

The Necessity of Revitalizing the Traditional Elements Effective on Economic Sustainability and Cost Management (Case Study of Tabatabai's House)

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Abstract

The application of sustainable development and value engineering concepts in the architecture opens a new discussion called economic sustainability, ecologic architecture, green architecture, and environment architecture; all of which refer to the same concept of environment-friendly architecture. Lack of attention to the foundations for sustainability of traditional architecture of Iran and the diverse factors affecting it has charged us a worn and unstable urban fabric. In this world, along with other scientists the architects have been looking for the new ways to reduce costs and maintain energy as a sensitive duty of them. Regarding the ideas and various theories of scholars on the sustainable development, the main points of focus are: 1. Design for human; 2. Resource saving and economic justification; 3. Renewable materials and resources, and recyclables. The present study is intended to investigate the effective factors in moving toward sustainable development and examines the economic justification of vernacular architecture. Hence, by a review of the references and library documents, it conducts an analysis of Tabatabai's house which is a sample of the traditional architecture of Iran and an appropriate pattern showing the techniques of urban architecture. At the end, some strategies will be provided in line with sustainable development and energy preservation.

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1. Introduction

One of the major polluters of the environment in the world and especially in our country is electricity consumption in residential areas to provide hot water and heat in domestic environments. The increasing influx of people from villages to cities adds to the number of consumers of fossil fuels which are in fact the base of modern industry across the globe and in Iran. We assume that with the implementation of the principles of environmental sustainability we can fight this problem.

Iran has the strong backing of traditional architecture and rich aspects of resistance, arts and culture; it has a significant share of arts and cultural special values. A scrutiny of these features can serve the planning, design, and popularity of modern environments. Residential needs of people in the cities especially the traditional cities are met today haphazardly without identification of any complication and side-effect on the environment (Pakzad, 2007:69).

After one century of modern architecture, despite its valuable achievements and evolutions, complicated problems appeared in the environment. The situation of the world in the onset of 21st century testifies to an instable development including population growth, increased consumption, and unbalanced distribution of resources. Population growth as a major Western lifestyle is a big impose on the natural environment leading to changes in the climatic condition, the hole in the ozone layer, the decline of species and natural habitats; as a result the culture of consumption and human behavior toward nature has changed. By comparing the situation of vernacular architecture and its harmony with the climate—which are mostly manifest in the traditional fabrics—with the new fabrics developed as irregular low-density forms around the cities, we came to this point that the architecture of hot and dry cities has been detached from its traditional and natural forms, and this distance is increasing day by day. Hence, the present research attempts to investigate the techniques and strategies used in the historical city of Kashan, which is a hot and dry city, to provide an opportunity to follow the adjustment and adaptation procedures used in them which may serve to modern sustainable development.

1.1. Statement of the problem

Unfortunately the modern architecture is in the illusion of designing open spaces. The contemporary cities are involved with unrest, bewilderment, and amnesia. Buildings have lost their coherences and responsibility toward earth, sky, and adjacencies. Spaces have leaked to external environment like oozing water and the open spaces are proposed as abandoned places (Haeri, 2009). The aim of this study is not to preserve and repeat the historical forms and copying them, but the use of models, experiences and creating new forms following the genuine concepts is intended. Therefore, the following questions will help us in drawing our answers: what are the effective methods and elements for homologizing the traditional architecture, saving energy, and cost management?

Whether the use of such methods in modern architecture can help us to get closer to the economic development?

1.2. Research hypotheses

- It seems that by considering the methods and techniques which were employed in traditional Iranian architecture to encounter the climatic difficulties and the environmental situation, we can find some principles through which steps can be taken toward sustainable development in the present situation.
- Using the traditional techniques using modern materials will have a similar experience.

1.3. Research methodology

This study is a descriptive survey study. The statistical population includes the historical buildings of Kashan in general and the case study of Tabatabai's House. Through studying the library and electronic references the role and importance of used materials, the central courtyard, the porch, and closed spaces will be investigated in formation of architectural spaces and their effect on cost management and economics of the building.

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