

Introducing Creative City Factors as a Solution

in Sustainable Urban Development: A Case Study from Bushehr City in Iran

Pourbehi Tayebeh,⁺ Jafarinia Gholamreza,⁺⁺ Shamsoddini Ali³ & Kamran Jafarpour Ghalehtemouri⁴ (Iran)

Abstract

Bushehr city is located in one of the provinces rich in both oil and in historical sites with an international port on Persian Gulf. However, it has never been successful in terms of sustainable development and planning. Therefore, this study aims to identify the effective factors in constructing a creative city, as well as its relationship to Bushehr's sustainable urban development. The primary data was collected over the course of 18 years, and the Cochran formula was used to determine the exact size of the statistical population, which was 384 people. Pearson's correlation coefficient, path analysis, and regression analysis were used to analyze the data with SPSS software. Creative cities and sustainable urban development have a Pearson correlation coefficient of 0.468. The independent variables explain and predict 35.5% of the variance in sustainable urban development in multivariate regression analysis. The creativity and innovation variable, as well as the quality of life, have the most BETA.

Keywords: *Creative City, Sustainable Urban Development, Quality Of Life, Social Capital, Bushehr, Iran*

⁺ Pourbehi Tayebeh, PhD student in Sociology, Bushehr branch, Islamic Azad University, Bushehr, Iran. email: tayyebeh.pourbehi@gmail.com.

⁺⁺ Jafarinia Gholamreza, Asst. Professor, Department of Sociology, Bushehr branch, Islamic Azad University, Bushehr, Iran. email: Jafarinia.reza@yahoo.com.

³ Shamsoddini Ali, Assoc. professor of Geography & Regional planning Marvdasht branch, Azad University of Iran, Iran. email: a_shamsoddini@maiu.ac.ir.

⁴ Kamran Jafarpour Ghalehtemouri, Research Assistant., Malaysia-Japan International Institute of Technology (MJIIIT), Disaster Preparedness and Prevention Center (DPPC) & Kharazmi University of Iran, Iran. email: Space.kamran@gmail.com.

Introduction

With the development of the cities and the introduction of the principle of sustainable urban development, the principle of sustainability in further development was questioned. Although in the direction of thoughts and theories related to development, aspects of sustainability were considered, the existing issues and problems, especially in the cities indicate the lack of the fulfilment of stability characteristics within them. Today, cities have been the focal points of sustainability as consumers, main distributors of goods and services. However, many cities destroy the resources around them by consuming too much of the resources. As the result of the over-consumption of resources and the dependence on the commercial economy, the environmentally destructive effects of cities extend beyond geographical boundaries. For this purpose, an important issue called sustainable urban development was considered during the 1990s up to now. And sustainable development is a general concept and it encompasses social, cultural, environmental aspects and other human needs (Kamranfar et al., 2022). The most important attraction in sustainable development is its comprehensive view on urban sustainability issues (Ghalehtimouri et al., 2021).

Sustainable urban development emphasizes sustainability and development for all and the future generation during times and economic, social, environmental, physical, and institutional aspects of the process of development in a city (Rahnamai et al., 1998). Therefore, the main purpose of sociological explanation is the effect of the factors of the creative city and its relationship with the sustainable urban development of Bushehr. Sustainability is an issue that has been emphasized in various communities, especially urban communities in recent years. On the path of stability, the creative city and its components as life quality, creativity, and social capital play an important role. (Khansefid, 2012) these cities are built on a solid cultural and social infrastructure and due to their excellent cultural facilities; they are the centre of creating employment and attracting investments (Foroudi et al. (2016). Sustainable development has determined its role in the social environment and social capital by considering the concepts like social justice, comprehensive development, and social welfare. Characteristics of today's urban communities have led to the instability of man and the environment. (Natural environment and artificial environment) (Gilbert et al., 2022). The rapid growth of the world's urban population has faced the settlement of human societies with new problems and complexities. The complexities have transcended economic boundaries and have taken social and environmental aspects.

Economy-oriented and physical-oriented development, which were the first approaches of urban development, are not efficient enough today to be used in urban development. These approaches led to the technocratic view of the cities by emptying the cities from human and cultural aspects and without considering the needs of the city dwellers the management, planning, and urban development was considered to be the profession of the specialists who are able to rely solely on a number of limited and abstract principles of mathematics in any place and time to plan for the development of the cities. Such an issue is evident in the process of the urban development of Bushehr. Bushehr urban population ratio and average annual growth in age percentage are almost close to the rates of the whole country. The urban population of Bushehr has been growing rapidly for

several years and due to the natural growth of the population, wide immigration, expansion of services, and other issues, it has undergone many demographic and physical changes.

According to the 2016 census report, Bushehr had a 225297 population. However, cities of this province, including Bushehr, face many problems, and urban facilities and services do not suit this population. Therefore, promoting sustainable urban development in various economic, social, environmental, physical, and institutional aspects is the current necessity of this province. Bushehr has the highest population growth rate in Iran. This rate was 2.55% from 1984 to 1991. It is necessary to consider the aspects of social and cultural development of Bushehr regarding the items and components of the creative city, including social capital, human capital, social relation network, innovation, and quality of life. Due to the novelty of the issue of creative city and its relatively new ideas and that in Bushehr, no research on the creative city has been observed so far, this subject has an innovative aspect. Thus, the present article is based on the field research among people living in Bushehr and it seeks to find the relationship between the creative city and its components and sustainable urban development of Bushehr (Ghalehtemouri et al., 2020).

Study Area

Bushehr port is a port city and the centre of Bushehr province with an area of 984.5 square kilometers from the southwestern provinces of Iran. The population of this city in 2016 was 223504 people. Bushehr is a peninsular port in the central part of Bushehr city, which is limited to the Persian Gulf from the north, west and south. This port with a coastline of approximately 11 km in length and 18 meters above sea level in a coastal area of the Gulf. Located in Fars, has a warm semi-desert climate. Bushehr city is the best tourist destination (Movahed and Ghalehtemouri, 2020) in winter thanks to its mild weather. Bushehr has beautiful beaches and historical monuments which are interesting for international tourists. Also the climate related traditional city and building design make it as one of the most important tourist destinations (Figure 1).

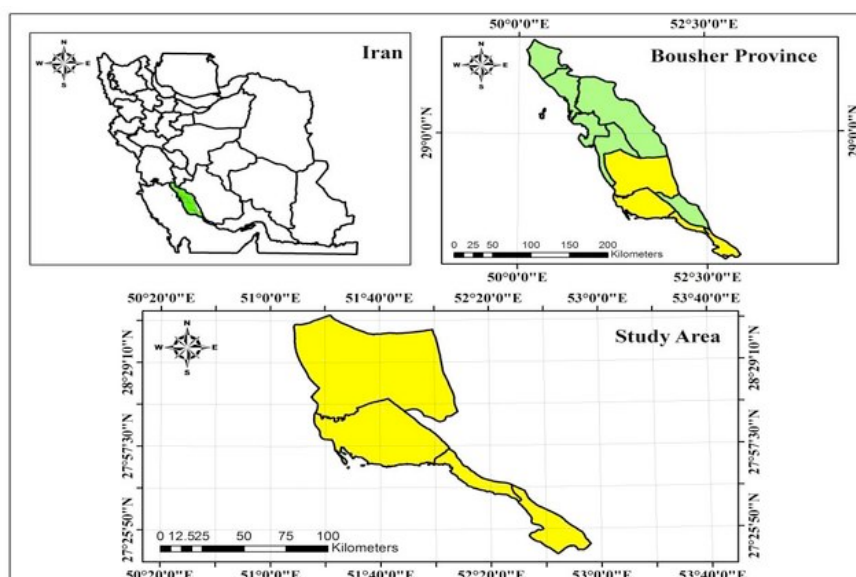


Figure 1. Bushehr City. Source: Aliani & Gorji 2018.

Theoretical foundations and Research Background

Various studies have been conducted in the field of environmental behaviors. Bagheri et al., (2020) examined the issue of spatial analysis of sustainable development indicators in order to achieve the feasibility of creative cities. (Case study: cities of Yazd province). Research findings show that the lack of the use of urban innovation components has led to a lack of creativity and reduced quality of life in public spaces of the cities of the province. Innovation can have the greatest impact on the predictability and feasibility of the creative city in the cities of the province. Mahkouii and Shirani, (2020) in their research entitled analysis of creative city indicators and its relationship with healthy urban development management, case study: Isfahan metropolis. The results of statistical analysis show that there is a positive relationship between creative cities and urban development management. Also, according to the results of regression analysis, 60% of the changes in the field of creative city development can be predicted with healthy city indicators. Darvishi et al., (2020), in an article, analyzed sustainable urban development based on the characteristics of social capital and public trust. According to the results of the research, social capital and public trust have an impact on sustainable urban development. Therefore, in sustainable urban development, two components of social capital and public trust were considered (Broska, 2021; Kamran et al., 2020). Alizadeh and Lotfi, (2019) examined the issue of explaining the impact of membership in the creative cities network on sustainable urban development. The results showed that membership in the UNESCO creative cities network has an impact on the sustainable urban development of Rasht. *"The UNESCO Creative Cities Network (UCCN) was created in 2004 to foster international cooperation within and across cities worldwide that utilize culture and creativity as a strategic lever for sustainable urban development"* (UNESCO, 2004). The extent to which the social and economic components of the creative city change, the sustainable urban development of Rasht will change. The economic component of the creative city has a greater significance among the other components of the creative city in terms of influencing the sustainable urban development of Rasht. Shahivandi, (2018) in his research entitled survey and definition of social-cultural indicators of the creative city in the sustainable urban development of Isfahan. According to the results of the research, the context and the field of the achievement of the creative city in Isfahan are provided by the historical, cultural, social, and artistic background. The cultural attractions (literary forums, libraries, museums, identifying elements of cities and...), employing the creative class, and launching the creative industries corridor, it can move towards the realization of the creative city.

Hosseini et al., (2017), in research entitled the indicators of the creative city and its relationship with sustainable urban development (case study: Rasht) believe that rapid changes in technology and international competition and new urban challenges in economic, social, and managerial fields of the cities have increased the scope for attention to the issue of creativity in urban planning. Creativity in the city frees you from managerial and physical deadlocks and leads to the implementation of the two principles of participation and efficiency, which are the main characteristics in the field of good urban governance. The results show that the situation of Rasht, based on the indicators of the creative city, is as follows

(flexibility, innovation, risk-taking, and management are lower than the average expectation. In addition, there is a positive and significant relationship between the indicators of the creative city and aspects of sustainable development) (Tahiri et al., 2022).

Zarrabi et al., (2015) in an article entitled investigating the feasibility of a creative city (*A Comparative Study Between the Characteristics of Sustainable Urban Development and the Criteria for Creating a Creative City. Case Study: Cities of Yazd Province.*) believe that a creative city as a place with a strong efflorescence of art and culture, creativity, and innovation is in line with the four scenarios of creative human capital, quality of life, areas of innovation, and social capital. In order to apply the characteristics of sustainable development. The results of the analysis of the creative city criteria path show that innovation variables with the rate of 0/672 and educational variables with the rate of 0/537 have the greatest impact, respectively, on sustainable development and creative cities of Yazd province. Eventually, due to the high amount of available human capital, the high number of specialists, the high rate of growth, and the technology centers, Yazd has the potential to use the new energies (solar and wind energies) and to move towards the realization of the creative city. O'Connor et al., 2020 investigated creative cities and creative and modern world classes. They see the Developing discourse of creative cities as an organization increasingly developing organized around the block of transactional domination. It is possible to change the discourse of the creative city only after a fundamental rethinking of a modernized image and the basis of a new perception of local facilities.

Chen et al., (2014), in an article entitled a sustainable future for the village of Leiden, developed a model for promoting social capital and improving the quality of life in urban areas in order to raise public awareness and attract more participation of residents in the sustainable development of house building and neighborhood. This research states that development activities including identifying neighborhood development priorities, providing technical equipment, on-the-job training for indigenous residents in renovating new homes, new construction and cartography using G.I.S are in developing the neighborhood and its economy.

Marlin et al (2012) conducted research entitled "investigating the impacts of trust and social participation in urban sustainability. (Case study: Durban: South Africa) The findings of the research showed that the variables of trust and social participation and all its aspects had a significant impact on urban sustainability. The impact of the variable of social trust was greater than that of social participation in urban sustainability. Among the aspects of social trust, the aspects of political, institutional, generalized, and interpersonal trust had the greatest impact respectively, and among the aspects of social participation, the impact of the formal aspect on urban sustainability has been greater than the informal aspect. Also, the relationship between all contextual variables except the housing status variable with the urban sustainability was significant. Masayuki (2010) explored urban reconstruction through cultural creativity and social inclusion: reading the theory of the creative city through a Japanese case study. This article was conducted with

the aim of revising the theory of the creative city with the analysis of urban reconstruction processes in Japan through cultural activity and social inclusion.

Overall, researches on the relationship and impact of creative city indicators such as quality of life, creativity, and innovation, social capital, trust, participation, and cohesion, on development in general and sustainable urban development, in particular, have concluded a strong and significant correlation and impact (Ghalehtimouri et al., 2020). Creative cities are considered as centers of innovation, creativity, and conversion of ideas into wealth. Such cities are built on a solid cultural and social infrastructure and they attract the center of gravity by creating employment and development through their outstanding cultural facilities (Rezaei et al., 2022.). The philosophy of the creative city is that in any city, there is always a much greater capacity than it seems initially. Creative city has been one of the useful concepts in the field of urban management, which is semantically related to the concept of entrepreneurship (Rahimi et al., 2013; Pulido-Fernández et al., 2021). There are many universities institutes and scholars have made definition on the meaning of creative city which mainly believe that a creative city can solve the industrial cities problems. The creative city is brand and can solve individuality problems (Landry, 2012), a practical model boosting a culture of creativity in urban planning and solutions to urban problems which can improve the quality of the planning system (Askar, 2021).

The creative city means creative citizens in the 21st century (Kalantari et al., 2012). The creative city has various elements that can create a creative city such as people, economic enterprise, spaces, connections, and perspectives are the five main pillars of creative cities, and paying attention to these pillars will be vital for the creation and development of creative cities in the future.

There are various theories about the creative city and the modern city. George Simmel, without specifying his purpose, tried to reflect on technology, which was growing importance and explore its possibilities for the liberation of the individual and its constraints for the growth of the individual (Watier, 2004; Friedland and Boden, 2020). The growth of the metropolises for centralizing the monetary economy has improved the process of exchange, circulation and consumption of goods, promotion of leisure areas, expansion of individualism, and the feeling of privacy. By relying on this approach, Simmel achieved the tendencies of individualism, the plurality of styles, expansion of social relations, the invention of innovation, the growth of subcultures and countercultures, the emergence of new aesthetic feelings in consumption.

Daniel Lerner's theory of modernization of the city is a center of growth, mobility, integration of population and the inhabitants of cities and their suburbs experience a new style and way of life which causes the transformation of opinions and interests and taking into accounts the tendencies and beliefs of others. A city is considered a social development if it offers new cultural insights to its residents (Azkia, 2005; Gullick, 2020). Daniel Lerner is not directly involved in the creative city, but his attention to the city and urbanization, its role in the modernization

and innovation of society can be considered. In his point of view, modern and innovative cities strengthen the sense of individualism and undermine traditionalism and the city is the place of rational action, worldly thinking, and the bourgeoisie or the establishment of organic society and positivism (Shah, 2011).

Castells, 2001 is concerned with the space of currents or the dominance of mass media in new cities and the formation of public opinion. This space of currents of thought is responsible for ideas and aspirations of citizens and the way out of this rule and dominance is the attraction of the participation of citizens in the administration of city affairs and in our country, the law of the administration of city councils and council election is its objective example. Castells are now exploring new areas of research, one of which is the new forms of communication technology and threats and opportunities that have arisen through their development. Florida describes the theory of the class and the creative in his book in 2002. A creative city requires three types of rational, creative, and social investment to grow and develop. According to the creative city theory. Elites or the opposite class tend to live in cities with significant diversity, and tolerance and have a high level in terms of urban environmental quality and design standards. According to this theory, attracting creative people makes cities stronger and leads to their economic growth (Florida, 2005).

Landry 2006 believes that in modern city's creativity should be considered as a substitute for indigenous natural resources. A in a creative city, creativity is seen as new money and creative people are seen as the capital of the future city and the producers of wealth. Jean Jacobs believes that creative cities are the cities that are successful in industrial innovation. Jacobs believes that in diverse urban environments, entrepreneurship benefits through a variety of access to knowledge and skills. Instead, this interaction acts as a magnet for creative people. Among these, the combination of the new and old buildings is of great importance of creativity (Hasenpers and Van Dalm, 2005).

The theory of sustainable urban development is the result of the environmentalists' argument about environmental issues, especially urban ones which were followed by the theory of sustainable urban development to support natural resources. In this theory, the issue of resource conservation for the present and the future is raised through the optimal use of land and the infliction of the least waste into non-renewable resources. With respect to the subject of the present research, several theories have been used to achieve an accurate explanation of the research problem. (Sustainable urban development).

Sustainable development is the process of economic, social, and cultural reform that is based on technology accompanied by social justice in a way that does not contaminant the ecosystem and does not destroy natural resources. That is why sustainable development must always consider social justice in its process and eliminate social inequalities culturally and economically. The ultimate point of this definition is to increase human resources and empower society that is, sustainable urban development in the process must increase human resources to train knowledgeable, efficient, and creative human beings. According to various

researchers, cities like Sherry Arnstein and David Driskelle consider the real and comprehensive participation of the people and the citizens in various urban plans and projects as the most important principle and path to sustainable urban development. The approach that these researchers believe should be taken to increase citizen participation in urban planning are centralized planning to decentralized ones, top-down and bottom-up planning, and planning with people for people.

Sherry Arnstein believes that sustainable urban development is achieved when urban planning patterns are designed based on social capital and real citizen participation. (Arnstein, 1969) Arnstein believes that participation is basically interpreted as the distribution of power. On this basis, participation without redistribution of power is an absurd and frustrating process for those deprived of power. (Abdullah, 2021) in this regard, he proposed a theory called the "ladder of participation." Arnstein's ladder of participation consists of eight steps that include deception, treatment, notices, consulting, creating peace, partnership, delegating power, authority, and supervision of citizens. Based on these steps, the status and quality of individuals regarding participation were classified into three categories called:

1. Deprived of participation (deception and treatment)
2. Partial participation (notices, consulting, and creating peace)
3. Real participation (partnership, delegating power, authority and supervision of citizens) (Valibeigi, and Sereshti ,2022)

Arnstein believes that urban sustainability, solving environmental, social, economic and physical problems take place in a state of real participation, power distribution, trust, conversation, partnership, citizenship and supervision and activating social capital production platforms (Arnstein, 1969). David Driskell also believed that sustainable urban development, in its various aspects, is the result of participation, quantity, and quality of social capital of the citizens, level of trust, social mobilization, responsibility, transparency, and people's participation in decision-making. (Driskell, 2008) he believes that social capital and citizen's participation in urban development planning is based on three principles:

1. Development in the first place, it must benefit the local residents.
2. People who live in the planned area have the most accurate information about that region.
3. The people who make the most impact on decisions have a greater share in decision-making. He classifies different types of participation in two more general categories," participation and non-participation.

He considers that non-participation (e.g. manipulation and fraud, decoration, and dramatic egalitarianism), participation (e.g. consulting, social mobilization, people's responsibility). Therefore, he believes to have more cooperation and cohesions we need more participation from the bottom-up and this harmonization in urban decision making encourage experts and managers participate (Driskelle, 2008) (figure 2).

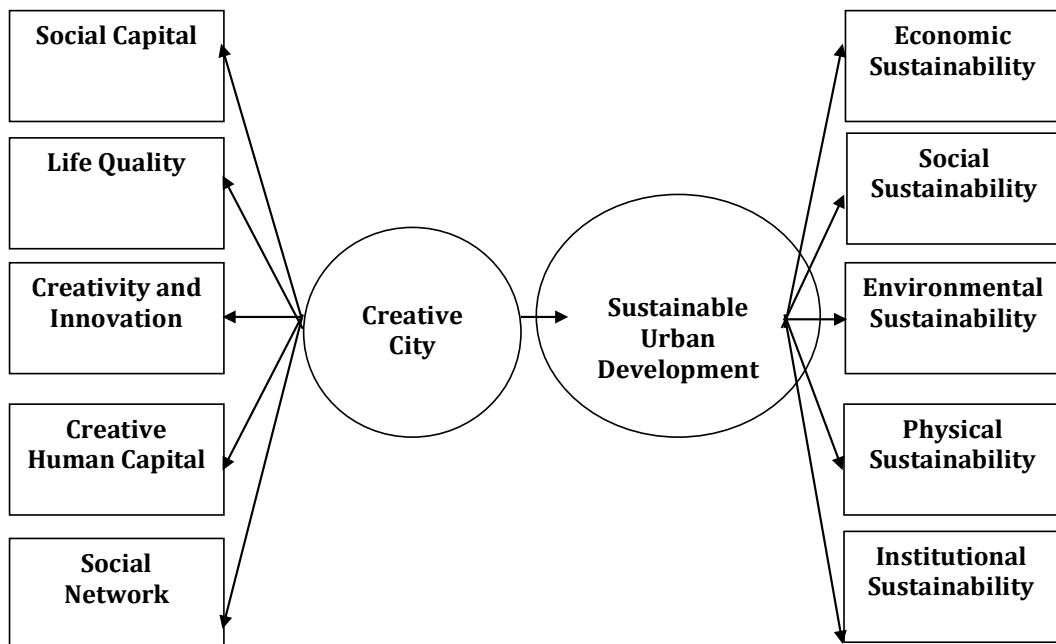


Figure 2. Theoretical diagram of the research.

Effective Variables Identification

The research method is a survey and the survey method seeks to identify the causes of phenomena by examining the changes in each of the variables and searching for the features that are regularly linked to it. Documentary (library) and field (survey and interview) methods were used to collect information. In the documentary method, to compile a comprehensive theoretical framework of the research, the background, and previous studies, and sociological theories were reviewed to analyze the issue. After evaluating previous research and related theories and understanding the current state of society, the indicators and variables of research were compiled. Finally, a research questionnaire was created using the scale item. The statistical population of the present study includes a group of people over 18 years old in Bushehr. According to the statistics of 2016, the number of people is 290359. (General census of population and housing of 2016). Among these people, 141099 of them are women and 149260 of them are men. According to Cochran's formula, the sample size is equal to 384. The sampling method is the multi-stage cluster. Pearson correlation coefficient, regression, and path analysis were used to test the relationship of variables at the distance measurement level. Formal credit is also used and the measuring instrument has the necessary reliability and the alpha value of sustainable urban development is .883 and creativity value is .897. Cronbach's alpha of all variables is higher than .70 and it indicates the reliability of the items of measurements of all research variables (figure 3).

Sustainable urban development: it is a development that responds to the needs of the people of the city, but its survival and durability are guaranteed and at the same time, water, soil, and air, the three elements that are essential for human life would not be polluted and unused. Sustainable urban development, that is, the condition in which the present citizens and the citizens of the future can live in complete peace and security and have a long, healthy, and productive life (Five

aspects of social, economic, environmental, physical, and institutional sustainability were used to evaluate sustainable urban development (Ghalehtemouri et al., 2021; Kojuri et al., 2020).

Variables	Items	Cronbach's alpha
Social capital	38	0.892
Creativity and innovation	9	0.719
Life quality	10	0.778
Creative human capital	5	0.847
Social relations network	15	0.764
Creative city	77	0.897
Economic sustainability	6	0.734
Social sustainability	10	0.768
Environmental sustainability	6	0.673
Physical sustainability	6	0.753
Institutional sustainability	4	0.789
Sustainable urban development	32	0.862

Figure 3. Reliability of variables.

Theoretical definition	Operational definition	Aspects	Variables
Income ratio of the cost of an urban household, employment status and business environment of cities, urban investment and revenue opportunities, high inflation and urban services, quality of market goods.	It is the stability and continuity of the status of optimal allocation of production, distribution and consumption of goods and service (Moghaddam and Rafieian, 2020).	Economic sustainability	Sustainable urban development
Status of social harm (addiction, divorce, prostitution and...) social freedom (freedom of expression, consumption of cultural goods, social relationship and...) the extent of social justice (income, regional and gender justice) the level of social security (life, psychological and financial security) the level of social welfare (objective and subjective)	It is the stability and continuity of the optimal state of group, collective and cultural life that leads to the excellence of social relations between individuals. (Petersen, 2020; Labonté, and Ruckert, 2019).	Social sustainability	
The extent of preservation and expansion of green space and parks, hygiene and urban cleaning, collection and disposal of municipal waste and sewage, drinking water and urban weather quality, noise pollution and urban tranquility and peace.	It is the progress in various economic and social aspects, which is accompanied by maintaining and enhancing natural renewable and non-renewable resources for the future generation (Murphy, 2021).	Environmental sustainability	
View of streets and buildings in terms of aesthetics and urban furniture, streets condition, status of urban infrastructure, quality and strength of buildings and urban housing. The status of urban transportation and traffic.	It is the stable progress in terms of façade and urban furniture, physical structure, construction and infrastructure (Furlan et al., 2019; Ghasemi et al., 2019).	Physical sustainability	
Status of health, medical, cultural and educational, and sport and recreation facilities, performance of urban services organizations	It is the facilities and services with urban stability and principled organization of structures, regulated communication between them and adoption of laws and appropriate policies (Bellew et al., 2020)	Institutional sustainability	

Figure 4. Theoretical and operational definition of sustainable urban development.

The creative city: creative city believes that the element of place, outside of the industry and as an environment that enhances the quality of human life should be emphasized. In the past, the inhabitants of the city were divided into working and capitalist classes, but in the frame of the definition of the creative city, they are divided into 2 groups of creative and non-creative. The creative class has the knowledge and the burden of a knowledge-based economy lies with the people living in the city and have sufficient expertise. The fusion of the investment, place and people must lead to a five-stage of innovation: innovation in urban management, institutional, economic, social, cultural, and artistic issues. (Gharagozlo, 2013). A creative city is a place for the growth of creativity in the city's dynamics. A creative city is a dynamic one in terms of cultural and intercultural learning. In this city, each citizen is confident in using his scientific, technical, artistic, and cultural capacities. (Rafieeyan, 2015) for evaluating this variable the indicators of life quality, human capital creativity, and social capital were used (Mousavi, 2014).

Findings

Examination of descriptive findings shows that 29.7% of people are between 30 to 39 years old which has the highest frequency. Also, 28 people, which is 7.3% of the people are 60 years old, about 24.7% of the people are between 40 to 49 years old, about 11.7% are between 50 to 59 and about 26.86% are younger than 29 years old. The average age of respondents is 38.6% years old. About 68.2% of them are married and 25% were single. About 4.9% were divorced and 1.9% of them were widows. About 33.9% had a bachelor's degree, about 2.1% had a doctoral degree and about 22.4% had a master's degree. About 68% of them were men and 32% of them were women. The distribution of the respondents in terms of their social class shows that 47.1% of them belong to the middle class and about 10.4% of them were members of the lower class. About 25% of them were lower-middle-class members and about 14.6% were upper-middle-class members and about 2.3% of them were upper-class members.

The findings showed that the average of sustainable urban development is high among people. About 12 % consider the rate of sustainable urban development to be very low, about 18.2 % consider it to be low, about 29.2% consider it to be average, about 24 % consider it to be high and about 16.6 % consider it to be very high. About 11.4 % consider the rate of the creative city to be very low, about 19.3 % consider it to be low, about 28.6 % consider it to be average, about 23 % consider it to be high and about 17.7 % consider it to be very high.

The main hypothesis is that there is a significant relationship between creative cities and sustainable urban development. With respect to the level of evaluation and testing the normality of the data in the variables of creative city and sustainable urban development, for evaluating the relationship of the variables Pearson correlation coefficient was used. There is a positive and direct relationship between a creative city and sustainable urban development. Thus, as the feature of the creative city increase more in Bushehr, sustainable urban development increases as well. The Pearson correlation coefficient is .468 between the creative city and sustainable urban development. The variable of sustainable urban de-

velopment has five aspects which have a positive and significant relationship with the independent variable of the creative city. The aspect of social sustainability has the highest correlation coefficient with the variable of the creative city and the Pearson correlation coefficient is 0.414 between them. Also, the aspect of physical sustainability has the lowest correlation (0.232) with the creative city.

Variables	Much	Very much	Average	Low	Very low
Economic sustainability	101	114	45	84	40
	26.3%	29.7%	11.7%	21.9%	10.4%
Social sustainability	89	126	54	71	44
	23.2%	32.8%	14%	18.5%	11.5%
Environmental sustainability	100	113	84	45	42
	26%	29.4%	21.9%	11.7%	11%
Physical sustainability	94	120	84	46	40
	20%	31.2%	21.9%	18.8%	10.4%
Institutional sustainability	77	89	80	72	66
	20%	23.2%	20.8%	18.8%	17.2%
Sustainable urban development	92	112	70	64	46
	24%	29.2%	18.2%	16.6%	12%
Creativity and innovation	105	114	68	65	32
	27.3%	29.7%	17.7%	16.9%	8.3%
Human capital	77	105	74	81	47
	20%	227.4%	19.3%	21.1%	12.2%
Life quality	81	107	72	74	50
	21.1%	27.9%	18.8%	19.2%	13%
Social capital	91	115	82	50	46
	23.7%	30%	21.3%	13%	12%
Social relation network	66	129	88	49	52
	17.2%	33.6%	22.9%	12.7%	13.5%
Creative city	88	110	74	68	44
	23%	28.6%	19.3%	17.7%	11.4%

Figure 5. Distribution of respondents based on the variables of sustainable urban development and creative city.

Dependent variable	Pearson correlation coefficient	Significance level	Results
Economic sustainability	0.367	0.000	Positive & significant correlation
Social sustainability	0.414		
Environmental sustainability	0.364		
Physical sustainability	0.232		
Institutional sustainability	0.319		
Sustainable urban development	0.486		

Figure 6. Pearson correlation coefficient between creative city and sustainable urban development.

Also, there is a significant relationship between the aspects of the creative city and sustainable urban development. The Pearson correlation coefficient is 0.286 between the social capital of the citizens and sustainable urban development and its significance level is zero. That is, as the social capital increases, sustainable urban development increases as well and as social capital decreases, sustainable urban development decreases as well. This positive correlation is significant with a probability of more than 99%. The other aspects of the creative city have a direct and positive Pearson correlation coefficient. The aspect of creativity and innovation, with the coefficient of 0.494, has the highest correlation with sustainable urban development, and the aspect of the social relationship network, with the coefficient of 0.233 has the lowest correlation with sustainable urban development.

Indicators	Social relations network	Human capital	Life quality	Creativity and innovation	Social capital
Pearson correlation	0.233	0.274	0.428	0.494	0.286
Significance level	0.000	0.000	0.000	0.000	0.000

Figure 7. Pearson correlation coefficient between the dimensions of creative city and sustainable urban development.

For examining and testing the main research hypothesis, besides the Pearson correlation coefficient, a regression analysis was used to determine the effectiveness of the creative city upon sustainable urban development of Bushehr. The results showed that the amount of the multiple correlation coefficient is 0.596, which is an average correlation coefficient. The coefficient of determination is 0.355, which shows that the variance of the creative city determines and predicts 35.5 % of variance and changes of sustainable urban development. The amounts of the regression coefficients showed that the variability of life quality, creativity and innovation, and the social relationship network are significantly more than 99 %. On the basis of the standard amounts of the regression coefficient, the possibility is provided to compare and determine the relative share of each of the variables in explaining the variance and the dependent variable changes. The highest amount of BETA belongs to the variety of creativity, innovation, and life quality. Therefore, as an example, on the basis of BETA for creativity and innovation, we can say that for every unit of increase in standard deviation, the amount of creativity and innovation increase as much as 0.347 standard deviations of the dependent variable. (Sustainable urban development).

As it can be seen, on the basis of the results of the path analysis, the variables of creativity and innovation, life quality, and social relationship network have the highest direct impact, and the variables of life quality and human capital have the highest indirect impact and the variables of life quality, creativity and innovation, and social relationship network has the highest total impact on the sustainable urban development.

Variables	VIF	Tolerance	Sig	T	BETA	Std.error	b
Constant amount			0.000	7.548		5.853	44.175
Life quality	1.224	0.817	0.000	5.621	0.257	0.106	0.596
Creativity and innovation	1.356	0.738	0.000	7.220	0.347	0.127	0.916
Human capital	1.210	0.827	0.297	1.044	0.47	0.145	0.151
Social relations network	1.074	0.931	0.000	4.182	0.179	0.080	0.335
Social capital	1.198	0.835	0.133	1.506	0.68	0.035	0.053
R		sig	F	Durbin-Watson		Std.error	R
0.596		0.000	41.69	1.57		12.39	0.355

Figure 8. Regression coefficient values of sustainable urban development.

Variables	Direct	Indirect	Total
Life quality	0.26	0.14	0.40
Creativity and innovation	0.35	–	0.35
Human capital	–	0.11	0.11
Social relations network	0.18	0.05	0.23
Social capital	–	0.07	0.07

Figure 9. Direct, indirect and total independent variables on sustainable urban development.

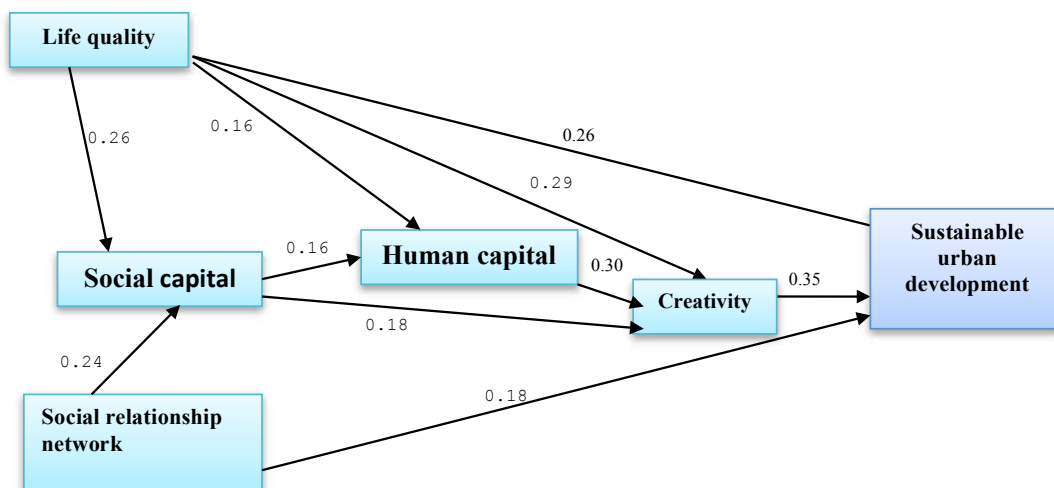


Figure 10. Sustainable urban development pathway analysis model.

Conclusion

Due to the growing attention and importance of urban development in recent years, attention to sustainable urban development has become particularly important. The main subject of the present research is a sustainable urban development in Bushehr. The social capital development aspects play a very important role in a creative city that can influence urban development and sustainable urban development. The creative cities are called the centres of innovation, creativity, and the transformer of an idea into wealth. Since idea and innovation are the main competitive elements in the age of globalization, having a creative city is the desire of every society. According to the approach of the creative city, a city should be an attractive environment for attracting and developing talents, innovations, and ideas and it should be able to benefit from ideas and creativity of the people either special people as artists, scientists authors, or the ordinary citizens in solving basic problems and establishing creative growth and development. A creative city is a sufficient environment for training, human creativity and it provides a breeding ground for the creativity of its residents.

The main hypothesis is that there is a significant relationship between a creative city and its indicators with sustainable urban development in Bushehr. The Pearson correlation coefficient is 0.468 between the creative city and sustainable urban development. Since the level of significance in the correlation coefficient is less than 5%, so there is a direct positive significant relationship between the creative city and sustainable urban development. That is, as the features of the creative city increase in Bushehr, sustainable urban development increases as well. The variable of sustainable urban development consists of 5 aspects that have a positive and significant relationship with the independent variable of the creative city. The aspect of social sustainability has the highest correlation coefficient with the variable of the creative city and the Pearson correlation coefficient is 0.414 between them. In addition, the aspect of physical sustainability, one of the variables of sustainable urban development, has the lowest correlation with the creative city. The results of the regression analysis showed that the variable of the creative city determines and predicts 20.6% of variance and changes of the sustainable urban development. If the characteristics of the creative city were not used for sustainable urban development, it would not go on well. Thus, the creative city emphasizes the improvement of the living environment and the quality of life through the new thought of the citizens. Creative cities play a fundamental role in the growth and development of each city and the existence of cultural and social infrastructure, creative leadership, and the role of the creative and innovative people is the infrastructure facilities for urban prosperity and development.

Therefore, as the rate of the indicators of the creative city increases, the rate of sustainable urban development increases as well. Accordingly, for the increase of sustainable urban development in society, we should pay attention to the rate of the creative city and its indicators and components. Planning of sustainable urban development in Bushehr should be purposeful and commensurate with the natural and human potentials and capacities and the objective and mental needs of the people in order to lead to the improvement of social capital and sustain-

able urban development. Social capital should be considered as the main goal of sustainable urban development projects. If a city succeeds in attracting creative people and employing them in management, economics, and cultural industry, it can also be successful in the field of competition and economic development. Thus, paying attention to the component of creativity and innovation among the citizens for achieving sustainable urban development is undeniable. Attracting and nurturing talented people and new ideas and paying attention to human capital as an indicator of the creative city has a direct and positive impact upon sustainable urban development. The role of the education and educational centres in development and the increase of the people's participation in sustainable urban development is significant and education can play an effective role in creating culture. If the educational system of society has proper coherence and planning regarding urban issues, we can be hopeful that the sense of social responsibility has spread in the society and participate in environmental, economic, social, and cultural activities as the aspects of sustainable urban development have increased.

References

- Abdullah, Norazilawati, Zainun Mustafa, Mahizer Hamzah, Amir Hasan Dawi, Mazlina Che Mustafa, Lilia Halim, Salmiza Saleh & Che Siti Hajar Aisyah Che Abdul. "Primary School Science Teachers: Creativity and Practice in Malaysia." *International Journal of Learning, Teaching and Educational Research* 20, no. 7 (2021).
- Ahad, N. R. M., V. Yarigholi & R. Ojaghlo. "The Role of Social Capital in Sustainable Local Development: A Case Study of Tehran Narmak Neighborhood." (2014):25-50.http://urb.dehaghan.ac.ir/article_641181.html?lang=en (accessed Oct 10, 2022).
- Alizadeh, M. & H. Lotfi. "Explaining the Effectiveness of the Membership of the Creative Cities Network on Sustainable Urban Development." *Journal of Studies of Human Settlements Planning* 14, no. 3 (2019):661-675.
- Askar, Rehab Abdelwahab. "Cultural Creativity and Social Inclusion in Creative Cities: Preliminary Indicators." In *Handbook of Research on Creative Cities and Advanced Models for Knowledge-Based Urban Development* IGI Global, 2021.265-283.
- Azad, M., A. Rahmani Firuozjah & A. Abbasi Asfajir. "Investigating the Relationship Between Social Capital and Urban Sustainable Development, Case Study: Mazandaran Province." *Urban Sociological Studies* 9, no. 30 (2019):89-124.
- Azkiya, M. *Kalameh Publication*, Tehran, Iran, 2005.
- Bagheri, Ali, Asghar Zarabi & Mirnajaf Mousavi. "Spatial Analysis of Sustainable Development Indicators In order to Realization of Creative Cities (Case Study: Cities of Yazd Province)." *Human Geography Research* 52, no. 3 (2020):793-816.
- Bellew, B., C. Rose & L. Reece. "Active and Inactive Young Australians. An Independent Review of Research into Enablers and Barriers to Participation in sport." *Active Recreation and Physical Activity Among Children and Adolescents*. (2020).

Broska, L. H. "It's All About Community: On the Interplay of Social Capital, Social Needs, and environmental Concern in Sustainable Community Action." *Energy Research & Social Science* 79 (2021):102165.

Castells, E. *Information Age: Economics, Society and Culture*, three volumes, translated by Ahad Aligolyan et al., First edition, Tehran, Tarh-e No Publications. 2001.

Chen, Q., C. Acey & J. J. Lara. "Sustainable Futures for Linden Village: A Model for Increasing Social Capital and the Quality of Life in an Urban Neighborhood." *Sustainable Cities and Society* 14 (2015):359-373.

Darvishi, M., M. Ghaedi, G. Keshishian Sirki & M. Tohid Fam. "Sustainable Urban Development Based on Social Capital and Public Trust Indicators, Case Study: District 2, Tehran." (2020):201-216.

Florida, Richard. *Cities and the Creative Class*. Routledge, 2005.

Foroudi, Pantea, Suraksha Gupta, Philip Kitchen, Mohammad M. Foroudi & Bang Nguyen. "A Framework of Place Branding, Place Image, and Place Reputation: Antecedents and Moderators." *Qualitative Market Research: An International Journal* (2016).

Friedland, Roger & Deirdre Boden. "NowHere: an Introduction to Space, Time and Modernity." *NowHere: Space, Time and Modernity* (1994):1-60.

Furlan, R., A. Petruccioli, M. D. Major, S. Zaina, M. Al Saeed & D. Saleh. "The Urban Regeneration of West-Bay, Business District of Doha (State of Qatar): A Transit-Oriented Development Enhancing Livability." *Journal of Urban Management* 8, no. 1 (2019):126-144.

Ghalehtimouri, K. J. "Providing a Comprehensive Model of Inter-Sectoral Coordination with the Express Purpose of the Creative City Realization: Case Study of Yazd City." *UXUC-User Experience and Urban Creativity* 2, no. 2 (2020):22-41.

Ghalehtimouri, K. J., A. Hatami & H. Asadzadeh. "Measuring the Quality of Life and City Competitiveness: A Methodological Framework for the Iranian Metropolis." *Journal of Urban Culture Research* 21 (2020):90-111.

Ghalehtimouri, K. J., A. Shamaei & F. B. C. Ros. "Effectiveness of Spatial Justice in Sustainable Development and Classification of Sustainability in Tehran Province." *Regional Statistics* 11, no. 2 (2021):52-80.

Gharagozlo, A. R. "A survey of Tehran Metropolis Strategies as a Creative City of Iran." *Journal of Geography and Regional Planning* 13, no. 40 (2013):149-158.

Ghasemi, K., M. Hamzenejad & A. Meshkini. "The Livability of Iranian and Islamic Cities Considering the Nature of Traditional Land Uses in the City and the Rules of Their Settlement." *Habitat International* 90 (2019):102006.

Ghorbani R, S. Hossein Abadi & A. Toorani. "Creative Cities: As Cultural Approach in Urban Development." *Journal of Arid Regions Geographics Studies* 3, no. 11 (2013):1-18.

Giddens, A. *Modernity and Personalization*, translated by Nasser Movafeghian, Ney Publishing, third edition, Tehran. 2005.

Gilbert, Keon L., Yusuf Ransome, Lorraine T. Dean, Jerell DeCaille & Ichiro Kawachi. "Social Capital, Black Social Mobility, and Health Disparities." *Annual Review of Public Health* 43 (2022).

Gulick, J. *Village and City: Cultural Continuities in the Twentieth Century*. 2020.122-58.

Hosseini, S., Y. Gholipour & A. Mozafari. "The Analysis of Parameters of Creative City and Its Relationship with Sustainable Urban Development (Case Study: Rasht City)." *Scientific-Research Journal of the Scientific Association of Architecture and Urban Planning of Iran* (2016):209-227.

Kalantari, B., V. Yarigholi & A. Rahmati. "Public Space and Innovative City." *MANZAR, The Scientific Journal of landscape* 4, no. 19 (2012):74-79.

Kamran, J. G., K. K. Musa & G. F. Sadegh. "An Investigation into Urban Development Patterns with Sprawl and Other Corresponding Changes: A Case Study of Babol City." *Journal of Urban Culture Research* 20 (2020):26-43.

Kamranfar, S., Y. Azimi, M. Gheibi, Amir M. Fathollahi-Fard & M. Hajiaghaei-Keshteli. "Analyzing Green Construction Development Barriers by a Hybrid Decision-Making Method Based on DEMATEL and the ANP." *Buildings* 12, no. 10 (2022):1641.

Khansefid, M. "Creative City and Urban Management." *MANZAR, the Scientific Journal of Landscape* 4, no. 19 (2012):92-95.

Kojuri, M. K., K. J. Ghalehtemouri, A. Janbazi & F. Azizpour. "Urban Sprawl Functional-Structural Changes in Neighborhood Settlements: Case of Study Shiraz." *The Indonesian Journal of Geography* 52, no. 2 (2020):260-268.

Labonté, R. & A. Ruckert. *Health Equity in a Globalizing Era: Past Challenges, Future Prospects*. Oxford University Press, 2019.

Landry, C. *The Creative City: A Toolkit for Urban Innovators*. Earthscan. 2012.

Mahkouii, H., N. Shirani. "Analysis of Indicators of the Creative City and its Relationship with Healthy City Development Case Study: Isfahan Metropolis." (2020):131-146.

Moghaddam, S. N. M., & M. Rafeian. "Urban Development as a Marionette? Oil Income and Urban Development in Post-Revolutionary Iran." *International Development Planning Review* 42, no. 2 (2020):191-218.

Mousavi, D. "Ranking the Districts of Sardasht City in Terms of Moving Toward Creativity with an Emphasis on Realization Creative City by the Use of TOPSIS Model and Network Analysis." *Geography and Territorial Spatial Arrangement* 4, no. 10 (2014):19-38.

Khorasani, M. A., M. Tavana & M. S. Neyestani. "Assessment of Correlation Between Built Environment and Fear of Crime in the "Mehr" Housing Project (Case Study: Pakdasht County, Iran)." *Geographical Urban Planning Research* vol 5 issue 4 (2018):515-537.

- Movahed, A. & Kamran Jafarpour Ghalehtemouri. "An Empirical Investigation on Tourism Attractive Destinations and Spatial Behavioral Tourist Pattern Analysis in Tehran." *Asian Journal of Geographical Research* (2019):18-27.
- Murphy, Connor. *City Planning: How Citizens Can Take Control*. Wheatmark, Inc., 2021.
- O'Connor, Justin, Xin Gu, and Michael Kho Lim. "Creative Cities, Creative Classes and the Global Modern." *City, Culture and Society* 21 (2020):100344.
- Panahi, A & M. Dadashpour Moghadam. "Analysis of the Role of Creative City Indicators in the Development of Urban Tourism (Case Study of Isfahan)," *Shabak* fifth year, April 2019 No. 1 (2019).
- Petersen, Marie Juul. "Promoting Freedom of Religion or Belief and Gender Equality in The Context of The Sustainable Development Goals: A Focus on Access to Justice, Education and Health Reflections." In *The 2019 Expert Consultation Process*. 2020.
- Pulido-Fernández, Juan I., José A. García-Suárez, and Beatriz Rodríguez-Díaz. "Proposal for an Index to Measure Creativity in Urban-Cultural Destinations." *International Journal of Tourism Research* 23, no. 1 (2021):89-105.
- Rafieeyan, Dr. & Morteza Shabani. "Analysis of Urban Creativity Indices in Settlement System of Mazandaran Province." *Geography and Territorial Spatial Arrangement* 5, no. 16 (2015):19-34.
- Rahimi, M, Ali M. Mard, E. Doha & Fallahzadeh, A Creative City (Theoretical Foundations and Indicators), *Daneshshahr Magazine* no. 196 (2013):9-38.
- Rahnamaei, M. T. "Effects of Development on Environmental Resources," *Proceedings of the Conference on Research and Capabilities of Geography in the Field of Construction*, Institute of Geography, University of Tehran. 1998.
- Rezaei, N, Z. Ghaderi & M. Ghanipour. "Heritage Tourism and Place Making: Investigating the Users' Perspectives Towards Sa'd al-Saltaneh Caravanserai in Qazvin, Iran." *Journal of Heritage Tourism* 17, no. 2 (2022):204-221.
- Sasaki, Masayuki. "Developing Creative Cities Through Networking." *Policy Science* 15, no. 3 (2008):77-88.
- Sasaki, Masayuki. "Urban Regeneration Through Cultural Creativity and Social Inclusion: Rethinking Creative City Theory Through a Japanese Case Study." *Cities* 27 (2010):S3-S9.
- Shahivandi, Ahmad. "The Impact of Modern Information and Communication Technologies on the City Physical and Spatial Structure Using Creative City Approach (Case Study: Isfahan City)." *Motaleate Shahri* 7, no. 25 (2018):77-90.
- Simmel, George. "The Metropolis and Mental Life." In *The Blackwell City Reader*, eds." Gary Bridge and Sophie Watson (1903):103-10.

Tahiri, Alberta, Idriz Kovaçi, & Anka Trajkovska Petkoska. "Sustainable Tourism as a Potential for Promotion of Regional Heritage, Local Food, Traditions, and Diversity – Case of Kosovo." *Sustainability* 14, no. 19 (2022):12326.

UNESCO, 2004, <https://en.unesco.org/creative-cities/home> (accessed Oct 10, 2022).

Valibeigi, M, and Sereshti M. "Sociable Space and Social Policies in Iranian Urban Local Communities." *Журнал исследований социальной политики* 20, no. 1 (2022):137-148.

Watier, P. "Georg Simmel," translated by Mehrdad Mirdamadi, In *The Great Sociological Thinkers*, Rob Stones Third Edition, Tehran: Markaz Publishing. 2004.

Zarrabi, A., M. Mir Najaf & Ali Bagheri Kashkooli. "A Comparison Between Indicators of Sustainable Urban Development and Criteria of a Creative City (Case study: Cities of Yazd Province)." *Geography and Urban Space Development* 1, no. 2 (2015):1-17.