Comparative Morphological Study on the Contemporary liveable Cities: Liveable Urban Form from East to West (Iran, Turkey, and Europe)

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Abstract

Today's still we are facing questions like what increases the quality of life or what makes a city livable. Based on what our existing cities and urbanism knowledge have given us until now we have a good source to answer these kind of questions with the analyzing. In a city, physical side is the most tangible element and morphological study is a frame to evaluate it. Four different approaches to urban morphology used in current analysis: historical and natural context, evolution process, space syntax and spatial structure. In addition, comparative analysis helps us to extract data that are more trustable by considering some case studies at the same time. It tried to understand which main Physical features have the largest effect on livability in cities from different contexts. With these regards, the case studies are eastern city like Shiraz (Iran), western city like Barcelona (Europe) and Izmir from Turkey, which locates between them. They are all successful examples in their own countries with almost same size and long urbanism history that make them more comparable. As a result, after passing the cities through a comparative analysis, the main physical factors, which have powerfully formed a character of them, has extracted.

Keyword: Comparative Study; Morphological Analysis; livable Cities; Contemporary Cities.

1. Introduction

In today's world, cities have become the main place of working and living. If in the past, not so long ago, cities were rare phenomena, today they have become the main place of human habitation (Clark, 2003). Every day, the number and population of cities is increasing, and moreover, their problems are getting more complicated. Thus, most of the large cities have problems such as ethnic separation, disassembly, and separation of working areas from residential areas, burnout and deterioration of neighbourhoods, increase in street traffic, deprivation and social inequalities, health, well-being, inequality in access to health services, educational and recreational facilities. By having these in mind,

today, various approaches have been developed to address these conditions, such as sustainability, quality of life, smart growth and liveability, to face the recent conditions in the cities. Although the approaches are overlapping in addressing people's satisfaction, assessing residents' environment, security, health, quality of place, popularity and policy, they are often different in their roots and basis.

Liveability, which is one of the main subject of this study, actually has been considered recently in 20th century because the urban spaces have problems like low quality environment, noise and air pollution, and… . Under pressure of so many socialists and urban researchers, the concept of liveability has been concerned as an important issue and key subject to improve the quality of life in modern cities.

The late nineteenth century could be the beginning of the formation of urban morphology as an organized knowledge. Due to the various powers which are involved in a city, it is normal that morphology has been accepted an interdisciplinary knowledge in the world. This is why experts from various scientific fields such as architects, urban planners, urban geographers, urban planners, and urban designers are seen among urban morphologists. With the same reason, there are various approaches and definitions of this field which ahs been studied in theatrical review of this study.

Figure 1. Structure of the Study (Developed by Author).

2. Theoretical foundations and research background

In this part as the base of our study, we are going to make a theoretical frame and review the background of study. By having this in mind, the two main concepts we are going to study about are liveability and morphology.

2.1. Liveability

Livable spaces in cities is one of the main concern of people and urban managers. Because people naturally seeking for better quality of life and improving the quality of their environment. Socrates in 500 years B.C defines livability and vitality as the main goal of greeting cities city as place. The first concept of livability might present by Donald Appleyard In his book “livable streets” in 1981. In most of definitions, livability has been accepted as the same meaning with “quality of life”: the quality of lif which is exprienced by people is deeply related with their access to the infrustructure (transportation, accessibility, water supplyment and sewage), food, clean air, Affordable housing, effective employment and green spaces and parks (Majedi, 2010).

Dimensions and Indicators of livable city

There are many characteristices expalind by many scientisticts and urban planners. Here it has trid to gather them according to time.

1) As it was mentioned, for first time Donald Appleyard presented 9 factores which make a liveable street: 1. Safety, 2. A place to learn and play, 3. Livable and healthy environment, 4. Community, 5. Neighbourhood, 6. Green areas 7. Historical places (Appleyard, 1981).

2) Henry Lennard in 1997, in his paper "Principles for the Livable City", expressed 9 principles to describe a livable city:

- In a livable city people can see and hear each others.
- Communication is so impotent.
- Public realm contains many different activities, festivals and events which gather citizens and let then be together.
- Public spaces of a city are a place to learn. In this city people acting as a teacher and pattern for each other.
- City should fulfill different (economic, social and cultural) function. Modern city generally prefers to specialize one or two functions but more professional. On this way, mix-uses areas start disappearing.
- All residents should respect each other.
- Aesthetic considerations should be prioritized. Beauty and meaning of place are important. The social and physical environments are two sides of a reality.
- Wisdom and knowledge of all citizens should be considered and used. People should trust who are deciding about their life and environment (Lennard, 1997).

3) The search for definitions of a livable city has drawn together scholars and practitioners around the world. They accepted city as a "Living Organism". The biennial International Making Cities Livable conference has convened academics, professionals and city officials since 1985 "to broaden their understanding of the city as an organism, and how urban policies affect inhabitants' quality of life. Using this metaphor - the brain and nervous system of a livable city refers to participatory processes by which a city develops visions and plans, monitors the implementation of its plans and adjusts to changing circumstances. The heart is the common values and public space of a city that define its essential identity. The neighborhoods, industrial clusters, downtown, parks and other hubs form the organs of a city. Similar to the circulatory system and neural networks that weave connections within a living organism, transportation routes, infrastructure, waste disposal,

communication lines, water flows, and green space connect these nodes. The table below gives a general sketch of this idea (Table 1).

Table 1. Liveable city metaphor (The biennial International Making Cities Liveable conference).

LIVABLE CITY METAPHOR	COMPONENTS	DESCRIPTION
The brain and nervous system of the Livable City	Governance and Participation Monitoring, Measuring, Learning	A livable city engages the active involvement of a diversity of citizens in visioning, planning, implementing and monitoring regional plans and place-based solutions to challenges. The monitoring capability of a livable city is equivalent to the nervous system in a living organism. A livable city develops the capability to measure progress towards its goals, to encourage experimentation and test new ideas, to learn from experience, to adapt strategies in order to take into account dynamic circumstances and shifting priorities, and to quickly respond to opportunities and challenges.
The heart of the Livable City	Common Values, a Sense of Identity and Place	A livable city contains an active public realm for reflecting the essence of itself, for creating and reinforcing a common identity, for dialogue about common values, for remembering history, for celebration and festivals, and for socialization of children and young people.
The organs of the Livable City	Complete Communities, Vital Downtown Core, Industrial Clusters, Green Space	A livable city contains complete communities with mixed-use and affordable housing close to shopping, employment, cultural centres and pedestrian-friendly transportation networks; a vital downtown core with public spaces and economic activity; industrial clusters with shared infrastructure; and green space including agricultural lands and parks.
The circulatory system of the Livable City	Natural Resource Flows, Green Corridors, Energy Grids, Communication, Transportation	A livable city is connected through the flow of resources that sustain its activities including water, materials, sewage, and waste; through access to energy resources; through green corridors for biodiversity habitat and recreation; through access to the communication systems including information and communication technologies; through a transportation network that prioritizes walking, public transportation and efficient movement of goods, and enables pedestrian-friendly communities.

2.2. Morphology

Cities are the greatest man-made phenomena and reach sources of knowledge for studies and learning about people, their lives, behaviors and their relation with the environment and … . The term of morphology and urban form is generally the method and context of studying on build environment. Thus, this field of study covering various aspects of city and related to many realms of urban life. Urban morphology is the systematic study of form, shape, map, structure and uses of build environment and its evaluation process during time (Madanipour, 1987).

City is a spatial phenomenon that has created in a special point. It has developed and growth during different historical periods. Thus, facing urban issues, spaces and forms to answer present and future needs of its habitants, requires a process which begins whit the philosophy of city, grows in time and space and ends with scientific and practical researches (Habibi, 1997). Also, Claude Lévi-Strauss, a French anthropologist and ethnologist, believes that city is "the most complicated man's invention" in the intersection of natural and built environment. Here we are going to review some of the main theories in urban morphology to find the main aspects of this field according to current study:

- Urban morphology is the study of urban form over time (Scheer, 2002).
- Urban morphology analyzes the way statements create, rise and open up. The word creating point to relation of city and the ground, rising shows its relation with the sky and opening up means spatial interaction or the inside and outside interaction (Shulz, 1979).
- Urban morphology is a field that studies the process of building a city and its results or its products (Moudon, 1998).
- Urban morphology is a systematic study of the form, shape, map, structure, and functions of the build texture of cities. Also, it is study of the origins and methods of evolution of this texture over time (Madanipour, 1996).

Based on all these approches to the urban morphology, this study, has considered historical and natural context, evolution process, space syntax and spatial structure as the main aspects of liveable form in cities.

3. Methodology

Generally the main methods of this study are descriptive and analytical. Additionally the way of collecting data is observing and fieldwork by using questionnaire. At the end comparative study will use to confirm the hypothesis of research. Based on the analytical processes, the main indicators of liveability and the most practical morphological approaches has been extracted. In second phase, it has tried to put the 2 main aspects of the research together and extract a pattern which is called liveable

form. For this purpose, the liveability indicators categorized in four main approaches of urban morphology and the result was design as a questionnaire. To check the correctness of our hypothesis and evaluate the value of each morphological approach in liveability of cities.

The questionnaires were given to 100 people in 3 cities (Shiraz, Barcelona and Izmir).firstly, they answered "How liveable do you think is your city?" The answers of this question is confirming our first hypothesis about liveability of these three cities and the result was 65% for Shiraz, 76% for Izmir and 88% for Barcelona. Then the candidates answers some questions and were asked to evaluate the factors of liveability which had been organized in 4 main groups of morphological approaches. Here is the summarized form of indicators that we asked in the questionnaires as the basis of the research's evaluation.

Table 2. The indicators that we asked in the questionnaires as the basis of the research's evaluation. (By Author).

Historical And Natural Context	Evolution Process	Space Syntax	Spatial Structure
• feeling the historical back ground of city • Natural character	• Collective memory • Identity	• The combination of mass and space • Virtual opening • Feeling open or close at the right time / Sense of place	• Functions • Natural Resource Flows • Green Space Corridors • Energy Grids • Communication • Transportation • Vital Downtown Core • Industrial Clusters

4. Finding and Discussion

The first question about liveability of cities from their citizens confirms the liveability of these cities from their residence's point of view (Figure 2). Then, the result of other information extracted from questionnaires has been summarized as below.

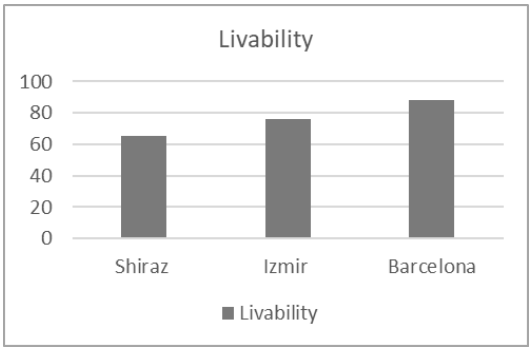

Figure 2. Liveability of the samples (By Author).

4.1. Shiraz

Shiraz is the fifth-most-populous city of Iran and the capital of Fars Province (Old Persian as Pars). At the 2016 census, the population of the city was 1,869,001. Shiraz is located in the southwest of Iran on the "Rudkhaneye Khoshk" (The Dry River) seasonal river. It has a moderate climate and has been a regional trade centre for over a thousand years. Shiraz is one of the oldest cities of ancient Persia.

The result this study in Shiraz shows, special structure has the highest effect on the livability of city from its citizens' view. But the evaluation process is not a clear factor for people and it is more professional factor for researchers.

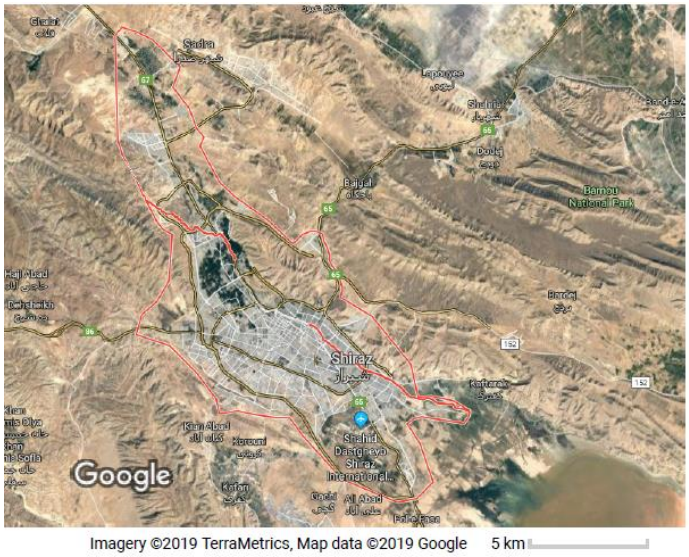

Figure 3. Shiraz (Google map).

Figure 4. Shiraz (Tabnak news agency).

Figure 5. Date collected in Shiraz (By author).

4.2. Barcelona

Barcelona is a city in Spain. It is the capital and largest city of the autonomous community of Catalonia, as well as the second most populous municipality of Spain. With a population of 1.6 million within city limits. Founded as a Roman city, in the Middle Ages Barcelona became the capital of the County of Barcelona. After merging with the Kingdom of Aragon, Barcelona continued to be an important city in the Crown of Aragon as an economic and administrative centre of this Crown and the capital of the Principality of Catalonia.

Based on this study in Barcelona, historical and natural contexts is the main reason for liveability of city. People think spatial structure is the second reason and still evaluation process in an unreadable factor for people.

Figure 6. Barcelona (Google map).

Figure 7. Barcelona (Wikipedia).

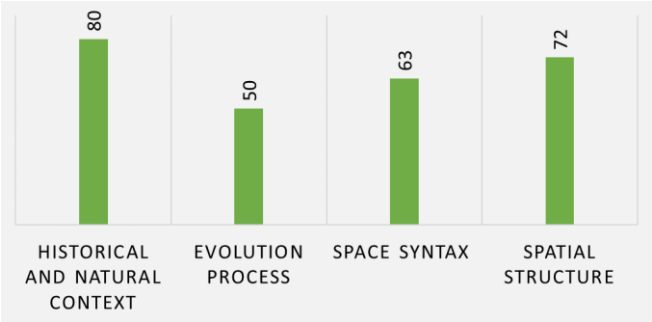

Figure 8. Date collected in Barcelona (By author).

4.3. Izmir

İzmir is a metropolitan city in the western extremity of Anatolia. It is the third most populous city in Turkey, after Istanbul and Ankara, and the second largest metropolitan area on the Aegean Sea after Athens, Greece. In 2018, the city of İzmir had a population of 2,947,000. İzmir and Smyrna have more than 3,000 years of recorded urban history, and up to 8,500 years of history as a human settlement since the Neolithic period. Lying on an advantageous location at the head of a gulf running down in a deep indentation, midway along the western Anatolian coast, it has been one of the principal mercantile cities of the Mediterranean Sea for much of its history.

The result in Izmir shows that people think space syntax has the highest effect on livability of their cities. And then space structure is in the second place. But still like other cities evaluation process is not an understandable factor.

Figure 9. Izmir (Google map).

Figure 7. Izmir (Wikipedia).

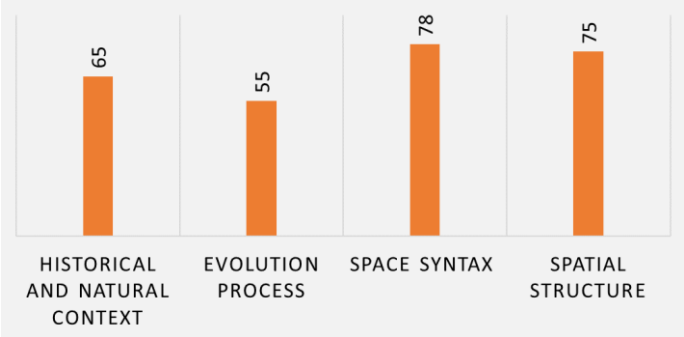

Figure 8. Date collected in Izmir (By author).

5. Conclusion

In conclusion, generally spatial structure is the most important factor to make it liveable. This factor contains many indicators such as Functions, Natural Resource Flows, Green Space Corridors, Energy Grids, Communication, Transportation, Vital Downtown Core and Industrial Clusters. On the other hand these three liveable cities have the strong historical background which gives them a qualified character and leave historical footprints in forms of cultural or urban heritages. At the end obviously

the evaluation process is not a tangible layer for citizen and this factor is usually studies and consider by researchers.

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