on infrastructure. Intelligent infrastructure, manifested as green architecture, geo-engineering, smart systems, and connectivity, will allow countries and governments to create a smarter, stronger and more sustainable infrastructure.

Lately in India, growing awareness has made authorities and companies more conscious about the importance of protecting the environment and sustaining resources for future. Furthermore, industry players are increasingly finding the implementation of green practices to be a commercially viable option as they are now able to curb escalating costs of construction. At this juncture, government support and dissemination of information are required to make Indian infrastructure sustainable.

5. INSTITUTIONAL SCHOOL BUILDINGS

A school is more than a physical structure, the timetable or even the textbooks. It comes to life only when the students come and start interacting with their peers, the teachers, the curricular material and the school environment (physical, natural and socio-cultural). Children are natural learners, but this capacity to learn can be undermined and sometimes destroyed in an unfavorable environment. They spend about six to seven hours a day in school for about twelve early years of their childhood. The environment of the school plays a significant role in the lives of the students.

5.1. GREEN SCHOOL

The process of constructing knowledge is a continuous one. It goes on throughout life and well beyond the formal schooling period. Learning is gained not only from transmission of information, but primarily by interactions with the environment around — nature, people, things, places. Schools can play a pivotal role in supporting children to explore their environment and derive meaning from their interactions/ explorations. The process of engagement with real life situations would reveal the numerous dimensions and complexity of any issue. In doing so, children develop their own understanding of physical and human processes which shape the environment. These are the building blocks that lay the foundation of a life-long appreciation and sensitive concern for the quality of the environment.

5.2. PROMOTING GREEN PRACTICES WITHIN AND BEYOND SCHOOL

The school environment provides enormous teaching-learning opportunities. Students gain first-

hand experience from their surroundings that go beyond the classroom and as a teacher we need to think of strategies of engaging them with it. Students learn in different ways and styles, at different paces and from different sources, textbooks being only one of them. Students are constantly interacting with the physical environment of their school during The school environment comprises the physical and the socio-cultural environment as well. The physical environment includes the school building and the built structures of the school such as classrooms, library, labs and common spaces like corridors, school kitchen, toilets, school garden and the playgrounds. It is the organisation and maintenance of these areas which are important indicators of environmental practices for sustainability in the school.

5.3. PARAMETERS TO ADOPT FOR

1. Existing School Campuses.
2. New construction of School campuses.

We must focus and measures the overall performance in seven categories.

- Sustainable Sites
- Energy & Atmosphere
- Materials & Resources
- Water Efficiency
- Energy & Atmosphere
- Indoor Environmental Quality
- Regional Priority

6. CONCLUSION

Refining the design of green infrastructure within institutional campuses is a way of getting more out our green spaces, making them hugely efficient and valuable assets by bringing many benefits to children. Green spaces are the life support systems of our villages, towns and cities. India is a motherland for grand various natural resources. The material and technology differ as per the region, which need to be predefined and use to optimum level.

Finally, we can conclude green infrastructure is just one of the many indicators used to measure the

environmental, socio-cultural and economic dimensions within an urban context. However, if specific, sustainable design of a green infrastructure network that understands the needs for an individual place can be put into practice, then it will play an essential role in achieving sustainable urbanism by helping people to pursue happiness and maintain a good quality of life.

Existing school campuses can be converted to a more vibrant and exciting place while also incorporating infrastructure to capture and store rainwater: rain garden, rain barrel, tree groves with pervious pavers, and an artificial field with a turf base. The children can be engaged in the design process, lending to a sense of ownership and encourages children to take better care of their school yard. Success in New York has allowed other cities like Philadelphia and Oakland to also convert to green institutional campuses.

As an architect it's our responsibility to provide the best to our next generation in every aspect to make then the strong conveyers of this green path

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