

Public Participation Model In Unequal Urban Environment (Case Study: Vakil-Agha And Nobahar Districts In Kermanshah)

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Received: 22 June 2017- Accepted: 7 August 2018

Abstract

The spatial inequality of the environment arises as a planning problem when the spatial structure of the different districts of a city is distinctly different; Differences that require different programming solutions for different regions and meeting the objective of creating spatial equality in a city. Nobahar and Vaki-Agha are two districts with unequal urban space located in north and south of Kermanshah city in Iran. Nobahar district of Kermanshah is characterized by regular geometric pattern, medium and large granularity, semi-compact texture, and regular granularity of parts. Vakil-Agha district is characterized by physical exhaustion, lack of safety standards, and solidity. Despite the fact that urban infrastructure services possess identity values, they have a low level of spatial and housing status. Considering the conditions and laws of Iran, the best option that is the basis of this research, is the pattern of citizen participation in urban affairs for mitigating this inequality. The research method is descriptive-analytic. The path analysis in this study was conducted using LISREL8.5 software. ANOVA test was used to determine the difference between variables based on gender, age and dependency. The participants for this study included all the caretakers of the households living in of Vakil-Agha and Nobahar districts in Kermanshah. The results showed that the participation of citizens in Iran and in particular in Kermanshah, both in the districts of Nobahar and Vakil-Agha, faces with some structural, socio-cultural, political-managerial, legal and spatial barriers. In some cases, despite the emphasis of senior management of the municipality of Kermanshah on the necessity of citizen participation in urban affairs, this necessity is not pursued by urban managers and citizens, and the participation of citizens is mostly formal and symbolic. The obtained results of the model in both regions can be a solution for managing citizen participation in unequal human environments in Kermanshah.

Keywords: Public participation, Urban environment, Unequal space, Kermanshah.

1. Introduction

The socioeconomic differences of residents of urban areas are illustrated by the various factors as the physical-spatial split in different regions of the city. Some areas have gradually been dwelled by low-income and poor classes, and their quality of space and their bodies are gradually falling, and areas with high-quality become the residences of high class people. The intensification of the process of separation of the social classes in the field of space causes problems and threats that can be the sources of problems and crimes, crises, social issues and even security for a city. Some policies and actions of urban management agents not only do not modify this process, but also in some cases intensify it. Therefore, the split and segregation of various social classes in urban areas is one of the complications faced by urban planning researchers and urban policy makers.

The spatial inequality of the environment arises as a planning problem when the spatial structure of the different districts of a city is distinctly different; Differences that require different programming solutions for different regions and meeting the objective of creating spatial equality in a city. Regional inequalities are major and worrying issues in most parts of the world. Therefore, for policy-makers, the reduction of regional inequalities is part of the general social objective to reduce inequality in

general and in particular inequality among people (DuPont, 2007). In fact, regional inequalities show continuity of development challenges in most countries (Shankar, 2003).

Participation is a process in which people must voluntarily interfere in matters relating to cities and municipalities, provided that they have the potential and motive for effective interference. Meanwhile, participation does not points to a specific case; it means the "active participation" of human beings in all aspects of life. Undoubtedly, the role of citizens in commenting, proposing, deciding and accepting responsibility in the respective fields requires certain conditions to do so, most notably the readiness of citizens; Because engagement and participation in making decisions with people at very low levels of readiness are likened to the "unions of ignorant" (Kalantari, 2001).

Cities provide good opportunities for policy change as cities have direct local accountability and are more agile to act than national governments, in terms of governance structures (Nieuwenhuijsen, 2016). Within and between cities, there is considerable variation in the levels of important environmental exposures such as air pollution, noise, temperature and green space, and in physical activity and motor vehicle crashes, partly due to urban and transport planning practices (Nieuwenhuijsen, 2016). Air pollution (Beelen et al., 2014; Héroux et al., 2015), noise

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(Basner et al., 2014; Halonen et al., 2015) and temperature (Gasparrini et al., 2015) cause adverse health effects including increased morbidity and premature mortality. Green space has predominantly been associated with positive health outcomes (Hartig et al., 2014, Gascon et al., 2016a and 2016b), but, also some negative impacts such as urban sprawl, gentrification and spread of infectious diseases (Cucca, 2012; Hartig et al., 2014; Löhmus and Balbus, 2015).

Previous studies have shown that participation in various urban environments has been suggested, such as urban forestry (Kozová et al., 2016), climate change (Broto et al., 2014), urban and transport planning in cities (Nieuwenhuijsen et al., 2017), and urban freight transport (Marcucci et al., 2017).

1.1. Spatial inequality

The issue of inequality in many countries is a major challenge to development, especially for those countries whose sovereignty includes large geographic areas. These inequalities are a serious threat to the balanced development of regions and make it difficult to achieve national unity and integrity (Shankar and Shah, 2010). The rapid population growth has provided a prelude to the widespread urbanization and has made extensive changes to the land scale from the local to the global scale; so that it can be said that the population of the cities has increased, but services that meet their different needs are not provided properly (Sohe Rana, 2009: 321).

1.2. Participation

One of the prerequisites for achieving sustainable development is public-wide participation in decision making, specifically, those decisions which directly affect the communities in which citizens live and work (Mohjabeen, 2008). Democracy requires citizens to be influential in government, which also depends on citizen participation (Kweit, 2007).

Participation leads to public empowerment and is a part of the process of development and enhancing empowerment. In addition to contributing to the success of the people in

autonomous and self-regulating activities, participation increases the trust, skills and knowledge of the people as the final product of participation (Abu-samah, 2009). Public participation that guarantees people's commitment and guidance in the planning process is the most important issue in the development and transformation process of forthcoming cities (Amado, 2009).

2. Materials and Methods

2.1. Identifying the study areas

Kermanshah is one of the oldest Iranian cities in the Zagros region, which has always been of special importance in Iran history due to its strategic and unique status. Its favorable environment conditions, proper location on the way of Iran's communication with Mesopotamia, and its placement in the fertile region have created a privileged location for this city. The study areas in Kermanshah include Nobahar and Vakil-Agha districts. Nobahar district of Kermanshah is characterized by regular geometric pattern, medium and large granularity, semi-compact texture, regular granularity of parts, geometric regularity and similarities in some areas, arid lands between built residential units. The parts of districts with new texture are broken down according to the criteria and all parts are uniformly and serially arranged. High environmental, economic and social conditions have led to an increase in the desire of high-income community groups to live in this area. In recent years, the presence of a special group of people has significantly changed the physical, spatial, social, and economic aspects of the region.

The most important issue and problem of Vakil-Agha is the replacement of immigrant, low-income workers with a variety of cultures, and the lack of a sense of place has always created physical, social and economic problems. As a result, worn out tissues are among the factors that contribute to increasing crime rates. The migratory of worn-out tissues leads to the emergence of different subcultures, which in turn creates the cycle of crime and increases the social damages.

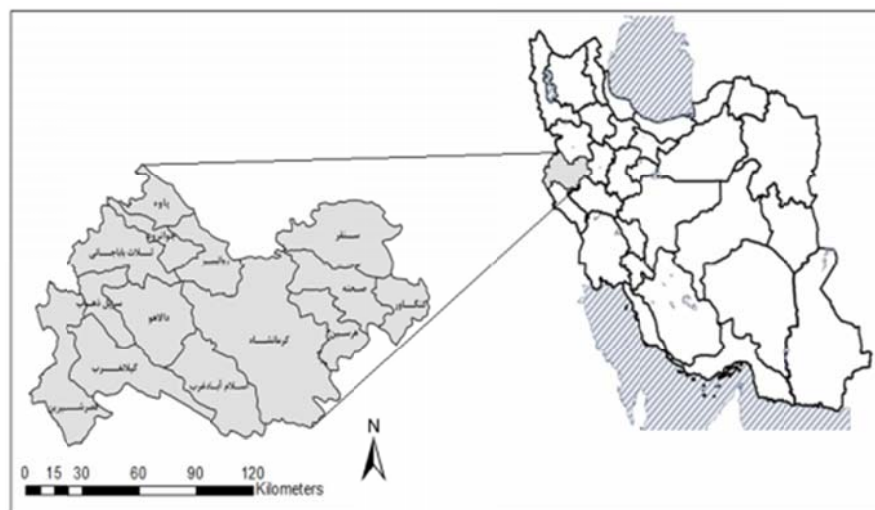


Fig. 1. Location of Kermanshah city in Iran

3. Research Variables

The research aspects and indicators, based on previous studies, are presented in Table 1.

Table 1
Research Aspect and Indicators

Indicator no.	Indicator	Aspect	Author
Q1	Establishing systems to improve interaction with people	Legal	Zeyari et al. (1999); Fors et al. (2015); Tzoulas et al. (2007); UNCED (1992); World Bank (2013); Carmona (2010).
Q2	Controversial views, non-convergence among councils, and conflict among members of councils		
Q3	Lack of a comprehensive definition of citizenship rights		
Q4	The lack of formal and official rules for the influence of councils on urban management		
Q5	Power imbalance in urban management		
Q6	Enhancing social capital		
Q7	A solution to indifferent people to participate in urban affairs		
Q8	Eliminating legal barriers and subscribing laws to institutionalize the participation culture		
Q9	Creation of specialist working groups composed of educated people and professionals		
Q10	Changing the approach of urban management to participatory management		
Q11	Resolve lack of trust in government		
Q12	Increase influence of civic participation		
Q13	civic participation		
Q14	Bringing different viewpoints to the surface		
Q15	Accept people's supervision and sense of responsibility		
Q16	Citizenship		
Q17	Establishing a clear mechanism for participation and operation of individuals and groups in participatory affairs	Social	Hall (2005); Kaplan (1980); Fors et al. (2015); Konijnendijk et al. (2013); Nilsson et al. (2007)
Q18	Commitment and Responsibility		
Q19	Dissatisfaction with urban managers		
Q20	Creating collaborative centers and workshops		
Q21	Increase attachment and sense of ownership to the projects		
Q22	Interpersonal, and people and places relationships		
Q23	Opportunity for income for impoverished communities		
Q24	Increased influence of physical participation		
Q25	Financing		
Q26	Creating competition between public and private sectors to strengthen the monitoring, control and policy making of urban programs.		
Q27	Drawing economic support at national and international levels		
Q28	Reduce public costs		
Q29	Supply the cost of urban affairs and explaining the economic role of people in improving urban management		
Q30	Reforming the tax system and increasing tax revenues		
Q31	Relevant distribution of revenues		
Q32	The residents' dependency to the local identity	Physical-spatial	Bendt et al. (2013); Sanesi and Chiarello (2006); Kaplan (1980); Laforteza et al.(2013)
Q33	Strengthen residential settlements by creating sports spaces		
Q34	Supplying the costs of urban affairs and explaining the economic role of the people		
Q35	Strengthening the green space and attracting residents participation		
Q36	Improve quality of life		
Q37	Identifying the needs, problems and priorities of citizens		
Q38	Compilation and presentation of educational programs		

4. Methodology

The research method was descriptive-analytic, and given the nature of the research, the required data were collected through documentary studies including books, articles, theses, statistics and reports as well as field studies such as questionnaires, interviews and objective observations. The participants for the study included all the caretakers of the households living in Vakil-Agha and Nobahar districts, as well as experts and urban planners in

Kermanshah. In this research, regarding the community size, Cochran formula was used for sample size, and according to this formula, 130 samples were systematically selected. After collecting the data and resources, and categorizing and organizing them using quantitative and statistical methods, SPSS and Lisrel software, and qualitative and inductive methods, we analyzed the data. The conceptual model of research is presented in Fig. 2.

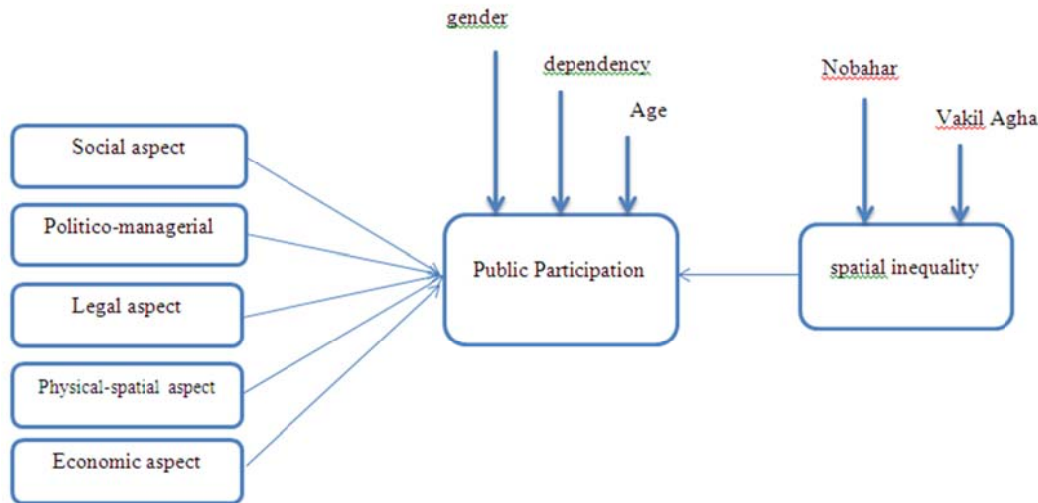


Fig. 2. Conceptual model of the research (Note: G, Gender; D, Dependency; A, Age)

4.1. Study of the status of these two regions using one-way ANOVA

In order to study the situations of the two regions, the selected aspects were analyzed using one-way ANOVA.

4.2. Legal aspect in Vakil-Agha and Nobahar districts in Kermanshah

The average of legal aspect in Nobahar is more (3.7) than Vakil-Agha (3.3). Therefore, the public participation in Nobahar district is more than that in Vakil-Agha.

Table 2
Descriptive statistics of the variables of the legal aspect within Vakil-Agha and Nobahar districts in Kermanshah

District	Number	Mean	Std. deviation	Variance	Skewed		Elongation	
					Statistics	Std. Error	Statistics	Std. Error
Nobahar	130	3.7062	.95031	.723	-.505	.266	-.604	.456
Vakil-Agha	130	3.3136	.67206	.847	.121	.266	-.445	.456

Sig (0.002)

4.3. Politico-managerial aspect in Vakil-Agha and Nobahar districts in Kermanshah

The average of politico-managerial aspect in Nobahar is more (3.9) than Vakil-Agha (3.4). Therefore, the public participation in Nobahar district is more than that in Vakil-Agha.

Table 3
Descriptive statistics of the variables of the politico-managerial aspect within the Vakil-Agha and Nobahar districts in Kermanshah

District	Number	Mean	Std. deviation	Variance	Skewed		Elongation	
					Statistics	Std. Error	Statistics	Std. Error
Nobahar	130	3.9556	.89812	.633	-.411	.250	-.680	.456
Vakil-Agha	130	3.4100	.56097	.633	-.056	.250	-.630	.456

Sig (0.003)

4.4. Social aspect in Vakil-Agha and Nobahar districts in Kermanshah

The average of social aspect in Nobahar is more (3.8) than Vakil-Agha (3.1). Therefore, the public participation in Nobahar district is more than that in Vakil-Agha.

Table 4
Descriptive statistics of the variables of the social aspect within the Vakil-Agha and Nobahar districts in Kermanshah

District	Number	Mean	Std. deviation	Variance	Skewed		Elongation	
					Statistics	Std. Error	Statistics	Std. Error
Nobahar	130	3.8375	.71572	.565	-.493	.254	-.323	.456
Vakil-Agha	130	3.1583	.44423	.551	-.480	.254	-.015	.456

Sig (0.45)

4.5. Economic aspect in Vakil-Agha and Nobahar districts in Kermansha

The average of economic aspect in Nobahar is more (3.5) than Vakil-Agha (3.01). Therefore, the public participation in Nobahar district is more than that in Vakil-Agha.

Table 5
Descriptive statistics of the variables of the economic aspect within the Vakil-Agha and Nobahar districts in Kermanshah

District	Number	Mean	Std. deviation	Variance	Skewed		Elongation	
					Statistics	Std. Error	Statistics	Std. Error
Nobahar	130	3.5311	.67385	.454	-.500	.254	-.352	.456
Vakil-Agha	130	3.0244	.94754	.898	-.405	.254	-.612	.456

Sig(0.029)

4.6. Physical-spatial aspect in Vakil-Agha and Nobahar districts in Kermanshah

The average of physical-spatial aspect in Nobahar is more (3.7) than Vakil-Agha (3.2). Therefore, the public participation in Nobahar district is more than that in Vakil-Agha.

Table 6
Descriptive statistics of the variables of the physical-spatial aspect within the Vakil-Agha and Nobahar districts in Kermanshah

District	Number	Mean	Std. deviation	Variance	Skewed		Elongation	
					Statistics	Std. Error	Statistics	Std. Error
Nobahar	130	3.7500	.63207	.400	.078	.254	-.241	.456
Vakil-Agha	130	3.2583	.69534	.483	-.184	.254	-.505	.456

Sig(0.003)

5. Research Designed Model

5.1. Variable distribution normality

One of the methods for examining the claim of normal distribution of variables is use of the Kolmogorov-Smirnov test. The results of this test are presented in Table (7).

Table 7
Normal distribution of variables

District	Aspect	Kolmogorov-Smirnov	Cronbach's α	Significant level
Vakil-Agha	Legal	1.198	.885	0.113
	Politico-managerial	1.099	.886	0.178
	Social	0.803	.888	0.540
	Economic	1.214	.884	0.105
	Physical-spatial	0.978	.907	0.295
Nobahar	Legal	0.637	.841	0.811
	Politico-managerial	0.881	.864	0.419
	Social	0.978	.813	0.295
	Economic	1.444	.822	0.031
	Physical-spatial	1.134	.837	0.152

Test distribution is Normal

The results of this test indicate that the level of significance of most research variables is greater than

0.05. It should also be noted that SPSS software, according to the central limit theorem, has recognized the results of

this questionnaire as normal, so the hypothesis of zero, i.e. the normalization of variables, is confirmed. Table (8) is presented to identify the abbreviations of the observational and indigenous variables.

5.2. Confirmatory factorial analysis

Factorial analysis plays a very important role in identifying the observational and indigenous variables or the same agents by the observational and indigenous variables. The factor is a new variable estimated by the linear combination of the principal values of the observational and indigenous variables. Factorial analysis is one of the advanced statistical methods on the basis of which variables are categorized in a way that ultimately are limited to two or more factors that are the same set of variables. So each factor can be considered as a fictitious or hypothetical variable, which is made up of a combination of several variables that are similar in appearance to each other. The primary data for factorial analysis is the matrix of correlation between variables and does not have predetermined dependent variables. Before viewing the output of the software, table (8) is presented in order to identify the abbreviations of the observational and indigenous variables.

Table 8
Guide to identifying abbreviations of model variables

Indicator	Question	Abbreviation
Legal	1-8	Legal
Politico-managerial	9-15	Political
Social	16-24	Social
Economic	25-31	Economic
Physical-spatial	32-38	Space

5.3. Model fit tests using fit indices

In the inferential analysis, we need to test the constructive validity using the confirmatory factorial analysis. The fitness test in the confirmatory analysis, the RMSEA index, or the Root Mean Square Error of Approximation, is less than eight percent, the index χ^2/df is less than three, and (GFH, CFL, IFI, NNFI) is above 90%. If the T-Value of the significance coefficients of each variable is also greater than 1.96 and smaller than -1.96, the model has a good fit or, in other words, a reasonable approximation of the community.

Table 9
The values of the fit indexes of the model and the result of fitness in Nobahar district

Fit index	Optimum value	Template value
χ^2/df	<3.00	1.87
GFI(Goodness of Fit Index)	>0.90	0.92
AGFI(Adjusted Goodness of Fit Index)	>0.90	0.97
RMR(Root Mean square Residual)	<0.05	0.035
NFI (Normed Fit Index)	>0.90	0.98
NNFI (Non-Normed Fit Index)	>0.90	0.95
IFI(Incremental Fit Index)	>0.90	0.92
CFI (Comparative Fit Index)	>0.90	0.94
RMSEA(Root Mean Square Error of Approximation)	<0.08	0.078

Table 10
The values of the fit indexes of the model and the result of fitness in Vakil-Agha district

Fit index	Optimum value	Template value
χ^2/df	<3.00	1.71
GFI(Goodness of Fit Index)	>0.90	0.99
AGFI(Adjusted Goodness of Fit Index)	>0.90	0.95
RMR(Root Mean square Residual)	<0.05	0.020
NFI (Normed Fit Index)	>0.90	0.92
NNFI (Non-Normed Fit Index)	>0.90	0.95
IFI(Incremental Fit Index)	>0.90	0.97
CFI (Comparative Fit Index)	>0.90	0.96
RMSEA(Root Mean Square Error of Approximation)	<0.08	0.075

After performing the process of factorial analysis using Lisrel software, first, according to its output, it is necessary to determine the model fit. The designed model

in this study demonstrates the proper fit of the collected data and their excellent fitness.

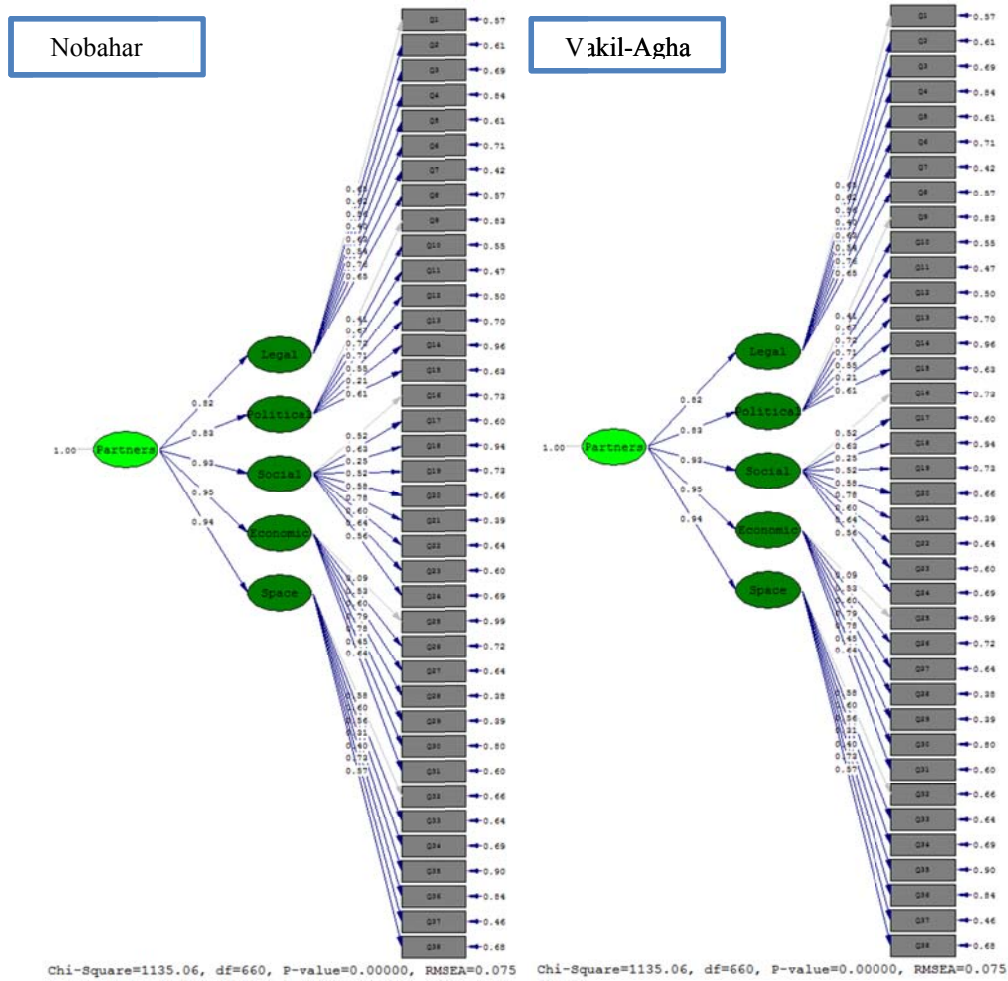


Fig. 2. General model measurement in standard mode

6. Results and Discussion

All variables show a high correlation with their respective constructs in Nobahar district. The highest index in legal, political, social, economic, and space aspects in Nobahar district includes Q8 (eliminating legal barriers and subscribing laws to institutionalize the participation culture), Q12 (increase influence of civic participation), Q20 (creating collaborative centers and workshops), Q27 (drawing economic support at national and international levels), and Q37 (identifying the needs, problems and priorities of citizens), respectively. The highest index in legal, political, social, economic, and space aspects in Vakil-Agha district includes Q7 (a solution to indifferent people to participate in urban affairs), Q11 (resolve lack of trust in government), Q21 (increase attachment and sense of ownership to the projects), Q29 (supply the cost of urban affairs and explaining the economic role of people in improving urban management), and Q37 (identifying the needs, problems and priorities of citizens), respectively.

The ANOVA test was used to determine the difference between the variables based on gender, age and dependency. In the following tables, the frequency distribution of variables in different communities is shown:

In table 11, one-way ANOVA is used to evaluate the effect of gender sub-variable on public participation. The results of the analysis showed that gender has no effect on public participation in the two study areas of Vakil-Agha and Nobahar in Kermanshah.

In table 12, one-way ANOVA has been used to measure the impact of age-related variables on public participation. For more detailed analysis, the main aspects are considered in this analysis. The factor of age is influential on all major legal, political-managerial, social, economic, and spatial-physical aspects. Therefore, the age sub-variable influences public participation in two studied areas of Vakil-Agha and Nobahar in Kermanshah.

In table 13, one-way analysis of variance has been measured in order to influence the sub-variable dependency on public participation. For more detailed analysis, the main aspects are considered in this analysis. Dependency affects the main legal, and economic aspects. This means that the more legal and economic indicators, the more dependency to these two districts. Therefore, the sub-variable dependency affects on public participation in two studied areas of Vakil-Agha and Nobahar in Kermanshah.

Table 11
Results of one-way ANOVA test (gender)

Aspect		Sum of squares	Degree of freedom	Mean square	F	Significant level
Legal	Intergroup	1.213	1	1.213	2.066	0.152
	Intragroup	151.468	258	0.587		
	Total	152.681	259			
Political	Intergroup	0.710	1	0.710	1.296	0.256
	Intragroup	141.322	258	0.548		
	Total	142.031	259			
Social	Intergroup	1.681	1	1.681	3.399	0.066
	Intragroup	127.603	258	0.495		
	Total	129.284	259			
Economic	Intergroup	1.688	1	1.688	3.311	0.070
	Intragroup	131.568	258	0.510		
	Total	133.256	259			
Space	Intergroup	0.289	1	0.289	0.641	0.424
	Intragroup	116.155	258	0.450		
	Total	116.444	259			

Table 12
Results of one-way ANOVA test (age)

Aspect		Sum of squares	Degree of freedom	Mean square	F	Significant level
Legal	Intergroup	51.075	5	10.215	25.536	0.000
	Intragroup	101.606	254	0.400		
	Total	152.681	259			
Political	Intergroup	22.039	5	4.408	9.331	0.000
	Intragroup	119.992	254	0.472		
	Total	142.031	259			
Social	Intergroup	22.863	5	4.573	10.914	0.000
	Intragroup	106.421	254	0.419		
	Total	129.284	259			
Economic	Intergroup	22.351	5	4.470	10.238	0.000
	Intragroup	110.906	254	0.437		
	Total	133.256	259			
Space	Intergroup	15.814	5	3.163	7.983	0.000
	Intragroup	116.155	258	0.450		
	Total	116.444	259			

Table 13
Results of one-way ANOVA test (dependency)

Aspect		Sum of squares	Degree of freedom	Mean square	F	Significant level
Legal	Intergroup	2.404	1	2.404	4.127	0.043
	Intragroup	150.277	258	0.582		
	Total	152.681	259			
Political	Intergroup	1.130	1	1.130	2.070	0.151
	Intragroup	140.901	258	0.546		
	Total	142.031	259			
Social	Intergroup	0.402	1	0.402	0.805	0.371
	Intragroup	128.882	258	0.500		
	Total	129.284	259			
Economic	Intergroup	4.009	1	4.009	8.003	0.005
	Intragroup	129.274	258	0.501		
	Total	133.256	259			
Space	Intergroup	0.490	1	0.490	1.090	0.297
	Intragroup	115.954	258	0.449		
	Total	116.444	259			

7. Conclusion

The spatial inequality of the environment arises as a planning problem when the spatial structure of the different districts of a city is distinctly different; Differences that require different programming solutions

for different regions and meeting the objective of creating spatial equality in a city. Unequal urban spaces make it possible for residents of different regions to provide with unequal opportunities. This results in unequal distribution of welfare services, the formation and growth of

impoverished areas and the depopulation of urban areas as the main consequences of inequality in urban areas. In this research, two regions of Vakil-Agha located in 2nd and Nobahar located in 1st districts in Kermanshah were selected as case studies. Due to the urban spatial dispersion in these two districts, for whom the selected indices were different and have been analyzed.

In this research, various perspectives and theories have been investigated, including participatory patterns of urban development planning in the municipalities of the United States, Germany, England, Turkey, Japan and France (pioneering societies due to having political, social, economic and cultural characteristics resulting from their social backgrounds; In a sense, they are the founders of participatory patterns in urban planning and management. But considering the conditions and laws of Iran, the best option that is the basis of this research, is the pattern of citizen participation in urban affairs. The project, which is the most comprehensive study project of the Tehran Municipality in relation to the citizen-centered issue, has been carried out by the Center for Studies and Planning in Tehran and the Social and Cultural Affairs Department of Tehran, and is now in the final stage of project delivery. The results showed that the participation of citizens in Iran and in particular in Kermanshah, both in the districts of Nobahar and Vakil-Agha, faces with some structural, socio-cultural, political-managerial, legal and spatial barriers. Partnership patterns vary depending on the severity and weakness of each of these factors. In some cases, despite the emphasis of senior management of the municipality of Kermanshah on the necessity of citizen participation in urban affairs, this necessity is not pursued by urban managers and citizens, and the participation of citizens is mostly formal and symbolic. The obtained results of the model in both regions can be a solution for managing citizen participation in unequal human environments in Kermanshah.

8. Suggestion

The authors suggest that the inequality of urban space can be reduced by removing legal barriers and passing the laws to institutionalize the culture of participation, resolving distrust of the state, financing urban affairs, supporting the economic roles of the people in improving urban management and identifying the needs, problems and priorities of citizens within Vakil-Agha district. Also, to improve participation in Nobahar district, legal barriers and passing laws to institutionalize the culture of participation, creating participatory centers and workshops, attracting economic support and identifying the needs, problems and priorities of citizens, should be reviewed and implemented. Accuracy and planning in the mentioned indicators can have positive effects such as maintaining and improving the quality of the environment, poverty alleviation, economic growth and development, planned urbanization to emphasize these problems in participatory planning, and affect reducing the inequality of the two regions, and will make a relative welfare level for unequal urban areas.

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