

Review

The status of sustainable architecture in Iranian vernacular architecture

Authors:**Ali Kamyab****Institution:**Department of Architecture,
Rafsanjan Branch, Islamic
Azad University, Rafsanjan,
Iran**Corresponding author:****Ali Kamyab****ABSTRACT:**

Sustainability can be imagined based on a sample in which the available cases and resources are used with more efficiency and more than they are wasting or ignoring. This style of architecture is of the modern orientations and is seeking for being compatible and coordinated with the environment which is one of the most basic human needs in the current industrial world. This attitude is generally supposed to prevent the destruction of nature and maintain the environment and focus on the future generations. The optimal use of energy and utilizing the recyclable material in building structures and focusing on vernacular and cultural aspects of the place are the most important concepts in the practice of ecology in architecture designing which has developed in architecture theory during the recent two decades. Vernacular architecture is implemented based on personal favorites and individual purposes and its enthusiasts. The growth and development of the modern architecture and the appearance of its shortages and doubts towards this type of architecture and studies related to vernacular architecture with a new view are considered by architectural authors in a wide range. This attitude not only appeared in western countries, but it also appeared in developing and Islamic countries. The effects of this wave also reached in Iran and after the Islamic revolution and with the appearance of more favorable conditions of the society it followed up with more strength.

Keywords:

Stable ecosystem, Sustainable architecture, Principles of sustainability, Sustainable development, Modern architecture, Vernacular architecture.

Article Citation:**Ali Kamyab**The status of sustainable architecture in Iranian vernacular architecture
Journal of Research in Ecology (2019) 7(1): 2428-2442**Dates:****Received:** 26 July 2017 **Accepted:** 10 Sep 2017 **Published:** 22 March 2019**Web Address:**[http://ecologyresearch.info/
documents/EC0468.pdf](http://ecologyresearch.info/documents/EC0468.pdf)

This article is governed by the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which gives permission for unrestricted use, non-commercial, distribution and reproduction in all medium, provided the original work is properly cited.

INTRODUCTION

Iran's vernacular architecture has a long history. In any corner of Iran, structures can be seen with different architectures that have a lot in common at the same time. This feature made them required to be investigated. Technology, industry, and scientific advancements highly affected the life style, structures and cities. In the past, houses were designed according to climate, culture etc., but nowadays, structures are designed regardless of climate conditions and compatibility with nature and environment and merely in order to have considerable forms imitating designs and styles of other climates. This matter caused the destruction of nature and unresponsiveness to operational needs and lack of access to a sustainable and flexible construction form in order to reduce the consumption of nonrenewable energy resources. Sustainable architecture is one of the subjects that recently arose and considered in Iran. The vernacular architecture of the different regions of Iran refers to the knowledge of environmental features, especially the climate knowledge of Iran's different zones, the intelligent solution of our ancestors for the more use of natural resources and coping with climate and environmental problems and abnormalities. Sustainable architecture is a subset of sustainable design and sustainable development that can take into account one of the most important contemporary and Logical actions are against the problems of the industrial age (Kameli *et al.*, 2013). The main concern of sustainable architecture is the subject of environment and it utilizes the whole former orientations that focused on reducing the use of material and energy. Iran's past architecture is a treasury of architectural facilities. In this respect, Rezaei *et al.* (2014) suggested that according to the extent of foothill areas and the massive volume of different quarries in Iran, maybe the most important aspect of the innovation of this type of investigating the introduction of the practice of vernacular stones in Zagros area in current modern constructions is with an approach for sustainable archi-

ture and adapting with climate and resisting against earthquake with concerning the principle of economic efficiently. Preserving and protecting the environment is possible with the maximum use of techniques for adapting with the considered climate. Karami (2011) suggested that Islamic architecture in the areas of energy consumption, comply with the climate, and respond to the cultural and social needs is in the framework of sustainable development purposes. In addition, on account of lack of time and coordination with the cultural roots of Iranian people, it can be a good sample for new methods and tools in planning contemporary structures.

Sustainable architecture concept

Whether as creating humanitarian space and regulate the relationship between humans and the physical environment, or as the product of this process, it is always mixed with the environment and in total framework, in can be interpreted as the creation of the man-made sustainable environment. Sustainability forms an internal relationship and a creative coordination that completely opposes the artificial boundaries. Therefore, sustainable designing must be viewed as a comprehensive communication and inclusive of the proper management of energy and consumables in artificial system along with the living world ecosystems. This attitude affects the efforts that are done in order to reduce those ecosystem manipulations and on the other hand, it causes the optimal use of the nature (Sajadzadeh *et al.*, 2015).

Sustainable architecture is a macro term that describes techniques in architecture designing and is in the direction of environmental attitudes and formed by the idea of respecting the nature (McLennan, 2004). This architecture in fact is not a new process because in most of the ancient civilizations and traditional architectures including Iran has existed fundamentally. Now a days, as a result of the negative consequences of the industrial world such as the increasing weather difference and environment increasing pollution, reduced

natural resources, and energy crisis, this phenomenon has become one of the most important human concerns.

Sustainable architecture principles

- Utilizing and stabilizing renewable resources (sun and wind).
- Optimizing the use of resources and minimizing natural resources consumption to the degree that it is less than its natural growth.
- The least production of waste products and pollutions that are absorbable in scale and capacity of local to global environment.
- Providing the human and community basic needs and forming a healthy environment for the future generations (Kazemian *et al.*, 2013).

Sustainable architecture features

- Responsiveness towards spatiotemporal conditions
- Optimal use of the capabilities of its platform in order to form desirable environmental conditions.
- It is compatible to changes, conditions, and needs and it has the least damage to the environment.
- In addition to focusing on aesthetic needs, it is also compatible with natural and ecologic capacities of its platform (Kasmaei *et al.*, 2011).

Sustainability in Iran's vernacular architecture

Nativist approach in architecture requires the knowledge of native culture and cultural conditions because vernacular architecture is the result of the matching with culture and climate. Place and space provide the elements and the main components of the identity. Particularism approach in identification process of architecture is accompanied by nativism concept. Nativism causes the creation of a sense of belonging to place and space and, as a result, the creation of a special identity. Nativism approach causes the creation of an architecture form that is originated in the human feature of space as well as its environmental conditions (Sayadi and Madahi, 2012).

Vernacular architecture creates a type of cultural particularism with effort for adaptation with the cultural indicators of a specific nation. Vernacular architecture is the expression of some of the religious, social, cultural, and economic relations with human natural and artificial environment in which the cultural symbols of the society are reflected and it maintained its resistance and durability on account of having this strong relationships. Vernacular architecture which is realized far from the



Figure 1. The Jame' mosque of Yazd is the grand, congregational mosque of Yazd in central Iran

professions is responsible for responding the needs of a society related to natural factors and human spiritual demands.

Sustainable architecture status

The subject of climate in sustainable development is of the basic and determinative subjects because the subject of sustainable development is saving energy consumption, especially fossil and nonrenewable energies and the climate designing of structures and the city frames will have a significant and determinative role in reducing the fuel consumption and its preservation for future generation. The sustainable architecture concept can be continued from what can be placed in sustainable architecture. A number of general criteria can be introduced as principles of sustainability that include: being affected by cultural and environmental conditions of climate, harmony with nature and the environment, saving energy, the correct answer to the functional requirements, being affected by the vernacular architecture, and the correct use of material. The relationship between sustainable development and architecture is the examples of sustainable architecture in Iran (Bideli and Ghajarbeigi, 2011).

Climate architecture has arisen the role of climate in sustainable development using native material

to its features and with urban ecology. Consequently, it dealt with the preparation of sustainability for accepting or refusing sustainability through traditional ways related to the past. Finally, with emphasis on sustainable architecture approach in Iranian architecture principles and its advantages and also according to the effect of climate conditions on urban designing, we reach the status of ecology approach in sustainable urban development. Sustainable architecture, arisen from the sustainable development, is a process to solve problems in which natural resources have the least damage before and after production process and a building is created completely compatible with the (economic, social and natural) environment. Sustainability is a concept that is more used as a way of measuring value and is a repeatable process. Traditional architecture meets the needs of its time and its repetition is pointless (Pirmohammadi and Rafiei, 2015).

Sustainable architecture and sustainability goals

Sustainable buildings are buildings that have the least damaging effects on the built (artificial) and natural environments of adjacent and also their surrounding area, as well as their overall context. Sustainable buildings pay attention to the entire building life cycle, environmental quality, good performance and the future.



Figure 2. Shah mosque, Isfahan (religion and trading together)

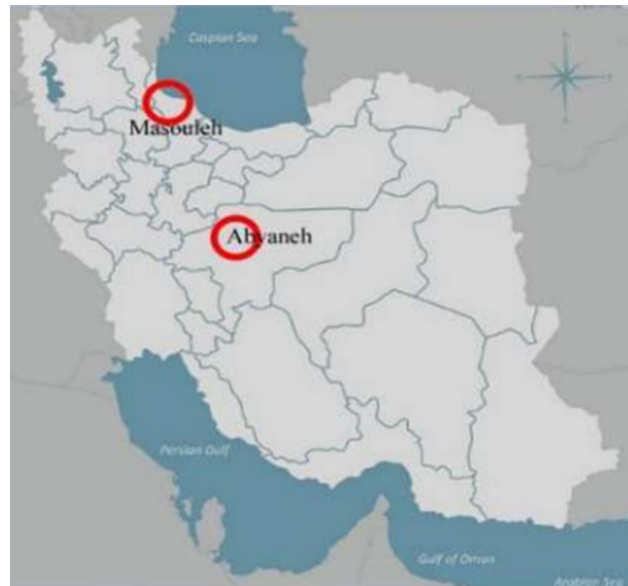


Figure 3. Location of Abyaneh in Iran map

One of the main goals of sustainability is to compensate what human lost in the industrialization and seemingly development. It makes the human to think about preserving ecosystems and the optimal use of the existing talents in the nature in order to maintain them for the future generations for preventing their destruction, while promoting the quality of human life. Sustainable architecture deals more with providing a secure future for the next generation and using renewable energy so that in addition to have the technology of the day, it has the least interference in the cycle of existing ecosystem. Therefore, it paid more attention to the economic and environmental dimension than the social dimension. It seems beliefs and spirituality of a people in a society is not important in sustainable architecture because sustainable architecture does not belong to a specific style and attitude. The minimum interference in the nature and natural resources are important to be remained for future generations (Daryani, 2014).

Sustainable development and environmental architecture

The understanding of the environment and architecture is possible only by understanding human activities in their surrounding world and the purpose of architecture can be considered as forming human ideas

within the physical shape. Human designing is the most important principle in sustainable designing that deals with the biological capability of all the components that formed global environment system. This principle deeply originated in the need for maintaining the elements of environmental system chains that the continuity of life and survival of the human depended upon their existence. The most essential role of architecture is to create and build environments that sustain the security, healthy, physical comfort, mental health, and the efficiency of the inhabitants.

Sustainable architecture in mosques

Sustainable Architecture in the years 1991 onwards, was created as a result of the awareness of human and environmental, social, cultural, and economic issues which is one of the important subjects of sustainable development. One of the most important purposes of sustainable development is to conserve the nature and reform the view towards it. The expression of sustainable development in the field of the built environment is called sustainable architecture. In traditional buildings various aspects of sustainable development has been focused. For example, in a structure, various environmental, climate, economic, cultural and social aspects are focused. When a structure was designing, it was



Figure 4. Abyaneh's (a) Perspective, (b) alley

tried to use the material of that area and designing was based on the climate and the environmental conditions of that region. Considering environment or climate at the time of constructing the structure was in a way that it has the lowest cost and the material that used belonged to that region. Also, the economic and structural aspect of mosques and people's religious aspects that had a religious origin are observed. For example, the entrance of women and men to bedchamber in most of the mosques are separated. Considering culture in Iranian past architecture separated indoor spaces from outdoor spaces so that there is no view into the house from the outside and observing these cases causes the attractiveness and persistence of life in these spaces. Attention to the community and norms governing the society and the study of the features that the mosque of the Qajar period in terms of their architecture as a sustaina-

ble architecture and examining what the features of these buildings have made them lasting is of a great importance.

Sustainable architecture in villages

Vernacular architecture in rural areas has formed based on the thinking and experience of several decades or centuries-old predecessors, in order to exploit the energy of sun, wind and other climatic elements and with minimal aggression to nature and the environment. On the other hand, with minimal use of fossil fuels, for the lack of comfort conditions for residents and with proper orientation and deployment and use of local and renewable materials, it observed the description of the sustainable problem and accompanied it. But what we see today is the process of change and transformation in the architecture of the villages of this province. These types of architecture not only lose their

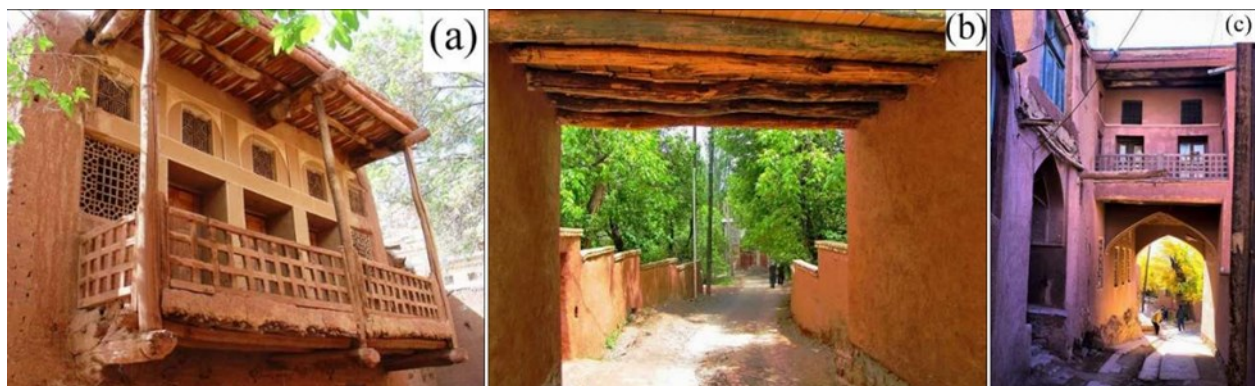


Figure 5. a) Dominant opening typology of Abyaneh, b) contrast between reddish buildings and green trees, c) shade element

originality and accept the foreign and urban architecture, but also they are in conflict with the nature. They require fossil fuels for heating and cooling and maintaining the comfort of the building. It also used for preserving vernacular architecture authentic villages against the flood of modernization and taking advantage of the free energies to provide comfort conditions for residents in the design of new rural and urban buildings (Rezaei *et al.*, 2014). Abyaneh is a good example of rural sustainable architecture.

Vernacular architecture and sustainable approach

Sustainable architecture is a field (vernacular) feature. Despite the fundamental and pervasive mottos of sustainability that are global and aimed at conserving the Earth, it recommends local approaches and considers the global motto (think globally but act locally) to achieve a realistic and workable solution on one hand, and support diversity that exists in the breath of the nature on the other hand. A combination of sustainable architecture cannot be transported from one place to another as a ready product. On one hand, environmental, cultural, social, and economic problems and the intense continuity of these issues lead us towards vernacular architecture and sustainable approach measured and compared to each other for teachings to be extracted for today architecture designing. Although vernacular archi-

tecture has been transformed throughout the history, it could manage to maintain its special identity. It shows customs, spirit, emotions, thought and belief, and taste and art of those people. In this architecture the effects of natural and cultural environment are expressed in the most obvious form, without being able to distinguish one from the other. It seems that the collections those have come out of the heart of this architecture are good example for sustainable approach in their own time and place.

Sustainable architecture patterns in traditional architectural

- Minimizing the exploitation of non-renewable resources and the use of natural and renewable energy sources through the proper orientation of structure.
- Inside the urban tissue and the proper settlement of the spaces inside the building for climate use of spaces.
- Improving the quality of the environment and developing the natural environment through the proper use of green space, according to the climate.
- Eliminating or minimizing the consumption of contaminated and toxic substance.
- Preserving cultural and ethnic identity.
- Wise use of land and the harmony of building with the environment and sinking into the soil in order to



Figure 6. Wind-tower in Yazd to use wind energy as a cooling system

use the heat capacity of the soil in summer and winter.

- Economical construction using alternative technologies of using appropriate materials vernacular materials consistent with each region climate.
- Building synchronization with the environment and the use of construction methods with vernacular materials and the efficient design and implementation of appropriate materials and vernacular materials consistent with each region climate (Nazer, 2013).

Therefore, sustainable architecture tried to create a healthy environment based on resource efficiency and ecological principles and with reasonable use of natural resources and proper management of construction, it helps the conservation of non-renewable resources, reducing energy consumption and improving the quality of life, and promoting the quality of environment. With the principles used in traditional architecture, the obtained result is that criteria used in sustainable architecture have been used in the architecture of this land quite creative and with the tact and intelligence of traditional architects.

The effect of climate on vernacular and sustainable architecture

In the course of modern architecture or sustainable architecture that today has flowed in the science of architecture and urbanism, the valuable role and position of vernacular and climate architecture should be considered. Vernacular architecture, due to high compatibility with the environment, is necessary to ensure cultural and economic sustainability in the long run. For this purpose, the advancement of technology should be in line with nature in order to protect the environment. Vernacular and sustainable architecture analyze the direct and indirect effect of climate on design based on ecological approach and sustainable architecture. Climatic characteristics of different regions play an important role in shaping the cities and architecture of regions. In fact, the climatic design is a way to reduce overall energy costs of a building. Climatic factors affecting a building include radiation, temperature, humidity, wind and rainfall, which the identification of each one and its control in the design is the first step (Rezaei, 2013).

Sistan's sustainable and vernacular architecture

Sistan's architecture inspired by the climatic



Figure 7. Tabātabāei house - Kashan

conditions of the area. Most of the houses in that city are built from vernacular materials including water, mud, and clay in order to retain heat and cold. This city, like other parts of the country, has a warm and dry compact housing texture. The roof of the buildings of these areas is in the form of cradle (Yazdian - covered) and dome (Sistani). In this situation, in the passages that are narrow and the height of the surrounding buildings are high, the wind velocity increases and it can be annoying. Moreover, the location of passages perpendicular to the wind direction caused the accumulation of sand on the road and behind the wall. Such cases are rarely seen in vernacular architecture. In these areas, building heights are generally short and building height restrictions of both sides of the passage prevented the creation of a wind tunnel in the passages in line with the wind (Shahbazi and Torabi, 2014).

Sustainable architecture and the formation of Mazandaran's religious vernacular architecture

Sustainable architecture is a technique in designing and deals with reducing the consumption of non-renewable resources and optimizing the use of renewable resources and according to the needs of the environment. The wise use resources of and with regard to the quality of life for future generations, defines also such

an attitude to the world. Perhaps sustainable architecture is a logical and comprehensive answer on all human questions about environmental pollution, global warming, and ozone depletion, excessive use of fossil fuels and so forth, which had been considered by societies and developing countries for decades. Mazandaran's vernacular architecture contained unique features which in addition to considering the needs of aesthetic, it also was consistent with various natural, ecological etc. capacities and its base. In fact, this architecture did not only reduce the quality of its environment but also strengthened its nature. Techniques used in this architecture encompass many of the new concepts in the field of sustainable architecture. Different buildings, whether religious and non-religious built around the earth at different periods, have established with vernacular architecture in each area with a particular style of the region and this subject applies to the formation of the architecture of each region. At the same time, architects always tried to use the most local resources in architecture. The relationship between Iran's traditional architecture and religion is inseparable and are in cooperation and coordination together. Meanwhile, Mazandaran's religious architecture has considerable points in which the between link religious architecture with vernacular and



Figure 8. Kerman, Zerisef Ice-Pit

sustainable architecture can easily be observed. In the region of Mazandaran, sustainable architecture and the explanation of objectives and its principles as well as vernacular and climatic architecture and the explanation of Mazandaran people's culture, traditions, and religion and the relationship of the religious architecture of this region with sustainable architecture can be observed.

Iranian architecture spaces and the climatic features of Kashan's traditional houses

Iranian traditional architecture has always been, at all levels, the contrary architecture with the climate and responsive of the needs of comfort by the residents and the elements used in this architecture encompass the new concepts in the field of sustainable architecture. With referring to some of the measures used in warm and dry climates, as an example the sustainable elements of the climate in the aspect of climatic zoning, the city of Kashan placed in a climate with relatively cold winters and warm and dry summers and has the following climatic features:

- Scorching sun and extreme heat.
- Warm and dry weather in summer, cold and dry in winter.
- Very low rainfall.
- Very low humidity.
- Very low vegetation cover.
- High temperature difference between day and night.
- Desert areas and margin desert areas of winds with dusts.

Life styles with climatic conditions are the important characteristics of warm and dry areas especially Kashan that affected the operation of spaces. For instance, the introvert houses known as four season are obvious examples that the operation of their spaces can be considered affected by the climate of the region and the practical materials. The rooms around the yard in these buildings were used based on the certain season of the year. The manner of doing this is that the north side

of the yard the winter like sun sheds on it (shelter) has more heat. This is the winter part and most everyday household activities are done in this part of the building. The reverse of this matter occurs in the summer and the rooms those are located in the south side of the courtyard and are cooler and that are the living place for the family. This part is called Nesar (shadow catcher and cool) and the crypt is often under this part. In the warm season, the temperature of the crypt is lower than other parts because it is underground (Sajadzadeh *et al.*, 2015).

Important features in architecture and urbanization of warm and dry climate

Every region, in accordance with its conditions and potential, accepted some effects and revealed some reactions instead, and in this respect, the warm and dry climate has a considerable and significant situation with the following feature:

- Warm and dry summers and cold and dry winters.
- Relatively high annual temperature difference.
- The dominance of dry weather most of the time.
- Low rainfall and low humidity.
- In some cases like proximity with desert, with reaper.

Continuing to live in such a situation surely requires specialized research and expertise. Investigating the desert cities of Iran showed that the physical characteristics of the historical and traditional parts of the cities are remarkably consistent with the new scientific findings. It also seems that the mentioned environmental coordination is a product of a long process of testing and repeated errors which took place during the history and in the event of the design and construction of structures and urban textures (Salimi and Asadian, 2014).

Vernacular architecture

The first name that selected for this architectural phenomenon was spontaneous architecture or Pagounch. The meaning of spontaneous is not the coincidence of it,

but its naturalness. This architecture has traditionally applied to forms that are formed according to the needs of residents of a region and the limitations of the place and climate. It can be said that native architecture is compatible with people of and the environment. It has direct, immediate, and solid lines of communication with the culture of the masses and their daily lives which commonly known as architecture without architect. It applies to any type of architecture that belonged to a specific place. The optimal use of energy and ecological utilization of a variety of sustainable energies is one of the characteristics of this type of architecture. The use of environmental facilities and harmony with nature is evident in native architecture. The use of local techniques and the use of vernacular materials often have a relatively simple process and easily meet the needs of the residents. In native architecture, not only the formic concepts can be considered, but the inspiration principle is to apply the pros to achieve comfort (Amini, 2012).

Although native architecture has been changing by transformational phenomena throughout history, it has been able to maintain its distinctive identity. In dealing with architectural collections and units, the effects of the natural and cultural environment appear in a way that can be good for sustainability in their own time and place. In fact, sustainable architecture is a context-dependent architecture. Sustainable architecture approach has created in response to the sustained survival of humans and the human environment which depends on maintaining the continuity of the bio world's equilibrium. In ecological aspect, sustainable environment is an environment in which the environmental systems are used of the environment and have continuity (Molanaei and Soleimani, 2014).

Rural architecture

Architecture is the result of human thought and spirit. The mental and intellectual content of the designer and the builder is evident in there. The rural man de-

signs and constructs architecture with awareness of the natural, social, cultural and insightful environment and nature. He/she is a real producer, activist and artist. Art is not his/her job, but she/he is spiritually artist, it means he/she thinks artistically. He/she makes the tool work artistically and builds its house artfully. Coordination in components and with nature and surrounding environment is considered as a rural architectural code. Whether in the desert, whether in the mountains or in the woods, village is always compatible with its environment. It is impossible for the rural people to create something that is contradictory to their context or to confront the nature of their place and position. The coordination of village architecture is the source of the inner harmony of nature. One of the spiritual values of nature is its possession of a harmonious system. This harmony is dominated amazingly like music in all the realms of nature (Sabri, 2012).

Simplicity is from other rural architectural codes. The village architecture begins with the house and ends with the house. The architecture of the village house is simple and very quiet, but it is very sophisticated in its entirety. The complexity of rural architecture is not boastful, but what it pretends is simplicity and calmness. The simplicity of rural architecture is intuitive, but its complexity is insightful. The rural architecture in Iran, in terms of its functional nature and its response to human needs, popular activities, production elements and the environment, forms a homogeneous set of specific physical identities which manifests communications and functions and the multi-functional role of spaces. This identity emanates from the habitat and the way of life in the countryside. For this reason, houses in villages, in addition to responding to the need for housing and providing security and privacy, also include villages from the rural production system and connect mutually to it. Available types of rural housing are obvious examples of this feature (Mohammadzadeh, 2012).

Vernacular architecture of Iran and cultural influences

Human is an inseparable part of the environment, and if human beings forget about this, they are moving toward human alienation and environmental degradation. Belonging to a place means having an existential footprint that is felt every day. The urban community, with its own characteristics and characteristics, creates behavioral signs and personality values in urban areas. Urban society and the behavior of urbanites have mutual effects on each other it means the urban environment creates certain behaviors in urbanization, and the inhabitants of the city create, maintain, and continue the specific urban environment. The general culture governing the traditional Iranian cities is to provide a space for peace and harmony with the soul of the current life in them. In the formation of vernacular architecture, some social and economic relations, or the natural environment and cultural symbols are skillfully reflected so that the simplicity and arrangement are simultaneously evident. Vernacular architecture, which realizes far from the expertise, is responsible for responding the needs of a complex related to the natural factors or spiritual desires of humans because it is born with the participation of them in conception and execution. It inspires from their everyday life and is deployed far away from show-off and outsourcing. In this respect, vernacular architecture, without having a style and far from any formula, retained the attribute of innovativeness (Rezaei, 2013). The view of many cultural researchers is the key to form a home and has an important role in social sustainability. The adherence of architects to cultural aspects is of importance because the designer as a breeder strengthens popular ties. Because commitment to culture is the spirit of design and the successful environment can only be realized with full attention to social and cultural aspects. Researchers believed that a house is more institutional than a physical structure with a multidimensional function influenced by society, culture, religion, econo-

my, and environmental conditions. Since building a home is a cultural matter, its shape and organization are also influenced by the culture that houses are a product of them. Vernacular architecture is an advanced form of the popular type and is shaped in relation to the climate, culture and building materials of that particular region. This type of architecture deserves to be loved before it is commendable. The late Mirmiran, an architect of the contemporary period, looked at the Iranian architecture with a special view and this particular view made him prominent among architects of his generation. According to him, Iranian traditional architecture showed that in spite of the plurality, variety and complexity of buildings, principles, bases and relatively few patterns have been used in different ways in this architecture over a period of time. In addition, the evolution of Iranian architecture has been more based on the excellence of these principles, foundations, patterns, and on the flow of intelligent and skillful activity (Eftekhari, 2012).

Vernacular architectural orientation in Islamic countries

Architecture must take into account its cultural aspect before it can be considered as a technical specialty or seen artistically. Architectural space achieves growth and excellence based on cultural concepts in the realm of time and manifests in the dimension of place. Every building as part of the architecture culture has the task of objectifying a mental thought through its apparent form that is for measuring cultures. These cultures, while influencing all aspects of individual and social life, can be transferred from one community to another and from one city to another. Culture affects and shapes the architecture that governs the value system chart and on the other hand, culture is indirectly one of the main pillars of human psychic life. Herman Mutsius, one of Germany's first worker theorists in 1911, writes: architecture was and is a true means of measuring the culture of a nation. When a nation can build beautiful sofas and chandeliers, but it makes every day the worst buildings,

this indicates the dark and unorganized situation of that society, a situation that generally proves the disorder and lack of power of the nation (Nikfetrat and Bitaraf, 2016).

Climate design in native architecture of Iran

Considering that the climate plays a major role in architectural design and sustainable architecture, and given the environmental crisis and the untapped consumption of non-renewable energy and topics such as global heating and the growing greenhouse gas emissions in the Earth's, the subject of proper design of buildings based on the climate had been the subject of the day. Sustainable development is one of the most controversial issues of architecture today and various ideas have been presented in this regard. Sustainable architecture can be considered as an architecture that responds to environmental conditions and optimizes its base capabilities. It means it imposes the least harm to the environment and, moreover, it is flexible to the change of conditions. The use of vernacular materials and the reduction of energy consumption by using traditional methods have resulted in environmental sustainability and durability of buildings. Iran's vernacular architecture is in warm and dry climate in the form of case studies and solutions used in native and traditional architecture for adjusting environmental conditions and given their role in protecting the environment and saving energy.

The concept of culture and mutual effects on architecture

The concept of culture is a very complicated and complex concept that has objective implications. It is an intellectual construct for explaining, compiling, explaining and justifying a complex set of behaviors, thoughts of emotions, and man's creations and includes all the learned and habits that man receives as a member of the community. In the same way that the language plays a role in our thinking and without the language of our thoughts, there is no other ambiguous mass; culture is

also the platform and the text of our thoughts that is effective and impressive. Current communities include a variety of subcultures such as youth cultures, ethnic cultures, cultures of the same sex, or certain people's cultures. However, these cultures have done something from the beginning of the appearance that society accepted them. Members of these cultures have decided to establish their existence and they have demanded to be integrated and accepted into society, whilst their culture is kept intact and preserved (Karami, 2011).

CONCLUSION

The sustainable debate is a debate that is useful in creating healthy spaces and cities and moving towards sustainable development. Vernacular architecture has a direct connection to the life and culture of the people. This kind of architecture, while respecting nature, has been formed in the direction of the correct and clever use of climatic factors. The spaces in vernacular architecture are created based on the needs of the inhabitants, the type of employment, nature, and livelihood. What is expressed as architectural longevity is having a vibrant and dynamic architecture which is not limited to a specific time, but eternal in the history. In the presented work, some examples of sustainable and vernacular architecture in Iran were introduced. Although much of the structure presented are old buildings and not resided currently, but they can be used as a benchmark. These buildings can also be some symbols of Iranian vernacular architecture and culture.

REFERENCES

Faezeh Daryani. 2014. The concept of durability in naming architecture and its comparison with the concept of sustainability in contemporary architecture, *Quarterly Journal of Architectural Research*, Faculty of Arts and Architecture, Tarbiat Modares University of Tehran.

Hadiseh Kasmaei, Alireza Baratifard and Parichehr

- Ghafari. 2011.** Attitudes and principles in sustainable architecture, Tehran University of Science and Research.
- Hossein Sajadzadeh, Vahid Karkhaneh and Nilofar Mokafi. 2015.** Study of sustainable architecture patterns in a hot and dry climate (case study of traditional houses of Kashan), Art and Architecture University, Bu-Ali Sina University.
- Kameli M, Soltani M, Ostad JM, Heidary M and Mohseni E. 2013.** Exploring the settlement system and the form of architecture and civil engineering in old contexture and its effect on sustainable urbanization (a case study of Dezful city). *Life Science Journal*, 10(6): 584-589.
- Majid Shahbazi and Zohreh Torabi. 2014.** Comparing the redefining and redefining of tradition in the contemporary Iranian and European architecture. Quarterly of city identity.
- Masoud Rezaei, Behzad Vasigh and Ebrahim Moradi. 2014.** The Status of Sustainable Architecture Patterns in Rural Native Architecture (Case Study: Hulmes Village).
- Rezaei M. 2013.** The role of the climate in the architecture of the native mountainous regions of Western Iran. Proceedings of the International Conference on Architecture and Sustainable Development, Tabriz.
- McLennan JF. 2004.** The philosophy of sustainable design: the future of architecture. 1st ed. Ecotone publishing, 325 P.
- Bideli M and Ghajarbeigi M.M. 2011.** The traditional architecture of Iran is a manifestation of sustainable architecture, Hamadan, The second sustainable architecture conference.
- Pirmohammadi M and Rafiei V. 2015.** The effect of climate factors on building design and the way to sustainable design, National Conference on Civil Engineering and Architecture.
- Nazer E. 2013.** Sustainable architecture in educational spaces with an emphasis on the characteristics of native architecture in a warm and dry climate, Proceedings of the Conference on Sustainable Architecture and Urban Development, Bukan.
- Nikfetrat M and Bitaraf E. 2016.** Investigating the cultural impacts of native Iranian architecture in sustainability perspectives, Art and Architecture Studies, Islamic Azad University, Karaj Branch.
- Parna Kazemian, Rasoul Darskhan, Elham Kazemi. 2013.** Examples of sustainable architecture in traditional architecture of tabriz, case study: kabood mosque, East Azarbaijan University of Science and Research.
- Rahmat Mohammadzadeh. 2012.** Evaluation of the climatic factors of traditional and new residential buildings in Kohhnamo village. *Geographical Space Quarterly*, No. 39.
- Roknedin Eftekhari. 2012.** Investigating the adaptation of new tools in rural areas. *Journal of Residential and Rural Environment*, No. 139, Tehran, 85.
- Saladin Molanaei and Sara Soleimani. 2014.** Valuable elements of the interior architecture of the region based on the climatic components of sustainable architecture, Faculty of Arts and Architecture, Kurdistan University.
- Seyed Ehsan Sayadi and Seyed Mehdi Madahi. 2012.** Sustainable Architecture, Tehran: Lotus Publishing.
- Amini Sh. 2012.** The revival of the lost nature of vernacular architecture with respect to the local patterns and logic of the conference on architectural and urban logic. Saghez.
- Sirus Sabri. 2012.** Investigating the factors affecting

rural tissue succession, *Journal of Residential and Rural Environment*, Tehran, No. 138.

Soroush Karami. 2011. Re-definition of bionic architecture concepts: a new approach to sustainable architecture, Department of Art and Architecture, Islamic Azad University, Science and Research Branch, 2nd National Conference on Sustainable Architecture.

Zeynab Salimi and Mostafa Asadian. 2014. The effect of native materials on designing the sustainable architecture of desert cities (Case study of dry and dry climate of the University of Ghazni), Shahab Daneshgh Non-Profit University of Qom.

Submit your articles online at ecologyresearch.info

Advantages

- **Easy online submission**
- **Complete Peer review**
- **Affordable Charges**
- **Quick processing**
- **Extensive indexing**
- **You retain your copyright**

submit@ecologyresearch.info
www.ecologyresearch.info/Submit.php