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Explaining the Pattern of Livability with Emphasis on Raise of Physical-Spatial Structure (Case Study: Rasht City's Central District)

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Abstract

Deterioration of the central district of cities is not only a physical issue but also an economic and social process. The central core of the cities can be considered as a basis for understanding the history, economy, culture and art of their creators and preservers, which has the ability to progress due to the existence of valuable historical works in the city center. This research examines the livability of the existing neighborhoods of the central district of Rasht city and studies its features and characteristics and deals with the regular and systematic description of its current situation and explains the reasons for how and why the problem situation and its dimensions. the research method is based on the purpose of the practical and on the causal nature. Using extensive library and field studies, the general aim of the research is to identify and analyze the existing livability of the neighborhoods in the central part of Rasht city and to understand the causes, processes and areas affecting the livability and the improvement of spatial and physical structure. Based on the inhabitants questionnaire with analyzing by one-sample t-test, one-way analysis of variance (ANOVA), Tukey's post hoc test, and Friedman's test by SPSS software, the mean value of the four dimensions, the livability of the neighborhoods in the central district of Rasht city is lower than the assumed mean. The social dimension with an mean of 2.46 has a more favorable state of livability and the environmental dimension with an mean of 2.08 has a more critical situation than other dimensions. Therefore, the livability of the neighborhoods in the central district of Rasht are considered unfavorable. In terms of overall livability, Rodbartan neighborhood is the most unfavorable with an mean of 2.07 and Chelekhane neighborhood is the most desirable with an mean of 2.78. The Friedman test comparing the average ratings of livability dimensions shows that the highest mean rating (3.90) is assigned to the physical spatial dimension and the lowest mean rating (1.30) is assigned to the environmental dimension affecting livability. According to the opinions of 35 experts of Rasht city, the influence of macro factors of infrastructure and urban services with an mean of 3.63 and the macro environmental factors with an mean of 3.10 have the lowest impact on the livability of the neighborhoods in the central district of Rasht city. Also, social indicators with an mean of 3.95 are the highest and economic indicators with an mean of 3.72 are the least favorable for measuring the livability of the central district of Rasht city.

Keywords: Urban livability, Central district of city, Neighborhood, Physical-Spatial structure, Rasht city

1. Introduction

One of the most basic urban issues currently is the unfavorable social, economic, environmental and physical conditions in the central part of the cities. Urban centers are the place where the initial core of every city is formed, around which the outer layers and the body of the city are gradually formed over time. Improvement, renovation and reconstruction of old city centers with the aim of social, economic, cultural, historical and political revival has a special place in the world. Deterioration of the old texture of the city is not only a physical issue but also an economic and social process. The problems of the old fabric of the city include the high cost of maintenance and repair, unwillingness of the private sector to invest, lack or failure of communication systems, low income of residents, growth and continuation of unemployment, etc. Although urban development has caused the central core of the cities to lose their importance in favor of new centers, but these centers have not lost their historical, cultural, artistic and urbanism importance. Rasht is one of the cities of Iran, which has the ability to progress and develop due to the existence of valuable historical works in the old context and also the existence of Zarjob and Goharroud rivers. There is a significant difference in terms of social, physical, economic status, etc. among the neighborhoods in the central part of the city. As a result, livability and living conditions are different from one neighborhood to another. Therefore, the livability of neighborhoods is a vital element for the prosperity and development of cities, and a livable city can be achieved from livable neighborhoods. The implementation plan of this plan to bring life back to the fabric is the model of sustainable development and the model of endogenous urban development. With reference to the local area of the current research, which is the central part of Rasht city, and its issues such as the population outflow and the negative growth rate of this part compared to the past decades, the worn-out and decaying texture and the lack of building renovation, insecurity, problems Traffic and inappropriate access, etc Livability as a subset of sustainable development theory is considered in this research. The theory of urban livability includes all the conditions of sustainable development of the city, but with the difference that the sustainable city happens now and ultimately leads to urban sustainability over time. The

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main problem of the current research is that the central part of the city, which once contained the most important and vital areas of the city, why and during what process and under the influence of what factors have their livability declined? The general goal is to identify and analyze the existing livability situation in the neighborhoods of the central part of Rasht city and to understand the causes, processes and effective areas in relation to improving the livability status and improving the physical-spatial structure. In this research, the prioritization of economic, social, physical, and demographic indicators related to the livability of the old fabric of the central core of Rasht city and classification based on the current situation is discussed. To finally determine the importance of the desirable and undesired of each neighborhood.

2. Research Background

The expansion of the idea of livability can be seen in America. The term livable city was prosed for the first time in 1970 by the American National Foundation for the Arts in order to achieve the idea of urban planning they considered, which carried out extensive studies on the livability of American cities. In Europe, studies related to providing a definition of a livable city go back to at least 1975, when Landscape magazine published a collection of short articles by experts and academics on the creation of livable cities. In the internal research literature, the livability of the city is also mentioned as one of the newest topics in the recent theories of urban planning and urbanism, and it has been paid attention to since 2009 (Heidari, 2015: 11). Proponents of livability draw inspiration in their work from the writings of older humanist and urban thinkers of the 20th century, such as Lewis Mumford, William H. White, Jane Jacobs, and Bernard Rudofsky (Wheeler, 2013: 24).

Reihaneh Mehrekash and others in the article 2022 with Title "Identification of effective indicators in the livability of urban neighborhoods (areas 1, 5, and 8 of Isfahan city)" stated that the research is based on practical purpose and on the basis of descriptive-analytical nature with a combination of methods Qualitative and quantitative research has been done. The purpose of the research is to use factor analysis to identify the indicators that are effective in the livability of urban neighborhoods. First, livability from a theoretical point of view and then the characteristics of Isfahan city areas have been measured and investigated. The findings show that there is a difference between the urban areas of Isfahan in terms of livability. According to the stratification, Jolfa and Rozmandagh neighborhoods have the highest level of livability, which is the reason why these neighborhoods are placed in the same class because of their cultural, economic, and social similarity.

C. Higgs et al. In the article 2022 with "Title Policy-Related Spatial Indicators for Urban Liveability and Sustainability: Scale from Local to Global", described the research challenges and lessons learned from a 5-year joint research program and a software workflow for calculating the composite index The urban liveability of residential areas across Melbourne extends to 21 major Australian cities and 25 global cities in various contexts. The measurement of the spatial index related to the policy of the artificial and natural environment supports urban planning at all levels of the government. Analyzing the spatial distribution within cities and its effects on individuals and communities is crucial to ensure the fairness of planning decisions.

Shai Palgi, in his PHD thesis of the University of Colorado Boulder, USA, 2020, with Title "Achieving livability and reducing risk: The relationship between relocation decision-making and the consequences of post-disaster relocation of communities," stated that many governments try to reduce future risks by relocating vulnerable populations. Research focused on post-disaster mass relocation, the study addresses this gap by comparing and linking implementation and outcomes in thirteen displaced communities in the Philippines, following typhoon Haiyan in 2013. The research examined what project conditions are offered to help successfully relocate communities and liveability in combination to promote a suitable built and social environment.The results challenged conventional assumptions about the preferred speed and scale of relocation projects and how best to manage the transition of relocation beneficiaries.

Saeeda Alijani, in her PHD thesis of 2018 with Title "Urban Livability Analysis of Tehran, District 22", researches from a new point of view on the importance of environmental conditions in a livable city. Among the components of the environment, climate and weather conditions play the most important role in improving the quality of livability. The results of the research showed that environmental considerations in order to improve the quality of livability and sustainable development in the design of urban spaces by designers, urban planners and builders in Region 22 have not been done.

3. Theoretical Framework

3.1. Livability

It seems that a wide understanding of livability has emerged over the past few decades, although there is still no consensus on the exact definition of livability, in many ways livability can mean a wide range of issues related to people's quality of life and well-being. (Tan et al, 2016: 3) Livability is a general concept for which many definitions have been provided so far. Most researchers have defined it as a difficult concept to measure and define. Livability is defined as quality of life, standards of living or general happiness of the population that lives in a place such as a city (Okulicz, 2013: 433). In the Oxford English Dictionary (livability), it is defined as having the value of life and suitable for life (Shamsuddin et al., 2012: 170). Nowadays, livability is considered as an important concept in achieving a lively city. In addition to the need to design a city that takes into account culture, traditions and social diversity, livability encourages an active, healthy and sustainable society (Mushtaha et al., 2020: 873). Livability is attributed to the urban system in which the social, cultural, economic, physical and mental health

of all citizens is considered. (Sahibi and others, 1401, p. 76). Achieving the livability of life is considered one of the strategic goals of sustainable urban development (Shahnavazi et al., 2022: 68). Also, the livability of a city is determined by the way and the degree of participation of the residents of that city in making decisions to meet their needs. (Khadrulu and others, 2022: 37). The definition of livability is different from one culture to another or from one time to another (Mehreh Kash et al., 2022: 2). Livability is related to the quality of urban life. The livability ranking of cities is calculated based on health, cultural, environmental, educational and infrastructural points of view. (Saeed et al., 2022: 2). The concept of livability has appeared alongside sustainability and as a slogan in public discourse and planning (Matthias Ruth et al., 2014: 19). Livability is often associated with the satisfaction of the neighborhood, which aims to capture and develop the physical and social characteristics of the neighborhood to meet the expectations of the residents (Kotulla et al., 2019: 4). A review of common definitions such as providing the welfare and satisfaction of the residents, quality of life, meeting various needs, achieving a desirable and satisfying life, etc. shows, in other words, a set of objective and mental characteristics that attractiveness and desirability They offer a place It is considered livability. (Willer, 2013: 54).

3.1.1. Livability of urban spaces

Urban space is nothing but the everyday life space of citizens, which is perceived every day consciously or unconsciously along the way, from home to work (Pakzad, 1997: 32). Urban space is not excluded from the category of space. This means that the social and physical dimensions of the city have a dynamic relationship with each other and include two social and physical spaces (Madanipour, 2000: 48). Urban space is a stage where the story of collective life is told, a space that allows all people to access it and operate in it. (Khadmi, 2006: 2).

3.1.2. Dimensions of livability

The involvement of various social, economic, physical and environmental components on the one hand and people's different perceptions of the concept of livability on the other hand have caused the complexity and difficulty of understanding this issue (Irandoost et al., 2014:106).Wheeler also shows that the three environmental, economic, and social elements form the basis of livability (Fig.2.) (song., 2011: 5). The three main dimensions mentioned for livability are completely interdependent and not independent of each other. For example, the health of the environment cannot be traded in the happiness of society or vice versa (Stein., 2002: 4).

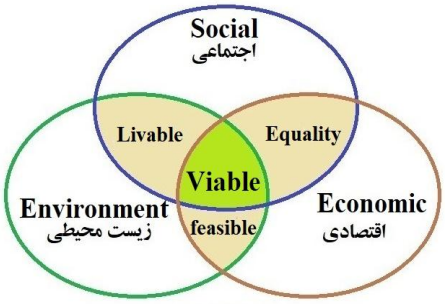


Fig. 2.The main dimensions of livability. Source: Vos et al, 2005.

Bell and Morse explain that livability indicators can be divided into four categories: social, economic, environmental, and institutional aspects (Fig.3.) (Morse et al., 2008: 128). In general, livability is divided into three interdependent dimensions: economy, society and environment. Economy provides jobs and income and is vital for people's health. Social welfare is the social and spatial distribution of economic and environmental resources that is just for the benefit of all citizens. The environment is an infrastructure that provides natural resources, waste disposal capacity, and the relationship between humans and the natural environment. These dimensions follow goals such as economic productivity, social justice and environmental protection (Khorasani, 2011:45). The above three main dimensions for sustainability are interdependent and not independent. For example, the health of the environment cannot be traded in the happiness of the society or vice versa (Ali Akbari et al, 2017: 7).

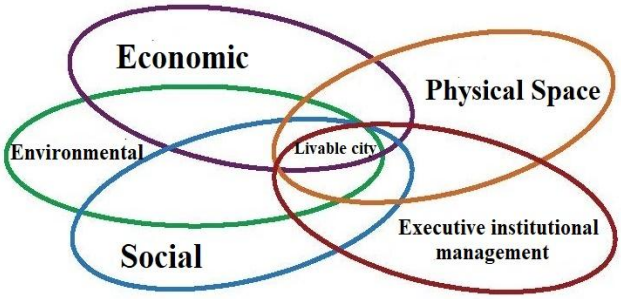


Fig. 1. Dimensions of the livable city. Source: Bell et al, 2008.

3.1.3. views aligned with the concept of livability

Recent developments in the field of planning indicate the formation of constructive approaches to solve existing urban problems. In the last few decades, a number of new urban planning and design actions have emerged that challenge the modern and common development orientation of the 20th century. Sustainability, urban village, quality of life, smart growth and new urbanism are among these concepts. The study and analysis of the definitions and indicators presented in the field of livability show that this concept overlaps with the mentioned concepts and approaches. Because all of them have been developed as critical responses to undesirable urban policies and their negative side effects, and together they help to lay the foundation for sustainable planning. In other words, they are all answers to solve the problems of

decline and deterioration of the central part of the city (Larice, 2005).

3.1.4. Patterns of livability

The physical-environmental patterns of the residential systems (PEP) metro polices are considered as continuous and linear corridors, which are largely disparities in the quality of the infrastructures, the density of the development of the areas, including the center and There are internal and external peripheral areas, as well as the level of pollution in the centers and peripheral areas. Socio-economic patterns (SEP) (such as diversity in the distribution of incomes, jobs, the nature of surplus production and commercial activity between settlements) Socio-economic factors that affect livability in response to the uneven distribution of environmental physical patterns Center sub-regions, inner and outer peripheral regions appear. The economic opportunities in the central sub-districts make these areas more attractive than the interior areas and cause the property rental price to increase in the central areas and have an effect on density and pollution and ultimately affect the livability of the areas. Social-Cultural Patterns (SCP) The role of social and cultural factors (originating from old historical and cultural traditions and rituals) is positive in determining livability in internal and external sub-regions, and comparing the effect, social and economic conditions in sub-regions The center is down. In this view, a type of livability is obtained which is relatively more and better in the inner peripheral sub-regions where more harmony is obtained in the form of positive and balanced socio-economic opportunities and balanced socio-cultural factors. (Hataminejad et al, 2017: 7). The livable city development pattern is based on the healthy life of citizens. In this pattern, one can easily move on foot, bicycle, public transport and even car if there is no other choice. A livable city is a city for all people, which means that the city should be attractive, valuable, safe for children and the elderly, not just for those who earn there and then live in the suburbs. (Hahlweg., 1997). A livable city is a place for social life, communication and dialogue, and it pays attention to the creation of architecture, streetscape and public space design that facilitates the presence of city residents in the public realm and in the heart of the city. (Crowhurst et al., 1987: 3).

3.2. Changes in the city center in the process of rapid urbanization

One of the fundamental topics in the formation of contemporary scientific theories and perspectives in the field of urban studies has been the importance and changes of the element or characteristic, centrality in cities and between cities. The discussion of centrality in urban studies has always been emphasized and paid attention to from two aspects, one is in terms of the central position of the city (at the level of the region or country) and the other is the identification and study of urban centers and their types of functions. In urban studies, there is a special importance for both aspects, i.e. both the central and focal location of cities and the prominence of the functions and activities of the central part within the cities (Shalin, 1993: 46). The centrality within the city plays a major role in the spatial structure of the city. In such a way that it is the criterion that determines the type of spatial structure of the city and the strength and weakness of the centrality can affect the entire spatial structure of the city. In the process of rapid urbanization, after the periphery of the city, the city center is the second part of the city that is directly affected by the changes caused by this process. One of these developments is the increase in density, land value, and daily commuting from the center to the periphery. The result of the above factors is a change in the pattern of residence and activity in the city, which appears in different ways. (Osullivan, 2007: 91).

3.3. The approach of livability and the theory of sustainable development

Although today, after several years of the concept of sustainability, critics talk about the contradiction in the originality of this issue, but this paradigm has considerable power in various fields and still the leading theories in the field of urban issues, many They form their ideas based on the principles of sustainability. Therefore, it should be accepted that sustainability is a path that leads urban planning to higher goals. The perspective of sustainability in urban planning has been given attention in recent years in our country, but due to the centralist view of planning in the country, it has not been seriously considered at smaller levels of society such as run-down urban neighborhoods. On the one hand, all the standards and principles of the sustainability of neighborhoods and modern urban development are somehow intertwined, the existence of one leads to the achievement of the other and vice versa, because if comfort and well-being are accepted as a basic principle for the science of geography, health , the wealth and quality of life of the people is also a part of this comfort and prosperity which has been related to the diversity, productivity and quality of the ecosystem. As a result, sustainability depends on improving and maintaining the comfort and well-being of people and the ecosystem. This is the basic connection of the human system as a complementary component of the ecosystem in a simple plan and at the same time explained (sustainability egg). According to the sustainability egg, it can be stated that people are one of the complements of the ecosystem and the well-being and comfort of one depends on the comfort of the other. Therefore, it can be said that sustainable development has included the maintenance and comfort of both systems. Therefore, the relationship between a livable city and a sustainable city is completely clear (Sabaghi, 2012: 48). If we consider the quality of life to be equivalent to livability, the ability to strengthen this quality can be called sustainability. livability is the ability of a place or society to respond to the needs of its current citizens without jeopardizing the ability of future generations to meet a wide range of human needs (Stein., 2002: 4). Sustainability involves forward-looking (human-environment relationship should be consistent in the future), sustainability is a concept (it

is focused here now) (Van camp., 2003:11) environmental aspects are very important in Stable city. However, in a livable city, the threshold of social satisfaction and identity values are more important (Banderabad, 2012: 103).

3.4. Indicators for measuring livable city

It is very vital and important to choose an index in livability to study its situation. On the one hand, the indicators are a tool to accurately understand the existing conditions in the society in a certain period of time, and on the other hand, they represent the picture. Trends and transformations that have occurred during a certain period. The livability indicators based on various studies include education and its quality, health and wellness, desirable and diverse housing, economy and employment, security, urban infrastructure, access to daily needs, diverse and desirable transportation, mixed uses, factors Cultural and historical, density of people and buildings, diversity and creativity, green space and park, pedestrian-oriented, cleanliness, air quality and pollution, recreation and leisure, beautiful views, social interaction and dignity and identity and sense of belonging to the place. (Mahluji et al, 2021: 11). Indicators are models to facilitate the understanding of a complex issue and are easily understandable for policymakers and the general public (Vesifal and Doila, 2010: 33). The livability index is a system for monitoring the quality of life in an environment and in a certain period of time using social, economic and environmental criteria. Livability indicators help citizens, policy makers and executives to show the progress of society in improving social indicators. In order to obtain suitable indicators for the livability of a settlement, it is better to consider this concept as a hierarchy of needs that starts with basic needs and completes with higher needs. Reviewing the history of studies shows that the first attempt to measure the livability of the settlement was based on the assessment of housing, water, health, light and air conditions. (Ali Akbari et al, 2016: 5). The point is to consider the use of individual indicators and combined indicators with each other. Taking advantage of economic, social and environmental indicators without considering the link between them has caused a one-dimensional attitude and deep problems. (Zanganeh et al, 2017: 34). The three main groups of indicators that are used by most researchers are the objective index, mental index and behavioral index (Shahyundi et al, 2014: 15). According to the indicators, they can be classified into four main groups: social, economic, physical, and environmental. According to Marthaman and Ledmeijer, the basis of livability is the residents' desirable assessment of their living environment. Therefore, people and places are on two sides of the realm of livability, and livability emphasizes the human experience of the place and considers these experiences in space and time. Obtained from the place or people leads to getting lost and moving away from the goal. Therefore, the most important elements of livability in urban areas, based on the sources mentioned above, are: (attractive and walkable public spaces), (low speed, volume and congestion of cars), (adequate and reasonable housing, well-designed and affordable), (good and accessible schools, shops and services), (accessible parks and outdoor spaces), (environment) clean), (Diverse, legible and beautiful perspectives), (safe and usable places for everyone), (places with an emphasis on native and local culture, history and ecology), (emphasis on communities and human interactions) (Wheeler, 2013: 12). The dimensions and indicators of the present research are in the framework of the main livability dimensions of the central part of Rasht city according to similar studies as described in the (table 1) below.

3.5. Urban spatial structure

Space is an objectivity resulting from the role and influence of people and human groups in a place, or in other words, the result of the interactive functions of two natural ecological and socio-economic environments. Since space is made up of related parts, it can be considered a system, and since this system is a spatial reality, it can be called a spatial system (Saeidi, 2010: 8). The constituent components of this system in its mathematical dimension include nodes and edges that create links between nodes and form the structure of that spatial system. In the geographical dimension, the spatial structure is the result of historical, physical processes and changing economic, social and political conditions and is made up of elements and factors that express how they are established and how they communicate with a certain degree of regularity and functional capacity (Dadashpour et al, 2014: 67). Spatial structure is the arrangement and order of geographical phenomena on the surface of the earth, the order existing in the spatial structure is the result of the influence of natural and human forces (Small et al., 2001: 250). The meaning of the spatial structure of the city is land use patterns, the form, shape and design of urban areas and the way of distribution of activities, elements and components that compose the city (Nazarian, 1991:. 22). The spatial structure of the city is the distribution of residential areas and economic activities in space (Burgalassi et al, 2015: 135). In some cases, the distribution of economic activities is the only determinant of the shape of the city, although it may also be related to urban transfers. The urban form and interactions with each other determine the spatial structure of the city (Bourne., 1982: 36). The spatial structure of the city is a composite set of a backbone and an interconnected network of different and diverse uses and elements of the city that gives the city a sense of coherence in its entirety and weaves its fabric in all areas of the city up to its most extreme parts, i.e. the neighborhoods. residential area extends (Abdullahi Turkmani and others, 2018: 28).

3.6. Explanation of the concept of neighborhood

In most historical studies, different eras of the history of urbanization in Iran are divided into two parts, before and

after Islam. The concept of neighborhood existed in urbanization before Islam and socio-economic factors, especially different social classes, mainly determined the demarcation of the residential neighborhood. After the arrival of Islam in Iran, the neighborhood concept was maintained as one of the main elements of the spatial and social structure of Iranian cities until the first Pahlavi period, and there were strong social relations between residents in the scale of urban neighborhoods. (Thaqa al-Islami, 2012: 35). Neighborhood is an old concept that in Iran has always been influenced by macro, social, economic, cultural, religious and political currents in cities (Masoumi, 2010: 49). A neighborhood is defined in the Law of Country Divisions as a set of residential and service buildings, whose residents consider themselves to belong to that neighborhood in terms of social context. (Soleimani, 2006: 30). According to Lynch, the neighborhood has some common and special characteristics, which can be identified and in different ways, a person mentally feels entering it. According to Habibi's belief, neighborhoods form the main fabric of the city. Factors such as recognizable identity, perception of residents, name and physical boundaries are representative of the neighborhood (Mofidi Shimrani et al, 2015: 6).

Table 1
dimensions and indicators of the present research. Source: Studies of Authours.

object (guge)	Index	demension
1. A sense of belonging to the neighborhood 2. Willingness to continue living in the neighborhood 3. sense of identity	Identity and sense of belonging to the place	social
1 .Willingness to attend religious and social ceremonies 2. Voluntary participation in civil affairs 3. Trust in the decisions of the city council and municipality	Trust, participation and solidarity	
1. Good park in the neighborhood 2. Safe and suitable playground for children 3. Cinema 4. Library in the neighborhood 5 .Restaurant in the neighborhood 6. Space and suitable sports facilities in the neighborhood	Recreation and free time	
1. Feeling of security in private space 2. Feeling of security in public space 3. Absence of abandoned and barren spaces 4. The amount of police presence	Personal and social security	
1. Noise pollution 2. Garbage collection quality 3. Vermin 4. The quality of the sewage network and surface water	General Hygiene	environment
1 .Quality of green space 2. Variety of green spaces 3. Green space per capita	green space	
1. Vitality of public spaces 2. Beauty and lighting of public spaces 3. Attractiveness and quality of public spaces 4. The quality and visual beauty of the facade of the buildings 5. The desirability of urban furniture	public area	
1. .Employment rate 2. Job satisfaction 3. Income satisfaction	Employment and income	economic
1. Housing price 2. Housing quality 3. Age of housing 4. Ability to improve housing 5. Type of housing ownership	Housing	
1. Satisfaction with access to public transportation 2. Satisfaction with the cost of public transportation 3. Satisfaction with the quality of public transportation	Public transportation	
1 .Access to clinic and hospital, 2. Quality of clinic and hospital services, 3. Access to pharmacy, 4. Satisfaction with emergency department performance 115.	Healthcare	Physical-Spatial
1. The quality of service provision: water, electricity, gas and telephone lines, 2. Internet facilities and services, 3. Variety of goods and services, 4. The existence of chain and large stores, 5. The existence of sufficient number of banks.	Facilities and infrastructure	
1. Appropriate working hours of public transportation, 2. Appropriate number of public transportation stations, 3. Quality of sidewalks 3.Quality of public transportation routes, 4. Easy access to the highway and other neighborhoods of the city	Transportation	

4. Research Methodology

With regard to the subject of this research, the research seeks to explain the characteristics and traits and to explain the model of urban livability, in other words, it examines the current situation of the central part of Rasht city and deals with the systematic and systematic description of its current situation and the characteristics and traits He will study it and examine the relationship between the variables, and in addition to depicting what is, he will describe and explain the reasons for how and why the situation of the problem and its dimensions. Therefore, the type of research method of this research is practical in terms of the fundamental goal and in terms of causal nature, and due to the complexity of the subject, limited and non-native information about the subject and in general its relative unknownness in the world and especially in Iran and efforts to The study of livability from different dimensions is a mixed research method (quantitative-qualitative). On the other hand, since in the current research to explain the livability pattern in relation to the improvement of the physical-spatial structure of the central part of Rasht city, spatial and non-spatial statistical data are used and these data are quantitative, a dimension of the research is quantitative. and the identification of the mechanisms governing the livability and spatial-physical

structure of the central part of Rasht city in relation to the social, political and economic system of the country of Iran and the studied region is done in the form of documents, observation and interview in a qualitative manner. Therefore, in this research, a combination of quantitative and qualitative methods is used to create a complete and deep picture of macro and micro factors involved in the livability of the central part of Rasht city with the approach of improving the physical-spatial structure. In this research, in order to achieve the desired goals of the research, a questionnaire was used based on the literature on livability. which included the questionnaire of the residents of the research territory and the interview questionnaire of experts, specialists and experts (including university professors, researchers, managers and those involved in the city and urban planning) and so on. Based on the above theories and its proposed indicators, the livability criteria of the central part of the city in relation to the improvement of the physical-spatial structure through the theoretical and content analysis of the theories with the aim of properly forming the discussions, will be according to the following conceptual model in the (Fig. 3) below .

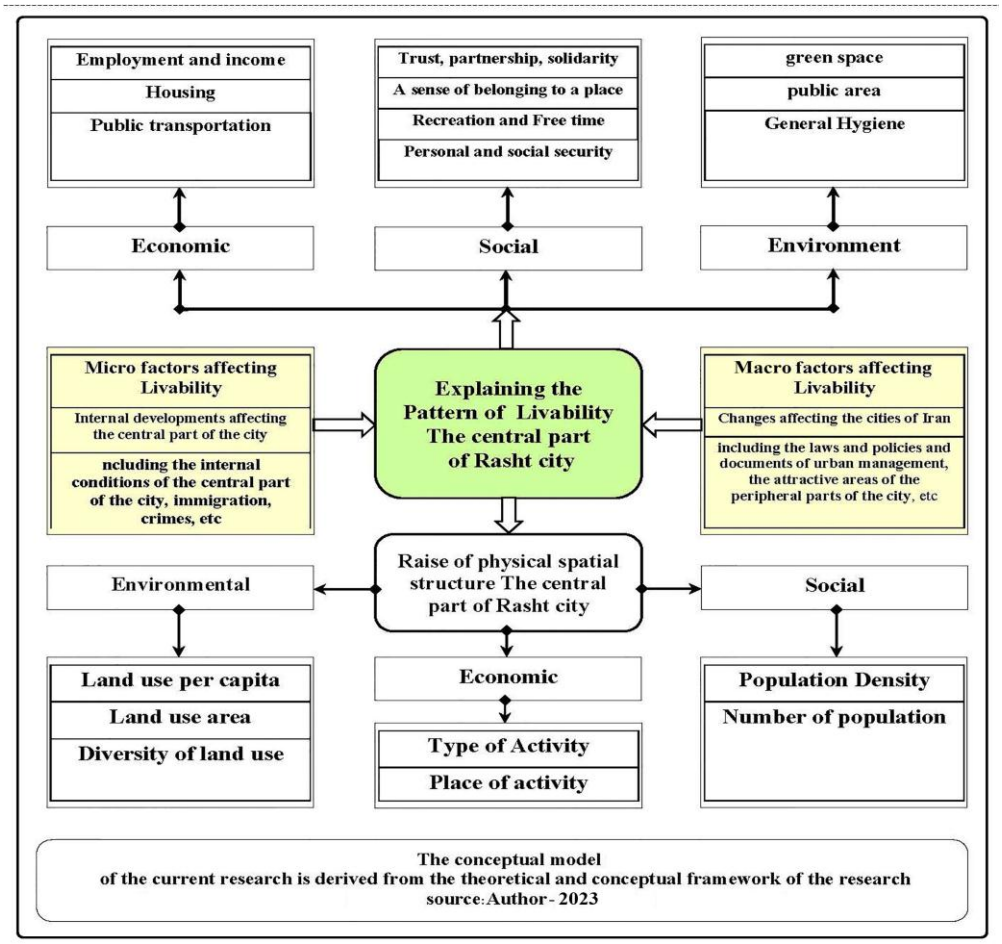
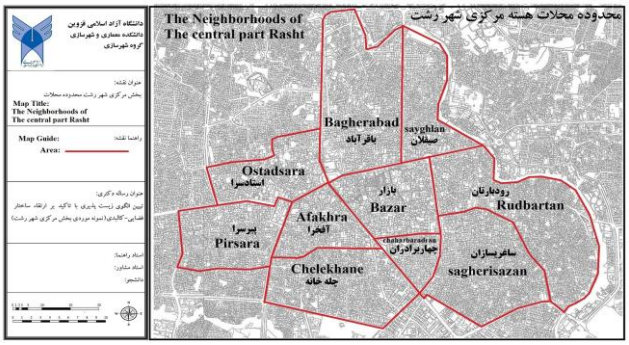


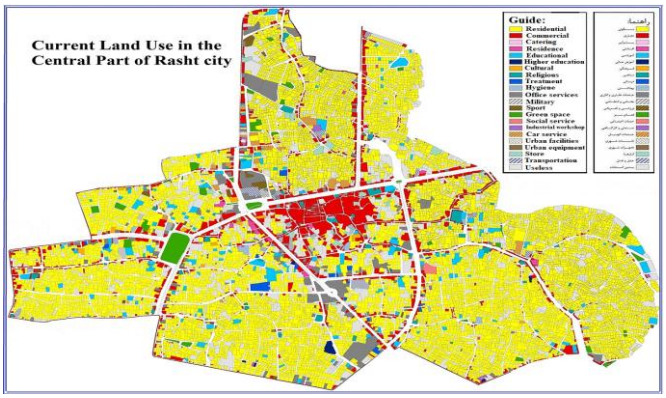
Fig. 3. Conceptual model research. Source: Authors.

4.1. Range of the research, statistical population, sample size.

The city of Rasht consists of 5 urban areas, 15 districts and 55 neighborhoods, of which 10 neighborhoods in the central part of the city will be studied, which are the neighborhoods of Bazar, Baqrabad, Pirsera, Ustadsara, Afkhera, Chelekhane, Chaharbradran, Sayghlan, Sagrisazan, and Rudbartan (in the Map No.1&2). The study area of this research is the old context of the central part of Rasht city with an approximate area of 416 hectares and a population of 59,220 people. The statistical population of this research includes residents in ten neighborhoods of the central part of Rasht city, according to the announcement of Iran Statistics Center and the census of 2015, numbering 59,220 people. In this research, the statistical unit is each resident of ten neighborhoods in the central part of Rasht city, in other words, the statistical unit is an individual. The sample size in this research is 382 people based on Cochran's formula and statistical population and assumptions and calculations. Quota sampling method according to the time limit and other problems, after calculating the total sample size of 382 people and the proportional number of residents from ten neighborhoods in the central part of Rasht city, the quota number of each neighborhood was calculated and randomly selected.



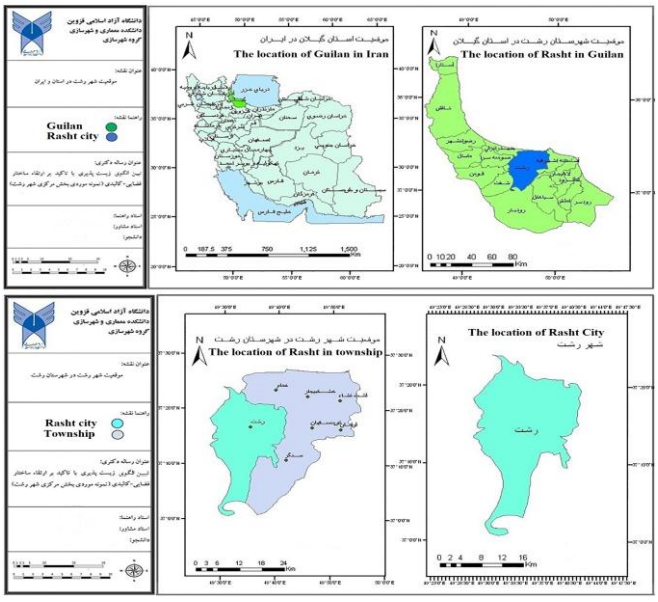
Map No.1-The limited area of neighborhoods in the central district of Rasht city. Source: Authors.



Map No.2- Current use of the neighborhoods in the central part of Rasht city. Source:Master plan of Rasht 2009.

4.2. Rasht city

The city of Rasht located in Iran, the capital of Guilan province, is located at 49 degrees 35 minutes and 45 seconds east longitude and 37 degrees 16 minutes and 30 seconds north latitude from the Greenwich meridian, and its area is about 10240 hectares (in the Map No. 3) . Zarjoub river from the east and north-east and Goharrod from the south and west surround the city o f Rasht. The distance between Rasht and Tehran is 325 km (Babapour, 2009: 36). The first valid and reliable statistics of Rasht's population date back to 1956 AH. This year's population and housing census reported the city's population as 109,491 people. According to the latest statistics published by the Iran Statistics Center website based on the 2015 census, the population of Rasht has reached 679,995 people. (Statistics Center of Iran, census results from 2016 to 1956).

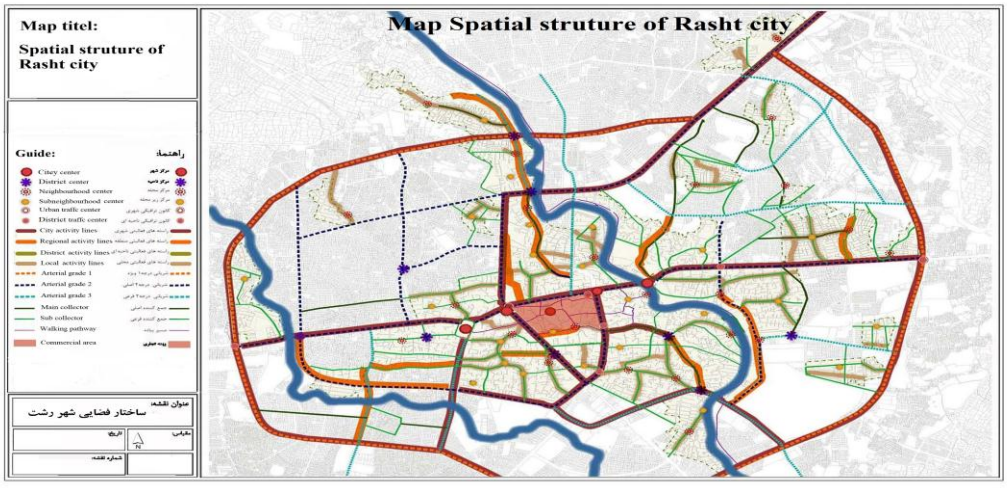


Map No.3- Location of Rasht city in Iran and Guilan and Rasht city.

4.3. Development process of Rasht city

The city of Rasht was chosen as the center of Gilan during the Safavi era due to its special conditions and position. With the political, administrative and economic importance that the city of Rasht gained from this period, the growth of the city also began. In other words, this city acquired urban aspects during the time of Shah Abbas. He made it the ruler of Gilan, and by increasing its size, the city changed from a town to a place of silk trade. The total development measures that were carried out in this period led to the formation of the initial structure of the neighborhoods and the market of the city. Although the city of Rasht developed during the Qajar period, its development was not very significant in terms of level, and it is better to say that reforms were made inside the old area and the ruins were repaired. During this period, most of the city was a market, and its connection with Pirbazar port played an essential role in the city's dynamics. The active and lively market had brought prosperity to the neighborhoods of the city. After the constitutional revolution and the dominance of Reza Khan, the central government was considered the sole determiner of the style of architecture and urban planning. In this period, the face of Rasht took a new shape due to the changes made in it. At the beginning of the first Pahlavi, the city took a different shape by building several streets and the market was moved to the side of the streets. The residential buildings that were densely built in the old neighborhoods were built in the construction of streets and subsequently new neighborhoods were created. Between the years 1925-1948, the development of the city continued along Imam and Shariati streets, because factories such as crystal-making, silk-weaving, sack-weaving, ice-making, as well as hospitals and schools were built along the aforementioned streets. During this period, the first comprehensive plan of Rasht city was prepared and significant changes were made in the road network of the city. With the increase in population and the expansion of the city and the arrival of the car, the space of the old city center and its physical plan did not meet the needs and the new situation, and a large part of the new needs went outside the market and around the main and new streets along the east-west and north- The south broke through and led to the formation of new commercial centers around these main streets. The modernist policies of the central government and the use of foreign styles in urban planning and architecture caused a fundamental transformation in the physical and spatial structure of the city of Rasht. In this period, buildings with modernist functions, which are all symbols of modernism, such as buildings (Municipality, Post and Telegraph, Iran Hotel, Governor's Office) were formed in the central part of the city. And the construction of factories on the side of the new streets was one of the main factors of the city's dynamism in this period. As a result of the proposals of the first master plan, the development of the city was directed towards the north, and in the second and third plans, the development of the city was directed towards the **s**outh.

The spatial structure of Rasht city consists of a network of passages and activity centers that are mainly formed at the intersection of the main axes of the city and to some extent follow the radial-circular system. The main communication axis of the city, which shows that it is circular and known as Khorramshahr Highway, starts from Shohada Square and ends at Shahid Ansari Blvd. In addition, the most important east-west axis with the scale of urban performance is the axis that connects Rasht city with Lahijan city from the east and the two cities of Foman and Masuleh from the west, and in the central parts of the city with the addresses of Shariati, Aalam El Hoda and Taleghani, Its functional role becomes more prominent and it becomes the place of establishment of commercial and administrative activities. Urban activity centers are mainly concentrated in the central parts of the city and along the main activity lines. The most important activity centers with an urban and extra-urban functional role are: Bazaar, Sabze Square, Municipal Historical Square, Siqlan Square, Zarjoub Square, Shahid Ansari Square, Dr. Heshmat Square, Shahr Park, Mellat Park.



Map No.4-Map The spatial structure of Rasht city. Source: Studies of worn texture of Rasht city, 2014

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5. Results and Discussion

In order to measure the livability of the central part of Rasht city, first, by using comprehensive library studies and based on theoretical foundations, appropriate objective and subjective indicators of livability were extracted, then a questionnaire of residents including 4 dimensions, 12 components and 50 items was designed. The above questionnaire was adapted, pre-tested and modified in consultation with experts and university professors and distributed to the statistical community, and after receiving comments, the data was entered into SPSS statistical software and for the continuation of the work process, each item was summed up to a component. and then to achieve its dimensions, and for analysis, first, using descriptive and inferential statistics, T-test, Anova and Fridman tests, and Pearson's correlation coefficient, one-sided and two-sided variance, to examine and compare averages and correlations In the components, dimensions and livability status of the neighborhoods of the central part of Rasht city, it was obtained and finally the level of desirability of livability in the neighborhoods of the central part of Rasht city was determined by Tukey's post hoc test.

5.1. Investigation and analysis with one-sample T-test: The results of (Table 2) which was prepared for the analysis of the livability dimensions of the neighborhoods in the central part of Rasht city show the average of 4 dimensions. It is lower than the assumed average. Therefore, the neighborhoods in the central part of Rasht city are not livable. Therefore, the neighborhoods in the central part of Rasht city are not livable. Among the dimensions, the social dimension with an mean of 2.464 and a t value of 140.363 has a better liveability than other dimensions, and the environmental dimension with an mean of 2.084 and a t value of 171.371 has a more critical situation than other dimensions. In other words, the livability dimensions of the neighborhoods in the central part of Rasht are considered unfavorable. In this group of components, all of them have a significance level of less than 0.05, which is a significant difference between each of the components with the assumed mean.

Table 2
Test output, T test dimensions of livability of neighborhoods in the central part of Rasht city. Source: Authors.

Livability status	Test Value =3						demension
	Descriptive Statistics		mean difference	Significance level	Degrees of freedom	T	
	Observed mean	number of samples					
Undesirable	2.464	382	0.069	0.000	381	140.363	social
Undesirable	2.084	382	0.035	0.000	381	171.371	environment
Undesirable	2.225	382	0.058	0.000	381	150.368	economic
Undesirable	2.419	382	0.063	0.000	381	173.897	Physical-Spatial

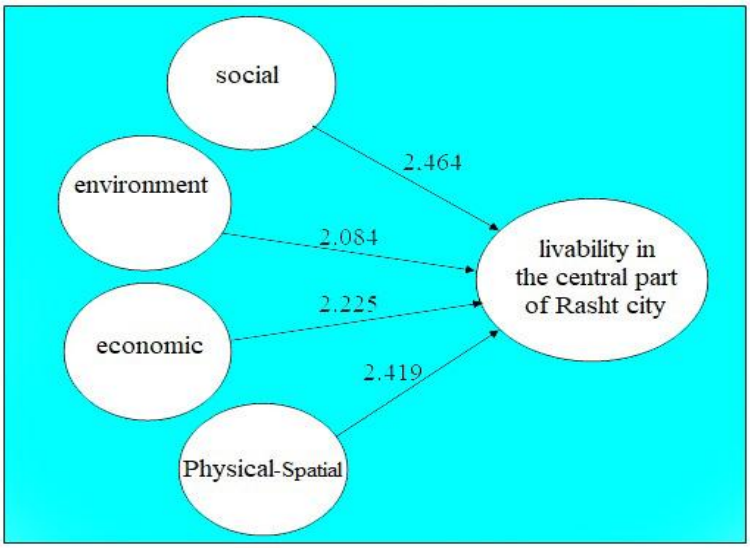


Fig. 4. Importance of livability dimensions of neighborhoods in the central part of Rasht city. Source: Authors.

5.2. The results of (Table 3) which was prepared for the analysis of the overall livability with the T-test of the neighborhoods in the central part of Rasht city show that the sample number is 382 people and its mean is equal to 2/303 and has a t value of 173/891. Therefore, there is a significant difference between the observed average and the assumed mean. This difference is revealed by examining the obtained significance level (Sig) which is less than 0.05. Examining the average showed that the observed average is lower than the assumed average and

this difference is confirmed from a statistical point of view (P<0.05), so the livability of the neighborhoods in the central part of Rasht city is at an unfavorable level.

Table 3
The output of one-sample t-test on the overall livability of the neighborhoods in the central part of Rasht city. Source: Authors

Livability status	Test Value =3						demension
	Descriptive Statistics		mean difference	Significance level	Degrees of freedom	T	
	Observed mean	number of samples					
Undesirable	2.303	382	0.052	0.000	381	173.891	Overall viability

5.3. Analyzing the (ANOVA) one-way variance test of the livability of the neighborhoods in the central part of Rasht city As can be seen in (Table 4), the significance level at the 5% level is equal to 0.000, so it is determined that there is a significant difference between the different aspects of livability in the central part of Rasht city. However, where is the difference and what is the condition of livability at the neighborhood level, Tukey's post hoc test was used in (Table 5) which shows the quality of the mean livability scores among the neighborhoods, which are classified according to the homogeneity of the averages in the classes. Different categories. According to (Table 5), as can be seen, according to the average scores, in general, Rudbartan neighborhood with an mean of 2.071 is the most unfavorable and Chelekhane neighborhood with an mean of 2.787 is the most favorable neighborhood with regard to livability.

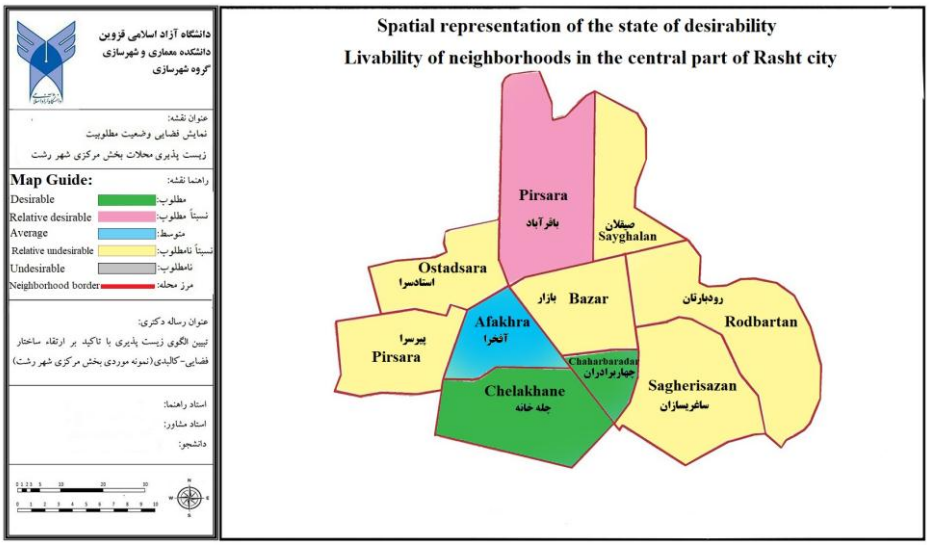
Now, Friedman's test has been used to prioritize the 4 dimensions of livability (social, environmental, economic, spatial-physical). The data used in this analysis is the same information from the residents' questionnaire. According to the (Table 6), the comparison of the average dimensions shows that the highest mean (2.464) belongs to the physical spatial dimension and the lowest mean (2.084) belongs to the environmental dimension. According to the (Table 7), it shows the ranking status of the dimensions. The mean rank (Rank Mean) of each dimension is reported in the relevant table. The comparison of the average ratings shows that the highest man rating (3.90) is assigned to the physical-spatial dimension, which means that the greatest impact of livability in terms of dimensions is assigned to the spatial-physical dimension.

Table 4
The results of ANOVA test on the livability of the neighborhoods in the central part of Rasht city. Source: Authors.

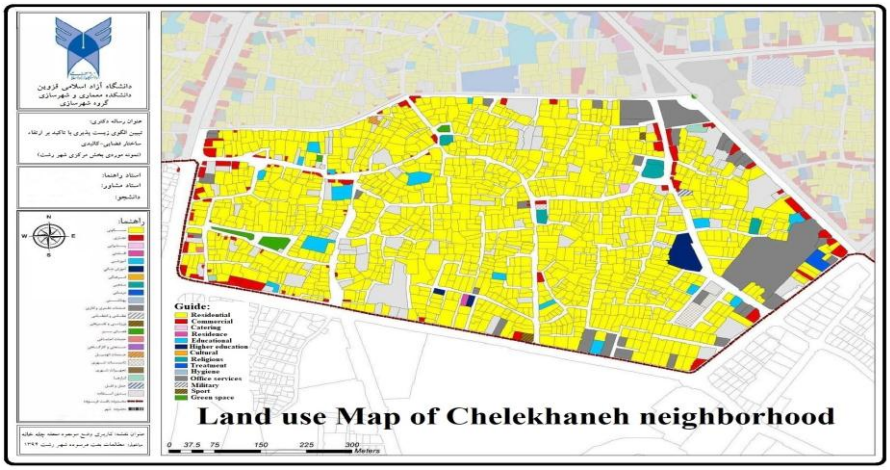
Significance level	F value	Mean square deviations (MS)	Degrees of freedom	Sum of square deviations(SS)	Sources of changes	Variable
0.000	207.673	5915.206	9	53236.588	between groups	Livability
		28.602	372	10595.752	Intergroup	
			381	63852.610	Total	

Table 5
The results of Tukey's post hoc test of the quality of the mean livability scores among the neighborhoods of the central part of Rasht city

Floor					Sample	Neighborhood
desirable	desirable Relatively	medium	Relatively Undesirable	Undesirable		
				2.071	67	Rudbartan
				2.108	63	Sagrisazan
			2.215		51	Pirsara
			2.229		24	Ustasara
		2.265	2.265		11	Bazar
		2.281	2.281		30	Sighalan
	2.330	2.330			22	Afkhera
	2.384				49	Baqrabad
2.686					9	chaharbradran
2.787					56	chelekhane



Map No.5- Spatial repersentation of desirability Livability of neighborhoods in the central part of Rasht city. Source. Authors.



Map No.6- Current Land use map of the chelekhaneh neighborhoods, Studies of worn texture of Rasht city, 2014.

Table 6
Descriptive statistics of livability dimensions of neighborhoods in the central part of Rasht city. Source. Authors.

Maximum	Minimum	Standard Deviation	Mean	Sample	demension
4.333	1.75	4.117	2.464	382	social
2.833	1.583	2.852	2.084	382	environment
3.250	1.666	3.471	2.225	382	economic
3.357	2.166	4.446	2.419	382	Physical- Spatial

Table 7
Ranking of livability dimensions of the central part of Rasht city based on Friedman's test. Source. Authors.

Rank mean	Demension
2.86	Social
1.32	Environment
1.92	Economic
3.90	Physical- Spatial

Based on the interview questionnaire with 35 experts, elites and managers of urban management and analyzing their opinions, the macro factors of infrastructure and urban services with an mean of 3.635 have the highest impact and macro environmental factors with an average of 3.108 have the lowest impact on the livability of neighborhoods the central part of the city is Rasht. Based on the analysis of the above comments, the topics of immigration and the formation of social classes with an mean of 3.971, unfair distribution of urban services and facilities with an mean of 3.942, lack of participation of citizens in decision-making, decision-making and implementation of the urban development plan with an mean of 3.942 are the highest It has an impact on the

livability of the neighborhoods in the central part of Rasht city. Also, based on the review of opinions, the social index with an mean of 3.952 and the economic index with an mean of 3.723 are the least favorable for measuring the livability of the central part of Rasht city.

Table 8
Descriptive statistics analysis of experts' opinions, the effect of macro factors on livability. Source. Authors.

Maximum	Minimum	Standard Deviation	Mean	Sample	Macro demension
4.750	2.250	2.638	3.629	35	Macro Social
5.000	2.000	2.736	3.636	35	Mcro urban Services
4.750	2.000	2.711	3.514	35	Macro Economic
5.000	1.000	5.771	3.109	35	Macro Environment
5.000	1.500	3.672	3.614	35	Macro Policy

5.4. The impact of existing land uses on the livability of the neighborhoods in the central part of rasht city:

The city of Rasht has a high variety of activities and various uses with different performance levels can be found in it. According to the documentary and field studies of the neighborhoods in the central part of Rasht city, except for the Bazar neighborhood, which is dominated by commercial use, the average usage level of the neighborhoods includes residential 55%, commercial 5%, roads 22%, green space 0.1%, sports and recreation 0.2%, educational 2.25%, Cultural, religious 0.6%, therapeutic, health 0.35%, administrative service offices 3.65%, the rest of the surface is dedicated to other uses. The way of using urban land and the formation of activities can be considered as one of the most important factors affecting the quality of life in cities and consequently the improvement of livability, which policymaking is in the hands of city managers. This section, in case of the presence and prosperity of related activities, will form the freshest and most lively texture of the city. In fact, there are many opportunities in the central part of Rasht city in terms of more efficient use of urban land and in the direction of strengthening life in this area, and injecting a diverse set of compatible activities, especially the use of green space, sports and recreation, religious and cultural that It has a lower level of urban livability standard and should be encouraged and strengthened by city managers. It is worth mentioning that according to the analysis of the items of the residents' questionnaire related to the desirability of the level of public uses and required infrastructure, it has been evaluated in an unfavorable condition.

6. Conclusion

One of the most basic urban issues at present is the unfavorable social, economic, environmental and physical conditions in the central part of the cities. The perspective of modernism, separation of uses, suburbanization, expansion of roads and car-oriented transportation, plans and policies. various urban etc. There were factors that have led to the decline of environmental quality, decrease of vitality, decrease of prosperity of social life, physical-bodily and functional deterioration, and in a word, decrease of livability in the central part of the cities. Based on this, today various approaches have been proposed for these conditions, which emphasize the inner part of the city and prevent scattered growth. With reference to the local area of the current research, which is the central part of the city, and its issues such as the population outflow and the negative growth rate of this part compared to the past decades, the worn and decaying fabric and the lack of building renovation, insecurity, traffic problems. and inappropriate access, etc. Sustainability as a subset of sustainable development theory was considered in this research.

The theory of urban livability includes all the conditions of sustainable development of the city, but with the difference that thelivable city happens now and ultimately leads to urban sustainability over time. The concept of urban livability is created from the collision of three main economic, social and environmental axes. Livability considers various principles and indicators, including public spaces, mixed use, variety of transportation, security, participation, identity and sense of belonging to a place, walking, etc. Based on this, the current research focused on the livability of the central city neighborhoods in three main axes of knowing the factors and areas effective on the current state of livability and its physical-spatial consequences. A review of the models presented in the field of the quality of the living environment and residential satisfaction shows the existence of a consensus on the necessity of using both objective and subjective indicators in examining and studying the interaction of a person with the environment. The studied indicators can be classified into four groups: social, economic, environmental and physical space. Based on the theoretical discussions related to the factors affecting the livability of this sector, its production and reproduction factors can be divided into macro and micro factors. The way macro and micro factors are related in livability is related to the recognition of driving forces that cause the deterioration of the central part of the city. The main changing forces are environmental, physical, social, political and economic. In order to adopt a suitable strategy for the viability of the central part of the city, it is necessary to know its condition as it is, and only the physical information of the buildings is not enough. Having information about the composition and status of socio-economic groups, the number and type of migrations into or out of the central sector, the amount and quality of existing social services, the perception and

mentality of the residents to stay in this sector, the tastes and interests of the people in choosing a place. Life and so on will help to recognize the solutions for the livability of the neighborhoods in the central part of the city.

7. Suggestions

The following suggestions are presented according to the analysis of the findings and results of this research in order to improve the physical-spatial structure of the central part of Rasht city by separating the livability components.

A)- In the social dimension: (First); using policies that provide participation of residents in programs and strengthening the potential of young people, experts to participate in developing programs. (Second); increasing the level of culture in the proper use of urban spaces.

B)- In the economic dimension: (First); Encouraging investors in the private and public sector for job creation and proper organization of shopping centers compatible with urban areas. (Second); Organization and transfer of incongruous jobs in urban areas.

C)- In the environmental dimension: (First); Encouragement to reduce waste production and its separation at the source. (Second); the use of vegetation in roads to create climate comfort by using native species in order to identify and organize the abandoned lands within the context of urban areas. (Third); beautification and landscaping of passages and places through coordinated facades and their appropriate design using native architecture and design and lighting of public spaces at night.

D)- In the physical-spatial dimension: (First); encouraging the retrofitting of dilapidated buildings and their facades compatible with the neighborhoods of the central city of Rasht. (Second); provision of services and infrastructure needed by all functional levels and their proportional distribution at the level of localities. (Third); increasing the quality of roads needed for public transportation and walking.

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