



**AinShams University
Faculty of Engineering
Architecture Department**

"Art of sustainable design in architecture"

A critical analysis for sustainable design development
paradigm.

A Thesis Submitted in Partial fulfillment of the requirements for the
degree of Doctor of philosophy in Architectural Engineering

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Degree: Doctor of philosophy in Architectural Engineering

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

"وَقُلْ رَبِّ زِدْنِي عِلْمًا"

صَدَقَ اللَّهُ الْعَظِيمُ

*To my Mom, Dad, my Wife and
brother's family for all your Support and
Unconditional love*

I. Statement

This thesis is submitted as a partial fulfillment of Doctor of Philosophy degree in Architectural Engineering, faculty of Engineering, Ain shams University.

The author carried out the work included in this thesis, and no part of it has been submitted for a degree or qualification at any other scientific entity.

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II. Researcher Data

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IV. Abstract

This dissertation proposes to critically investigate the current debates regarding concepts for sustainable design in the field of architecture; particularly it proposes Art of Sustainable Design as the key element which is capable of **developing** the sustainable design movement. If sustainable design process seeks better sustainable performance for buildings, Then Art of Sustainable design would seek better performance of the sustainable design process itself. The research is exploring sustainable design principles (focusing on architecture) in its philosophical context; as well as criticizing it as a term, then defining the keys elements for its enhancements.

The research represents a study for the performance of sustainability (**A sustainable value**). This provides a wider range for sustainability in architecture as it gives the chance for a building to sustain as an architecture valuable product in addition to having better sustainable performance.

Architects, by understanding the nature of art of sustainable design can change their current practice toward a more sustainable design practice; this can add value to their designs and can serve in shifting sustainable design from one paradigm to another towards a truly sustainable architecture practice.

In 2004, **Jason F. McLennan** stated that "*Sustainable design is the philosophy that simply asks, what is the most we can do on a given project to enhance the quality of the built environment*" also he stated that "*Sustainable design is a design philosophy that seeks to maximize the quality of the built environment, while minimizing or eliminating negative impact to the natural environment*". Through this research studies, it proposes Art of Sustainability as the component which **bridge the gap** between sustainable design as philosophy and principles from one side and architecture design practice from the other side. The research reinterpret the six major sustainable design principles (***The respect for:** 1- The wisdom of natural systems, 2-The human vitality principle, 3-The ecosystem principle, 4-Cycle of Life 5-Energy and Natural resources, 6- the Process – Holistic Thinking Principle*).

Key words: Sustainable design - Sustainable performance - Sustainable value - Art of sustainable design