

Examining the effective environmental factors on urban landscape building (Case study: Investigation of Environmental Factors Affecting Urban Landscape Structures of Arvand River (slang: saghir) Minoo in Abadan, Iran)

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Abstract

Over the past few decades, the growing population and the high density of human environments and the development of urban life in most of Iran's cities have caused problems such as limiting natural environments and neglecting ecological conditions such as rivers, forests and natural resource depletion has led to the emergence of severe challenges. Regrettably, in the case of rivers and their marginal lands, in most cities, we face disregard and lack of proper monitoring; urban rivers are one of the most effective sights in cities with this feature. It is considered that by using the correct potential of the rivers inland, the equilibrium of the relative We created between artificial spaces (man-made) and natural spaces in the city and emphasized the presence and participation of more people in natural environments. In order to create and motivate the presence and participation of citizens in the first stage, there is a need for a space for social interactions that We will strengthen the mental and social health of individuals, and in the second stage, we need a standardized and comprehensive urban design, taking into account the general principles of design, as well as observing the appropriate visual corridors in urban space, in order to create the motivation and possibility of the participation of the people, the main issue in research Present study of environmental factors affecting the visual structure of rivers Urban Rhone and the impact of rivers on improving the quality of landscapes of cities with this potential. This paper has been compiled on the basis of content analysis methodology and data analysis using SWOT technique is presented in Table 5. As a result, the paper has a practical structure that includes a series of basic steps to improve urban landscape indicators along the river bed and provide tourist facilities along the periphery of the rivers in the city.

Keywords: *urban landscape, minoo Arvand free zone, environmental factors, inter-city rivers, SWOTS.*

Introduction

the human need for nature is irrefutable, the journey in nature it's being accustomed to it is highly influential in the human body and in fact, it is surrounding that effect on human beings and reflected back in the personal life and mental health of his soul. Recreation of nature in eye-catching forms with a combination of art and architecture has led to the emergence of new sights and perspectives that can effect on urban structure as well as restore mental health to human life. The constant popularity of the coasts and prevalence of demand for it along the fragile structure of these environments has led planners to become increasingly aware of sustainable development in these areas. These areas are the accumulation center of the most human activity, including: commercial, trade, fishing, inhabitant and tourism. Trying to set the relationship between river ecosystems and urban environment in the field of planning and architecture are aimed creating links between natural elements and human activities based on the values and common needs that underlies the improvement of environmental quality in human societies and consequently, comfort, health and well - being with the health of the natural environment, ecology and the preservation of ecosystems and their positive effects are the result of the design of an efficient and desirable landscapes.

Research question

At the present day, the existence of rivers has many advantages, including: the supply water needed for drinking, agriculture, industry, energy production and always has the direct influential on strengthen and dynamics of urban landscapes. The main issue in this study is to investigate the effects of visual quality of urban rivers relative to urban landscape structure and to explore other issues such as visual quality of cities and its relation to human mental health and the effect of balance of natural and abnormal environments in creating a visual mind among citizens.

Method of research

Brelson has defined the content analyzing as a method for objective, systematic and quantity studying of communicative products in order to interpretation. In this definition has been emphases' on three words "objectivity, quantity and systematically". The objectivity implies that this study is conducted based on the specific rules, methods. So, in order to avoid of misinterpretation, the researcher's view in research process should be directed by a clear and specific sets of rules. The systematically means that the study is determined according to specific applicable rules as well as methodology, scope and content design (Brelson, 1952). It should be noted two conditions of systematically and objectivity implies repeatability of this method so that other researchers also enable to achieve the similar results by using same methods and similar information. Since the purpose is analyzing the content of messages in the form of numerical terms and consequently the use of quantitative techniques that increase the capability of this method. Our data must be transformed quantitatively (percentage and count) otherwise it is not content analysis. In this method, the researcher has direct communication with messages and refers to communication products such as the books, journals, reports, films, letters, memories, photos and lectures and has not direct communication with message sender and human beings. This is the most important distinct between this method and other. Therefore, the mentioned method is defined as a method without reaction, interruption (Kripndorf, 1980) that a variety of content analysis methods are listed in table 1. According to the mentioned issues, the method of research in the field of documentary studies and analyzing the samples is content analysis, the required information's is collected in two forms of documentary study and field surveys and analyzing data is performed by using of the analytical method of table SWOT.

Table 1: kinds of analyzing content

Kinds of content analyzing		
Understanding	Solidarity	survey

Source: (Kripndorf, 1980)

Urban landscape

Our life has been shaped and enriched with the landscape and architecture for centuries. Landscape architecture and architecture are two areas adjacent to each other. Some theorists believe that these two

are actually a field; others believe that they are distinct disciplines and that these definitions are subject of the permanent debate of theorists. With the arguments mentioned in the book of “studies of landscape and architecture” waited by David, they are interdependent and inseparable (David, 2015) and in fact, with a little consideration, the truth may be found in the surrounding environment. Human visual subjectivity when viewing of natural landscapes in the vicinity of artificial scenery (structures) leads to better understanding and closer contact with the environment. The urban landscape is a system composed of three subsets: the urban objective landscape, the urban subjective landscape and the city appraisal subjective landscape and from the interaction of all three landscapes, the urban landscape is formed in its general sense. In fact, the landscape is obtained of combining three views. The first view is psychological eye, second view is sight of the human mind and the third view is mind, memory or emotional effect. Finally, the effective part that is view of human heart and original behavior is based on its (Rapoport, 1997).in the importance of urban landscape, a tool that helps us in reading the text of city is the urban typology that many pundits have worked on it.

Introducing the main elements of urban landscape

In the talk of landscape architecture, in addition to the technical and engineering aspects of design, environmental characteristics and respect to values and ... elements are very important in how of landscape structure. The building elements of the city can be classified into the following three categories: the natural environment, the artificial environment and the environment of human activities, every one containing a subset of its own (Norton at al, 2014). Based on the aforementioned triple sets, we analyze the constructive and efficient elements of the urban, City Rivers in Table 2.

Table 2: Elements of the urban -city rivers

Artificial environment	Human activities environment	Natural environment
Environmental activities	Individual and collective	Surface water sources
physical features	entertainment and recreation	the flora and faunae in region
access networks	strengthens the employment	climatology
landscapes	beliefs and special ceremonies	geological structure

Source: Norton, 2014, Raymond, 2012

Urban green spaces a term consisting of parks, gardens, open corridors and rivers is a key element in modern urban design (Lafortoza, 2013). Green areas within cities, especially with respect to visual quality,

make significant contributions in urban landscape. Many studies have been done on the aesthetic quality of cities; one of the few important studies of urban recognition is image of city. In this work, Lynch examines the relationship between individuals and the visual personality of the urban environment. His main concern is to know how different elements or a part of city are combined to form a distinctive urban image (Lynch, 1960). Frankin believes because of evidence that nature has a major impact on human health; the structure of green spaces is usually not constantly involving plants and associated with natural elements (Frankin, 2013). Plat in his studies has referred to using of living elements and objects in combination to each other and grant the desired quality to landscapes and each design has certain criteria for both mentioned elements. The elements and principles of landscape of all effective design rely on fundamental principles. Understanding these principles will prevent the creation of ugly landscapes and create beauty (Plat at al, 2015).The unity, simplicity, diversity, balance, sequence and scale are conditions that are often associated with art. Design elements are arranged based on specific principles. The shape, line, texture and color of all these elements and principles should be considered to produce design. Protecting biological diversity in the quality of the life of citizens and equality are important issues in promoting our sustainable cities. Meanwhile, river - bearing cities play the most important role in the visual landscapes of a city (Baris, 2013). Vang believes the landscapes that preserve the proper balance between water elements and vegetation have a high proportion in the visual quality of landscapes (Vang at all, 2005).

Table 3: design strategies of inter-city rivers, source: the author, resulting of table 2.

The design strategies of urban rivers based on the elements of landscape		
Natural environment	Human activities environment	Artificial environment
1 Water resources	2 Individually and collective environment	3 Environmental activities
<ul style="list-style-type: none"> ●Using of organic material absorber the organic material on the river bank ●proper using of water landscape in order to design and creating a visual landscape ● prevention of sewage entry in to urban rivers 	<ul style="list-style-type: none"> ●Providing the individual and group environments in order to welfare of people ●using more collaborative environments for interactions with each other ●providing the environments fordifferent ceremonies(open and close) 	<ul style="list-style-type: none"> ●Creating a path parallel to the river to strengthen ties with urban activities ●increasing the per capita in the green space in the river range ●the use of a underlying pattern in landscaping(artificial environment)

4	The flora and fauna of region	5	Entertainment and recreation	6	Physical features
	<ul style="list-style-type: none"> ●coping with the loss of species and preservation the native and organic trees of the region ●using of species with similar climates, conservation of Animal species of region ●the proper use of plant species in the design of the site such as Seasonal plants ● always green ' and so on 		<ul style="list-style-type: none"> ●Embedding suitable applications for all age groups (children, adolescents, adults), ●increasing recreational and exciting games on water and land for different age categories ●and increasing the percentage of safety and health of individuals for Site applications. 		<ul style="list-style-type: none"> ●maintain proper privacy to building and operating on both sides of river; construction of stairs, bridges, cairns and similar elements to the creation of spatial diversity ●the embedding of furniture and attractive urban equipment ●Attention to the surrounding night Lighting ●strengthening individual's physical and visual communication with the river
7	climatology	8	Special Beliefs and rituals	9	Access networks
	<ul style="list-style-type: none"> ●Creating enclosed and open spaces suitable for summer and winter ●reorganizing agriculture for supplying organic product ● recognizing the climate of area and creating landscape respect to favorable and unfavorable winds. 		<ul style="list-style-type: none"> ●taking a space for festivals and operating the ceremonies ●taking space for local gameslocal songs and ... in order to preserve the identity of the region as well as making distinctions to other recreational environments in the minds of visitors. 		<ul style="list-style-type: none"> ●A diverse design in order to adequate access along the river corridor ●creating Separate bicycle lanes, walk, special disability, skiing and ... on the riverbank with foot priority ● embedding class parking lots
10	Structure of geological	11	Strengthening the employment	12	Landscape
	<ul style="list-style-type: none"> ●Establishing the form of land by organizing plant cultivation ●considering the topography surrounding the river and Its use in the reorganization ●using of land topography and creating in diversifies in design. 		<ul style="list-style-type: none"> ●Employing the individuals in the sectors of recreational, services, sports, facilities and typically can caused to increasing the jobs for inhabitants, such as: the MarketBuilding; seasonal exhibition, kiosk, eating booth, restaurant, boating and. 		<ul style="list-style-type: none"> ●Creating appropriate visual vision based on the pattern of the river ●the creation of walking paths and cross bike lanes with the river ● Strengthening the perception of natural sky in the site ●creating a visual diversity between artificial elements and natural elements.

Role of the river in urban landscape

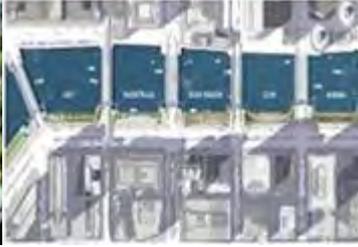
The unique beauties and wonders of nature can be seen in the entire world. when the water come out like a river in a quiet and beautiful city, it will definitely play a significant role in become differentiate image of a city for citizens and even tourists.as in the past the most human civilizations has been formed adjacent to rivers with vast and

different applications including drinking water, farming uses, fishing, supplying energy and also using of wide potentials of rivers in improving urban landscape and creating major urban breathing and natural green belts on the riverbanks indicate the great importance of this natural and vital source. Plat et al in their studying have achieved to positive relationship between the flows of water and imaging quality of visual perspectives. This study show there is a positive relationship between the water level and the quality of perspective and then, attracting people to such areas (Plat et al, 2015). The rivers can be referred as the source of water, transportation and tourism. Nowadays, the water become popular for people in tourism debate and the activities are mainly based on the river environment. The native people should understand the importance of tourism, the latter on the coast usually associated with tourist facilities and activities relate to water and enjoying of tourism landscapes or attractions. Urban planners should increase the environmental quality in low density (Helima et al, 2016). Considering that distribution of space of urban environments is accompanied by economic and social inequalities, the main concern is whether the presence of green and semi natural public spaces factually improve the life quality of inhabitants.it depends on how inhabitants enjoy it and even increase their presence. this flora depends on their understanding of nature, lifestyle, behaviors and economic and social features (Mery, 2010).in the last decades, many countries in the world have paid special attention to the status of inter-city rivers and has successfully defined projects in order to organize and rehabilitate them.in table 4, we look at a number of cases that refer to the values and importance of the most inter-city rivers whiten the urban landscape structure.

Table 4: Case examples of urban rivers, the importance of the urban landscape

Introducing the case studies inter-city rivers are aimed at the importance of urban landscape structure

picture	Urban river	Introducing
1	rivers Manzanares (Madrid, Spain)	The summery introducing of case study: the side of river water was not available for the public due to its proximity with highway for 40 years. the design match was held in 2005.according to design,360 acre to the parks,14.8 acre to athletic and public facilities, art centers, coast, place of children's game, café and open space and architecture inheritance were devoted(picture 1),(Marta,2012), (Rimond, 2011).

		 <p>picture 1</p> <p>Reference: https://www.plataformaarquitectura.cl/cl/785690/costanera-peatonal-de-chicago-</p>
<p>2</p>	<p>rivers Chong jinn chon (Seoul, south Korea)</p>	<p>The green oasis liner park in heart of Seoul is one of the biggest urban design projects in the world. This success is inspired by urban renewal of water highway full of traffic that converted the concrete canal into a path full of light to 36 mile and has more than 600000 visitors daily. The healing process led to increasing the local biodiversity and has accelerated economic development (picture 2).</p>
		 <p>picture 2</p> <p>Reference: https://inhabitat.com/seoul-recovers-a-lost-stream-transforms-it-into-an-urban-park/seoul-river-park</p>
<p>3</p>	<p>rivers Clyde (Scotland,Spain)</p>	<p>The Clyde, s river runs 20 miles from east to west, from Glasgow grinder, center of Glasgow to Dumbarton in Clyde. In November 2001, was formed to supervise on the project and recreating the environment of collective river and has created more than 33000 jobs in the last 15 years (picture3).</p>
		 <p>picture3</p> <p>Reference: http://www.mistyriver.co.uk/aerialimages/h250EB4E8#h21f3f83a</p>

4	rivers Trinity's (Dallas-America)	The banks of trinity's river is seeking to increase tourism and recreational services in the future of city.it will provide visitors availability to playgrounds, green spaces and hiking trails.2.5 miles of the route was opened in 2015 and the plans are being made to add to this route and connect the passage to the river(picture 4).
		<p>picture 4</p> <p>Reference: http://www.stoss.net/projects/27/trinity-riverfront/</p>

The effect of urban landscape on human health:

The relationship between landscape and health has been considered for a long time in different cultures and societies. The presence of natural and artificial elements in landscape of the five senses makes it possible to understand the environment for humans. the idea that looking at water, grass, hearing the sound resulting of natural elements(movement of the water and sound of birds),smelling plants and flowers and the taste and touch effect on five sense and focusing on it can be effective on reducing stress, the above-mentioned also have been examined during researches in central Asia(Villard, 2007).uncontrolled urban development with uniform and distributed zoning applications has had adverse effects on the function of natural systems such as vegetation, trees and surface and underground water networks and air quality of cities. As a result, the health of human communities has put in risk. Fredrik lava Olmsted, one of the landscape architect in 19 century, introduced the presence in fresh nature and seeing natural landscapes in order to reduce the psychological pressures of life's citizens (Jackson, 2003). The effect of design and visual quality of urban environment on the behavior of people and their mental health has been proved in the researches of environmental designers such as "William V ayt, Epliard, Quinn Lynch and Alexander. high quality urban spaces has provided the background of social interactions and emergence of individual skills and abilities and encourage the people, the jobs and professionals and even the wild life, birds at micro and large scales of urban spaces. On

the one hand, low quality spaces are associated with poor social status and degradation of environmental and economic quality. The obtained data shows that many varieties such as the water, air, sound, the weather, the light and margin of spaces are very effective in deciding for increasing mental human health.

Introducing the region completely

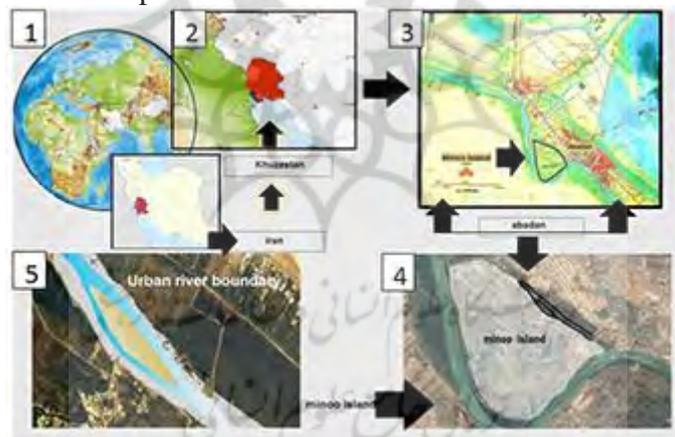
Introducing the region of Iran, Khuzestan province, Abadan town, minoo city island region:

Iran country with long history it is located in the civilizations areas of Mesopotamia and Transoxiana in the western region of the vast Asian continent which is known as the Middle East. Ancient and historical works of Iran dates back to more than 4000 years. by 1313, Iran was known as Persia in the international relations. Iran in terms of size is eighteenth country in the world and its area is 648195 kilometers. Khuzestan province is located in southwestern of Iran that located in the side of Persian Gulf. Historically, Khuzestan is the oldest region in Iranian plateau which its inhabitation background dates back to 2700 BC and formation of Ilam civilization in the 3rd millennium BC. Abadan town is one of the most famous towns in southwest of Iran. Abadan is located in south west of Iran with 2063 hectares'. This town plays an important role in the country's economy with holding the oil finery, petrochemical plants and access to free water. Abadan is the filets city in Khuzestan that two river, Arvand River and Bahmanshir, are flooded in it. The biggest island of Arvand river is Abadan. Arvand river is formed from joining two rivers, Tigris and Euphrates, a place on the right side of Majnoon Islands. Arvand river has stretched of this place to south of Iran and is common bounder of Iran and Iraq. Minoo city is a recreational island for citizens of Abadan and Khorramshahr. This island is located in side of Arvand River in the margin of Abadan and in 10 km from Khorramshahr city. The largest diameter of the island is 2.6 km and an area of 8.17 that covered with many kinds of palm trees. There are 5 rivers in minoo city island that two rivers is branched of Joraf river and three river branched of other river in Arvand river. This river has a varying width ranging 400 to 1000 meters and depth to 18 meters. Arvand River is flows from both Tigris and Euphrates and Karun River also flow into it. The flowing water is from the north to south that leads to Persian Gulf. the river

water which is effected by the sea, mainly has two movements, flow (reducing the height of water and motion water to the Golf) and add (increasing the height of water and its motion from sea to river) that are repeated four times. The height of water in deepest part of river is 25 meters and the water height difference at the lowest add and peak of flow is 5/3.

The location of site:

Arvand River located in the county of Abadan and in the area of minoo city. It has many features of the regional capabilities and capabilities of the growing region. Around the city of Arvand to develop various activities in different seasons of the year with varied recreational facilities on the banks of the city of Arvand The local title for the accumulation and use of nature, has a high potential for the composition of the architecture and landscaping, the flat site land. It is 4 meters high in the tides - and there is little difference in height. The difference between the heights of the site with the river is about 3 that are variable in comparison with flow and add of river.



Picture 5: Introducing site location

The present situation

There are now around the site of a number of residential units, palm farm, a number of bistros and coffee shops, as well as a coastal strip that has many significant deficiencies and does not cover specific activities that include the following.

Positive Potential Applicable on Site

By placing traditional markets and seasonal and permanent exhibitions, cultural centers and memorial buildings within the green

spaces of the riverside, in addition to providing mental and psychological needs and increasing the per capita of urban green space, it can provide social and cultural needs of citizens, Creating multi-functional platforms and the possibility of equipping space for use at different times of the day, as well as special events, designing facilities for the presence of different age groups and social groups, converting bridges from the local area just to cross the place for fun and contact with water, use Temporary and permanent shadows in areas where the sun is annoying, creating constraints Safe diving for swimming and boating will play a vital role in the liveliness and dynamism of the region, the proximity of the site to the airport and the horse riding and polo club, as well as the racecourse and racetrack located within the site, have an important impact on attracting people to the area. There will be some positive and negative points in the analysis of the site that are presented in Table 5, and we will discuss them using the Swat Technique (SWOT).

Table 5: using of SWOT analyzing to make framework design on the side of Arvend, s Inter-city River

Weaknesses	strengths
<ul style="list-style-type: none"> • Lack of proper exploit and unique urban design on the coastal strip (none using of different plants species... • weaknesses in road design for bicycle riders and sidewalks • weaknesses in urban public transport to the region • lack of determining a location for parking lead to problems such as lack of security • lack of restaurant and kiosks high quality foods • lack of adequate activity: child, teenagers, adults • lack of recreational areas(sporting, religious, recreational green space • lack of individual and group environments • lack of exciting activities on the water and land for all ages • lack of an exhibition or a market and local products 	<ul style="list-style-type: none"> • The existence of a natural skyline (low-lying marginal buildings). • The presence of the natural landscape of the river and a pleasant mental landscape. • The existence of an island with an area of 50,000 square meters across the river, where Arvand River water flows around it and has a high potential for design projects. • People can access the site safely and in three ways. • The existence of beautiful palm plantations (native plants). • The presence of various species of birds the region. • Lack of uniformity of the river route (with variable transverse). • The site is far from the pollution and congestion of the city center and its location in the pristine region. • Low level of land expertise to residential uses. • The proximity of the site to the Equestrian and Polo Club, motorcycle and motor racing
threat	opportunity

- Surrounding buildings in the event of non-functional monitoring, may limit the site's skyline and site visibility in the future.
- It should be noted that by increasing tourism, the region has long-term preservation measures to protect natural resources that do not seriously damage the ecology of the region.
- Routes should be available throughout the day and night, and especially with good quality and bright day and night, so that people feel more secure to use all parts of the site.
- Lack of parking and optimal security will result in poor quality of the area and long-term adverse effects on tourist attraction.
- It should be noted that the design of human-made environments in the site area should not include a high percentage of site space, but should be less than the natural environment of the perimeter, a more natural visual perception than human environments An artificial one.
- The use of Bayer land plots on the margins, for setting up greenhouses of indigenous and non-indigenous plants; use for different uses and prevention of atmospheric pollution and soil erosion.
- By creating various recreational activities on water and drought for different ages, it can have a significant effect on the absorption of age groups.
- Designing quality trails for cycling, walking and riding in order to optimize the communication of the site.
- The existence of redevelopable land (less developed sites).
- An appropriate local car park and car park can be arranged.
- Determine a protected area to maintain animal species.
- With the investment and proper implementation of the above mentioned, the region can be emphasized by emphasizing the importance of the potential of the inland river to a pristine environment for carrying out various activities that could lead to such things as: job creation, tourism, mental and physical health of indigenous people, indices Making the region, attracting tourism to the region and preserving the body of the river and so on.
- The pattern of daily or periodical community spaces for games, ceremonies and celebrations

source: The author (SWOT, s sample table by Latham, 2005).

Table 6 - situation present in the site
situation of the site



<p>1. River</p> <p>2. The island between the river</p>		
<p>3. Dining kiosks</p> <p>On the two sides of the river</p>		
<p>4. streets and sidewalks</p> <p>Around the river</p>		
<p>5. Ground areas around the site</p>		
<p>6. The palm trees around the site</p>		

7. Residential homes



Conclusion

In particular, the search for convenience outside the home becomes increasingly more focused on the satisfaction of the physical and mental needs of the citizens. In order to meet such demands, there should be an attempt to make the places of aesthetic and applicable measures. (Mariana et al., 2012). Increasing the image quality of urban recreational areas strongly helps to the physical structure and layout and will bring the social health for citizens. Notably, regions and landscapes with the high visual quality improve the identity of the city and contribute to its appearance and insight. Such landscapes similarly improve the quality of life according to its positive effects on the mental health of citizens of the city and their ability to reduce negative structures in urban life. For this purpose, in this paper, we tried to use the available and reliable sources as well as the deep emphasis on mentioned positions related to inter-city rivers. (The analysis of river sample within the city of Arvand Minor in Abadan; Iran) and finally presents recommendations based on design strategies of urban rivers based on the constructive elements in connection with the urban fabric that presented in table 3. It is to be mentioned that the framework proposed to design the inter-city rivers includes the importance and advantage of rivers structure in grant quality to cities with this characteristic. Also, with surveys conducted in Table 5, it can be found that the site has strong strengths and environmental potentials that can increase the potency, vitality and esprit by providing opportunities and taking advantage of design strategies tailored to the site scope and increase the security and quality, promotion of internal and external tourism and social health of urban life in these areas.

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