

Regenerative Design Framework Integrating Adaptive Thermal Comfort for Rural Habitat in the Context of India

Abstract

This thesis contends that the current approach to sustainability is fragmented because it prioritises efficiency over effectiveness, necessitating a new perspective that acknowledges the intricate interplay among natural, human, and built environment systems. It suggests that a more holistic view—one that fosters mutual evolution and symbiotic relationships—is essential. Regenerative design, with its potential to support natural systems and resilience through mitigation, adaptation, and restoration, is a beacon of hope for a more sustainable future. This research defines the critical imperatives for applying the regenerative design framework to the built environment. It takes a transdisciplinary approach, leveraging data-driven, evidence-based knowledge to explore the origins and characteristics of the emerging ecological worldview and its implications for sustainability discourse. By examining the chronological narratives of sustainable development, the study reveals the limitations of current approaches and the potential of knowledge from various disciplines to offer a cohesive narrative, instilling confidence in the feasibility of the proposed framework. The study meticulously maps natural and human imperatives, anticipating a comprehensive understanding of their interconnections and interdependencies. This thorough understanding is expected to shape a distinct regenerative framework, integrating natural and human systems into decision-making processes for the built environment. The framework aims to harness the built environment's potential as a catalyst for positive change, inspiring the creation of a unique and sustainable environment. In this process, the research investigates thermal comfort in depth and develops a model for its application in decision-making within the regenerative built environment. The study ultimately seeks to determine how the theory and application of quantitative and qualitative evidence can be practically applied for informed decision-making to instil regenerative design and development.