

Sustainable Urban Development: Tracing Iranian-Islamic Architecture

Mahdi Aliyari¹

1- Department of Architecture, Islamic Azad University, Shabestar Branch, Shabestar, Iran.

ARTICLE INFO

Keywords:

Architecture and Urban Planning, Iranian-Islamic Urban Planning, Sustainable Development, Environmental Sustainability

ABSTRACT

In order to construct non-religious religious buildings, geometric, mathematical and design signs should be used. The purpose of this study is to investigate Iranian-Islamic architecture and urban planning and compare it with the principles of sustainable urban development in order to determine that Iranian-Islamic architecture and urban planning are compatible with sustainable urban development. Therefore, the main question of the research is whether Iranian-Islamic architecture and urban planning have the criteria for sustainable urban development. It seems that Iranian-Islamic architecture and urban architecture are in line with the criteria of sustainable urban development. The method used in this research is qualitative. By studying the library resources and examining the views of experts in relation to the concept of Iranian-Islamic architecture and urban planning and sustainable development, we try to describe the characteristics of Iranian-Islamic architecture and urban planning with the criteria of sustainable development so that the relationship between them shows that Iranian-Islamic architecture and urban planning and the principles and criteria governing it are in line with the characteristics of sustainable urban development and its sustainability is more than architecture And it is modern urban planning that has dominated the cities of Iran today. Therefore, the research hypothesis about the compatibility of Iranian-Islamic architecture and urban planning with the criteria of sustainable urban development is confirmed.

Introduction

One of the most important achievements of intellectual, philosophical, artistic, hybrid and productive civilizations and human societies of the city, which has a relative survival, is the manifestation of the cultural beliefs and values of the society and also affects human behavior. In addition, it represents the identity of the society in the view of the world and history[1].

Cities are the main source of human social activity. It is here that the conflict between man and nature reaches its limits. In the meantime, the goal of urbanization should be to establish a good and sustainable relationship between the people of the society and the natural environment and their artifacts. In the past, when the process of urban transformation and development slowed down and the possibilities and diversity of materials, building materials, technology and taste were limited, the customary and cultural system worked well. It was built in a balanced and cohesive manner.[2] Creating an environment throughout history has been one of the main forms of cultural expression that simultaneously reflect the sanctuary's technical practices, artistic sensibilities, aesthetic values, and religious beliefs. However, religion based on the country's inhabitants can also indicate its interference in space and that Islam has also manifested itself in the form of Islamic cities. The existence of the city is considered a necessity for the Islamic government, because in the city, the duties and ideals of the Islamic government have been crystallized and the possibility of implementing the orders and regulations issued by the Islamic government has been provided.

Today, one of the most important topics in scientific circles is sustainable development, which covers most conferences at the local, national, and international levels, and is an integral component of development at every level and aspect. Sustainable development is a process that aims to improve economic, social, cultural, and technological conditions for social justice and the non-pollution of ecosystems or the destruction of natural resources. In this regard, urban planning in general and sustainable urban development planning in particular is the regulation of urban spaces in terms of access to welfare facilities, services, and the proper distribution of urban services. In other words, they seek to provide the best living conditions and appropriate relationships between different uses for urban residents. Reducing poverty and inequality and relying on the principles of social justice and geographical equality is one of the basic measures for development. Sustainable is an urban [5].

The concept of sustainable development means providing solutions to traditional, physical, social, and economic patterns of development that can refer to issues such as the destruction of natural resources, the destruction of the system, pollution, population growth, the prevalence of injustice, and the prevention of the deterioration of the quality of human life and so on [6]. Regarding the concept of justice, some considered sustainable development as a new concept of economic growth that brings justice and the possibilities of life to the whole world, and also that this growth is possible without any destructive consequences[7].

In the theory of development of lands, more attention is paid to cultural dimensions, because the goal of development is to create a fruitful life that culture defines. Therefore, paying attention to culture and human values is a factor to bring the society towards social justice and ensuring great human equality in society. Justice does not deny intellectual and spiritual talents and considers them worthy of human talents and efforts, because The cultivation of talents and meritocracy in society leads to the continuous improvement of the whole society and the social system and provides a better and more humane life for individuals [8].

Although sustainable development is a term that has been introduced in recent decades and has not been mentioned in the past, but by comparing and analyzing its indicators with the characteristics of Iranian-Islamic architecture and urban planning in the past, it is possible to have a controversial review by comparing the characteristics of sustainable development and concluding whether Iranian-Islamic architecture and urban planning is compatible or not. The research is to investigate the sustainability of Iranian-Islamic architecture and urban planning and compare it with the principles of sustainable urban development. Therefore, the main question of the research is whether Iranian-Islamic architecture and urban planning have the criteria for sustainable urban development? To answer the research question, the following hypothesis is proposed:

Research hypothesis: It seems that Iranian-Islamic architecture and urban architecture are in line with the criteria of sustainable urban development.

2. Research Methodology:

The method used in this research is qualitative. By studying library resources and examining the views of experts in relation to the concept of Iranian-Islamic architecture and urban planning and sustainable development, this study tries to describe the characteristics of Iranian-Islamic architecture and urban planning with regard to sustainable development in order to analyze the relationship between them.

2.1. Sustainable Development

The growing growth of development programs, whether consciously or obviously, led to environmental, economic, and social warnings in the 1970s. In response to the issues and crises caused by the above events, new concepts and approaches for future developments were proposed, including sustainable development, environmental justice, new urbanization, and more recently, smart development. [9].

The term sustainable development was first introduced in 1972 by Donella Maddows and Edward Goldsmith [10]. Sustainable development is a process in which economic, financial, trade, energy, agricultural, industrial, etc., policies are designed to be sustainable, economic, social, and environmentally friendly. This means that there is sufficient investment in education, health, population, and energy so that there is no social debt for future generations.

Until the middle of the twentieth century, urban development planning was presumably based on the assumption that the growth and exploitation of the natural environment has no boundaries and that the planet has endless possibilities for its preservation and regeneration, but research by natural scientists and social scientists in the 1960s showed that the possibilities for growth and development on the planet are limited. And as current trends continue, the existence of the earth and man will be in danger of extinction. The publication of the Ram Club Report in 1975 was a global warning that pointed to five dangerous trends:

1. Accelerated industrialization
2. Rapid growth of the world's population
3. Widespread malnutrition
4. Loss of nature's non-renewable resources
5. Environmental degradation

It is as a result of this awareness in the last two or three decades that discussions and issues related to the environment have gained dimensions beyond scientific and technical dimensions and have become a kind of social philosophy and global movement. With the rise of concern about the consequences of human activities for the planet based on a United Nations General Assembly resolution in late 1982, a global commission was formed to comprehensively examine environmental issues and global development. Following international research and discussions, the commission published its final report entitled "Our Common Future" in mid-1987, and since then the term sustainable development has been the central focus of this debate. The research was widely accepted and popularized. The Brundtland Commission defines sustainable development as meeting the needs of the present without diminishing the abilities of future generations to meet their needs, and it is based on three factors: economic, social, and environmental (Figure 1).

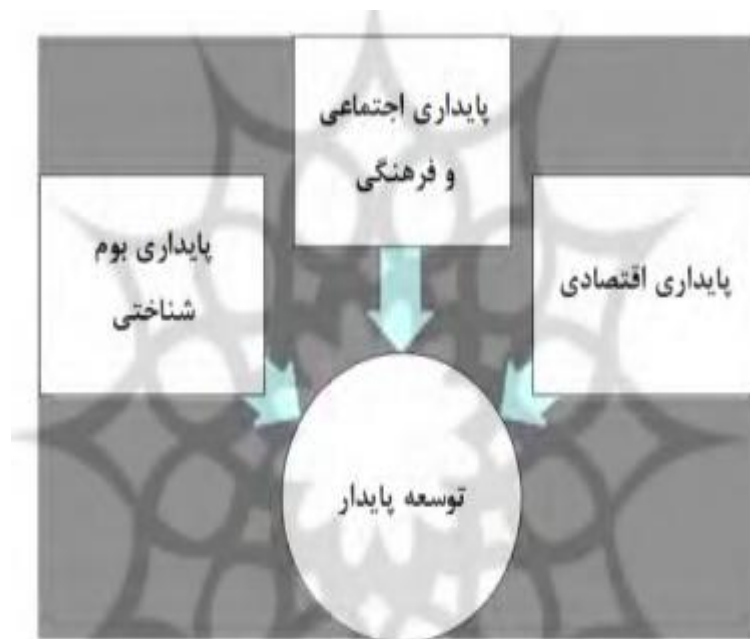


Figure 1: The Different Dimensions of Sustainable Development (Source: Authors)

Others have defined sustainable development as a new concept of economic growth that brings justice and livelihood to the whole world, not a few. It also boasts of this growth without destructive consequences and without over-utilizing the world's limited resources.

In a more general definition, sustainable development as a process requires improvement, and progress is the basis for improving the situation and addressing the socio-cultural shortcomings of societies. Sustainable development has also been the driving force behind the balanced, proportionate, and harmonious economic, social, and cultural development of all developing countries. Sustainable development in a broader sense means the correct and efficient exploitation and management of basic, natural, financial and human resources that are necessary to achieve an optimal consumption pattern through the use of appropriate facilities that can continuously and satisfactorily meet the current needs of future generations. Experts for sustainable development argue on four main pillars:

- 1) Minimizing non-renewable sources (such as fossil fuels and sufficient resources).
- 2) Sustainability of non-renewable resources (such as groundwater, soil, and vegetation).
- 3) Maintaining a limit on waste generation and pollution in domestic and global capacity (e.g., greenhouse gases, ozone-depleting chemicals, and toxic waste).
- 4) Provision of basic and social needs (such as access to means of livelihood, the right to choose, participation in social self-determination, and access to a healthy environment and basic services) [11].

2.2. Sustainable Urban Development

Since the 1990s, sustainable urban development, which encompasses a wide range of objectives, has had a special and privileged place in urban and regional planning [9]. The holding of the International Conference on the United Nations Centre for Human Habitat in Istanbul, Turkey in 1995 is a milestone in the framework of the comprehensive approach to urban sustainable development[12].

Peter Hall writes about the meaning and concept of sustainable urban development as a form of modern development that can ensure the sustainable development of cities and urban communities for future generations. In 2006, the European Commission also defined sustainable urban development as a challenge to solve the problems of cities and cities.:

In this regard, ecologists consider the most important ecological principles governing sustainable urban development as follows:

- Adaptation of Urban Activities to Natural Conditions
- Balancing the city with natural resources

- Minimal interference and violation of natural conditions
- Consider the city as a closed system as much as possible.

Ultimately, the concept of sustainable urban development is a process with the aim of creating a sustainable city in accordance with the needs of citizens and a suitable place for the present and future generations to live in terms of performance. Sustainable urban development requires success in achieving urban quality goals as long as equal conditions are provided for the present and future generations. Also, the natural resources of the city and the region beyond its ability to reproduce in the city should not be used.

2.3. Foundations of the Islamic City

The characteristics of buildings and cities, in a society, derive from its cultural elements and gradually penetrate into the cultural fabric of the people. On the other hand, jurisprudential rulings regulate and organize laws in the field of urban construction. These rulings are derived from original Islamic concepts such as the right to private property and the freedom to occupy them and make changes. And this freedom is not absolute freedom, but a limit. And it has a boundary that originates from the Prophet's hadith "There is no harm and no harm". In this context, restrictions were imposed on the appearance of buildings in Islamic cities, according to which the appearance of the building had to be such that while respecting the right of possession for the owner, it did not cause harm to others. In the location of the city's markets on the streets of Attlee, it can be seen that the market should not disturb the residential neighborhoods. The regulations summarized the cases of loss and nuisance into three things: smoke, bad smells, and abnormal noises. This led to the transfer of the nuisance industrial workshops outside the city limits and to places where the wind did not blow the bad smell or smoke from these workshops to the city (Table 1) [14].

Table 1: Foundations of the Islamic City

Explain	Characteristics of the Islamic City
Space is not just a mere form, according to Isla's view, the outward body of man has been created as a compound for his great soul	Physical space
In terms of the physicality of accurate orientation , calculation and correct navigation, as well as the physical collision of water and water, the most important indicator The vast spaces of Islamic cities	Physical direction of space
The main axis of the city	Mosque and Grand Mosque
The Highest Virtue of Muslims	Schools
The Prophet (peace and blessings of Allah be upon him) said: "Whoever builds a building by reducing the materials will not be rewarded."	Strength and stability
God's Good City	Garden
Friend of God	Beauty
The Basis of Creation	Order and symmetry
Security of life = health of the community	Security

2.4. Cinema of Islamic Cities

Regarding the appearance of Islamic cities, Professor Ahmad Ashraf says: "The cities founded by the Islamic rulers had two main pillars: one was the Jameh Mosque and the Potof Rey Bazaar. The building of the Jameh Mosque, as the spiritual center of the city and the area under its influence, was built in a suitable place next to the main shahreh, in a large rectangular area. Next to the Grand Mosque was the main center of the government, which was the headquarters of the ruler or its deputies. On the other side were the Jameh Mosque and sometimes around it were the bazaars (Fig. 2) [14].



Figure 2: Characteristics of the Islamic City - Source: Authors

2.5. Islamic Architecture and Urban Planning

The Islamic city is first and foremost a fortress of faith and is governed politically and legally based on religious rulings, and therefore the religious role of the city is a priority for the military-economic goals of the government in that city. The urban society in the Islamic state is in full harmony with the two rural and Islamic societies. [4]. But the main features of architecture and urban planning are as follows:

- In Islamic architecture and urban planning, there are usually four determining factors: climatic conditions, local materials, traditional forms, lifestyle, and Islamic and social values.

- One of the indicators of the holy place is the hierarchy of justice and equality that is observed in Islamic urbanism. The hierarchy is interpreted in terms of presence and confidentiality. Fairness and justice also negate the superiority of one point over another.

Regarding the architecture of Islamic houses, we can mention the hijab and hiding of Muslim houses, dividing the house into exterior and interior, installing two types of bells to distinguish male and female guests, and using delicate and colored glass.

- Regarding the streets and their role and function, it can be said that in Islamic urbanization, the alleys are long and curved, and they cast a shadow on the profile of the houses and prevent the penetration of hot winds and intruders in the streets [3].

Pre-Islamic Iranian cities had certain characteristics, such as walls in which cities were enclosed and only cemeteries were built outside those walls. The mosque and the bazaar are two urban elements, and the mosque was the tallest building in the city of 17.

- The existence of residential neighborhoods within the city with proper separation and coordination with the social, ethnic, religious, etc. City.

- The existence of military-defense installations such as fences, towers, ramparts, gates, and neighborhood guards.

- Other specific specifications such as cemeteries and periodic markets outside the bar town (ibid.).

- In the Islamic city, the exploitative relations between the city and the village were destroyed during the Sassanid era.

- Islamic guilds were one of the main features of Islamic cities until the present century. The prominence of the role and the connection is especially characteristic

-It is the Islamic trade associations that distinguish them from the business associations of medieval Europe.

- The basics of urban life in the Islamic period are divided into the following topics: how to manage the affairs of the city, religious and educational centers, guilds of the city, and neighborhoods of the city [15].

Islamic architecture is derived from the language of the Qur'an and shows the depth and richness of Islamic civilization by using the spirit of spirituality. This is in such a way that the belief in monotheism and faith in the teachings of Islam as the aesthetic thought of Islam is manifested in Islamic architecture. When civilization came into existence, architecture was an art that, apart from color variations, showed identity and culture, so that the manifestation of architecture is well represented in images or carvings. The art of Islamic architecture was developed and expanded due to the presence of great architects who carried out innovative activities by observing a number of special principles, which confirmed the understanding and type of religious outlook of a person. In fact, this type of architecture relied on the opinions, experiences, and initiatives that the architect used. This led to diversity in Islamic architecture, and given that this architecture originated from the language of the Qur'an, it showed the depth and richness of Islamic civilization by using the spirit of spirituality. The relationship between architecture and Islam is a sign of belief in monotheism, faith, and practice of the teachings and teachings of Islam.

The identity of Islamic architecture is the same all over the world, despite linguistic and civilizational diversity, and these variations can be seen from China to the Atlantic Ocean despite the multiplicity of cultures. Although the Romans and other ethnic groups also had architecture, Islamic architecture had its own characteristic. Another feature of the art of Islamic architecture is the decorations, which the Prophet's Mosque as the first Islamic building had Islamic architecture. The roof of the Prophet (pbuh) was made of palm branches and was not built by relying on decorative elements, but during the reign of Walid ibn Abd al-Malik, Islamic architecture was used in it using mosaics with very beautiful and diverse spiritual colors.

2.6. Traditional Iranian-Islamic Architecture and Urban Planning

In the definition of Islamic-Iranian architecture, it should be stated that Islamic-Iranian architecture is an architecture that has styles, styles, and bones, such as the earrings and arches of the Sassanids, Parthians, which are covered with a luxurious garment of various motifs and designs, including geometry, which is accompanied by a variety of building decorations such as formalities, muqarnas work, various knots, lines and decorative motifs such as reasonable Kufic, Naskh, etc. Thuluth, Nastaliq and other Islamic arts have been adorned, in Islamic-Iranian architecture which is derived from the divine spirit, all the elements, details, and compositions of the design and plans all have the origin of sciences that ultimately man, who is considered the perfect manifestation of divine attributes on the earth, always seeks himself while comforting, security (the strength of the buildings) and the beauties of God. Whether inside residential spaces or in the spaces of an open urban society) and places related to work, trying to live well is always a transcendent process, therefore, in addition to the dominance and dominance of the spiritual spirit of the Holy Essence of Oneness in the lives of human beings in reaching perfection and virtues derived from the holy law and in relation to other sciences such as the science of civilization or urbanization and living with other people using The indicators and factors hidden in the world of intellect somehow accelerate the means and means of attaining these attributes and divine perfection in themselves.

The place is mythical timeless and flows in the "present", the architects and the man of the past did not seek to repeat history, but the past was flowing and passing the present and joining the future. Thus, traditional Iranian designers and architects in Yazd, Isfahan, Kashan, Kerman, etc. They did not seek to repeat the pattern of darkness, but the past existed and it was as if an eternal and eternal pattern had been proposed, and they consciously or unconsciously continued it.

Islamic architecture is one of the most influential architectures in the world due to the type of Islamic-Iranian architecture . Professor Hillenbrand, Professor of Islamic Art at the University of Edinburgh in

Scotland, said: "The architecture of Iran and Egypt is the main source of inspiration throughout the world and the Islamic world. The Iranian-Islamic city is the result of the interactions and influences of various factors of endogenous and extraterrestrial cities, which are the geographical basis of the territory of these cities in the course of historical developments.

Having a practical logic for all elements, spaces, collections, and avoiding futility. Diversity in use, aesthetic goals, innovation, innovation, initiative, and non-imitation of non-Muslims, different valuations for urban spaces, respect for privacy and family, opposition to adjacent units, avoiding any interference with neighbors, observing the appropriate height for residential units; Avoiding extravagance, making useless and luxurious elements, adapting the bodies to the geometry of spaces, roads, streets, streams, etc. Identify houses by building beautiful halls and shades and decorating them. The need to create enough light and lighting in homes and their appropriate climatic orientation. The need for human-nature communication in homes; creating peace and tranquility in front of other urban spaces that are crowded. Paying attention to the principle of unity in plurality in the construction of the city and urban spaces. Belonging to a collective and stable identity and opposing individualism. Respect for the rights of neighbors, use of old construction and structural methods of Islamic elements, etc.

Islamic cities, like other cities, are subject to their own culture, tradition, and religion, and they have exhibited this culture in their cities and cities. Many Western and Eastern historians consider the progress in the agricultural economy to be the main factor in the emergence of the first cities, which is accepted by those who have studied Islamic cities.

2.7. Four Principles of Iranian-Islamic Arts

Pirnia considers the four principles of Iranian-Islamic arts, which in his view is the Islamic criterion of art, as follows:

- Diplomacy is the observance of the human scale in a desirable way based on human needs.
- Self-sufficiency means the maximum use of existing facilities and local materials.
- Avoiding futility means avoiding unnecessary additions.
- The introspection and intrigue of Iranian architects towards courtyards, washing places, pits, gardens, penthouses, and hats that surround nested houses and create intrusive environments, has long been part of the logic of Iranian architecture.

3- Results

Iranian-Islamic architecture and urban planning has a functional logic in terms of content and culture, in which imitation and principles of foreign architecture and urban planning have played a very small role. Iranian-Islamic architecture and urban planning have been in harmony with nature and have been used for the construction of indigenous materials. One of the elements of authentic Iranian architecture based on climatic needs is an arched domed arch that is designed according to the local climate and is suitable for hot and dry regions. Another feature of Iranian-Islamic architecture and urban planning is the establishment of social justice. Social justice is a prerequisite for sustainable development, and urban development will be sustainable when social justice is realized. This feature is also evident in the relations between city and village.

The findings of the research indicate that functionalism and applied logic for all elements, spaces, collections and avoidance of uselessness; plurality in use, aesthetic goals, innovation, initiative and non-imitation of non-Muslims; different valuations for urban spaces; respect for privacy and family; opposition to adjacent units to prevent any interference with neighbors; observance of appropriate height for residential units; Avoiding extravagance, making useless and luxurious elements, adapting the bodies to the geometry of spaces, roads, streets, streams, etc. Identify homes by creating beautiful, shady doors and decorating them. The need to create enough light and lighting in homes and their appropriate climatic orientation. The need for human-nature communication in homes; creating peace and tranquility in front of other urban spaces that are crowded. Paying attention to the principle

of unity in plurality in the construction of the city and urban spaces. Belonging to a collective and stable identity and opposing individualism. Respecting the rights of neighbors, using old construction methods and Islamic structural elements, etc.

are among the characteristics of Iranian-Islamic architecture and urban planning, all of which meet the criteria and principles of sustainable urban development and lead the city to sustainability. Iranian-Islamic architecture and urban planning have significant differences from today's modern architecture and urban planning, and the following table shows the characteristics of these two types of architecture.

4. Conclusion

Authentic Iranian-Islamic architecture and urban planning were formed based on individual needs, creativity and technology, providing space, and the emergence of form. The results of the research show that Iranian-Islamic architecture and urban planning and the principles and criteria governing it are compatible with the characteristics of sustainable urban development and its sustainability is more than modern architecture and urban planning that governs today's cities of Iran. Therefore, the research hypothesis about the compatibility of Iranian-Islamic architecture and urban planning with development criteria Urban sustainable is certified.

References

- [1] Negizadeh, M. Characteristics of the Islamic city from the Holy Qur'an..Sayyafi Mobin, 2 (5), 1998.
- [2] Salehi I. The Role of City Rules and Regulations for the Realization of Good City and Sustainable Urban Development, Journal of Environmental Studies, 2007.
- [3] Vosough B. and Pashootani A . The concepts of residence in the verses and narrations of Islam, 2009.
- [4] Bahraini S. M.From Shar to City, Tehran University Press, Tehran, 2008.
- [5] Nastaran M. . The application of TOPSIS technique in the analysis and adaptation of urban development (case study: urban areas of Isfahan). Journal of Geography and Environmental Planning, Serial No. 38, 2010.
- [6] Salehifar M . Evaluation of the role and place of the model of sustainable development in Iran's urbanization structure. Economic political information, 2004.
- [7] Rahmani F. Sustainability Development from Theory to Practice. Political-Economic Information, No. 69, 1993.
- [8] Motie L, Seyyed H. Strategies for the Realization of Social Justice and Sustainable Development. Journal of Faculty of Literature and Humanities, University of Tehran, 2001.
- [9] Azizi, M.M. Residential City of Paidar.Narmak Case Study, Zanat Art Gallery, Tehran, Iran. Fall, 2007.
- [10] Wheeler S.Planning for Sustainability, Routledge: New York, 2004.
- [11] Parank J. and Mahboob A.The Laheh Report on the Perspective of Sustainable Development (From Thought to Action), Translated by Mostafa Mohajerani, Journal of Environmental Studies. Environmental Research Collection, University of Tehran, No. 28, 2001.
- [12] Saeedi A, Encyclopedia of Urban and Rural Management. Tehran, Municipalities and Municipalities, 209
- [13] Mofidi M. and Eftekhari Moghaddam, A. Sustainable Urban Development, Its Viewpoints and Principles in Developing Countries, International City Construction Quarterly, Sixth Year, 12 (1): 15-23, 2009.
- [14] Akhvat, H. et al . Traditional Architecture and Urban Planning in Islamic Countries, First Edition, Tehran, Heleh Publications, 2010.
- [15] Yazdani M. H. and Pourahmad A. The Effect of Modernism on the Physical Transformations of Iranian-Islamic Cities (Sample of Tabriz). Geographical Research Journal., 2007.
- [16] Heydarpour, A., History of Architecture of Iran and Islamic Countries, Sunbole Publishing, Tehran, 2002.
- [17] Pirnia M. K. Stylistics of Iranian Architecture.Tehran, Soroush Danesh. In article, 2015.
- [18] Razavipour, Maryam, (2011). The Islamic Iranian Identity of Tehran in Time, National Journal of Journalism, 51(3), 2013.