

Deigning Cultural and Entertainment Complex with an Emphasis on Sustainability (Case Study: Yazd, Iran)

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Abstract

Today in society we see problems related to young people and being away from their families. The residents of this city are always dissatisfied with the lack of comprehensive entertainment and cultural places. Increasing entertainment for young people, families and immigrants is one of the requirements of Yazd city. Also, every year we witness the warming of the earth, the reduction of non-renewable resources, the damage of the ozone layer and the influence of alien architecture. In this research, the design conditions of a cultural and recreational complex in a hot and dry region were studied with a sustainable architecture approach. The principles of sustainable architecture and the principles of a happy recreational place were investigated according to the climate of Yazd city. The purpose of this research is to increase people's vitality and entertainment, revive culture and preserve the authenticity and identity of the global city of Yazd, promote and encourage local architecture and pay attention to sustainable architecture that reduces environmental problems. For this purpose, the necessary solutions are provided by stating the relevant definitions, analyzing similar experiences, examining 4 domestic and foreign case examples, as well as knowing the climate and introducing the city of Yazd. According to the researches and library studies done, the results show that, with the help of the renewable energy potential of Yazd city, local materials, bright color and high heat capacity, ventilation and natural light, water purification. And its reuse, the creation of recreational places with a sustainable architectural approach resulting in a healthy communities, strengthening the family foundation, reducing depression and medical services, reducing justice services, crime, and also increasing the speed of construction, reducing construction costs and sustainability.

Keywords: Design; Culture; Recreation; Sustainable Architecture; Yazd

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1. Introduction

Every year, a large number of non-residential buildings are designed and implemented in Yazd, which mostly has an administrative, commercial aspect or buildings with foreign facades that confuse the culture of Yazd city. The city of Yazd is the first historical city of Iran and registered in the UNESCO World Heritage List, so it is a kind of architectural portal under the microscope. The whole world knows Yazd as a clay city. The buildings of this city should follow the local climate and materials to a large extent. This is how the identity of the global city of Yazd is always preserved and strengthened from the past to the future. Today, the architecture of every city is usually questioned because the contemporary architect has stopped justifying his work and the owner wants a special building with modern architecture. It is the duty of each of us to look at the sustainable architecture and climate of the region to a significant extent in our work. In this case, in addition to preserving the city's identity, construction costs and environmental problems will be reduced.

According to the traditional architecture of Iran, complexes such as Persepolis and Chaghazanbil in ancient Iran, elements such as aqueducts, mills, glaciers and villages such as Mibod, Kandavan, Masuleh and other such things are only one of thousands of examples that the seal They confirm the claim that sustainable architecture and its principles have existed in the land of Iran for centuries, and that architecture is not new or novel (Ahmadi, 2013).

The effects of the age of communication and industrialization of societies on architectural spaces are quite evident. Every day we see different forms and designs in architecture, designs and forms that may be made according to a series of conditions and conditions or without considering special conditions and simply because of interesting forms or imitations. But today, due to the shortcomings and problems we are facing in the field of conservation and optimal use of energy, as well as attention to the optimization of architectural spaces and the change in our functional needs from architecture, we must move towards a new definition of creating sustainable buildings. (URL1) From the innovative aspects of research, we can mention the interaction of culture and recreation in Yazd along with sustainable architecture, which itself reduces environmental problems. It is also possible to deal with the interplay of modern and traditional architecture using the new form and native materials of Yazd province. To better understand the subject and design more intelligently, we must better understand the concepts of the subject, so we briefly discuss the definitions of the words culture, recreation, vitality and sustainable architecture.

Culture: The word "culture" is formed from the combination of "Far" + "Hang", "Far" means shock and glory, and stepping into excellence, and "Hang" means understanding, awareness, and gaining (Flamaki, 1992: 137; Guderzi, 2014). Flamaki says in the book *Experiences of Iran and the West*: Culture represents a certain way of life (in a group, the people of the period or humanity in general); as well as the description of intellectual works and experiences that are especially aimed at artistic activities. The use of the word culture in virtual concepts has given different meanings to this word in different languages (Flamaki, 1992). Jacob Burkhardt: The three great powers that have determined the reality of human existence and the course of history are: religion, government and culture. Allameh Mohammad Taqi Jafari Tabrizi: Culture is a quality or a way that is necessary or appropriate for those activities of the material and spiritual life of humans, which is documented in the way of sound reasoning and their exalted feelings in a rational, evolutionary life (Jafari Tabrizi, 2012). Danny Kosh: Culture or civilization, in its broadest anthropological sense, is the complex whole that includes cognitions, beliefs, art, ethics, rights, customs and other abilities or habits acquired by humans as members of society. is included (Danny Kush, 2002). According to

another definition: culture includes all the habits of a society. Or if we consider society as a collection of organized people who have a certain way of life, then culture means this way of life.

Recreation: It includes activities that are usually chosen by a person specifically and voluntarily because of the satisfaction and pleasure they seek or for the purpose of some personal and social values that are expanded from it (Azerkhosh, 2008: 15). This activity is for free time and has nothing to do with one's main job and is usually enjoyable. Fun does not include what a person does, but rather the motivation of the state and the value of what a person does as fun (Ibid, 17). Recreational activities that take place outside the home are mostly cooperative and collective, which require special space and facilities. In this regard, public spaces play a major role in providing the basis for the formation and coherence of such activities.

Definition of vitality in the dictionary of Dehkhoda, vitality is defined as "to be cheerful, to be lively" (Dehkhoda, 2007). Vitality: the life of an individual is in the midst of being together, and what gives life to a space is the people and their active and enthusiastic presence in the space. In order to achieve a living city or liveliness in the city environment, places and situations must be provided to create lovely experiences. Our main goal in defining the landscape skillful intervention in the urban elements so that by placing pleasant views next to each other, the city become livelier. The variety of activities that occur in a place 24 hours a day, seven days a week, is an indicator of the vitality of the place (Abbas Abad and Yusuf Zamani, 2021). Vitality and livability: There are various equivalents for the concept of vitality in the West, among which live lines livability, vitality, viability can be mentioned; Of course, the other words for "vitality" are mostly the concept of livability and livability. In the urban dictionary of Robert Cowan (2005, 442), vitality and livability come together and this is the meaning of "vitality and viability" lively urban space. According to the definitions given in relation to activity and vitality, a lively urban space is an urban space in which the presence of a significant number of people and their diversity in terms of age and gender in a wide time span of the day, whose activities are mainly selective or social update is visible (Moradi and Zandieh, 2014).

Vitality components according to Afshar, there are 7 different criteria for evaluating vitality: 1) Beneficial density of people 2) Diversity 3) Accessibility 4) Safety and security 5) Identity and differentiation 6) Cooperation and communication 7) Creativity (Afshar, 2013: 6). Mohammad Javad Moradi and Mehdi Zandieh, by examining three recreational cultural complexes at the international level in their article, called the vitality components "useful density, diversity, accessibility" (Moradi and Zandieh, 2014).

Table 1 Summary of definitions of vitality from different theorists (Samari and Taban 2013).

Definition of vitality	year	book	Theorist
A place for useful interactions and actions between people	1961	Death and life of big American cities	Jane Jacobs
The degree of compatibility between the environment and people's activities	1987	Creation of architectural theories	long
The possibility of living comfortably in a city	1987	Towards a Design Manifesto	Alan Jacobs and Donald Abliard
Harmonizing the environment with human biological needs	1981	The theory of good city form	linch
The identity of having a social life in the city	1997	Seven goals to reach the city	Salzano

Yazd metropolis is one of the cities in the central provinces of Iran. It is the first raw clay city in the world and the second historical city in the world. It is also the second historical city of Iran after Bam and registered in the UNESCO World Heritage List. Yazd literally means pure and holy place of worship. Among the famous names of Yazd, we can mention Badghirah, Daral-e-Abada, Hosseiniyeh Iran, Shahr Do-Cherkha, Shahr Shirini, Shahr Qanat, Qanot and Qanaat, Shahr Atash and Aftab. Shahrizd is also one of the medical and cultural centers of Iran. (URL2) Yazd region Yazd is located near Dasht Koiro, Dasht Lot, a dry and wide valley, between Shirkoh and Kharanq mountains. The climate of Yazdaz province is hot and dry, which can be divided into two subtypes according to the role of local factors. A - Mountain areas with mild summers and relatively cold and long winters; B - Lowland areas with very hot and dry summers and short winters (Organization for Research and Educational Planning, 2017).

Sustainable Architecture Sustainable architecture is an architectural philosophy that pays attention to economic, social and cultural aspects at the same time, and in fact, with this type of architecture, we invite nature into our homes. Sustainability means resistance, resilience, standing, persistence with durability, lasting stability, and actually that which can continue in the future. Something that remains constant. This term is widely used today to describe a world in which human and natural systems can coexist until the distant future (Bahreini and Maknoon, 2010). In the Latin language, sustainability is mentioned under these titles: The verb sustain means to keep something for a while without diminishing and it means to keep and preserve. The adjective sustainable means using natural products and energy in a way that does not harm the environment. This adjective describes something that soothes, nourishes, and sustains life, thereby prolonging and prolonging life (Ahmadi, 2013). Sustainability is sustainable quality. It is defined in the Cambridge Dictionary as: "the quality of being able to continue over a period of time". Therefore, sustainability is the quality of temporal continuity, without changing its specific characteristics, and it can be associated with numerous natural, social, political or economic phenomena (Ballestar, Cuerdo-Mir, and Freire-Rubio, 2020). In general, there are three main elements in the definition of sustainability: 1. Improving the quality of life and health of humans (current and future generations) 2. Providing daily human needs 3. Preserving ecological systems and energy resources (Khanbanzadeh, 2014).

The necessity of sustainable architecture in the long run, sustainable design is not an option, it is a must. Earth, with its 6 billion population, is rapidly approaching the Big Shock. Humans are easily covering the planet with human beings. We are destroying our water and soil resources and we are destroying biodiversity; we have polluted the soil; the air and we have changed the climate with potentially disastrous results (Holloway, 2000). Energy conservation: Every building should be designed and built in such a way that its need for fossil fuel is as low as possible. Working with the climate: Buildings should be designed to be able to use the climate and local energy sources. Reducing the use of new resources: Every building should be designed in such a way as to minimize the use of new resources and at the end of its useful life, create a resource for creating other structures. Respect for users: the interior design should be such that they reach the comfort point with the lowest cost. Respect for the site: every building should be placed on a calm and light ground without destroying the natural resources of the site (URL1) The principles that must be followed in order for a building to be classified as a sustainable building are as follows: First principle: energy conservation, second principle: harmony with the climate, third: reducing the use of new resources, fourth: meeting needs, fifth: harmony with the site. Sixth: Holism (Khanbanzadeh, 2014).

Table 2 Sustainable architectural design from the point of view of contemporary architects in brief (source; Ahmadi, 2013)

Sustainable design means maximum efficiency with minimum tools	Norman Foster
Coordination with the ecological systems of the planet, the least negative impact of construction materials and energy consumption on the environment with the least waste of resources.	Ken Young
Protecting natural resources using renewable energy, especially solar energy	Thomas Herzog
The main point in sustainable design is the choice of materials and the performance of a building under construction.	Yan Kaplicki

Table 3 Principles of sustainable architecture according to world architects (Source: Ahmadi, 2013)

Resource saving, reuse and recycling of natural resources, design based on the life cycle, design based on the interaction between humans and the natural world	Principles of Jin, Kim (1998), Jong-Jin)
Thinking small, heating the building with the sun, maintaining comfort and convenience, using renewable energy, saving water, using local materials, using natural materials, preserving natural forests, using recyclable materials, making sustainable, food production Self, maintenance and storage of your food	Usul Kelly and Rozana Hart (Sefalai, 2013)

Conservation of energy, harmony with the climate, reducing the use of new sources of materials, meeting the needs of residents, harmony with the construction, totalism

Principles of Brando and Robert Vale, (Vale, and Doig,1997)

2. Theoretical Foundation

The four case studies carried out were at national and local level

2.1. Mashhad Mountain:

One of the best and most famous entertainment and tourist attractions in Mashhad, it has 5 floors and a height of 20 meters on one of the roofs of the holy city of Mashhad. It has modern architecture and is one of the best and largest sports and tourism centers, not only in Mashhad but also in the Middle East. It is located in an area of 50,000 square meters. Due to the location of the hilltop land on the route of the airline, the design has been done in such a way that the top view of the complex can be seen completely from inside the plane and it will attract passengers and also beautify the aerial view of the area, in fact, this complex has a fifth view.

Spaces: All kinds of games and emotional-sports activities

- The most luxurious restaurants exciting games such as skip room, laser tag, escape room, paintball playground
- Bowling halls, billiards, gym, computer games
- Multi-purpose and equipped halls for celebrations, weddings, conferences, etc.
- Hydrotherapy complex, massage, sauna, swimming pool, jacuzzi, squash, multi-storey parking (7 floors), outdoor tennis court and multi-purpose halls (bodybuilding, basketball, volleyball, etc.) (URL3)

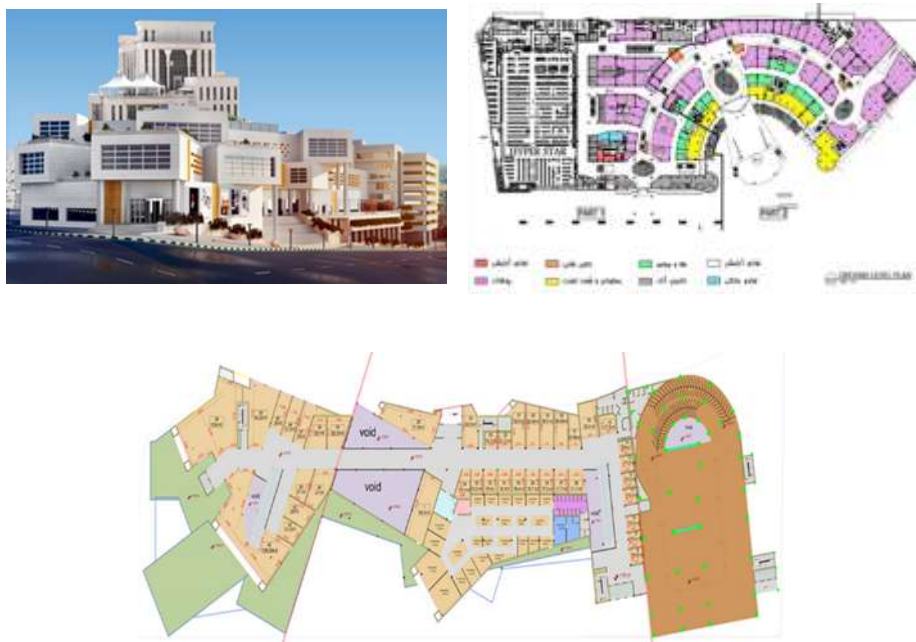


Fig 1 Mashhad Mountain floor plan

2.2. City Center Isfahan

It is one of the largest commercial complexes in Iran and the seventh largest shopping center in the world. "Prestige land Iran" company, with foreign and domestic investment, using experienced Iranian and non-Iranian architects and specialists, both of whom have many international records and experiences, built this complex and named it a small city in the heart of Isfahan. will be remembered It will receive tens of thousands of domestic visitors and foreign tourists every day. This land with an area of 150,000 square meters is located in the beautiful mountains and southern plains of Isfahan. Its design is such that the sunlight shines with special gentleness from a huge and beautiful glass roof to the central hall to make it possible to observe the beautiful sky of Isfahan from inside the complex. which will be connected to other common towers, office towers and apartment hotel by a beautiful glass bridge which is taken from the historical design of Iranian markets. A luxurious 5-star hotel with all the facilities and standards of a 7-star hotel and with the most modern architecture in the world will be built and connected to the main area of the complex.

Spaces: Commercial complex: 750 units, branded stores in Iran and the world, luxurious restaurants, airline offices, bank branches, prayer rooms, etc.

Hotel: 400 rooms, 5-star international hotel including sports halls, amphitheater, special suites, single and double rooms, special suites for meeting and conference halls, special helicopter landing pad, etc.

Hypermarket: large sales centers (chain stores) Entertainment and cinema complex: 10 theaters, movie theaters, children's playrooms and computer games, toy city and...

Green space: green space, large water features, dance of light and water, etc.

Roofed parking: 5500 cars, facilities, warehouses and V.I.P car maintenance services (URL4)



2.3. City Center Dubai:

natural and artificial lighting, with two entrances; The main entrance and the entrance of the parking lot, creating pause spaces in the main traffic routes.

Spaces

Bank, bookstore, hypermarket, game and entertainment, services, restaurant, cafe and fast food, specialty stores, commercial stores such as jewelry, clothing, toys, sports equipment, etc. (URL5)



Fig 2 City Center Dubai

2.4. Spacomex Complex South Korea:

Located in Seoul, South Korea. It was built in 2014 with an area of 253 square meters and its architects are Kim Dong and Jin. Among the features of this building, we can mention the following: flexible and absorbent horizontally and vertically, with different and contradictory spaces such as office, store, residential, restaurant, etc. Now that the street has different uses in the 21st century. begins to consume, now it has become a place with different cultures. Different street programs are constantly expanding and creating new places, which are expanded from the concept of different communities in a one-dimensional view, showing the possibility of revitalizing the city. Using urban culture is already proven. In order to overcome and use the characteristic of Sangsu-dong, which is located in the center of the alley, we tried to expand the street in three dimensions by moving the elements horizontally and vertically for urban freshness. By juxtaposing the yellow wall, the floating mass and the stair track and mixing them together, Spacomex became a place to fetch (absorb), and instead of strongly stimulating the consumption of consumer goods in the standard stalls that occupy the street, Spacomex it works. It is a place where consumers can walk on the street enjoying the space (URL6).

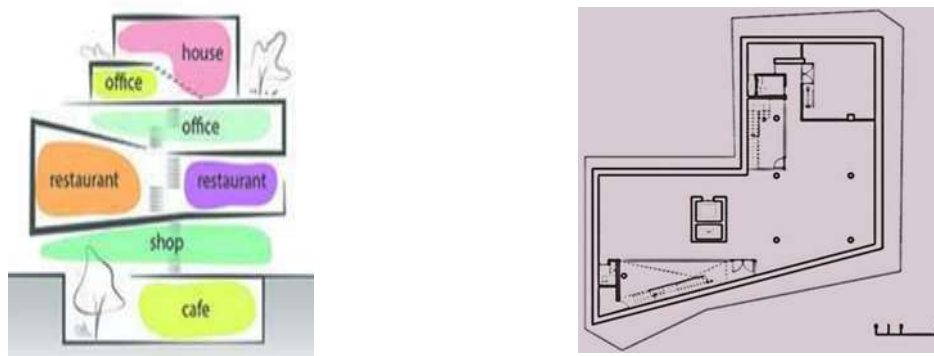


Fig 3 Floor plan and vertical section of Spacomex Complex South Korea

Table 4 Summary and analysis of positive and negative points in the sample cases (source: author)

Weak points	Strengths	Projects	Row
1- Being far from the city center 2- The luxury and size of the complex (which causes the expensiveness and decrease in the attraction of average people) High construction makes it difficult to access the material and increases the cost.	1- Great diversity and attractiveness of entertainment spaces 2- Placement in an area with good weather 3 - Attractive view 4- Having friendly and family fun 5- Positioning in airlines and paying attention to the fifth dimension and attracting passengers 6- Attracting domestic and foreign tourists	Koh Sar Mashhad cultural and recreational complex	1
1-Access route, far from the city center 2-Excessive optimism about the exploitation of the entire complex	1- Attention to the interests and tastes of all ages 2- Diversity in recreational and user options 3- Proper invitation at the entrance 4- Paying attention to the tradition and culture of the city with the presence of the gallery and handicrafts 5-Modern and excellent interior design in the commercial sector 6-Unique volume and appearance design	Isfahan City Center	2
1-Inappropriate and unattractive architecture considering the title and city of the complex	1-Adequate and varied circulation and pause space 2 -Create multiple entries for ease of access 3-A lot of use of natural light in the lobbies 4-Diversity in interior design and flooring 5- Variation of area for stores	City Center Dubai	3
1-Improper and uniform interior design	1-Separation of various spaces 2-Readability of the plan	Spacomer commercial and cultural complex in South Korea	4

3. Research Method

At first, articles, books and theses related to the subject were searched, studied and reviewed. The required information has been collected using documents and through detailed library studies and field observations. After collecting and studying information through articles, books, internet, observing and examining the relationship between variables, understanding and examining concepts, comparing and analyzing multi-purpose complexes at the national and international level, climatic and indigenous studies of Yazd, examining design standards. Visiting the desired site and analyzing its potentials and presenting documents, pictures and maps, conclusions were made and the results were presented in tables. Also, we tried to use the strengths of the architects' designs and opinions and vice versa to avoid their negative points in the design. Because using the experiences of others brings us to the goal of design faster. The current research is in a descriptive-analytical qualitative method. At first, the specific idea, concept and design started with several preliminary studies. From the alternatives one was selected and the final plans, elevations, sections and dimensions were formed. The initial design process is shown in (Fig 4). From the alternative diagram the number 2 alternative was selected and further it was enriched to reach the final design.

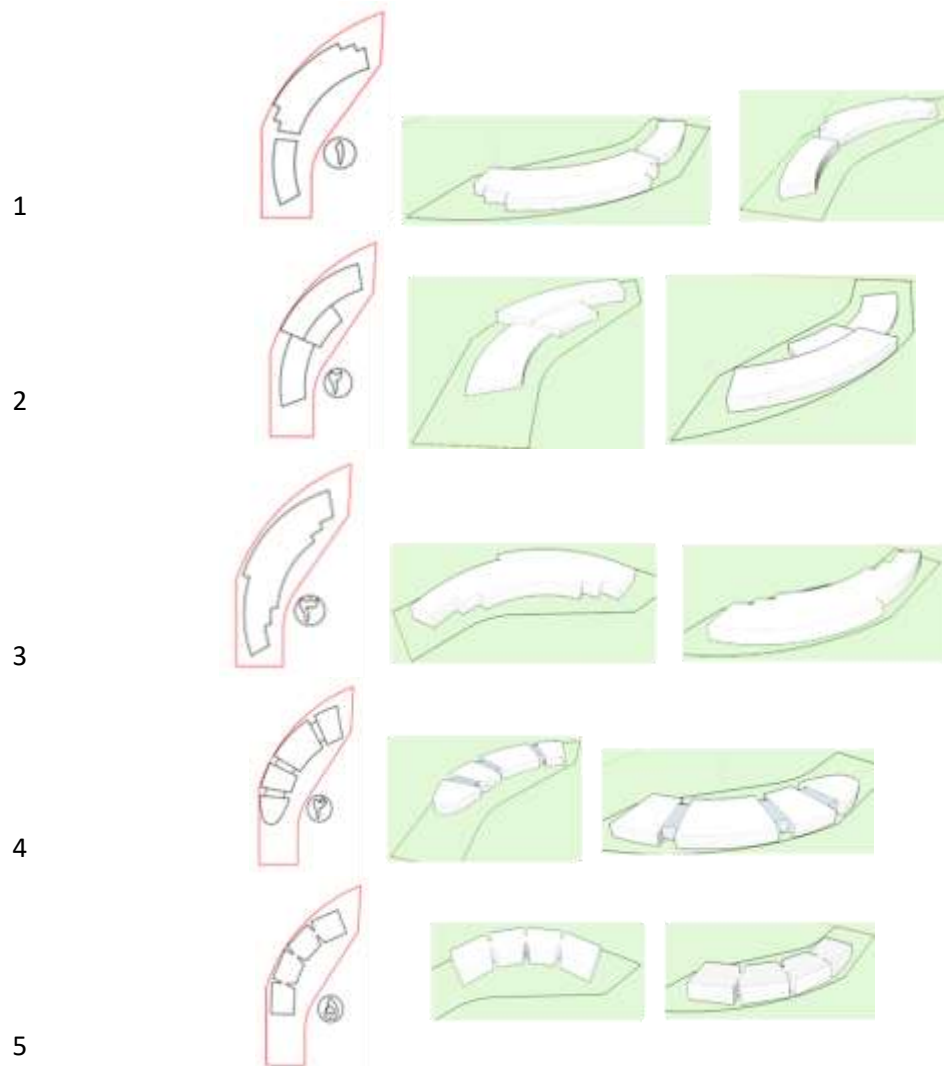


Fig 4 Alternative design process

3.1. Spatial design

Space planning process and diagram design

Note: The things that should be addressed at the beginning of the design in the general diagrams are: the location of the lobbies, the number of required lobbies, the entrance and exit of the site and the building, the corridors, the connection and lack of connection of the lobbies, the useful and correct location of the elements. Vertical communication.

The **first step**: The approved primary sketch which is circular, with the help of the center of a circle and its radii. **Second step**: Then we moved the left arm to the center of the circle due to better lighting and asymmetry in the arms of the design. The **third step**: determining the location of lobbies and vids. The space consists of a main trapezoid and two left and right arms, which are designed almost separately but adjacently. So, each of them needs their own lobby. For better design, ease of access and reduction of wastage (distraction) of the area, they are placed in the center of each section. **Fourth step**: Due to the multi-purpose space and their relationship with each other, they must be connected or even visible to each other, so we have placed long corridors. The use of long corridors helps us a lot in times of crowding. **Fifth step**: Identify the entrance and exit of the building and to do this, we must first design the general diagram of the area. To determine the entrance and exit of the site in the best possible way, we must consider the ease of access to the building and parking lots on foot and on foot.

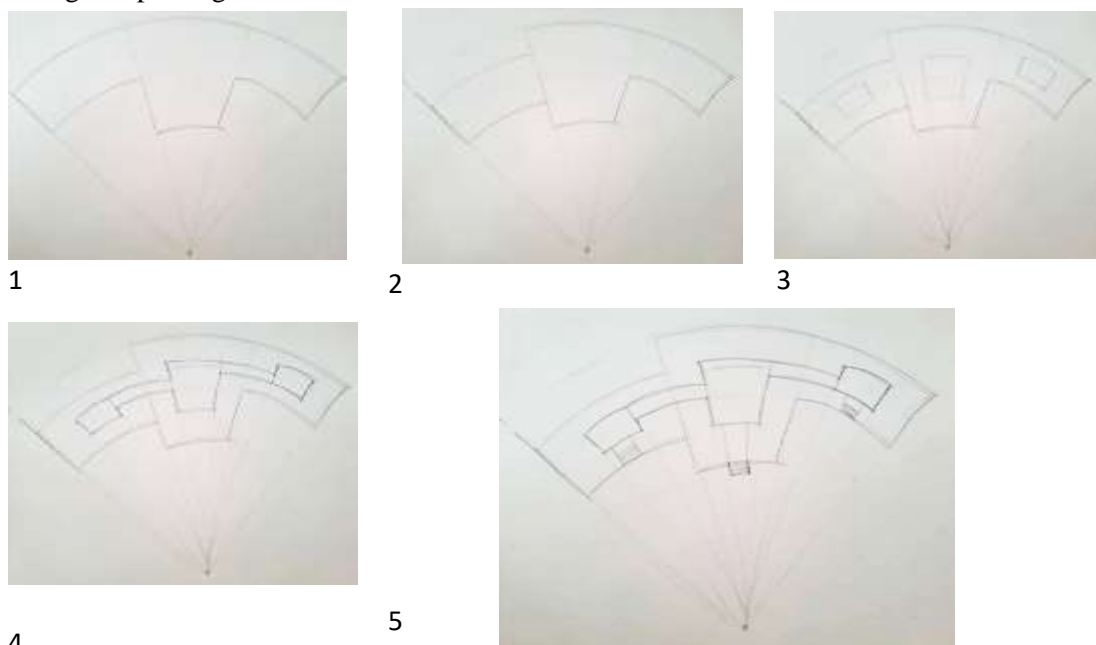


Fig 5 The five steps for space planning process

4. Designing phase for the complex

Due to having different spaces, it is necessary for each section to have its own entrance. Because some users refer to only one section on a daily basis. The central area of the main trapezoid was allocated to vertical communication elements for better access to each section and parking, reducing the occupation of a lot of space, as well as the accumulation of different floors in one area.

In the main trapezium, the entertainment space is designed, because as the main space of the complex needs more area. This space is allocated with snooker and bowling for entertainment spaces, because according to studies, these spaces should be located on the ground floor or basement due to the heavy live and dead load of the furniture. The educational spaces were placed in the north arm for ease access and receive the north light. Adjacent galleries and education space was a good choice because educational items in the education department can be displayed in the galleries quickly or visiting the galleries can lead the minds of the teachers to be creative. The amphitheater or cinema section should also have a separate entrance and be adjacent to the main exit of the site due to crowding at the entrance and exit, so the south arm of the diagram was chosen for it. Also, this space needs a large lobby for waiting and gathering. It is necessary to place toilets near the amphitheater and almost in the center of the main building.

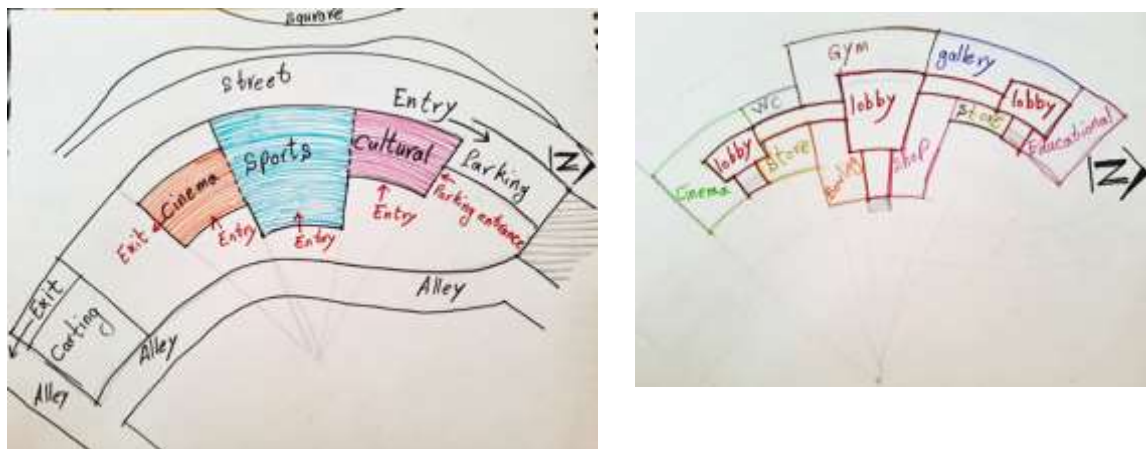


Fig 6 Ground floor plan

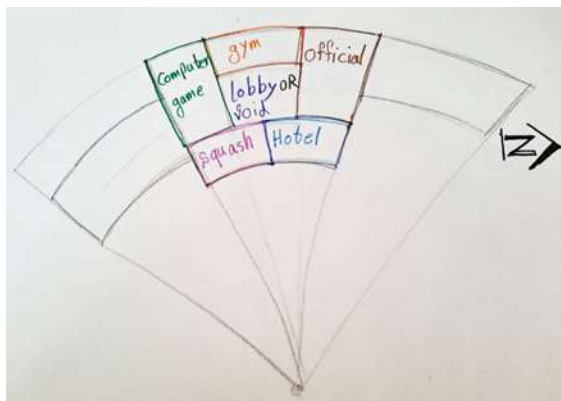
First Floor: The administrative part of the complex is located on the first floor and in the corner of the main trapezoid, which has a good view of the square next to the site and also has direct access from the parking lot through the elevators.

Note: Due to our chosen concept, which was supposed to be a shown due to the location of the site in the vicinity of one of the main squares of the city, we allocated more area of the site to the green space and expanded the spaces in the floors. Other entertainment spaces are located on the first floor and have a good view of the square. Also, in the center of this floor, we created a window that has a good view of the ground floor due to the lighting of the ground floor lobby and the spatial communication and communication of users from different floors to each other, this also brings vitality and increases the happiness of the space. And on this floor, the lobby is placed in the form of long, round corridors

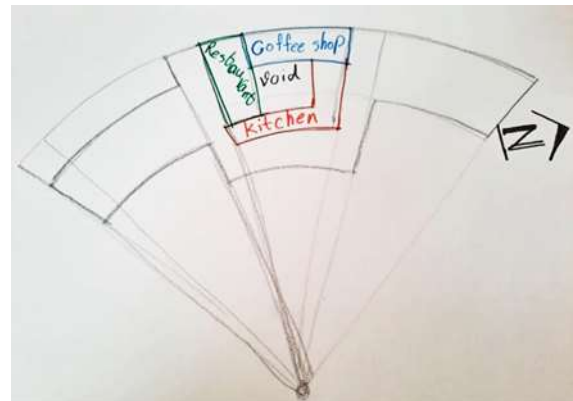
Second Floor: The coffee shop and restaurant, which are more service-oriented and also cause odor pollution, were placed on the last floor. Access to kitchen raw materials is also available through a separate elevator from the parking lot to the second floor. The garden and its surrounding lobby are repeated on the first floor and on the second floor. The second floor also includes terraces and large roof gardens for serving coffee and food in the open air.

Basement Plan: Pools, parking and facility rooms were placed in the basement due to the large area and lack of natural light. The most important point was the entrance of the cars to the parking lot from the entrance. They were guided inside with a circular movement. The next option was to

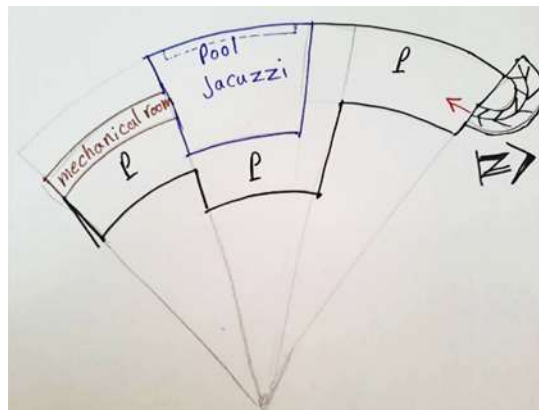
adjoin the facility rooms to the pool area and the main docks. The exact location of the stairs and elevators was chosen from the ground floor and basement. The main ducts were placed next to the elevators for ease of design and to avoid disturbing the vertical spaces. Another side staircase was placed at the end of the south arm, which is for the exit of the cinema users. By means of these stairs, they are easily led from the exit lobby to the parking lot and out of the site without creating traffic. Also, we created an indentation on the side of the tangent of the field, in order to add brightness to the pool area, which continues to the last floors (in dashed line) has been shown in the Fig 7.



First floor plan



Second floor plan



Basement plan

Fig 7 Allocating the space

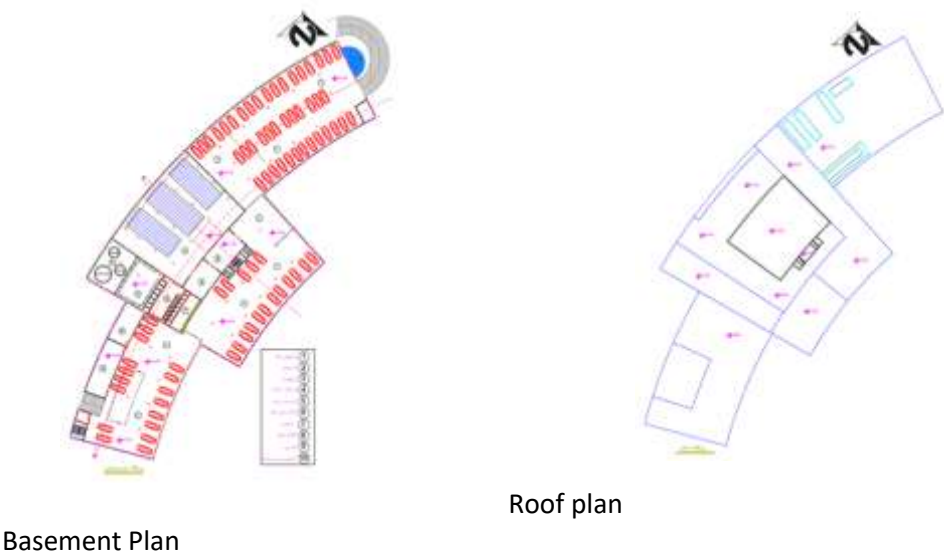


Fig 8 Final floor plan for the complex

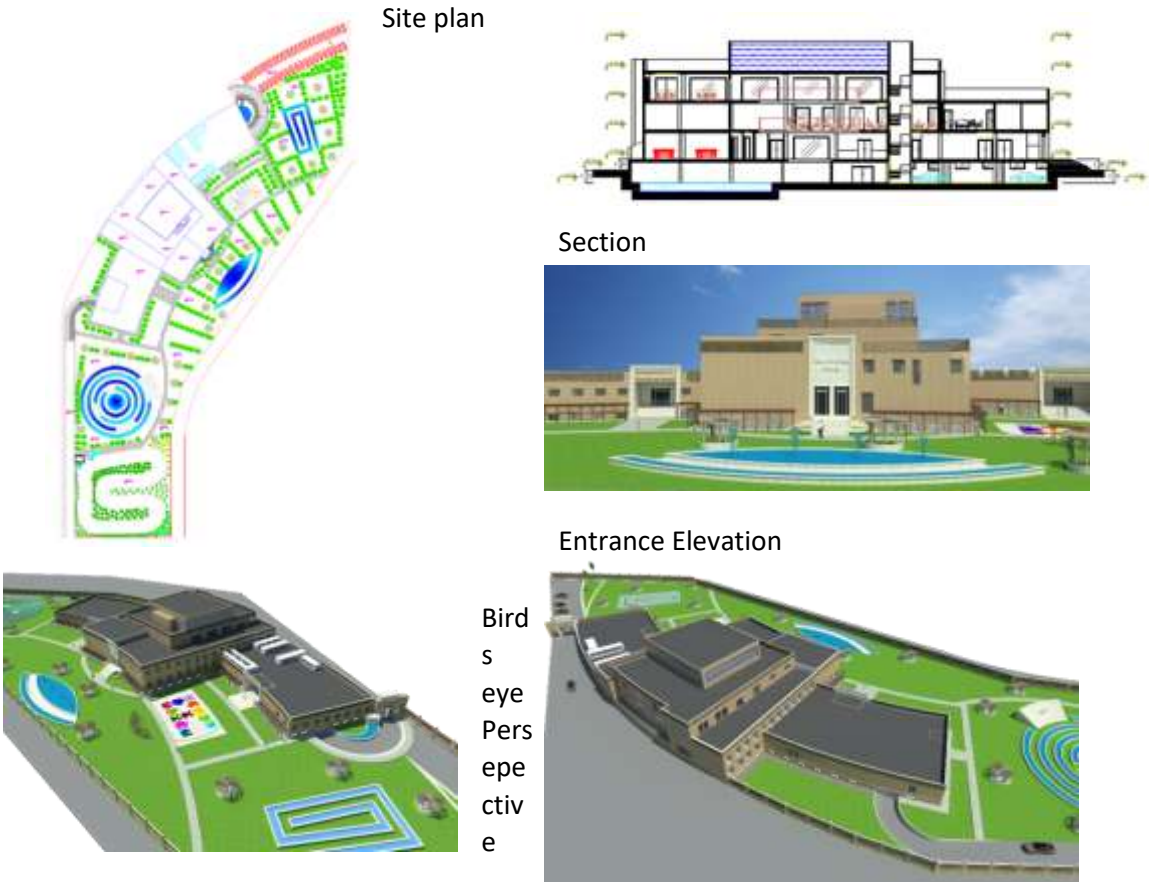


Fig 9 Rendered Perspective of the complex

5. Conclusion

The design of multi-purpose cultural and entertainment complexes was designed to achieve several purposes. Perhaps today, if these complexes or any other architecture is based on sustainable architecture, we can greatly reduce environmental problems and the use of non-renewable energy. With the mentioned studies, experts in the field of recreation, culture and sustainable architecture confirmed the role of recreation in improving life, work, society, and also the effects of sustainable architecture, which leads to the reduction of environmental problems. The belief is that proper recreation areas reduce the depression and other diseases, crime, justice services, and there is a better social interaction between family members and members of society. Vernacular architecture, based on research, can be said to be a main branch of sustainable architecture, which preserves non-renewable resources and reduces environmental problems. We can easily have a beautiful, sustainable and attractive designed spaces for people by following the basic and common rules in respective climatic regions. According to the conducted studies, it can be said that the principles of sustainable architecture are almost the same for all climates and geographical locations, and it is not difficult to pay attention to those principles in design.

Table 5 Rules and patterns of interior and exterior design (source: author)

Solution and method	Property	Space names
By indentation, protrusion, head height	Caller	Entrance
Readability, placement in the most convenient part of the site and streets for entry and exit, without creating traffic	Easy accessibility	
Creating pause spaces for each section: for rest, waiting, gathering. Large area, high height, special and attractive lighting, special furniture	The turning point of the collection	Main lobby
Increasing the number of cinemas in Yazd, especially in that part of the city that does not have a cinema.	Cinema	Multipurpose hall
Contributing to the diversity of recreational spaces		
The increase of amphitheater halls, especially in this area of Yazd	Amphitheater	
A place to hold conferences and events for public and private organizations and ordinary people		
For quick entry and exit without crowding of multi-purpose hall clients		

Connecting and combining different spaces with each other Pulling and attracting people present in one space to other spaces	Adjacent to other entertainment spaces	Recreational spaces
Bringing vitality, increasing the quality of the complex, attracting better and more people of different age groups Spaces such as: clubs, billiards, bowling, karting, competitions, computer games, cinema, parks and green spaces.	Variety	
High capacity of spaces due to reduction of congestion and fatigue	multiplicity (capacity)	
Such as: karting, bowling, billiards	Special and rare entertainments of Yazd	
Galleries, exhibitions, popular training classes, multi-purpose hall	Variety	Cultural spaces
Due to the lack of crowding and responding to all people	High capacity	
By big windows and good view	Dramatic character	restaurant and coffee shop
Placement at height (the last floor of the building)		
Promotion of cooking and serving traditional foods and teas and spirits Traditional and local uniforms of the personnel	Promoting the former cultures of Yazd	
Use the balcony for variety and open space	Closed and open space	
Placement at the entrance	easy access	Parking
Open parking: yard	Variety	
Closed parking: basement next to swimming pools		
Also, a part of the basement parking should be reserved for the personnel of the complex.	Personnel parking	

Planting a lot of low-water trees suitable for the city's climate, greenness and freshness of the atmosphere, coolness and shading, increasing oxygen	Tree	green space
It causes coolness, harmony and freshness in the atmosphere.	Water pond and fountain	
Creating a feeling of comfort, enclosure and interaction between people	Gazebo	

Table 6 Sustainability options in the collection (source: author)

Description	Property
The use of suitable windows for maximum natural lighting that reduces the building's electricity consumption.	Natural lighting
Using high windows on the south side to increase the heat of the sun in winter.	
Using low windows on the north side to reduce cold winter winds	
North, east and west windows and openings should not be considered large, because the large area of the windows increases the heat load in summer and the cold load in winter.	
Using natural and correct openings for natural ventilation of the building, especially in the summer season, for proper cooling and ventilation.	Natural ventilation
Even if possible, use the opposite openings for cooling and natural ventilation of the air inside the building.	
If possible, use a fan for cooling and ventilation.	
The reuse of purified water leads to the reduction of water consumption in the building.	water refinery
Reuse of drain water obtained from cooling and heating devices for flush tanks of the complex and irrigation of green spaces	
Use proper and regular irrigation methods.	drop irrigation
Cost-effective irrigation methods such as drip irrigation for the green space of the	

complex.	
Using local materials of Yazd province, due to cost reduction and ease of access. The use of colored glass to control sunlight and the interference of modern and native Yazd architecture.	Use of local materials
Also, the use of materials with high heat capacity and light color will reduce the heat inside the building in the summer season.	

Table 7 The benefits of recreational cultural complexes (multi-purpose) with a sustainable architecture approach (source: author)

Reason	Benefits	Row
With increased fun and freshness	Reduce depression	1
By promoting group exercise	Reducing other diseases, increasing health	2
With the increase in youth entertainment, that too collectively	Crime reduction	3
By increasing family fun and increasing interaction and happiness between family members	Reduction of justice and divorce services	4
With safe and sufficient parking spaces Despite the closed and safe spaces for individual recreation of each family member, especially children	Increasing the sense of security during recreation	5
By spending time in comprehensive entertainment complexes	Reducing the use of virtual spaces and the disadvantages of using them	6
For personnel working in the complex	Employment and income generation	7
Private and government sector investment in the construction of such complexes	Investment	8
Because of entertainment, culture and traditional architecture	Attracting domestic and foreign, native and non-native tourism	9
By attracting tourism from outside Iran	Attracting capital and currency to	10

	the country and the city of Yazd	
By creating freshness and movement factors in the collection	Increase vitality and mobility	11
By being in one place and solving different needs	Save time and energy	12
Despite the parking, walking and diversity of the collection	reduction of traffic	13
Despite the variety of spaces for different ages and the proximity of spaces in a building	Parental supervision of children's entertainment	14
By reviewing and revitalizing clothes, crafts, food and beliefs	Revival of the culture, identity and authenticity of the people of the city	15
With Yazd's architectural modeling, which is derived from sustainable architecture	Revival of traditional architecture of Iran and Yazd	16
By taking advantage of the renewable energy potentials of the city's climate	Reducing the use of non-renewable energy	17
Due to sustainable design	Reducing environmental problems and risks	18
Modeling sustainable architecture	Reducing complex construction and maintenance costs	19
By choosing suitable local materials	Retaining the name of the world city and the brick city of Yazd	20
By using sustainable architecture and seeing its benefits	Promoting sustainable architecture	21
	Promotion, encouragement and integration of contradictory spaces	22

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