

RAJAI SHAHR RESIDENTIAL COMPLEX WITH AN EMPHASIS ON SUSTAINABLE ARCHITECTURE APPROACH

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ABSTRACT

The main purpose of this study was to investigate RajaiShahr Residential Complex with an emphasis on sustainable architecture approach. The method of this study was descriptive analytic. The population of this study is RajaiShahr Residential Complex. The results of this study indicate that building format, roof, levels, slope and direction of building are the most important factors on sustainable architecture approach on RajaiShahr Residential Complex. Also, it suggests considering for this factors in buildings.

Keywords: *RajaiShahr Residential Complex, Sustainable Architecture Approach*

INTRODUCTION

“Sustainable architecture” being discussed in a great many publications is a highly controversial issue. In literature, various terminology is referred to express this kind of architecture such as; environmental design in 1970s, green design in 1980s, ecological design in late 1980s and 1990s and lastly sustainable architecture from mid-1990s until today.

This proves the existence of an architecture that is building-oriented and has the main concern to be nature-responsive till mid-1990s. On the other hand, sustainable architecture including all the previous architectural approaches as a main heading can be considered as an environmental responsive architectural practice not only from morphological aspects but also with its contribution to social, cultural and economic infrastructure of the region (Arsan, 2008).

UNESCO (United Nations Educational Scientific and Cultural Organization) has coined the term “whole life sustainability” in order to expand the general meaning of sustainable architecture from designing environmentally friendly buildings to architecture incorporating local identity into design process (Tocher, 2012).

Definition of “sustainable” for an architecture changes depends on the logic. Eco-technic logic defines sustainable architecture as energy-sufficient architecture placing importance to the development of technology while in eco-centric logic, sustainable architecture is considered to be an architecture that is a part of nature through using natural materials and has zero ecological footprints. Sensuous, stylish and creative qualities make the green architecture as sustainable for eco-aesthetic logic. On the other side, architecture creating “healing environment” and supporting the healthy lifestyle of the people is considered as sustainable within eco-medical logic. Also, there is an eco-social logic defining the architecture that embodies the spirit of the society, freedom and togetherness as sustainable (Kultur, 2012).

Selecting suitable building material options can be a very complex process, being influenced and determined by numerous preconditions, decisions, and considerations (Wastiels, 2008). In other words, in choosing the right material, there is not always a single definite criterion of selection, which means designers or architects have to take into account a large number of material selection factors (Rahman *et al.*, 2008; Trusty, 2003).

Therefore, the available information or data on building material and product options must be constantly evaluated to make well-considered and justifiable material choices, during the design-decision making and selection processes (Trusty, 2003; Chan *et al.*, 2007).

Therefore, this research is seeking to investigate RajaiShahr Residential Complex with an emphasis on sustainable architecture approach.

Research Article

MATERIALS AND METHODS

The method of this study was descriptive analytic. The population of this study is RajaiShahr Residential Complex.

RESULTS AND DISCUSSION

Table 1 indicates geographical characteristics information.

Table 1: Geographic index of RjaiiShar residential complex

	Latitude		Longitude		Altitude
	Degree	Minute	Degree	Minute	
Geographic index	35	49	51	2	1321

Table 2

	99% Drying temperature	97.5% Drying temperature	95% Drying temperature	Max- Min Drying temperature	Wet temperature	Wind speed and direction
Winter Conditions	7.8	-6.9	-5.9	16.3	12.9	19 2.4

As table 2 indicates RajaiShar city is located in BW that moisture percent is higher and the air temperature is lower than warm and dry area.

Conclusion

The main purpose of this study was to investigate RajaiShahr Residential Complex with an emphasis on sustainable architecture approach. Emergence of the concept sustainability concurrently leads to discussions on the methodology of sustainable architecture. A variety of approaches going after different logics for sustainable design appeared, one of which is eco-cultural logic. This logic keynotes the significance of sustainability of the culture to be provided through design in architecture. It argues that the existence of a critical interaction between culture and environment through which they continually redefine each other. The results of this study indicate that the formats of buildings as follow:

- **Building format:** The buildings in these areas are introverted and have a central life.
- **Roof:** It is better to cover the roof of the turbulences of air between the two layers occurs in the temperature situation improves.
- **Levels:** Tried to use in cool colors like cream and gray rough terrain.
- **Slope:** The lowest point of the slope is the best place for building.
- **Direction of building:** The best place for bulidings according to investigated climate characteristics is 20-30 degree to east.

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