

Sustainable management and transformations of cultural landscapes

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ABSTRACT: Sustainability and managing cultural landscapes are a great measure and efficiently planned methodology for managing transformations and designing of spaces for landscape development. Sustainability also serves as one of the important measures for reserving the non-renewable energy sources. It creates lesser amount of pollution and carbon content in the environment and prevents the surroundings of any particular space from getting degraded.

In today's world, the transformation from traditional ideas of landscaping to newly emerging practical ideas are very relevant for the future. The better amount of inspiration goes back to the traditional period but the recently evolved solutions are way better than the ones which were previously practiced from years in the historic periods.

For this subject matter, there are numerous kinds of ideas on different types of building materials which are being experimented to be practiced in the futuristic eras. These varieties not only fulfil the demand of fresh emerging ideas but also create a pollution free, and sustainable environment around us. The energy buildings and pollution are closely interrelated, when we reduce the amount of pollution then the energy efficiency drastically increases, so, both the phenomena are directly proportional to each other which have been discussed in the research paper.

In this research paper, the techniques and functional properties of different kinds of sustainable materials and their procedures are to be discussed for a new evolved future of landscaping along with the traditional cultural thoughts and ideas. The amalgamation of traditional cultures to the fresh ideas have been incorporated for the convenience of understanding and applications of those ideas efficiently in the best suited process.

KEYWORDS: non-renewable energy, sustainable environment, techniques and functional properties, ideas, cultural, sustainable, transformation, traditional.

I. INTRODUCTION

“Poverty and environmental degradation are closely related. While poverty creates environmental pressures, the main cause of environmental degradation is unsustainable consumption and production patterns, especially in developed countries, where poverty and imbalances exacerbate the class that remains at risk. Much of the air pollution, which is partly responsible for global warming, is caused by the burning of fossil fuels to produce energy to sustain life in the city.

II. CONTENT

Global warming and its possible effects on, for example, European ski slopes, the sinking of inhabited islands, the loss of our Gulf Stream that regulates the climate to Great Britain and the increasing incidence of violent storms are well known. However, these are far from the only environmental hazards that arise directly from today's urban lifestyle on the planet. Other hazards include: contamination of water sources, overloading of environmental sinks such as large estuaries, acid rain, and air pollution in cities. Much of the environmental pollution that causes environmental damage can be traced directly to the construction process. For example, 50 percent of the world's fossil fuel consumption is directly related to the maintenance and use of buildings. In addition, energy is used to manufacture building materials, transport them to the construction site, and erect them as part of the building. Building maintenance and use alone generates 50 percent of global carbon dioxide emissions, which is about a quarter of greenhouse gases. Building planners, builders and users could, through careful selection of environmentally friendly materials, use of a green design approach, and reasonable care and use of the building, significantly reduce the number of pollutants entering the environment. Such design

begins with understanding the "energy footprint" of the building. The simplest meaning associated with the term "building footprint" is the size of the area it covers. The "energy footprint" uses the analogy of the building footprint and broadens the concept to include the energy that is required to maintain the structure throughout its useful life. It consists of the following components:

- (1) The environmental capital inherent to the construction, that is, the energy and resources used in the manufacture and transport of materials, the energy required in the preparation and maintenance of the site and the subsequent construction of the building.
- (2) The energy footprint comprises the energy that is expended for the maintenance and conservation of the system and its daily service requirements after it has been used. This energy, which is called "yield energy", can be up to three times greater than the energy used in construction, the "capital energy".
- (3) Another component of the footprint is the energy that residents use to move between the built-up area and the rest of the city, along with the energy needed to power residents.
- (4) Finally, there is the energy requirement for the demolition of the building and the cleaning of the area after the end of its use. Construction has another major impact on the environment. The extraction and processing of building materials has direct and clearly visible effects on the landscape. Quarries for the production of aggregates for concrete and quarries for the production of bricks have particularly devastating effects on the environment. They can remain an eyesore for decades, often in the most breath-taking landscapes. Roads to and from such quarries can spread devastation to surrounding areas. The effect of imported materials is hidden from immediate view: hardwood, for example, harvested from large tropical rainforests, damages an irreplaceable resource, which in turn, as a huge carbon sink, provides an environmental benefit and cleans the atmosphere of man. Waste harmful to the environment.

MAINTENANCE In pre-industrial society, construction work was carried out only as an emergency, with the exception of monumental buildings of political, civic or religious importance. A new structure, the replacement of an existing structure or its extension was Vernacular Architecture.

III. BUILDING DESIGN

Aside from the construction materials from which it is made, several factors determine the green level of a building. The green label colour that can be given to a building reflects its sustainability over a long service life with low energy consumption. It depends on the location of the building in terms of its accessibility, the geometry of the building envelope, the relationship of the building to its location, but also on how the users and the clients themselves are influenced by the building. Suffice it to say here that the "green building" in a park on the outskirts of a city that is only used by roads that are only used by cars is a contradiction in terms. All energy savings through greening the building would be lost over the life of the building due to the energy used to maintain essential connections with users. The first requirement of the green building, however pale the shade of green, is a satisfactory location; That is, it should be close to public transportation and within walking or cycling distance of important related activities. All other locations are less sustainable because they increase transportation energy costs.

A building that can be used for many different purposes and easily adapted to many different activities during its useful life has a flexibility that reduces the need for demolition and reconstruction to meet changing needs. Buildings are often designed to meet the specific needs of a particular owner or organization. The result is highly specialized buildings that a designer creates for his clients. Building planning takes into account current users and their needs, but gives very little to the general public and not at all to future generations. A building designed to house specialized activities is often difficult to adapt to changing needs. This is in stark contrast to the flexibility that is often a feature of traditional building design. Behind the uncluttered and classic facades of the Georgian and Regency terraces, there is an interior that, despite the limitations of a load-bearing structure, has proven to be flexible enough to accommodate office or apartment buildings. This flexibility in internal planning is known as "robustness." A good example of "rugged" design is Abercrombie Square in Liverpool, where three sides of the square's Georgian terraces have been converted for use by the University of Liverpool. The green urban development approach supports and promotes architectural solutions that have the typical flexibility of the Georgian terrace, that is, building designs, which can be used in various ways due to their geometry and internal structural organization.

Achieving a sustainable and flexible design poses great challenges for the planner: an examination of some of the traditional forms that have developed in the past in both temperate climates and in tropical regions of the world can provide some useful ideas as a starting point to look for. for an innovative but essentially simple urban architecture.

The first restriction due to a strict interpretation of the sustainability discipline is a maximum building height of four floors as a rule: there may be excesses in the centres of some of our big cities, but in general, if sustainability is the goal, then four stories are one for most urban developments with a reasonable maximum building height. At this point, most activities, including housing, can be done without the disabled having to use an elevator.

However, it may be necessary to organize the structure to accommodate people with special needs on the ground floor or on the first floor. The width of a building in temperate climates should be determined by the conditions required for good natural lighting in all main rooms. Since the best-lit areas of the building are 4 meters from the exterior walls, the optimal width of the building is between 9 and 13 meters. A 30-foot-wide building allows for the planning of two well-lit rooms on either side of a corridor, while a building over 50 feet wide and with deep floors has an excessive amount of badly lit space in its middle section.

IV. INFERENCE

The first principle to emerge from a review of prior practice is the priority given to the maintenance and reuse of buildings, infrastructure, and materials.

The second principle is the use of local regional building materials for construction work: preferably, materials that require low use of non-renewable energy are used in production, during transportation to the construction site and in the construction process. Materials obtained from a sustainably managed source should be preferred, i.e. In terms of sustainability, materials that are more environmentally friendly and resource efficient than those that consume a lot of energy in their extraction, packaging and assembly are more acceptable. Environmentally harmful materials, such as unsightly piles of rubble, massive quarries, or overgrown rainforests, should be avoided if possible.

The third principle is to mitigate the effects of environmental damage. All new buildings cause environmental damage, no matter

how carefully planned. Therefore, new developments must be linked to tree-planting programs to offset some of the pollution effects from the manufacturing of building materials.

The fourth principle is to relate development to the local environmental context. In cold European climates, and there is reason to believe that the climate in this country may become colder as the greenhouse effect increases, it is important to insulate buildings to the highest standards; to reduce the amount of exterior wall surface; align the building with the sun; organize the interior of the building so that an intermediate zone of warehouses and similar accommodation faces north; and organize winter gardens and sunspots or solar catchment areas on the south, east and west facades. Hillside-based buildings with partially underground lodgings and roofs covered in dirt and vegetation blend discreetly with the landscape: they also make excellent use of the insulating properties of the soil itself. There are a growing number of such projects: the visitor centre at Navan Fort, the former seat of the Ulster kings in Armagh, is of particular interest in the context of sustainable development. The visitor centre fits perfectly into the landscape and lets the great earth mounds of the old fort dominate the picture.

The fifth principle is to design buildings flexibly so that a combination of uses can be accommodated under one roof and that floor plans are “robust” in the sense that they can be adapted to different uses throughout life. of the building. After all, buildings must be located on public transport routes and with close connections to other parts of the urban structure.

V. CONCLUSION

The conclusion of this research being the traditions of vernacular architecture have many lessons for the ones seeking sustainable forms. The traditional vernacular architecture creates the sustainable form of building structures which are environment friendly and improves or transforms the cultural landscape of the structure. The aesthetics of the building structure is enhanced by the use of vernacular ornamentations as well as the cultural landscaping and it is also sustainable in form.

This has been shown by the study of past practice and priority given to the conservation and re-use of buildings, infrastructure and materials. The research paper consists of methodologies relating to transformations of the cultural landscaping. The basic elements and principles along with sustainability and cultural landscape has



been used to portray the methodology for managing transformations of the building structures.

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