

Re-designing Urban Space to Enhance Vitality: A Case Study of the Palestine Square in Zahedan

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Abstract

Urban spaces are an important element in urban form. Urban squares, for example, have been a space for social and group activities for a long time, in order to create vitality in space. The presence of people in the city squares increases the vitality of that area. The Palestine Square of Zahedan is one of the oldest squares of this city. Unfortunately, over time this square has lost its vitality. The study was conducted based on descriptive-analytical method. Library and field survey was conducted for data collection. The population sample includes the residents and the passerby near the Palestine Square of Zahedan. The study evaluates the criteria of vitality as an indicator to redesign the square with proposed design alternatives. Questionnaire, field observation and interviews via EXCEL software and SWOT technique was implemented for decision making. Analytical Hierarchical Process technique was used for designing and evaluating the alternatives.

Keywords: Redesign; Urban Space; Vitality; Palestine Square; Zahedan

1. Introduction

A city is a medium of communication between people, and activities of urbanization came to existence in open and covered spaces such as squares, entrance areas, and functional spaces (business and cultural spaces), which are now known as urban spaces. Urban spaces are public and open spaces in the city where social life happens. Urban space is a place where social interaction takes place (Pakzad, 2005: 132). The public spaces in the city must be redesigned in a way that people can utilize them effectively, safely and satisfactorily.

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Among these spaces, city squares are spaces where public traffic, leisure time, entertainment, communication, and social and cultural gatherings take place. These open spaces are places where meetings, conferences and discussions of citizens take place, and they can attract people to participate in a lively environment. There is a need to redesign the city square spaces for people's social gatherings. Vitality in city spaces is the base for social relation between people and capital increase. The lack of attention to vitality in urban spaces can have a harmful effect on the relationship between people. Vitality is defined as the capability of a place for various activities with the aim of diverse experiences and social interactions, so as to consider equal security and comfort for everyone (Dadpour, 2011: 6). Most of the squares are located in the old texture of the city centers, such as the Palestine Square in Zahedan, which has limited green space and relatively good urban furniture. Although this square has green space, because of the poor residential area around it and lack of service facilities, this square has less usage by people. The location of the square being good, there is a lot of traffic congestion by different social groups visiting this square. However, due to inappropriate direction, people pass by the square. Among the issues at the Palestine Square are lack of lighting and green space, lack of adequate furniture for a temporary use by people and the traffic congestion around the square.

The present research aims to redesign the urban space of Palestine Square of Zahedan to enhance vitality, based on the evaluation of relevant criteria for vitality and analyses carried out for the three design alternatives.

1. Mosavi Jabari and Heydar Nataj (2015), in their research entitled, "To provide effective physical solution to the social liveliness in city squares", concluded that life of an individual is to be social, and what gives life to a space are the people and their enthusiasm in that space. A lively urban space creates the foundation for social interaction among the people of a society. From this perspective, neglecting vitality in city spaces can have an undesirable effect on our personality and our children.

2. Feizi and Asadpour, (2014), in a study entitled, "Redeployment landscape process of the squares of Tehran city with the aim to promote the social interaction of urban studies", concluded that migration, permanent shifting and rapid population growth in Tehran prevent the formation of social relationships in the neighborhoods of Tehran. This is despite the fact that social interaction is one of the fundamental components of social capital of the city which has an important role in urban regeneration.

3. Amir Hosseini et al., (2014), in a study entitled, "Redesigning urban spaces with an emphasis on patterns of citizen behavior", regarded urban spaces as an important element of urban form. These spaces are scenes where public activities of urban life occur, which create an opportunity for the growth of creativity and recreational environment.

4. Kurdjazi and Mir Saeedi (2014), in a study entitled, "Evaluating vitality criteria and their impact on urban spaces", concluded that vitality and liveliness are the two main qualities in every place of the city for social interaction. The result of this study shows that the complexity of the urban gathering center, as a cultural symbol of small and large cities, requires unique planning.

5. Hosseini, Mofrat and Attarian (2013), in a study entitled, "Investigating the sense of belonging and factors affecting the vitality of city squares", concluded that city squares have always been the center for social and group activities, and play a significant role in creating a sense of belonging of memories among the inhabitants of the city. In their analysis, the following six factors are the sense of belonging and effective on liveliness which are memorability, accessibility and pedestrian movement, conformation of form and space with relevant functions, mental and physical health, day and night activities and diversity of attractions.

6. Samavati et al (2013), in a study entitled, “Role of vitality and survival from urban streets in an increasing axis”, concluded that the urban vitality of the environment increases the base for social interaction among different people. Energy and vitality are very effective in a city or metropolitan area. Among the types of urban spaces, a street with its elegance and beauty needs urban planning and design. Therefore, sufficient factors and their impact on the pedestrian are necessary in urban spaces. In this research, a theoretical framework is provided to clarify the role of social values and urban public space in the performance of urban life.

2. Literature Review

Table 1 Definition and concept

No.	Quality criteria for urban space	A study on quality criteria in the Palestine Square of Zahedan city
1	Urban space	Urban space is an integral part of the city and consists of two basic elements that are square and street (Tavassoli, 2000).
2	City square	The city square is a space whose audience is made up of wide ranges of social strata, age groups, etc. This space should be diverse as well as capable to foster the accumulation and interaction of the citizens. In other words, the citizens make the square and vice-versa.
3	Vitality	The presence of old neighborhood in this texture has added congestion and almost day and night there are vehicular movement and also pedestrian traffic.

Table 2 Urban square design criteria according to the experts

Expert	Year	Scale	Square design criteria
Lynch	1995	Square	Lynch defines square or plaza as the center of gravity and activity center in the heart of a dense urban area and surrounded by dense buildings, streets or in close proximity to them.
Rob Carrier	1996	City	Rob Carrier believes that square is the first means by which humans use the urban space.
Bacon	2007	Square	According to Bacon, square is a space where a citizen never feels that their relationship with the city is disconnected. According to him, a space must fulfill the present needs and the effective interaction that results from the links of citizens with different factors of the city converted to symbols and signage, creating a sense of belonging to the city.
Pakzad	2007	Square	Pakzad believes that in designing the squares, services such as lights and sign boards should be considered. Also, the placement of land-use around city square should be distributed in a proper manner, so that part of the square is crowded and the other part is vacant.

3. Factors Affecting Vitality

Table 3 Vitality criteria for Palestine Square of Zahedan

No	Criterion	Sub-criteria
1	Safety and security of the square	1. Improving the quality of lighting in the square, 2. Creating night activities, 3. Increasing monitoring and supervision, 4. Using appropriate furniture, 5. Signage, 6. Reducing background indication between indigenous and non-indigenous people.

2	Square attraction	1. Appropriate lighting, 2. Environmental safety, 3. Cozy space, 4. Improve the visual visibility in the square, 5. Designing the square entrance to enhance the aggregation.
3	Citizen satisfaction	1. Square security, 2. Cultural services, 3. Promoting the facilities inside the square, 4. Interior furniture and equipment, 5. Health quality, 6. Access to the location.
4	Social interaction	1. Cultural events, 2. Distribution of furniture and equipment, 3. Designing and proper use of lighting at night, 4. Attention to the needs and wishes of the citizens, 5. Designing waterscape, 6. Condition of green space.

4. Research Objective

4.1. Main Aim

The main aim of the study is to redesign the Palestine Square, as one of the oldest urban square of Zahedan, in order to enhance vitality.

4.2. Sub-Objective

1. Creating a place for the formation of social activities in the square and to increase motivation for the individuals present. 2. Redesigning the square space where people can communicate.

4.3. Research Question

1. In redesigning the Palestine Square what factors could increase the social interaction and space attraction? 2. How can the vitality of Palestine Square be increased?

5. Methodology

This study is based on descriptive-analytical method. The data collection is through library and field survey. The study population includes all the residential people and the passerby near the Palestine Square of Zahedan. The statistical population living around the Palestine Square is 750 households, and the sample size is 254 households, using Morgan's table. The outcomes of the questionnaire, field survey and interviews were analyzed using EXCEL software. SWOT technique was used for decision making, and for the three alternatives designs: alternative 1 (status quo), alternative 2 (least manipulation) and alternative 3 (maximum manipulation). AHP technique was used to evaluate the alternatives.

6. Quality of Urban Space

The word 'quality' is ambiguous and theorists have provided different definitions for it. For example, Cutter, describes the quality of life as 'happiness or personal satisfaction from life and environment, such as needs and demands, ideal and lifestyle priorities', and other tangible and intangible factors that determines the overall goodness. Several studies shows that open urban spaces are related to different aspects of the quality of life, such as psychology and physical health, social interaction, crime rate and economic value of the property. To better express the effect of quality in creating sustainable urban space, we must say that when the quality of urban space increases we see the increase in the presence of citizens, and their repetitive presence in the space creates a sense of place for the citizens and ultimately leads to the sustainability of the urban space (Asgari and Jahangirian, 2013).

7. Study Area

The study area is located in the southeast of Iran, in Sistan and Baluchestan Province, with an area of 187578 km², equivalent to 11.4 percent of the total area of the country, forming the largest province in the country. The geographical location is latitude 25°3' to 31°27' North and the longitude is between 58°50' to 63°21' East. This province is limited to the North South Khorasan province and Afghanistan, to the East, land boundary of about 1260 km to Pakistan and Afghanistan, to the South with 300 km water boundary to Oman Sea and to the West Kerman and Hormozgan Province. This province is divided naturally into two geographic areas of Sistan in the North and Baluchistan to the South. The city of Zahedan, with an area of 36581 km², has three cities within itself, namely Zahedan (capital of the province), Mir-Java and Nosratabad. From North, it is limited to Zabol city and Kavir-loot, from East to Pakistan, from West to Kerman province and from South to Khash city. The population of Zahedan city until the end of 2005 was 675282 people (Geological Research Institute, 2012: 1-3). The city of Zahedan is the center of Sistan and Baluchistan province and is in the Eastern part of Iran, near the borders of Afghanistan and Pakistan. The geographical location is 60°51'25" East longitude and 29°30'45" North latitude. The altitude of the city from the sea level is 1378 meters (Master plan of Zahedan, 2011: 18).

7.1. Evaluation of the Historical Evolution of Palestine Square

In early 1950s, a joint project was conducted by the municipality and Red Crescent near the Palestine Square to accommodate the poor. The Palestine Square project is built on approximately seven hectares of land, which includes 77 residential units, green spaces, central market and an educational unit. The built up area of these units are 80-100 m² and at least 50 m². The single floor units' construction materials are (cement blocks, mud and straw), and it was implemented for 11 blocks. These units have two rooms, a yard and a toilet. The elevation finish is cement with vault roof covered with straw and mud. Presently, changes in the building elevation have been observed, as the buildings are purchased by the owners. Also, different textures are observed when one passes by the Palestine Square. There are approximately 20 shops along the main road. Over the past years, there has been an increase in the construction of commercial units around the square. The important feature in this area is the Makki Mosque, as a religious center for the Sunnis. Also, the proximity to the West coast with gradual slope can be dangerous in case of a high tide during floods (Consulting engineers, 2010: 63).

The Palestine Square has residential areas, green spaces forming a park in the middle of the square, several grocery stores, bakeries, fruit shops as well as newly constructed shops such as a super market, and an educational unit around it. In the detailed municipality plan, the residential area occupies maximum area, and there is the commercial and educational zone around the square. This range is in close proximity to the high quality residential zone of Zahedan, with proper accessibility, gaining high land price.

7.2. Position of Palestine Square

Palestine Square is located almost in the central part of the city and between the two main axes of the University Boulevard and Khayyam Street which is connected to a 25 meter wide road. Also, the square is accessed by three roads, which are approximately 10 meters wide, and a six meter wide alley.



Fig 1 View of the Palestine Square, Zahedan

Table 4 Comparative study of sub-criteria of urban space quality in Palestine Square, Zahedan

No	Quality criteria for urban space	Study of quality criteria in Palestine Square in Zahedan
1	Accessibility	Palestine Square is located almost in the central part of the city and between the two main axes of the University Boulevard and Khayyam Street which is connected to a 25 meter wide road. Also, there are three 10 meter wide access roads and a six meter wide alley leading to the square.
2	Hard and soft space	The Palestine Square is a space indicator which cannot be separated. The elements of the indicator are poor houses constructed 40 years ago by Red Crescent, Sunni Al-Qazi Mosque, former Khash gateway or the Imam Ali Square.
3	Public space	The presence of an old neighborhood in this texture has congested the place and traffic flow, and pedestrians are seen day and night.
4	Safety and security	Due to safety facilities and lighting factors, this place lacks the necessary safety and security.
5	Urban landscape	Due to the location of the square in the historical and deteriorated city of Zahedan, and being adjacent to the housing center for the poor, the presence of green space and huge trees inside the square has given a good view to the urban landscape.
6	Mixing and density	In this range, there is a moderate population density, moderate commercial density and high residential density.
7	Inclusive	The urban space is inclusive to all space.

8. Analysis of Design Limitation (SWOT Technique)

The obtained information was analyzed via SWOT technique, as shown in table 6. The purpose of this table is to show the strength, weakness, opportunities and threats. The strengths refers to the project advantages, weaknesses to the lack of desired features, opportunities to major locations and threat to warning factors. In this study, an attempt is made to examine the strength, weakness, opportunities and threats present in the Palestine Square in relation to vitality. This is done in order to select the practical strategy and to achieve efficient result so that it can be used for a suitable design.

8.1. Output Strategies through SWOT Technique

Table 6 Strategies for SWOT technique

SO	WO
1. Hangout spaces and community activities in the neighborhood. 2. Sewage disposal system in cooperation with people to prevent environmental pollution. 3. Renovation in building elevation in order to maintain uniformity.	1. Creating suitable spaces within the neighborhood to serve people. 2. Building parking lots at appropriate places around the texture to meet the needs of the residents. 3. Removing narrow passageway. 4. Implementing the rehabilitation and renovation design with the help of public participation. 5. Rehabilitation and redevelopment of spaces according to the climate and in harmony with native architecture. 6. Creating motivation by implementing participatory design. 7. Creating green space to enhance the aesthetic of the area.
ST	WT
1. Due to the lack of management and maintenance in the situation, the texture is worn-out and shows non-uniformity in the façade. 2. Strengthening the pedestrian area. 3. The necessity to implement rehabilitation and renovation design for the area and harmonizing the buildings with respect to the climate and prevention from earthquake. 4. Creating an effective management for the rehabilitation and renovation and strengthening the identity of the area. 5. Strengthening the urban management system by recruiting native specialists. 6. Educational training and familiarizing people with the benefits of implementing rehabilitation and renovation of the mosque. 7. Removing the pollutant from the area.	1. Implementing rehabilitation and renovation design of worn-out buildings with respect to climate and native architecture with the provision of banking facilities and incentive methods. 2. Organizing and cleaning-up of incompatible land use and converting to environmental friendly area. 3. Strengthening the collection and removal of waste product from the area. 4. Training to raise public awareness regarding the area design. 5. Eliminating insecure spaces and increasing green spaces and parks. 6. Harmonizing the design of furniture, regular and multi-functional to the city (advertising, benches, canopy, statues, lighting, etc.), especially in the Palestine Square.

9. Superior Policies and Strategies

Table 7 Superior policies and strategies

Goal	Strategy	Design solution
1. Safety and security	Improve lighting quality in the square.	To create strong lighting inside and around the square
	Create night activities	Presence of people inside the square due to the existence of security
	Increased monitoring and supervision	There is a guard and police station in the square
	Use of suitable furniture	Ease of presence of elderly people; high quality furniture in the square; installing equipment and furniture for various social groups
	Reducing the incidence of abnormalities	Presence of security guard because of

	among indigenous and non-indigenous people	people present in the square
2. Attraction	Appropriate lighting	High quality lighting in the square and surrounding
	Environmental safety	Security station and lighting of the environment
	Cozy atmosphere of the square	Landscape design, appropriate space, safety, attractiveness, comfortable environment
	Designing entrance to the square to enhance aggregation	Design suitable entrance elements on each side of the square
3. Citizens satisfaction	Square security	Presence of people and their movements at different times
	Cultural services	Newspaper stand and prayer hall
	Enhance facilities inside the square	All type of services and recreational and commercial functions in the square- amenities like public toilet, suitable furniture, trash bins, deployment of facilities that help to provide vitality
	Spatial accessibility	Convenient four entrance accessibility to the square, private parking
	Health quality	Increasing the health of the square through available facilities
4. Social interaction	Cultural events	Increasing the number of important events, due to the redesign of the square as well as rehabilitation and renovation of the area
	Distribution of suitable furniture and urban amenities	Installation in accordance with the human movement – suitable facilities and equipment designed for the square such as benches, public toilet, trash bins, alcove and appropriate green space.
	Attention to the needs of the citizens	Square design- providing all facilities inside the square – providing urban equipment.
	Design and use of element such as waterscape	Presence of water and pond in the middle of the square
	Condition of green space	Existence of massive trees

Table 8 Effective criteria on urban vitality from points of views of experts

Theorist	Year	Scale	Vitality criteria
Jane Jacobs	2007	Avenue	Diversity (physical, functional, activities), attractive urban design and appropriate activities, social, cultural and environmental factors, useful social interaction between observing people
Kevin Lynch	2002	Urban	Health, favorable biological performance of survival (creating a vital environment and a base).
John Montgomery	1998	Public spaces	The level of diversity of main functions includes housing, the ratio of independent and local business activities, especially shops, working-hours pattern, presence of evening life activities, existence of temporary markets. The supply of services at different rates and qualities through various social and cultural places, social interactions, creative development of space.
Jahanshah	2007	Public spaces	Diversity in the physical function and land use, utilizing natural elements, presence of people, establishing security.
Eghdami	2016	Square	Safe and secure urban environment – attractive environment – full satisfaction of citizens – attention to the needs and desires of individuals – increasing social interactions according to individual activities.

(Source: Vitality comparison in Mahallat, Latifi et al., 2014)

10. Final Redesign Presentation of Palestine Square of Zahedan with Enhancement of Vitality

10.1. Alternative Design 1

In this alternative, the status quo is completely simulated with available facilities, degraded green spaces, lack of furniture, inadequate lighting for the square space.



Fig 3 Alternative design 1

10.2. Alternative Design 2

In this alternative, changes have been made to an extent to facilities, such as furniture, safe spaces such as security guard, children play equipment, ramp for elderly people and alcove, newspaper stand, providing safety and lighting.



Fig 4 Alternative design 2

10.3. Alternative Design 3

In this alternative, a design has been proposed in regard to the evaluated criteria, which includes facilities for people in the square, alcoves embedded with special entrance for elderly people, attractive entrances along with designed elements, built-in benches and trash bins in the square, central designed waterscape, appropriate sidewalk, providing lighting in the streets around and especially inside the square, newspaper stands and snack stalls at the entrance of the square, police booth to provide adequate security, toilets and prayer hall, etc.

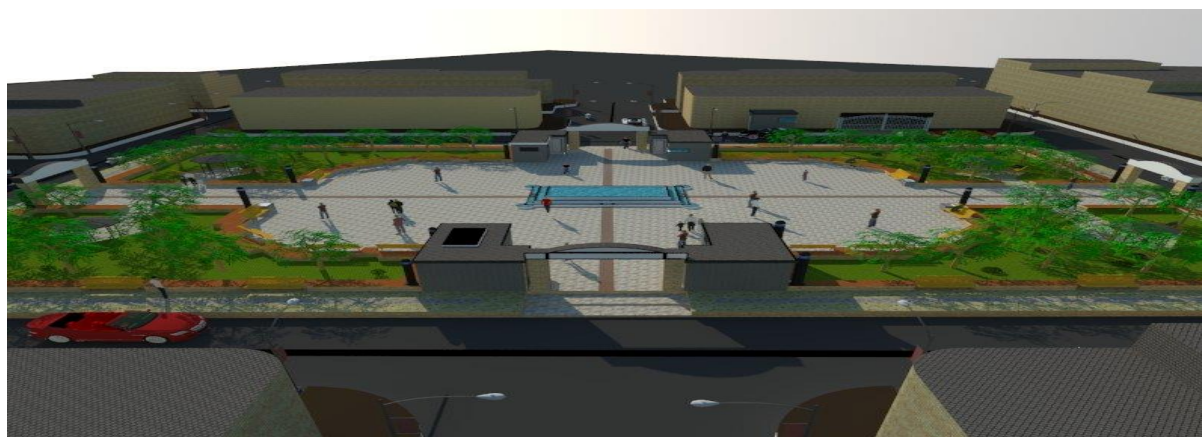


Fig 5 Alternative design 3

11. Evaluating Alternative using AHP Technique

To evaluate each issue, a measurement criteria with index is needed. Selecting appropriate index allows us to make a fair comparison between the alternatives, for which Analytical Hierarchical Process tool was implemented. This method is used for leveling, grading and is sometimes also used for social and economic analysis. Existing criteria in this study are 1. Safety and security, 2. Attractiveness, 3. Citizen satisfaction, 4. Social interactions.

Table 9 Scoring

Excellent	Good	Average	Equal
7	5	3	1

Table 10 Criteria evaluation

Social interaction	Satisfaction	Attraction	Safety	
3	7	5	1	Safety
7	3	1	1/5	Attraction
5	1	1/3	1/7	Satisfaction
1	1/5	1/7	1/3	Social interaction

Table 11 Evaluation of the relevant criteria

Social interaction			Satisfaction			Attraction			Safety			Criteria
Furniture distribution	Design	Green space	Furniture and internal amenities	Enhance facilities inside the square	Security	Appropriate lighting	Health quality	Cozy space	Reducing anomalies	Increase monitoring	Lighting quality	
0.18	0.18	0.18	0.1	0.1	0.1	0.12	0.12	0.12	0.2	0.2	0.2	Alternative 1

0.18	0.26	0.25	0.26	0.18	0.25	0.26	0.23	0.27	0.22	0.15	0.27	
0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	
0.0078	0.0112	0.0108	0.0062	0.0043	0.006	0.0075	0.0066	0.0075	0.0106	0.0129	0.0129	
0.18	0.18	0.18	0.1	0.1	0.1	0.12	0.12	0.12	0.2	0.2	0.2	Alternative 2
0.18	0.26	0.25	0.26	0.18	0.25	0.26	0.23	0.27	0.22	0.15	0.27	
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0.0065	0.0094	0.009	0.0052	0.0036	0.005	0.0062	0.0055	0.0065	0.0088	0.006	0.0108	Alternative 3
0.18	0.18	0.18	0.1	0.1	0.1	0.12	0.12	0.12	0.2	0.2	0.2	
0.18	0.26	0.25	0.26	0.18	0.25	0.26	0.23	0.27	0.22	0.15	0.27	
0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
0.0081	0.0117	0.0113	0.0065	0.0045	0.0063	0.0078	0.0069	0.011	0.0088	0.0075	0.0135	

Table 12 Select the best alternative

Scores of alternative	Alternative 1	Alternative 2	Alternative 3
	$8.04 * 10^{-24}$	$7.38 * 10^{-23}$	$6.24 * 10^{-24}$

After analyzing all the alternatives via AHP technique and valuing the criteria and evaluating each alternative, finally the third alternative was selected.

12. Conclusion

Urban space is a place where general activities of urban life occur. Consideration needs to be given to the role of urban space, which has a long history in urbanization in various forms in different cities at different times, causing the formation of lively urban texture. If we assume a city and the space within it as a living creature, it requires liveliness and vitality for life to continue. It is clear that necessity for the vitality of urban spaces is the presence of people in the city. The role of a square, which itself is an urban space as a public area for creating social life, flow of urban life and human interaction, is the most important concern for urban designers. The long history of squares and their roles in urban spaces have resulted in maintaining of the identity and survival of these squares. In this research, an attempt was made to design the Palestine Square of Zahedan city, in order to enhance vitality in regard to the concepts of safety and security and, consequently, increasing social interaction.

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