

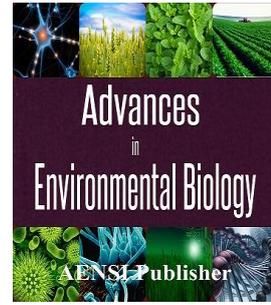


AENSI Journals

## Advances in Environmental Biology

ISSN-1995-0756 EISSN-1998-1066

Journal home page: <http://www.aensiweb.com/AEB/>



### Effect of the Architecture of the Nature in the Context of Guilan with an Approach to Alexander Architectural Patterns (Sample: Monajam Bashi House)

<sup>1</sup>Sepideh Namazi Jokandan, <sup>2</sup>Dr. Amir Reza Karimi Azeri and <sup>3</sup>Dr. Afshin Amoozadeh Licahyi

<sup>1</sup>Graduate student, Department of Art and Architecture, Institution of Supreme Education of Deilaman, Lahijan

<sup>2</sup>Assistant professor, Department of Art and Architecture, University of Guilan, Iran

<sup>3</sup>Assistant professor, Department of Art and Architecture, University of Guilan, Iran

#### ARTICLE INFO

##### Article history:

Received 12 October 2014

Received in revised form 26 December 2014

Accepted 1 January 2015

Available online 18 February 2015

##### Keywords:

Vulgar Buildings, Local Climate, Nature, Spatial Sense.

#### ABSTRACT

The upcoming research is attempting to review the way architecture and spatial sense of the vulgar buildings of Guilan and Comparative study of the relationship between architecture and culture and Effect of the architecture of the nature is formed. The structure of these buildings indicates that the people of this province care about culture and tradition. But unfortunately, today lack of paying attention to buildings with this feature leads to their destruction and there will no longer be a pattern of Guilan's vernacular architecture for the next generations to be familiar with. Therefore, the purpose of this article is to verify the identity Vernacular architecture of Guilan. In this regard it should be noted that the effect What is this?. Finally, the relationship between culture and climate and architecture, as well as the nature impact, on the Guilan's vernacular architecture Infer. This study is in the area of fundamental researches and based on documentation method, content of the text and analectic. By gathering information through documents, it has been reviewed with a survey – analectic method, in addition to the fact that the tools of data collection were image and map and chart. Theoretical framework of this research, based on the impact of culture and climate on how a space is formed based on local and popular structures, is in the area of understanding factors and elements of space and also its association with nature. In order to develop the characteristics of these vulgar buildings, the Monajem Bashi house has been selected as the case study. According to this, we can say that what is seen in the architecture of these buildings has become a symbol of temperate and humid local climate and culture on the architecture of these buildings, together with a harmony in using and reviving the local and traditional materials and structure in an efficient form.

© 2015 AENSI Publisher All rights reserved.

**To Cite This Article:** Sepideh Namazi Jokandan, Dr. Amir Reza Karimi Azeri and Dr. Afshin Amoozadeh Licahyi., Effect of the Architecture of the Nature in the Context of Guilan with an Approach to Alexander Architectural Patterns (Sample: Monajam Bashi House). *Adv. Environ. Biol.*, 9(2), 423-428, 2015

#### INTRODUCTION

Environment and in its body, house and building, have always been new and permanent innovations and hand-made creations in each culture and civilization and they are still new, wonderful, desirable and complex in their every aspect. When the 7<sup>th</sup> century began and Islam influenced the region, important changes were made in the process of architecture and urbanization industry and with its deep philosophical nature, it brought some kinds of innovations in the social life of the cities; therefore, this was a start in the system of local division (dividing into allies), building religious places and mansions and it evolved the urban structure to a large scale. Islamic culture has shown its influence on religious and social architecture and it hasn't been ineffective in the formation of residential environment and division of house spaces. Within itself, the organization of space of historical houses, in addition to maintain a large quantity of pre-Islam architecture knowledge, has also led to evolution of knowledge of space organization in the post-Islam period. Now such question arises that which forces have affected the formation of historical houses and then contemporary houses? Designing the buildings of Guilan province has had particular characteristics, because these buildings have been influenced by nature both in terms of culture and climate and also in terms of formation of texture. These buildings are buildings which are associated with the outside space (existence of saloons proves this claim) which is in association with

**Corresponding Author:** Dr. Amir Reza Karimi Azeri, Assistant professor, Department of Art and Architecture, Guilan University, Iran  
E-mail: [amirreza\\_karimiazeri@guilan.ac.ir](mailto:amirreza_karimiazeri@guilan.ac.ir)

nature and therefore it is meaningful; thus, how human deals with nature can show a desirable expression of cultural signs and symbols, climate and local impacts.

By taking a quick look at the Monajam Bashi house located in Langerood, we can say that structure of this house has been formed according to mutual accountability with nature and in line with human needs and environment. A building which has been built in the Qajar period and decorations used in all of the building and also the structure of the building indicate that people of this province cared about culture and tradition. But unfortunately, today lack of paying attention to buildings with this feature leads to their destruction and there will no longer be a pattern of Guilan's vernacular architecture for the next generations to be familiar with. In this house, all of the spaces have been formed in an extrovert way and interact with the outside environment and this formation goes forward in line with the environments due to its interaction with it, whether in terms of materials or in terms of form.

Thus, this article the purpose of this article is to review this house in the respect of a definition of culture, climate and its association with the proportions and geometry of the environment in the architecture ingrained in Guilan's architecture. In addition, it is obvious that this house is created in the form of architectural physic of Guilan as a part of vernacular architectural structure and what becomes important in this process will become significant not only in form, but also in the spatial structure of the house.

#### Main Question:

1. By which the local buildings of Guilan are affected, nature or culture?

#### Purposes:

1. Reviewing how Guilan's vulgar buildings are formed in proportion with environment.
2. Reviewing how to run away from the constraints.
3. Created creativities due to the constraints.
4. How to approach the residential spaces by considering the constraints.
5. Reviewing the rate of nature's impact on formation of culture.

#### Research Background:

The mentioned issue has been worked on to the extent of reviewing Guilan's vernacular architecture separately for some of its buildings and until now, it has been used to improve of the buildings.

But in terms of reviewing culture in architectural structure, some books have also been written with the titles such as (house, culture, people by Mohammad Reza Haeri) which have only referred to review of the impacts of culture on rural architecture.

However, in this respect, the following source has been the base of studies for the author to use:

Fathi, Hassan [6], T: Dr. Ali Ashrafi Tehran Arts University, Tehran.

Alexander Christopher [4], Areas of public life and private life, T: Dr. Manoochehr Zarini, Tehran University publication, Tehran.

Here, the work is comparative and we use the theory of Alexander Christopher as the base for better expression of the subject because it hasn't yet been worked on in Iran.

Building design is the first "defensive line" against climatic factors of outside of the building climatic design is a method for an overall reduction of energy costs of a building. In all kinds of weathers, buildings which have been built in accordance with the principles of climatic design, minimize the necessity of mechanical heat and cold and instead, they use the natural energy which exists around the building [15] (table 1).

**Table 1:** summary of the principles and methods of climatic design; source: Watson and Labs, 1937.

Methods of controlling	Winter		Conduction	Movement	Light	evaporation
		Increasing heat grasping	Reducing the conducted current of heat	Reducing external air flow	Using the heat of sun	
Preventing heat loss	Reducing air penetration					
	summer	Preventing heat grasping	Reducing the conducted current of heat	Reducing air penetration	Reducing absorption of heat from the sun	Using evaporative cooling
		Increasing heat loss	Using ground cooling	Using air conditioner	Using radiant cooling	

#### Research method:

Given the effort of the article for architectural analysis of this house which has been affected by culture and climate and organization of elements involved in this architecture, thus, in terms of being theoretical, the type of research lies in the area of fundamental researches and the following methods have been practically used in it.

Firstly, in order to find the definitions in the issues of local culture and climate and the theoretical approach of the article, we will use a reasoning method and analysis of the content of the text in reviewing the structure of the house and theoretical foundations of architecture. Secondly, for the accordance of theoretical issues with architectural area, by reviewing the case samples, a comparative method and also a reasoning method will be used to analyze the indexes and criteria of culture and climate in the architecture of this house.

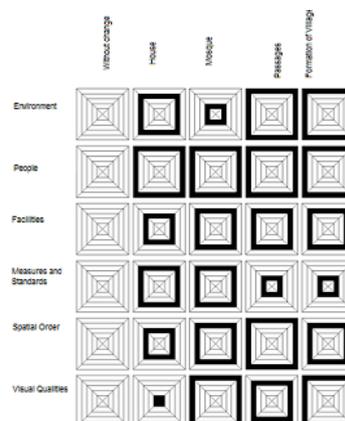
*Theoretical foundations:*

*Christopher Alexander's Designing Theory:*

In the respect of architecture without architecture, we can refer to the theory of Christopher Alexander which we explain in the following 6 factors which he has mentioned in the evaluation of architecture and in the following; we review these items in the introduced house.

1. Environment: no architectural work can be or shall be designed and constructed without considering the environment, because environment has a large effect on architecture and it is also affected by it. Our intention of environment in this discussion is all of the natural factors or those made by human around which or inside which the architectural work is constructed.
2. People: people are the most basic factor in architecture. Therefore, the meaning of each architectural work meets the needs of the people to some extent and it is efficient in fulfilling their needs. Indeed the work that is not capable of doing this cannot be considered as architecture.
3. Facilities: what is meant by architecture is that all of the factors including physical or nonphysical ones are "essence or meaning" which leads to the realization of an architectural work and they are truly inseparable from architecture. These factors are born with architecture and live with it. In both conditions of considering or not considering the construction materials or methods and accurate or inaccurate use of infrastructural methods and concepts, they lead to success or lack of success of an architectural work.
4. Measures and Standards: also some of the architectural factors such as door, stairs and ceiling have found standardized determined measures, but in several cases in architecture, the physical needs of the human body is not sufficiently considered or these needs are ignored.
5. Spatial Order: architecture is realized due to its essence in the space and that is why it needs spatial order. Therefore, the better we arrange the relations of architectural components in two dimensions, what shall be really considered will be the relations of architectural components in space and their order, but the spaces shall not only meet the material needs of humans, but we also shall not neglect the immaterial impact of the architectural space (same: p 14).
6. Artistic and Visual Qualities: aesthetic considerations and visual qualities are some of the architectural factors that cannot be degraded. All of the theories that considered architecture only as construction have now failed. Architecture means a good construction and beautification. But it is clear that we cannot install beauty on architecture or hang it on architecture, but it is something that shall be appear from the inside and leak to the outside. Trying to make architecture beautiful is like wearing makeup, which leads to banality in most cases (same: p 15).

As we referred to it in the beginning of this discussion, none of these mentioned 6 factors shall be considered alone. For example, we mentioned "building" as a component of facilities, but in building, selecting materials in its turn depends on the environmental conditions and the possibility of achieving them in the location of the building. Also, we mentioned measure as a factor of sizes and standards, but measure can have a basic role in the spatial order and scale and proportions as well and these later qualities are in the realm of visual qualities (same: p 16).

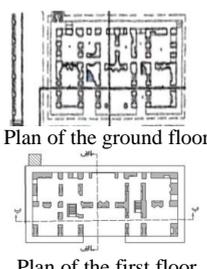
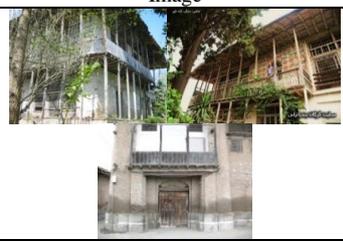


**Image no. 1:** review of evaluation of architectural factors from Alexander's perspective, Source: Author by using the view of Manoochehr Zarini.

**Research Findings:****Introduction in terms of geographical position of the house:**

The distance between Langerood and the capital of Guilan province is 57km and it has been composed of three coastal, plains and partly mountainous sections and other than natural walkways, it has various places and one of them is the Monajem Bashi house. Monajem Bashi family became famous while Agha Mohammad Khane Qajar took control of Guilan. Address: Guilan, Langerood, Feshkali Mahale Langerood, in the east of city bazaar and beside the Sabze Meydan (Green Square). (table 2, 3, 4).

**Table 2:** Review of Monajem Bashi house, Source: (Conductor design, Department of Housing and Urban Development, Langerood, Guilan).

Plans	Materials	Image
 <p>Plan of the ground floor</p> <p>Plan of the first floor</p>	<p>Ground floor walls: they have been decorated with colorful and glazed tiling and paintings of Qajar men and women faces.</p> <p>Materials of walls and facades: stone with mortar, wood with plaster and mud coating</p> <p>Ceiling materials: with sand, and wood or clay coating (edge with three coverage Sarbandy and hammer on battalion)</p> <p>Entrance materials: simple plastering</p> <p>Mesh doors and sashes: colorful glasses</p>	

**Analysis Of The Findings:****Characteristic of architectural elements:**

**Table 3:** review of the characteristics of architectural elements , (Source: authors).

Image	Name	Position
	Heater's space	The door of the main hall of the house
	Mesh windows	Inside the house
	Balcony decorations	First floor
	Appropriate channel	House ceiling

**Table 4:** review of wood's usage in the Monajem Bashi house, Source: (Authors).

How wood is used	Image	Explanations
Columns on the porch		In this section, with the combination of structure and column, the following purposes have been achieved: 1. visual beauty 2. spatial width
Balcony Railings (on the entrance door)		1. connection with the outside space 2. beautiful visual shape for the public 3. homogenous with the surrounding nature
Windows		1. for skylight 2. for indirect passage of light 3. visual beauty

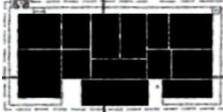
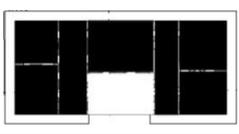
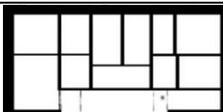
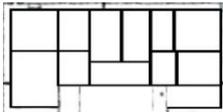
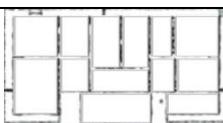
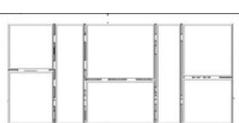
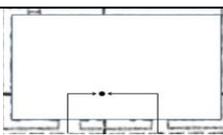
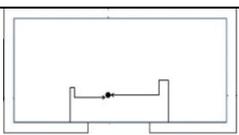
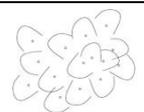
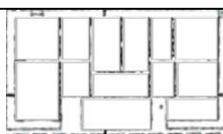
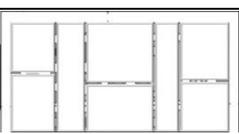
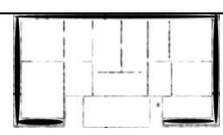
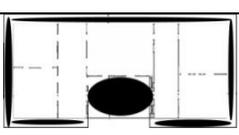
**Discussion and conclusion:**

In this section, we are attempting to analyze the design theory of Christopher Alexander, which includes 15 items, in the Monajem Bashi house so that we would achieve a better understanding of the types of this house.

This pattern includes the items which have been presented in the following table. In the following, we review the patterns of Alexander's design in Monajam Bashi house (table 5).

1. Scale: Monajam Bashi house in this climate has been divided in terms of space in such way that smaller scales and spaces lie in the larger spaces.
2. Center of strength: in this house, the center of strength is formed towards the main hall or the porch in which all of the activities of the family is done.
3. Negative Space: in this house, the negative space is in the porch and due to climatic reasons, this space is seen as a very small one.
4. Border: in this climate, the borders are just the walls and due to climatic conditions the border is not seen in the spaces but by considering the cultural conditions, the spatial width can be seen in these spaces.
5. Reflection: in this climate, in contrast with the hot and arid climate, reflection is formed towards the porch. Reflection is the place that all of the family members tend to be in.
6. Empty space: in this house, due to climatic conditions, the empty space is rare or very small, and that is seen as the "porch" which has been formed for exchange of moisture.

**Table 5:** review of the patterns of Alexander design in the Monajam Bashi house, source: (authors by interpreting the patterns introduced by Alexander).

Patterns	Plan of the ground floor	Plan of the first floor	
Positive space			
Negative space			
border			
Scale			
Center of strength			
Reflection			
Repetition			
Empty space			

*Conclusion:*

Reviewing the Monajem Bashi house by using Alexander's patterns has ultimately studied the accordance of effectiveness of climate and culture on this house and we can assume that this house is more affected by climate and culture has less effect on it.

*Perhaps in the end we can say that:*

- Nature affects the culture (people) more than climate.
- Given the fact that climate is the same, there is difference of approach in architecture which is caused by culture.
- Modeling the geometry of nature on geometry of the old houses is evident.
- Pattern of Guilan's houses if formed in proportion with their culture.

**REFERENCE**

- [1] Alexander, Christopher, 1997. Areas of public life and private life, T: Dr. Manoochehr Zarini, Tehran University publication, Tehran.
- [2] Alexander, Christopher, 2011. Architecture and immortality secret, T: Mehrdad ghoyoumi Bidhendi, Rouzbeh publications, Tehran.
- [3] Alexander, Christopher, 2009. Standard patterns in architecture, T: Farshid Hosseini, Merazan publication, Tehran.
- [4] Alexander, Christopher, 1977. A Pattern Language, Oxford University Press, NEW YORK.
- [5] Bahadori Nejad, Mehdi, Yagoobi, Mahmood, 2006. Natural cooling and conditioning in Iran's traditional house, Tehran: center of university publications.
- [6] Fathi, Hassan, 2003. T: Dr. Ali Ashrafi Tehran Arts University, Tehran.
- [7] HaeriMazandarani, M., 1388. *Khaneh, Farhang, Tabiat* [Home, Culture, Nature]. Tehran: Center for Urban and architectural researches.
- [8] Haeri, Mohammad Reza, 2009. House of nature's culture, publication of the research center of housing and urban development of Tehran, Tehran.
- [9] Kasmayi, Morteza, 2008. Climate and Architecture of Isfahan: Khak publication
- [10] Memarian, Gholam Hossein, 2008. Iranian architecture, Tehran: Published by Soroush-e Danesh.
- [11] Norburg Sholets, Christian, 2008. Architecture: presence, language and location, T: Alireza Seyed Ahmadian, Niloufar publication, Tehran.
- [12] Nasr, Seyed Hossein, 2008. Man and Nature, T: Dr. Abdolkarim Govahi, Islamic culture publication, Tehran.
- [13] Rapaport, Amos, 1929. Anthropology of housing. T: Khosro Afazliyan (2009), Tehran: artist profession.
- [14] Sultanzadeh, H., 1997. Tabriz, Kheshti Ostovar dar Memari Iran [Tabriz, a firm adobe in architecture of Iran]. Tehran: Office of Cultural Researches.
- [15] Watson, D., K. Labs, 1937. *Climatic design*. Translated from English by Vahid Ghobadian, V. & Faiz Mahdavi, M. Tehran: Institute of Tehran University Press.