

# Unraveling the 'Poetics' of Sustainable Architecture and Context Specific Expressions in India

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## Abstract

**Background/Objectives:** 'Sustainable architecture' is interpreted in numerous ways. Pluralistic, heterogeneous, relative, contextual, contestable, green, bioclimatic, energy efficient, natural, appropriate etc are the diverse terms used. The objective of this paper is to unravel sustainable architectural practices and the related expressions in India. **Methods/Statistical Analysis:** Thematic analysis is adopted to explore the approaches deciphered from various secondary sources like books, magazines, research articles, government websites and architects official websites. Five phases like familiarising with data, generating initial codes, searching for themes, reviewing themes followed by defining themes were adopted. Being a flexible tool, the data was coherently classified and reclassified according to similar ideas and approaches. **Findings:** As the study was exploratory, the approaches were named as the broad based the common sense, the bioclimatic, the hybrid and the reflective. The buildings portrayed honest, dishonest or common images depending on the 'degree of sustainability' as interpreted by architects. Even though the innovative application of post consumer waste in built form is a principle in eco-centric approach, the acceptance is still a question mark. **Application/Improvements:** Unravelling the diverse practices has yielded an understanding the 'big picture' of sustainable architecture in India. Collection of information from secondary resources is the limitation. As this is only a longitudinal study, initiatives to understand the approaches with respect to time and region giving new insights.

**Keywords:** Context Specific Approaches, Expressions, Poetics, Sustainable Architecture, Thematic

## 1. Introduction

Climate, culture and social factors are the parameters influencing diverse parameters of sustainable architecture around the world<sup>1</sup>. It is posited that sustainability in architecture is the imaginative negotiation of boundary between visibility and invisibility<sup>2</sup>. It is argued that it is a contestable concept and operates within art and science simultaneously<sup>3</sup>. It is established that it emerges out of concerns with heterogeneous ideologies, where current paradigms of architectural practices are questioned<sup>4</sup>. The approach must be holistic, trans-disciplinary through technological intervention and is philosophical<sup>5</sup>. Eco-technic, eco-centric, eco-aesthetic, eco-cultural, eco-medical and eco-social are identified as competing logics of sustainability<sup>6</sup>. It is observed that sustainable architectural practices in developing nations are spiritual<sup>7</sup>.

With this as the background, this paper explores, interprets and consolidates such practices using thematic analysis in Indian context. Thematic analysis is an analytic approach and powerful tool to yield insightful interpretations<sup>8</sup>. It is a flexible method which provides a rich and detailed description of complex data<sup>9</sup>. The philosophies and design approaches to design by architects like Aalto<sup>10</sup> and Ando<sup>11</sup> are explored.

## 2. Methodology

Thematic analysis is a method for identifying, analyzing and reporting patterns within observations or data<sup>12</sup>. Sustainable ideologies by architects were gathered, explored, interpreted and consolidated from a website on 'practitioners with alternate technologies/energy efficient construction techniques' hosted by Government

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of India. Themes are abstract constructs that links the expressions found in texts, images, sounds and objects<sup>13</sup>. Other secondary sources like books, magazines, web sites, articles and interviews were also identified for data collection process. Intensive engagement with data iteratively<sup>14</sup> was adopted to establish the links with the poetics of sustainable architecture.

Five phases like familiarizing with data, generating initial codes, searching for themes, reviewing themes followed by defining themes were adopted. Themes were identified based on approaches, strategies, tangible and intangible parameters. The former addresses how built forms responds to place, connection to habitat conservation of resources and use of building material, whereas the latter refers to the social, economical, cultural and health aspects of all the involved individuals at different phases. The limitation of this study is that it did not involve any field study.

### 3. Findings

The ideals adopted by architects or hybrid actors were interpreted and categorized as broad based approach<sup>15,16</sup>, common sense approach<sup>17,18</sup>, contextual approach<sup>19,20</sup>, multi prolonged approach involving bio climatic principles<sup>21</sup>, hybrid<sup>22</sup> and reflective practice<sup>23</sup> as summated in Table 1.

The themes were explored, interpreted and consolidated as in Figure 1, in order to achieve the goals of environment, the 'Big Picture'. A holistic sustainable environment<sup>24</sup> can be attained only when there is a high degree of sensitivity towards the social, cultural, medical, technical and economical factors, followed by a continuous search in exploring these principles and reflections on

such processes aid in designing and constructing built environments fulfilling the aspirations of the changing needs of the people and eco friendly in today's context.

The visual expression of sustainable design is classified as very seamless, medium seamless and least seamless approach<sup>25</sup>. When nature, landscape, building and building systems look like one totality<sup>26</sup>, it is very seamless. When there is a balance between minimalism and gadgets and sensible for the particular project is a medium seamless approach, whereas least seamless refers to buildings with least eco gadgets.

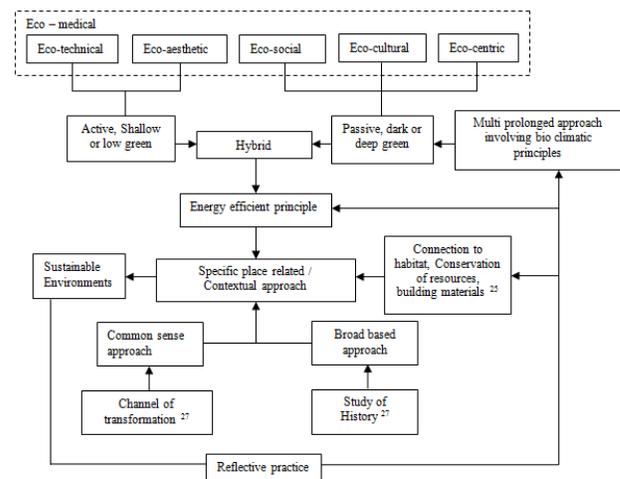


Figure 1. An overview of sustainable architectural practices.

In India it is observed that the works reflecting the three degrees of seamlessness are developed by architects who are sensitive to the people, technology, energy, performance, context and environment. We have interpreted deep ecology or dark green practices

Table 1. Broad classification of themes

| Themes               | Description   |
|----------------------|---|
| Broad based approach | Examines the past for diverse tangible interpretation involving multiple layering of space, multiple mixed structural systems, symbolism, rich experience, open ended, maintains minimum standards of health and hygiene. |
| Common sense         | To find simplest analytical directions, respecting local needs that helped humans coexist with nature of the environment.   |
| Contextual           | Related to place, time, technology, people, action etc  |
| Bio climatic         | Site specific, ecologically responsive buildings  |
| Hybrid/ Glocal       | An interdisciplinary platform where the values of indigenous systems and benefits of global systems are integrated.   |
| Reflective           | Research from practice modified in to new ideas   |
| Common sense         | Simplest approaches respecting local needs and coexist with nature & humans   |

**Table 2.** Relationship between the spirit and the visual expressions of sustainable architecture

| Approach                                      | Image        | Visual expression                           | Approach  |
|---|--------------|---|---|
| Themes / Ideals<br>(Degree of sustainability) | Honest image | Very seamless                               | Deep ecological built environments                        |
|   |              | Medium seamless                             | Hybrid approach integrating active and passive principles |
|   |              | Least seamless                              | Contestable concepts of green buildings                   |
|   | Dishonest    | Not being sustainable but looking green     |   |
|   | Common       | Not being sustainable and not looking green |   |

to be very seamless, hybrid or energy efficient buildings to be medium seamless and shallow green or light green buildings to be least seamless ranging from honest to dishonest images. For instance, a building which behaves like a living organism is a very seamless building with an honest image.

## 4. Discussion

The relationship between the visual expressions, image and the approach are consolidated as shown in Table 2. With respect to the ideals or themes, any ideal or any theme can be associated with any image. For instance, it is argued that a deep ecological built environment which rustic, continuous, plastic, retaining the spirit of the site, growing from the site portray a higher degree of honesty when compared to built environments which are neatly finished. Modern, iconic are the images associated with eco-technic and eco-aesthetic logics of sustainable architecture. Vernacular, natural and appropriateness are related with eco-cultural, eco-medical and eco-social logics which are found to be honest exhibiting local architectural language. This can be related with context rich or context bound thinking<sup>27,28</sup>. However, the visual expressions of the built forms firmly depend on the collective perceptions of both architects as well as clients.

## 5. Conclusion

The systemic ecology and metaphysical holism are characteristics of eco centric logic, where the built form is harmony with nature, autonomous and decentralized, with less ecological footprint. It is a multidisciplinary and an experimental approach with postconsumer waste materials. This logic has led to experimental practices on reusing post consumer reusable and recyclable material in constructing ephemeral structures, congregational spaces, emergency shelters by architects, technocrats, environmentalists and NGOs. Even though, the built

environment is autonomous and self sustainable, behaving like a living organism, in the developed nations it is perceived as a caricature. In developing nations, buildings with primary, secondary and tertiary post consumer packaging wastes are experimented in construction of built forms with a notion to reduce the use of virgin materials. However, the incorporation of such ideals in today's scenario is still a question mark.

The study being longitudinal in nature, a cross sectional study of the approaches and practices in specific regions in our country will add a dynamic direction and the evolving spirit of sustainable architecture. Further comparative studies related to lifelikeness<sup>29</sup> in different regions can be explored.

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