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City and Nature Interactions in the Formation of Old and New Fabrics of Gorgan with an Emphasis on Landscape Concepts*

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Abstract

Locating and establishing cities depends on the natural and climatic structure of the region, the shape, landscape and consequently the architectural structures form in the harmony with physical characteristic such as topography, vegetation, fauna, water and other factors engaged in the ecosystem. Besides, environmental factors have always remind the identity in the mind of landscape dwellers and users and give meaning to it. Therefore, an old tree, water flow and many other landscape factors remain in the mind and become sacred and symbolic.

The diversity of landforms and the mutual relationship of city and its texture, environmental interactions, built structure and formation of landscape with a clear identity is observable in most cities of Iran, including Gorgan. The proximity to forest, river and mountain is another particular characteristic of landscapes in this city. This research aims to study the approaches of confrontation with the nature in Gorgan by using a qualitative approach and based on the interpretations, historical analysis and case study. This research is the result of a group field visit in 3 days in Gorgan. It tries to identify the effective ecologic factors in forming the urban landscape of Gorgan by reviewing the literature and their mutual relationship and introduce the objective and subjective aspects that affect the formation of ecologic landscape.

Keywords: *Ecology, Gorgan, Landscape, City.*

Introduction and statement of the problem

Cities have always formed by interaction with regional ecosystems and landscape

factors. Therefore, the environmental balance of the city and landscape interact with each other and any change or intervention in

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each of them will influence the other. Hence, little attention has been recently paid to the relationship of the city and landscape with its total concept in cities of Iran, especially in the development of new cities.

Gorgan city, with its unique ecologic characteristics and different structure of urban development in the old and new fabrics, shows a very different confrontation of built element and the landscape. It seems that the old structure, with a full organic structure, tries to create the objective and subjective relationship with ecologic elements of the landscape and in interaction with the nature. New developments have occurred with an objective and practical view, despite their proximity with natural environments and closer relationship, and they play no role in nurturing the mind of people. This study defines the concept of landscape and examines the relationship between city and nature in order to identify the confrontation approaches of human and nature in the old and new fabrics of Gorgan city.

Research question and hypothesis

The location of Gorgan city in a region with particular natural elements and unique fabric raises this question that how natural factors of the region were effective in forming the shape of city and its structure. How this interaction has influenced the structure of city over the time. Based on this, at first look, Gorgan is a city that interacts with the natural factors of the area; the structure of city and mind of citizens are formed in relation to natural factors. In the contemporary view, with increasing closeness of city and nature, the confrontation approach has changed and influenced the form of the city.

Research background

Various literature review was conducted by considering the subject of the research. The major subject of literature is divided into two classes: the first class includes papers and studies such as

“the analysis of physical evolutions of Gorgan houses during Qajar era” by Ghelichkhani, Etesam and Mpkhtabad Amree, “physical typology of neighborhood squares in the historical fabric of Gorgab” by Mousavi Sarvinehbaghi, Moradi and Ranjbar, “the study of suitable arrangement of the buildings based on the sunlight and wind direction (case study: Gorgan city) by Modiri, zahab nazori & ali bakhshi and other studies that focus on the physical structure of Gorgan city and its buildings. The second class includes studies such as “formulating strategies for organizing and ecologic design of inter-city rivers with an emphasis on flood control (case study: Dareh Ziarat river in Gorgan) by Habibi Ardabili, Masnavi and Malekmohammadi, and “the study of effects caused by the development of Gorgan city on the proportions of zones with aesthetic value” by Saeidi et.al that scientifically studied one objective aspect of the landscape.

Research methodology

The methodology of this research is based on interpretive-historical analysis and case-study. This is a mixed method. Based on this, in the first step, Gorgan city and its landscape features are introduced. In the second step, the library resources such as books and articles related to the subject of the research and its case study i.e. Gorgan city, will be studied and in the third step, field studies will be conducted and by the presence in the site, the criteria and objective and subjective components in confrontation of nature and city will be examined.

Theoretical frameworks

• Landscape

Landscape always depends on two basic elements that eliminating one of them will cause difficulty in understanding the other. The first element is the environment that embraces human, as an objective body; and the second one is the human entering this environment to understand it, imagines it over time

and forms his mentality of that body. Therefore, in a supreme perception, the landscape is a phenomenon that has formed both elements by our understanding of the environment and its mental interpretation (Mahan & Mansouri, 2017).

• Nature and city

City is the result of non-nomadic human life and the evolution of the fundamental concepts in the mind and the bidirectional relationship of human and environment throughout the history (Mansouri, 2011). The city is a place that its priority is meeting the needs of human rather than other creatures. City is a conflicted creature for human; on the one hand, it is accounted for the alienation of human and his separation from nature; on the other hand, city is the place of connections and social ties. As a result, city plays a role between the two extremes of nature and society. Nature accepts human at its context and finds meaning by combining with human history and order; it is intertwined with the presence of human and place (Rafat, 2013, 44). This balance is faded away nowadays. Nature plays a minor role in the creation of the place and the new cities. Urban development, with a modern look and far from the symbolic role of the nature in historical cities, has homogenized the natural models and prescribed a unique prescription, like the architecture for cities. However, human nature tries to form the mentality of landscape by the presence in the city and nature or imagination, and connects the space with history and context.

Transformation in the relationship of Iranian human and nature

The Iranian look to the nature, especially “plant” is rooted in their thought and ideology about the nature. Iranians have a religious understanding and credible look toward nature and has developed an internal connection with it. In fact, the beliefs of Iranian cause them to respect the nature and its sacredness before and after Islam (Farahi Farimani

& Haghghatbin, 2016, 40). Therefore, the holistic view to the wild nature was dominant among Iranians; the effect of subjective aspect of landscape is stronger in this regard. While in the contemporary period, the meticulous look is dominant and the perception of Iranian in confrontation with the nature human has been influenced by the science and scientific findings. As a result, the modern human enhances the objective aspect of science and has less emphasis on the subjective aspect of the landscape. Fig. 1 shows the shift of Iranian human view toward nature.

Nature and Iranian city

Following the Iranian ideology and culture, the relationship of Iranian people with the nature and its elements is based on the respect and cohabitation. Landscape develops from environmental, cultural and historical background; this has led to the sustainability of the relationship between human with the city (Sheibani & Esmaildokht, 2015, 15). The body of Iranian cities has formed by considering the environment and natural background. However, Iranian cities have cutting edge with the nature. In

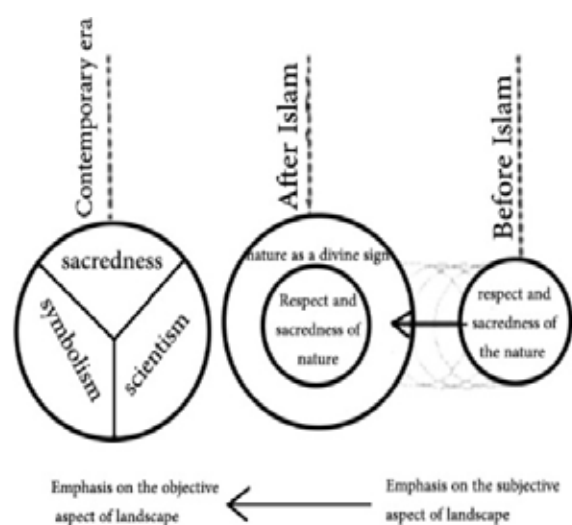


Fig 1. changing the approach of Iranian human interaction and nature during the history. Source: authors with some changes made by Farahi Farimani, Haghghatbin, 2016, 40.

most samples, a powerful fence defines the border between city and nature (Mansouri, 2016, 3). The nature is a subjective symbol and a sign for making memories of residents of organic and traditional cities of Iran. In the modern era, according to the intellectual evolutions of Iranians about the nature, the relationship of nature and city changes with an engineering and scientific approach. The nature is not a sign and it lacks the symbolic role; instead, it is an element with consumption nature and in its best case, it has a duty that should act according to it. Cities are devoid of the symbolic tress, there is no water flow in the neighborhoods and there is no scene to view from the balconies.

- Tree

Tree plays a role beyond its objective and scientific aspect in the minds of Iranians. The loneliness of the tree adds to its grandeur. Finding the location for it in as exclusive point has created a halo of spiritual space during the history and different ears. It is respected by Muslims in their lives, because its advantages are clear for regulating the feelings of the society. The landscape of an old tree in a strategic point of cities or villages in Iran that has created a collective space is a clear example of Iranian landscape (Mansouri, 2011, 5).

-Water

Water, in addition to its objective and scientific aspects, plays an important role in Iran as a sacred thing and symbol of goodness. Placing a pond against the facade or in the yard in most Iranian buildings is a unique phenomenon. The presence of Iranian shrines along with the sacred and natural springs and the center of neighborhoods that are formed with the tree and aqueduct is a proof of spiritual presence of water in the life of Iranian society (Javadi, 2007, 15).

-Viewing the outside

The sustained willingness to have the close relationship with the nature has deep effect on the Iranian art, architecture and city. Where there is

a possibility to open a view toward the nature, it cannot escaped. the Iranian architecture has created the Ivan for this purpose, in order to provide a way to view the plain (Mansouri, 2015, 3). The Iranian mind is not free from the influence of the nature and seeks the peace of mind in the closeness with it; therefore, he looks a long time to the nature and enjoys.

Gorgan City

Gorgan city in the Sassanid era was a fortress with the high towers; it was one of the most important capitals of Iran from early Islamic centuries until the Ilkhanid era for Islamic dynasties like Ziarian, Alavian, Samanian and Seljuk (Mousavi Sarvineh Baghi, Moradi & Ranjbar, 2015, 70). In the one hand, Astarabad was the birthplace of Qajar dynasty. Gorgan, in the first Pahlavi era, was enclosed by 6km fortification (Saremi, Taghinezhad & Piri, 2016, 24). Recently, the association of three main neighborhood i.e. Sabzeye Mashhad, Maydan and Nalbandan has formed the historical fabric of the city. The study of the names of neighborhoods helps to identity the structural identity of natural factors in the minds of people of this land.¹ In the center of neighborhoods, elements like bazar, spring, aqueduct, mosque, public bath, school and even old plane trees were seen (Mousavi Sarvineh Baghi, Moradi & Ranjbar, 2015, 70). It seems that there are some limitations like the tower of the city at the west and south-western as well as the natural and ecologic structure of Hyrcanian forest in the south were all effective in the formation of the city and its development until 1956 (Pourahmad, Hesam, Ashor & Mohammadpour, 2010, 7); (Fig. 2).

Nowadays, the barren lands are occupied with the buildings and the city has the scattered growth model in all direction, especially in north-east and south (fertile agricultural lands in north-east and gardens and Hyrcanian forests in the south) that has damaged the natural resources of the city.

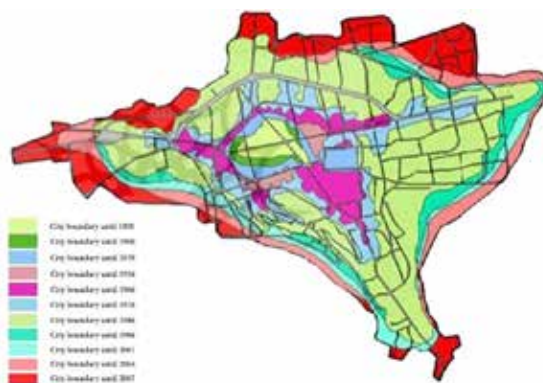


Fig 2. the model for physical expansion of Gorgan during 1851 to 2007. Source: Hesam, Pourahmad, Ashor, 2013, 96.

The interaction of Gorgan city and nature

Gorgan city, as an important urban center at the north of Iran, has formed in a significant tie with the nature and the different aspects of landscape have influenced the organic body of the city and penetrated in the mind of residents. This is faded in the new fabric and contemporary urban development models and the scientific and physical looks toward the city and nature have wiped out the spirit from the urban space. In what follows, a brief description of confrontations of nature elements and city is presented by considering the historical fabric (organic) and new fabric (engineered) of the city.

The landscape of Gorgan at the traditional era

Pre-modern world is full of models and signs indicating that nature plays a significant role in their formation. This is intertwined with the cities with old organic fabrics fabrics and has given meaning to its content. Gorgan is not an exception. This city has organized the mind of citizens by using its natural signs and symbols.

- Land in Gorgan

The land in Gorgan has a smooth slope from south to north. The city is located at the hillside; therefore, the slope is tangible in the urban passages, especially in old fabric with dominant north-south direction. This shows the use of aqueduct, organic fabric

and amorphous geometry in the old buildings. The residential buildings are introverted and the yards are surrounded by two or three sides that have made the central yard (Behzadfar & Rezvani, 2015, 10; Pasian Khamri, Rajabali & Farokhzad, 2017, 95). The buildings have two stories and are adapted to the slope of the streets; the entrances have less steps; it seems that the city and architecture of Gorgan cannot be separated from its context.

-Tree in Gorgan

It seems that the natural context and the proximity to the city with Hyrcanian forests is effective in enhancing the relationship of the city and vegetation. However, the field observations are in contrary with it. This means that although there is no sing of forest vegetation and plant species in the old and new fabrics, but trees are typically dominant in the old fabric and houses with central yard. In the urban texture, especially at the center of the neighborhoods, sacred trees such as plane tree, berry tree and cedar tree are seen. Although these trees are not native in this region but their proximity to the water structures and architecture completes the concept of the neighborhood in the Iranian architecture and they represent the landscape of a single tree and tree of life in the Iranian thought and mind. Nowadays, by the presence of cars in the center of neighborhoods, the plane and berry trees are seen in the Sabzeye Mashhad and Sarcheshme Neighborhoods (Figs. 3 to 5).

The strong subjective relationship of people of this area and nature can be seen in the name of some neighborhoods and alleys in the old fabric of the Gorgan like Pasarve, Sabzeye Mashhad, Dochenar. Although the new fabric has irregularly developed expanded toward the forest but is lacks any representation of it and the religious symbols of the past.

-Water in Gorgan

The presence of water infrastructures in the old fabric of Gorgan is clear and observable. The city



Fig 3. using citrus trees in the yard. Photo: Reihaneh khorramrouei Archive, 2019.

has built on the 80 aqueducts and in the travelogues of people like Ibn Houghel and Rabino, there is a point to the river called Khormarood that its water flow in the city through stone canals and the bridges connected two sides of the river to each other. The physical representation of the water bodies in the neighborhood and houses indicated the presence of water at the daily life of people. The historical public bath in the Mikchegaran neighborhood, Qazi Dabaghan and aqueducts in places such as Sabzeye Mashhad and Sare Khajeh are physical signs of this tie. The ponds in the houses, especially in central yards, basements and water canals, all confirm this



Fig 4 & 5. using cedar and berry trees at the center of historical neighborhoods. Photo: Reihaneh khorramrouei Archive, 2019.

issue.

The distance of the building from the ground level in this region and creating catwalk and platform is to prevent the surface and ground waters (Ghelichkhani, Etesam & Mokhtabad Amrei, 2013, 56). This physical tie in the subjective structure of Gorgan people's mind has led to name a narrow alley "Abe Shor Shor" and Sarcheshme neighborhood. Outside the urban fabric, in the Ziarat village, there is a neighborhood called Sefidcheshme. An interesting point is that the old name of Ziarat village was Khasteh rood (Ardalanfar, 2015, 12).

• Viewpoint in Gorgan

In Gorgan, with the introverted structure of most houses in the historical fabric, there is a viewpoint. The forests in the southern part of the city are the symbolic element of the landscape in the minds of Gorgan people and they always enjoy watching it. Most buildings have two stories and the presence of Ivan in the upper floor provides the suitable view toward forests at the hillside; it also gives meaning and symbol to the alley. As a result, the direction of houses is generally east to west.² The view horizon in the landscape of bazar and alleys with historical fabric frame some angles of the Hyrcanian forests in the framework of the walls of alleys. As such, it embeds the nature into the urban space, alley and bazar and enhances the aesthetic taste of people.

The landscape of Gorgan in transformation

In the contemporary era, the expansion and development of the city has occurred by eliminating the traditional fortification during the long years, like what has happened in most cities of Iran. The invasion toward barren lands with high landscape potential is one of the priorities for expansion. This means that people who viewed forest with respect someday from their houses, now have entered into the nature and dominated it. Today and in the new texture, paying attention to the natural structures is declining. Modern architecture and urban development in the developing regions, regarding the objective approaches and comprehensive plans, has occurred by considering the landform and divisions with right angles and tetrahedral form have dominated the urban lands. This is significant in the nearby villages, especially Ziarat village. The landscape of the alleys lacks the significant frames at its end and it has only functional aspect. In the streets of this city, like other cities of Iran, cedar trees are seen and the trees have lost their sacredness and they are cultivated at the sides of the streets. The city has invaded the borders of the forest and destroyed the forest fabric to provide space for urban development. In the new spaces, especially urban parks, plants are selected without considering the ecosystem and climate of the region that are routinely used in all cities of Iran. This lack of identity and inattention to the landscape can be traced in the history-avoiding attitude of modernism

in the contemporary urban development of Iran.

The condition of water is even worse due to the destruction of old fabrics fabrics and technological changes. Today, there is no sign of water and its use in the new or even old fabrics fabrics and except some half-filled ponds in the historical houses and ruins of the public baths, there is no evidence of using water in the city (Fig 6).

Discussion

Regarding the definitions of the landscape and the interaction of human and nature, we can identify the objective and subjective aspects of the landscape in the two abovementioned urban development approaches. What was seen in the field observations of historical fabric of Gorgan indicates the attention and emphasis on the subjective concepts of the landscape and its effects on the physical and objective structure of the city; such that even by the presence of traditional border and separation of nature from city, Gorgan is full of signs and natural symbols that have effects on the mind of people. Although Gorgan people do not lie in the nature but they live with it and forms images for the daily landscape; therefore, the forest expands toward the city.

Today, by changing the view and by the physical attitude toward the landscape, the nature has become a capital to exploit. Although the nature is still valuable and attracts the human but changing the attitude from subjective to objective has converted the nature to the commodity that should be destroyed



Fig 6. expansion city toward the south and penetration in the forest. Photo: Amin Mahan, 2019.

in order to achieve the goals. In contrary to the past, human became close to nature, expands its living space towards it and in this regard, he paves the land and destroys the forest. Therefore, the nature is nothing more the identifying and valuable element in the minds. Trees have lost their ritual content and there is no sign of single tree as a symbol in the cities and streets of modern cities. The subjective landscape in the lost element of modern Iranian cities (Fig 7).

The international modernism look with the same patterns can be seen in the rows of cedar trees (like most cities in Iran) in the sides of streets in Gorgan. There is no sign of the old trees of the historical fabric of neighborhoods. The enquiry of the old people can show the trace of cedar tree in the Pasarv neighborhood and other places and names are reminiscent of the memories of the springs flowing in the city. Today, there is no sign of aqueducts, springs, public baths and water drinking places of the old fabrics fabrics and water bodies have lost their application.

Hence, in the traditional part of the city with organic urban development structure, we can see the signs of subjective effects of rituals and cultural landscapes in the formation of urban landscape. The subjective concept, such as having viewpoint, makes a difference in the architectural form and structure and finally, it influences the behavioral settings. Although the modern city tries to solve the functional problems by using modern approaches in the urban development, there is a lost loop in the subjective landscape that can fade away the validity and identity of the city from the minds of its citizens (Table 1).

Conclusion

What we have said in the above was the result of field observations based on the scientific data and studies of Gorgan city. Therefore, two approaches can be identified in confrontation of the nature and landscape in the old and new fabrics fabrics of

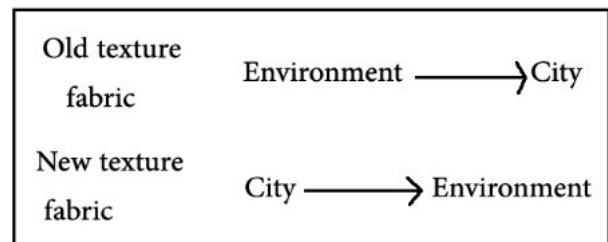


Fig. 7. development direction in the interaction between city and surrounding environment. Source: authors.

this city. It seems that we can generalize it to other cities of Iran. Based on this, in the first approach, the traditional and old city of Gorgan has formed by using and adapting to the objective aspects of the landscape in order to enhance the mind of residents. Therefore, the natural elements are effective in forming the architecture and providing identity for the neighborhoods and streets. They define concepts such as ritual landscapes and viewpoints in the urban structure. As a result, the mind of residents considers the identity and sacred element of tree and portrays it in the mind in relation with water and memorizes the names of neighborhoods with the natural concepts. The subjective aspect of landscape tries to become memorized in the mind of residents and has special importance here. On the other hand, and by the scientific developments and emphasis on the body of the environment, the confrontation of human by nature in cities has reduced in objective aspects and in the best case, it enhances the aesthetic aspect of the residents. Nature has become capital and human has dominated it. The confrontation of modern human with nature in the city has gone toward homogenization by following the international style and has wiped away the identity of the cities. Therefore, it seems that in encountering these problems in the cities, it is necessary to revise the use of identifying elements and the tie between human and nature with an emphasis on its subjective aspect in landscape.

Table 1. the study of landscape indicators in nature-city interaction in Gorgan city. Source: authors.

Human-nature interaction	Old fabric	New fabric (after 1956)
Objective	Paying attention to the land slope & setting in direction of streets, houses & urban organic texture	Expansion according to scientific drawings & geometric structure
	Using water bodies like aqueducts. Public bath, basements & water canals in forming the city fabric & architecture	Changing water bodies & lack of need to previous infrastructures; con-conformity of urban form to water bodies
	Using useful trees in residential spaces (citrus)	There is not enough space to cultivate plants in most homes
	Not using native plants in urban fabric (forest plants)	Using non-native plants in the urban fabric
	Changing architecture form by regarding the climate and settings (platform, catwalk, introverted architecture, two-story buildings)	Architecture based on the economy & density in the urban criteria
Subjective	Naming alleys & neighborhoods with common natural concepts like Pasarv, Sarcheshmeh, Abe Shor	--
	Forest as a valuable concept in the mind	Forest as the capital
	Explain the concept of viewpoint in streets & houses	Proximity to nature instead of viewing nature
	Defining identifying trees in the center of neighborhoods & definition of ritual landscape for people (plane, cedar & plane Trees)	Tree as ornament
Approach	Using objective structures of nature to enhance & emphasize the subjective aspect of landscape	Scientific look to nature & using objectives as economic capital; inattention to subjective aspect of landscape

Endnote

1. Large neighborhoods including Sarpir, darbno, Sarcheshme, Mikhchegaran, Nalbandan, Sabzeye Mashhad and Maydan that have some sub neighborhoods like Pasarv, Mirkarim, Doshanbeay, Shirkosh, Bahghsah, Dabaghan, Shahzadeh Ghasem, and etc.

2. Other factors such as light from south and harmony with the slope of the ground has enhanced this.

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