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Designing Leisure and Water Center of Miandoab with Sustainable Architecture Approach

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Abstract

Leisure center in Iran is not new but environmental sustainability is a new issue that benefits related to extensive. One of the solutions to achieve environmental sustainability is familiarity with the importance of green spaces and paying attention to it in order to achieve sustainable development criteria. This paper has been prepared based on analytical-descriptive methods and its aim is the design of leisure centers in cities to achieve sustainable urban development criteria. The result is that the effects of development of leisure centers in the cities cause to improve the quality of citizens' life and generally improve the environmental sustainability of the city in line with the objectives of sustainable development. The importance of urban leisure centers and parks is to the extent that today the existence of the user is considered as one of the indicators of development of the society. Although sustainable development has economic, ecological, social and cultural roots, but by searching on the dilemmas facing modern man and the position of them in sustainable architecture, the role of nature is more obvious. The nature and its broad sense can be determined that the triangular relationship of man, nature and architecture. Considering the role of humans as well as architecture as a process leading to sustainable is the important points in the reform of relationship between man, nature and architecture.

Keywords: Design, Urban Green Spaces, Sustainable Architecture, Sustainable Development, Leisure Center.

Introduction

Given the importance of leisure in life and its lack in most of the regions and cities of Iran, one of the issues that must be considered in particular is the development of leisure centers. Due to the culture of Miandoab's people that consider a lot to the leisure and being in the lap of nature and lack of these places and their summaries in the form of restaurants and open spaces and parks in the winter season and more than months of the year included it, requires creating and investing in leisure areas also, given that West Azerbaijan province, especially Miandoab is a hospitality area and many residents of neighboring provinces and cities around Western Azarbayjan to spend their holidays refer to this area so the importance of this issue can be considered a source of income for young people. At present time aspects

of life in Miandoab city include residential area and working area and the gap between these two a sector is perceptible by providing recreational and cultural spaces we need more to the coverage spaces in the form of clubs and gyms. ... Till in the cold season attracts young people and families (Eftekhar, 2013). One of the ways to achieve sustainable development is prosperity in the life of society, which now all officials and members of the community try to provide welfare and convenience of people. Welfare and convenience of life is divided into two parts of material and spiritual or mental that spiritual and mental comfort are more important than other factors, one of the external factors is to provide comfort and well-being in crowded urban spaces, leisure areas and urban green spaces which a lot of researches have proved its effectiveness for the convenience of citizens. Therefore, today it is emphasized on the crucial role of design and urban planning in order to maintain communication and urban environments with leisure centers and green space and nature (Eftekhar, 2013).

In this age, the increase of acceleration of modern urban life and culture (Modern urban apathy) has to reduce social interaction of citizens and neglect the importance of public spaces for social interaction today, the concept of cities without leisure centers in its various forms is unthinkable. The extension of cities is caused to the exacerbating complications of uncontrolled and unsustainable urban development, that exacerbating environmental pollution is considered one of the most important complications that underlies the loss of green spaces within the city and changing user of such lands. The development of such technology has had adverse effects in human mental and emotional of twenty-first century that intrinsic and long-standing relationship of humans with nature is separated and its effect in human is appeared bent and nervous and animated and the only connective sense of man and nature is the recourse of man to public green spaces and urban parks. The importance of spaces and leisure centers is to the extent that today these users are considered as one of the indicators of development of the society. Parks and green spaces are the most important factors in shaping the urban social stability and solidarity but factors such as problems of urban life, safety of parks and lawns, and mismatch of required facilities for different age and gender groups in these places are among the factors that reduce the tendency of citizens to use these areas. Urban green spaces are kind of surfaces of urban land use with vegetation of man-made that are eligible for social efficiency and ecological efficiency. The ecological efficiency is to beautify the urban areas, reducing the environment temperature, produce oxygen, increase soil permeability against the precipitation and like these and from the perspective of environmental protection, urban green spaces form the living construction of the city's physical (Saeidnia, 2003). Miandoab city, due to its special geographical position and placing between the provinces of East Azarbaijan and West, Kurdistan and Zanjan as transportation crossroads between the provinces has a great importance. Placing texture of the city between the rivers of Siminehrood and Zarrinehroud, and its plain position, according to the placement in the south of the Lake of Urmia, the town benefited from lush nature's blessings. Existing landscapes and beautiful scenery of nature, wetlands, woodlands and lushes green points, wild plants (medical), forests, mountainous areas are the tourism potential of the city. So Miandoab can have tourism potential especially urban tourist because of geographical features, natural and attractions like rivers. But by assessing the current state of tourism in Miandoab it is seen that due to numerous problems, complete and comprehensive utilization of tourism capacities and parks has not been done. Lack of spaces of tourism, residential and recreational facilities especially during the summer is strongly felt.

Given the importance of leisure in life and its lack in most of the regions and cities of Iran, one of the issues that must be considered in particular is to create leisure centers. The concept of sustainable development is a significant change in the understanding of the relationship between man and nature and humans with each other (Falamaki, 2002).

Due to the culture of Miandoab's people that consider a lot to the leisure and being in the lap of nature and lack of these places and their summaries in the form of restaurants and open spaces and parks in the winter season and more than months of the year included it, requires creating and investing in leisure areas also, given that West Azerbaijan province, especially Miandoab is a hospitality area and many

residents of neighboring provinces and cities around Western Azarbayjan come here to spend their holidays so that the importance of this issue can be considered a source of income for young people. At present, aspects of life in Miandoab city include residential area and working area and the gap between these two sectors is perceptible by providing recreational and cultural spaces we need more to the coverage spaces in the form of clubs and gyms. As the cold season attracts young people and families.

The region under study

Miandoab located in west Ajarbaijan is at the south of Urmia Lake, this city as a four-way connects some cities to each other it connects to Bukan city from the south, from the west connects to Mahabad city, from the east connects to Shahindezh and from the north connects to Malekan And, due to locating the way of Maragheh, Tabriz, Urmia and Sanandaj and connecting west and east Ajarbaijan and Kurdistan province has a special strategic, military and connecting position. High levels of travel and traffic of the city mentioned, is a good potential to attract tourists. Creating the facilities in the roads is the best option to tourist attraction and employment and income generation and introduces the culture, customs, and handicrafts.

Miandoab known as the city of bikes and this due to being flat of the streets of the city and being small of traffic and access routes that makes it possible for a bike to become a vehicle to the city. But gradually with the arrival of the car and facilitating the purchase of cars for the majority of people who use bicycles more inconspicuous and certain stratum of people are using bicycles. That this can have various reasons such as lowering social value and feelings of inferiority etc. Of course by doing a little making culture and creating special routs for bike this custom again becomes to public culture. But in the other side cycling is a convenient and inexpensive sport and can be used in all the times. That it is possible by awaking and medical and sport informing use more interest in using bike. Also biking can be considered as a family sport. That by devising double seat bikes this is possible. The development of biking culture and the tendency of tourists to the use of bicycles the movement in the city and surrounding nature and the river has an important role in reducing air pollution and traffic in the city. Therefore, this feature can be a positive thing in attracting tourists.

Creating the potential of cycling and circulation possibility, recreation, the possibility of sightseeing circulation the surrounding nature can be the positive points of attracting tourists in addition to low cost, no pollution and no fuel consumption.



fig 1: Geographical position of Miandoab

Materials and Methods

This study is an applied research, the contents and findings of this study could be used in organizations and relevant bodies. The method used in this research is descriptive-analytic so that a part of findings with collecting and extracting information is as library studies and a part is as field studies. In this way, by the study of library information resources and research conducted in the field, resources Archive, Municipal information, plans and issues, building national regulations, technical specifications of building, codes related to energy in building and investigating information on weather and climate have been extracted. Information and material collected primarily is made by taking notes, sketch, design, blot of the made plans.

Field method also includes direct observation of the site and the location. Preparing sketch of the present situation and identify obstacles, such as the transmission path of water and wastewater, electricity transmission lines and oil and gas pipelines. ... As well as interview with relevant experts and achieving information and their views is regarding to their technical expertise and practices in the design.

Designing of collection by using Free-hand drawing and sketch by attending in the beginning place and based on the principles of architectural harmony with the climate to design the tourist center with an emphasis on sustainable tourism development are paid.

Study of recreation and tourism of Miandoab

According to the city with various features mentioned the type of property and location for the type of activity given in Table 1.

Table 1: A variety of recreational activities

Row	Feature Type	Type of activity		Location
1	Features of nature	Recreation	Sunbathing, Family Picnic, Hiking, Camping	Dam Lake of Navrozlo, Navrozlo lagoon, Forest recreation center Miandoab, Mountains city Miandoab, Ghare gheshlagh lagoon, Changiz goli lagoon
		Sport	Beach Climbing, River Surfing, Mountain Climbing, Jungle Surfing, Walking	
2	Features of Zarineh river	Recreation	Sunbathing, Family Picnic, Swimming, Cycling, Rafting, Fishing, Horse Riding	The margin of Zarineh river, Simine river
		Sport	Swimming, Cycling, Rafting, Fishing, Beach Volleyball, Beach Football, Horse Riding,	
3	Features of Ancient relics	Visiting Ancient relics		The bridge of Mirza, the mosque of Miandoab Tagh, Dash Tappemm, Bakhdak Castle, Holako khan castle

4	Commercial features	Traditional Markets	Recreation	Local foods	Creating recreational center: Tuesday: The market of Suleiman Abad village of flowers Wednesday: The Wednesday market or market Miandoab: Friday market
			Purchase of good	Local produce and manual crafts	
		New market	Purchase with boundary price		Create in Tourist Center
5	Agricultural features				

SWOT analysis pattern for the potentials of Miandoab is showed in Table 2.

Table 2: SWOT analysis

Strengths		Weakness	Opportunities	Threats
Geographical features	Particular situation and bus transportation as crossroads between the provinces of East and West Azerbaijan and Kurdistan and high traffic of passengers	Lack of proper road in Miandoab axis to Mahabad and Urmia and Bukan….. Lack of rest facilities	Creating resorts positions road and commercial markets	Rising land prices and land speculation and rising land prices
	Proximity to the provincial capital	Lack of sufficient information. Not using the electronic advertising, including Internet and virtual networks	The maximum travel time from Urmia and Tabriz is 2 hours.	
Nature characteristics	Varity of flora and existence various vegetation and animal species	Lack of complete recognition of vegetation Lack of proper notification in this category	Nature green neighboring to rivers with that are suitable for natural tourism	Environmental pollution
	Zarineh and Simineh rivers	Lack of leisure facilities and water sports, swimming and boating lack of facilities and ...	Recreation and tourist centers, extended family recreation, swimming, cycling, rafting,	Environmental pollution

			fishing, etc.	
	Beautiful landscape and small villages and mountainous areas	Lack of adequate information Inappropriate route Lack of infrastructure facilities	Unmatched landscapes that fit for sport	environmental pollution
	Existence of climatic comfort in the spring and summer for sports and entertainment such as climbing mountains		Spring, summer and autumn is also The region has a unique beauty of Bafrdimi	
Features of Antiquities	Visiting Mirza Rasol bridge,the mosque of Tag, Dash tappeh, Bakhdak castle Holako khan castle	Lack of proper notification	Now, archaeologists are exploring the region.	

Results

Review and understanding of design field

Geographical position and locating in the connecting route of three provinces of west and east Azabaijan and Kurdistan, the cross-border transit of goods is a major factor in the increasing passengers is Miandoab, especially in summer and spring, which increases the rate of travelling, also, passengers who want to buy from the border markets is another factor in increasing passengers traffic from Miyandoaab.

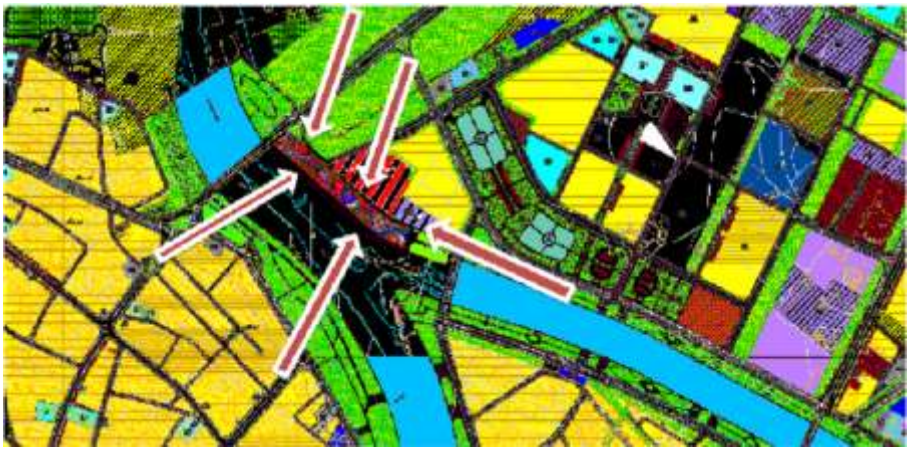


Fig 2: The location and placement site to the Miandoab city

Accesses

Given that the desired project of the tourist center id near the river. Therefore, the most appropriate site for the construction is located in the east part of the Miandoaab and in the northern and southern shores of

the Zarineh River. In terms of access the considered site is connected through 20 meter street in the direction of east to west to the east ring way of the city. It is worth to say that the east ring way of the city from the south connects to the road of Bukan-Orumia and Mahabad and from the north connects to Shahindezh and Tabriz road and because this ring way is the transportation road of three provinces of east and west Azerbaijan and Kurdistan province is very important.



Fig 3: The access roads to site (source Google earth)

Usages of site surrounding

Land use site, are with agricultural land, orchards outside the city limits, religious use, use of children's play space, business users.

Blowing wind and evaporation

In Miandoab seasonal winds from the North to the South is going on that these winds are not too strong but mainly influenced by the humid Atlantic air and sea Mdytranhast But in some months of the winter, cold air masses from the northwest, Mediterranean air that is affected and significantly decrease temperature. Miandoab has relatively warm weather in the summer and the winter is cold. Temperature changes can be seen in the table below. Evaporation rate in this area is generally less than the amount of rainfall. Therefore, for most of the soil profile (soil) is moist. And the maximum evaporation are seen in the months of June, July and August.

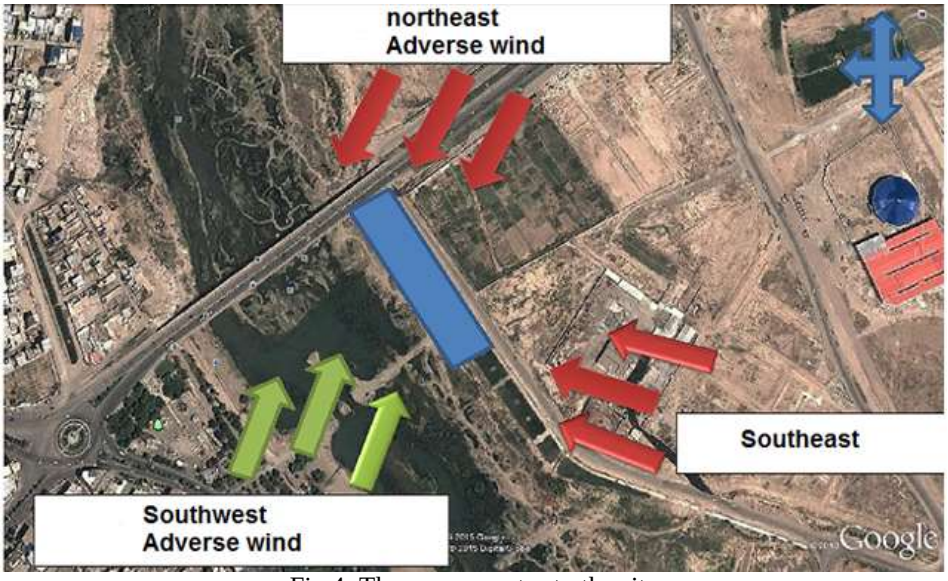


Fig 4: The access routes to the site

Sunlight

Solar energy that falls on vertical surfaces along the side of the South and Southwest and Southeast has the highest percentage, than the Western and Eastern sides receive high energy, and low energy is on the north side. In the warm months, the Western side of the Southern side receives more energy, monthly average annual sun exposure time is 240 hours of sunshine per Sect station is 2880. Most of the time the sun's rays of sunshine in July and less time in the station was received in December.

The geometry of the Earth

The geometry of the streets along the lines of the detailed plan is designed as a rectangular. Lengths of the sides and the area it is in accordance with the relevant. Land of steep sides of the river whose water flows caused by soil erosion.



Fig 5: The geometry of the earth and the prevailing wind direction

Design process

The overall design sets are by using curved lines and lines of Earth's rivers. The idea in the shadow of the effects of raw material is to form organic riverbed deformation of the day. It also created the template according to its cold climate and mountainous region, with such energy were considered. The overall design sets were using curved lines and lines of Earth's rivers. The idea in the shadow of the effects of raw material to form organic riverbed deformation of the day. It also created the template according to its cold climate and mountainous region, with such energy, is considered.

Geometry classifications or designs from three ideas that are in fact three different level

1-Fluid forms

2-Spiral forms

3-Radial and circular forms

Because, It is an urban outdoor recreation center. Viewer and the people who come to the recreation center to feel the freshness, vitality and diversity in their environment. That's why we use these three lines. Secondly, because our theme is blue and the water not dwell entertainment centers and fluid that's why these lines were used. Thirdly, recreation center, which is called the natural environment. River next to the site is a part of that sense of movement and fluidity in our mind creates. Our ideas to design derived from nature and the potential of surrounding site that helps us in designing. The strength of the site a sense of calm and quiet area and at the same time creates peace in mind.

After our design to make the curve movement we started and were tried to derive overall form of design from the texture of smooth movements that these forms are as circles appeared in our site that is the symbol of movement and fluidity.



Fig 6: Beginning of the project with fluid motion

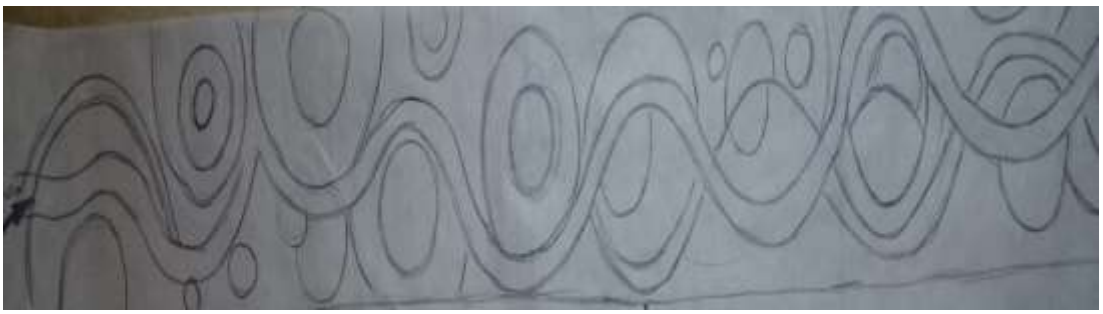


Fig 7: Continue to design and creating circular forms

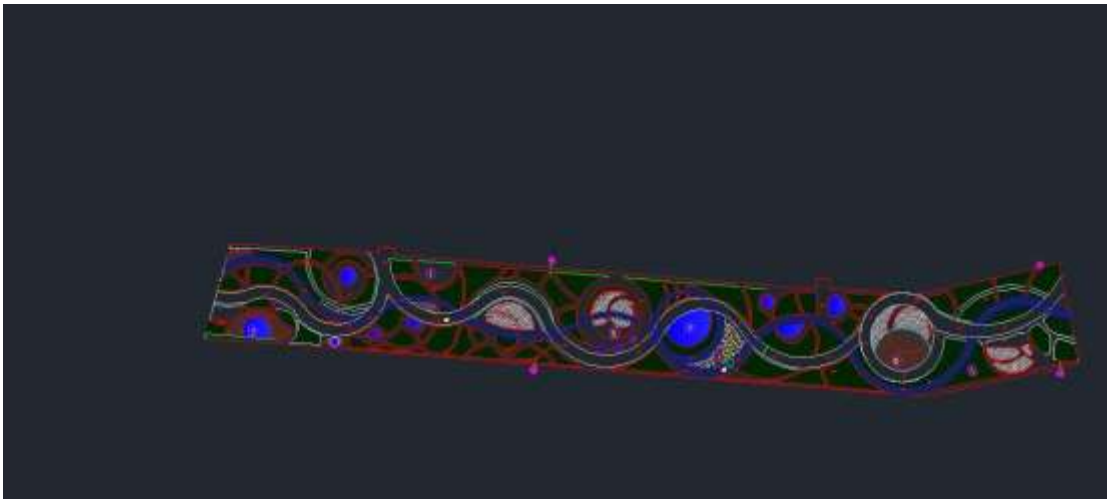


Fig 8: Forming spaces

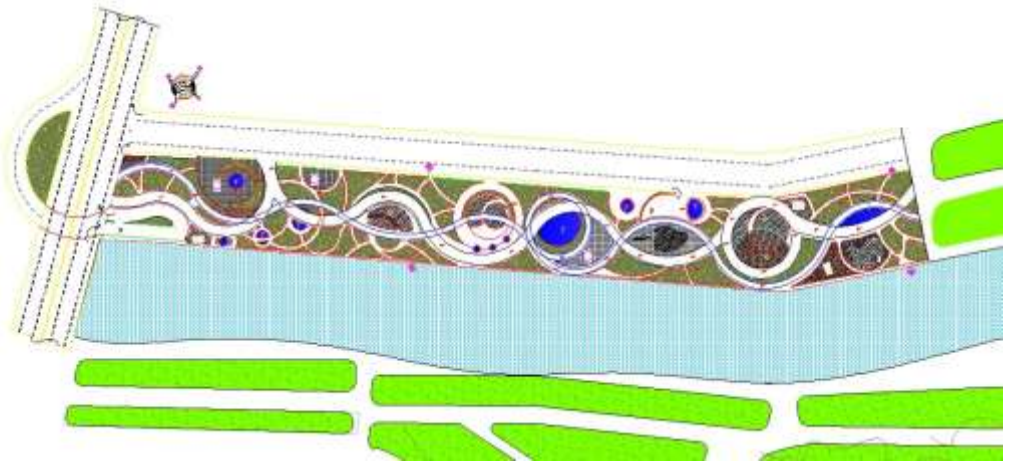


Fig 9: Final Design

Discussion

Given the important functions of leisure centers and their key role in sustainable urban development from this research we find that actually create the optimal green space is a solution for many acute problems of urban that in addition to improve the quality of city is effective in terms of aesthetics and perception of identity that can prevent from physical and economical destroying of quality of life, pollution, congestion and migration of the middle class of the city center and create vitality to the downtown and surrounding areas, and people are encouraged to volunteer attendance and on the other hand, according to the components and pillars of sustainable development and their relationship with green space, can be close to the goals of sustainable urban development by extending more and more attention to urban green spaces.

The optimal use of existing resources and the plan to create green space and Water Park with the approach of sustainable architecture can state as summary the design objectives of water leisure center as follows:

Create jobs and bring down unemployment rates in the city as direct and indirect employment can have impact. Increasing municipal revenues. Improving the quality of life of people in the region. Raise public and social culture. Construction of utilities and urban infrastructure and the growth and extent of city. Creating investment position. Enhance family relationships by creating a happy and fun place. Development and extending water sports like sailing. Improvement riverbank.

Conclusion

According to the results we can say that creating recreational areas and green spaces, leads to improving the tourism industry and the introduction of resources and potentials of tourism with the aim of tourist attraction, increasing economic growth, employment, increasing quality of urban and regional life. In recent years the concept of sustainable tourism has entered to tourism industry. Sustainable Tourism while responding to the economic, cultural and needs and expectations of tourists also will balance the cultural identity, environmental health, and economic equilibrium of destination and guests. In fact sustainable Tourism determines the amount of capacity of using a habitat in a certain time and a certain level without any harm to the environment. By creating public open spaces and leisure centers, using the potential of the city, the perfect place for leisure citizens and tourists will occur. At present time natural attractions and historical monuments,…are not the only prerequisite to attract tourists, but factors such as the transport industry, road safety and vehicle standards, social security and life, diversity of services and amenities, recreation, sport and commercial are effective in tourist attraction.

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