GREEN ARCHITECTURE AS AN APPARATUS SUSTAINABLE DESIGN; WITH SPECIAL REFERENCE TO CONTEMPORARY SRI LANKAN ARCHITECTURAL PRACTICE

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DECLARATION

I declare that this dissertation represent my own work, except where due acknowledgement is made, and that it has not been previously included in a thesis, dissertation or report submitted to this University or to any other institution for a degree, diploma or other qualification.

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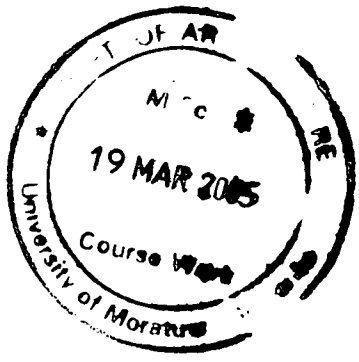

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ABSTRACT

The world today is fast moving into highly sophisticated, technological realities where quality and conditions of living meant to be easier more than ever. In this exercise man has forgotten that is compromising resources and opportunities meant for a future. Subsequently entire plant has dragged to a greater risk of environmental devastation, which will be affected for a future in consequence.

Damage done to the environment is such that life on earth is a 100% risk in terms of environmental consideration. At a wedge of this catastrophic event conception of 'sustainable development' has been introduced as a remedial action for an issue. As far as Architecture conserved in this context a great deal of exploration is usable within a practical reality.

Further an a Architectural starting point will be responsible for a sensual manipulation of environment as most of a development strategies are associated with some sort of construction and building industry.

In this context achieving of sustainable design solutions can be done using different channels and approaches. Green Architectural practice is highlighted as one of a most environmentally sensitive and productive means of realizing the foresaid aspect. This particular study focuses to seek a validity of practical realms of such a concept with contemporary application in Architectural practice in Sri Lanka.

INTRODUCTION

Observation

From the end of 1990s there is an increased awareness throughout the world of the problems associated with the environment such as global warming, ozone depletion, destruction of rain forests, air pollution, acid rains etc. it is widely accepted that the creations made by human beings destructively change the natural environment of the planet.

About 50% of the CFC (Chloro- Fluoro Carbon) produced throughout the world, which causes the widening of the hole of the ozone layer, is coming from buildings. About 50% of the fossil fuel consumption is related to servicing of the buildings. It is apparent that water pollution and building industry are interconnected and acid rains that occur due to air pollution in turn affect the building materials. In this context, it is very apparent that contemporary building industry and its related applications (transportation, urban planning, landscape considerations and infrastructure applications) is responsible for a larger part of environmental degradation which progressing rapidly.

Criticality

It has been identified that both global warming and ozone depletion are directly the result of decisions made by the architects. Man's activities on earth have created a remarkable imbalance in natural systems on earth, which became a problem in the present and doubtlessly for the future. Any incompatible thing added to in to the natural environment create problems to the ecological balance. Unlike the past, developed countries have begun to put new buildings on the face of the earth at an alarming rate. Day by day, the number of constructions is increasing and in the future, this impact will create an environmental devastation on earth and its living beings.

Causes

As the Rate of environmental impact goes up in a way that the natural orders and systems can never be able to in corporate, results an uneven pattern of consumption in every resource of the planet. For every movement of development, buildings become strategic. Thus the consumptions relating to then escalates in a rapid pattern. Burning of fossils becomes one of the threatening issues in this context as it creates larger environmental problems in terms of global warming, ozone depletion, acid rains and so on. (these will be discussed in coming chapters)

> Everywhere the disposition (powers) of nature perform all works, But deluded by Egoism, man thinks, 'I am the doer'
>
> *Bagawath Gita*

Remedies

All over the world the awareness on the environmental degradation is spreading and search for solutions becomes as universal need. As the problem severely is a consequence of built environment at large the world is in a position to reach out solutions within the frame work of construction related ethics. Architectural interference in this context signifies a greater impact as the total picture bears the color of decision making at the very inception stages of every development process. Thus, it is understood that the sustenance of each of the parties will be a reasonable and effective methodology to follow up. Architectural practices all over the world are focused in to a sustainable stream where different approaches have been identified in an applied reality. Namely, they are green principles, eco sensitive methodologies, energy efficiency etc. for this particular study architectural practices towards green principles is dicussed within a frame work of sustainable development.

Intentions of the study

Identifying of green principles, which were part and parcel of the indigenous planning, designing and construction methods and their applicability to the healing of contemporary environmental issues emerging from global warming and other related faculties will be the fundamental objective of the study. Hence redefining and modifying of approaches that can be used in contemporary practice become the deliberate focus for the entire thesis.

Scope and limitations

Literal scope expands up to the architectural discussions of sustainable development where green architectural practice is considered as the approaching mechanism.

Total picture is expected to be discussed considering environmental issue in a global perspective and the relative impact on the domestic context. As contemporary Sri Lankan Architectural practice was highly devoted to the foresaid strategies of development, it is important to study those principle aspects as to gain the knowledge to acquire theoretical and practical streams of them. Having studied the conceptual base modifications and alterations to the principles can be trace out considering its adaptability to the contemporary application. For this to be realized, contemporary architectural movements are also expected to study for the ability of fusion of the principles has to be understood in advance.

Methodology

The study is based on the extensive references made on relevant literature sources in order to derive the design steps. At the same time a literature survey and physical survey were done to identify the Green concept, the applicability of Green design approaches in Sri Lankan context and the shortcomings in terms of futuristic approach of Green designing for the Sri Lanka.

To do this, the study evolves in to three major chapters. The first chapter will contain definitions, principles relevant to the topic and the framework will be set focus on the main topic by sequentially narrowing down the study from contemporary practice of architecture and its' impact on environmental awareness, sustainability to green architectural practice. Green concept, definitions and principles of Green architecture will be discussed at the final part of the chapter.

The second chapter will be discussed the applicability of Green architectural principles in the Sri Lankan context. First part of the chapter has been identified unique Green architectural characteristics of Sri Lankan traditional architecture as an eco-sensitive architectural practice. At the final part of the chapter, the case study will be done as a comparative research to elaborate contemporary Green architectural practices in Sri Lanka.

Finally the third chapter will be illustrated the futuristic approaches of Green architecture and there applications to the Sri Lankan contemporary architecture. The final chapter and conclusions stress the need for a fundamental change in the attitudes and value system of people in order to restore this in its true sense. It also remarks finally that Green thinking has to dwell lives of each and every person if we are to keep on this earth for future generations.