

Research Paper

An Integrated Approach of Spatial Justice and Structure to Detect Spatial Conflicts in Yazd City

M. Raffeian^{1,*}, A. Alizadeh²

¹Associated Professor, Urban Planning, Art and Architecture Faculty, Tarbiat Modares University, Tehran, Iran

²MA, Urban Planning, Art and Architecture Faculty, Tarbiat Modares University, Tehran, Iran

Received: 21 August 2016, Revised: 15 October 2017, Accepted: 22 October 2017, Available online: 30 December 2017

Abstract

According to several types of research, one of the most important issues and principles of sustainable development that urban professionals pay attention to it recently is Just City. One aspect of Justice in cities, spatial justice, has particular significance by Unequal and discordant Expanding in cities regarding creating unequal areas. On the other hand, the urban spatial structure affects the equal distribution of elements and services. If this structure is devoid of justice ideology will lead to a complex social crisis and spatial issues as spatial conflict. Accordingly, this study aims to analyse the spatial justice and structure in the case of Yazd city to know how they influence each other. Spatial justice is examined from the view of "Equality of opportunity". Involved criteria are "Equality", "Physical diversity", "Human diversity" and "Urban spaces", and spatial structure based on "Space Syntax" technique with "Integration", "Control", "Connect" and "Intelligibility" parameters. These criteria are Scored and analysed by FDAHP techniques and GIS. The result shows favourable status in the Central District, and as getting away from the disadvantaged downtown District increased. On the other hand, the spatial structure analysis reveals the most spatial coherent analogue the north-south axis with a little depth and isolated District (Spatial segregations) have located in the corners and edges of the city. Results from the superposition of these two analysis layers show a compatibility relation between the spatial structure of Yazd and the pattern of justice distribution except in the central and historical centre.

Keywords: Spatial justice, Spatial structure, Spatial conflict, Equality.

1. INTRODUCTION

Conflict in Cities research has demonstrated that physical barriers—walls, buffer zones, checkpoints, urban enclaves, and even large roads, tramways and motorways – continue to play a significant role in dividing cities [1]. One of these demonstrations in cities is the spatial injustice. Inequalities and spatial inequality is not a strange phenomenon around the world, but in the developing countries, spatial inequality has been intensified mainly, because of the vast socioeconomic differences and inequalities in urban services [2], that cause spatial segregation in cities. Because the spatial structure of a city made up of components interacting with each other and the unsustainability of ones will affect the entire structure [3]. In this field, the concepts such as urban advocacy planning, social justice, distributive justice, spatial justice, environmental justice, spatial equity, Just City, etc. have been developed. The urban concept of justice and spatial

justice summarised as “appropriate distribution of services, resources and activities without discrimination between citizens and the region” [4].

As a result, it can be stated that the concepts of urban justice, especially spatial justice as the aim of this study, is tied in the spatial structure. Therefore to explain the spatial justice in the city, first, the spatial structure should be clarified. Since the spatial structure is influenced by economic, social, political, and cultural dimensions, if these structures are founded unjust, the impacts of this will reflect in an urban environment.

So, spatial inequalities adjust to socio-economic inequalities. As a result of this conflict, urban systems balance will be altered; subsequently it causes political tensions, delinquencies and disorder [5]. The primary spatial structure can explain justice and injustice since Soja states Social justice flows in the space [6]. By accepting that sustainable development demand for social and spatial justice, because of imbalanced distribution of population and urban growth without careful consideration of fair services and resources distribution, developing countries are moving away from sustainability. The instability caused by a discordant increase in the form of social-spatial imbalance

* Corresponding author: Rafei_m@modares.ac.ir
Tell: +989121860887; Fax: +982182882013

can be seen as urban poverty, informal settlement, false employment, poor local governance, and environmental pollutions [7]. Yazd is among Iranian horizontal city, suffered by sprawl development, which in comparison to its around region, the population density is very low (37 persons per hectare) and so there are many fragment spaces in the internal spatial structure while it grows toward out With increasing pace. In this condition, two questions raised that how the spatial patterns of Yazd city influence on spatial justice? And Based on the spatial structure which parts of the city are most suffered by spatial segregation?

2. SPATIAL JUSTICE AND STRUCTURE

The emergence of “urban justice” aimed at revising the relationship between spaces, development, powers and planning [8]. Trowel states that spatial justice is social justice, and environmental justice is entirely inseparable from social justice [9]. Campbell argues that the conflicts between the three priorities of sustainability represent a real conflict in the city are not easily solved. These conflicts include [10]:

- 1- The finance conflict: between the growth and equality goals.
- 2- The resources conflict: between environmental and growth goals.
- 3- The development conflict: between justice and equality and environmental goals.

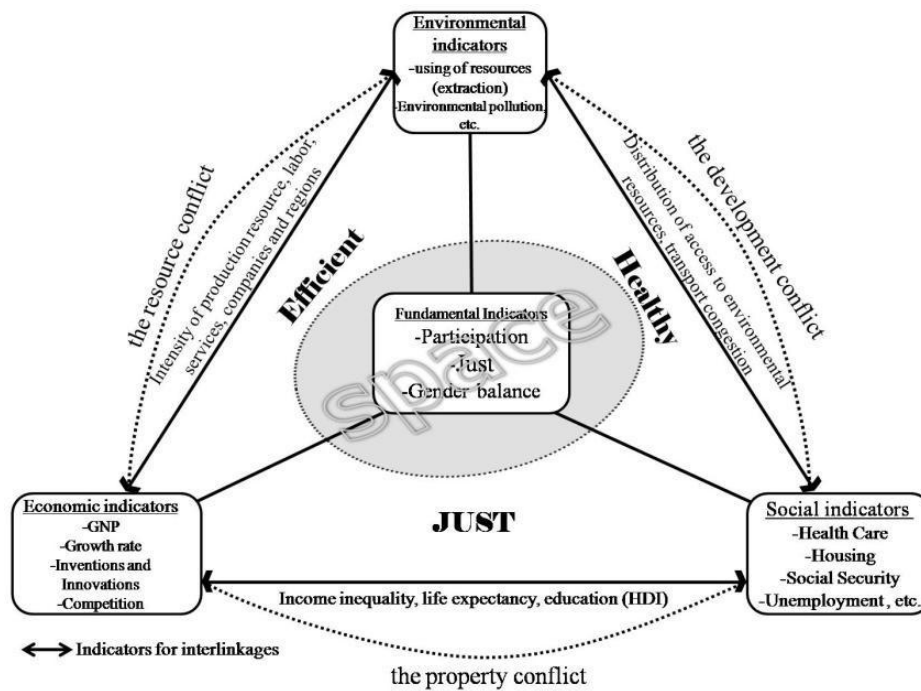


Fig. 1 Triad triangle of sustainable spatial development (Resources: Authors)

Pirie (1983) was one of the first scholars who questioned whether space could be just or unjust; He concluded that if space is considered as a container of social process, "Spatial justice" is précis form of "Social justice" in space [11]. Spatial justice can be defined as the equal distribution of resources and services which refers to who benefits and what [12]. Spatial equity implies that there is an even distribution of services about the needs, preferences and service standards of each resident [13]. In a broad sense, spatial justice pays considerable attention to equal rights of human or social actors, protection of human dignity and basic needs [14]. One of the famous theories about justice in urban spaces is “The Just City” raised by Susan Fainstein in the late 1990s. The theory supported social equality and tried to engage values which are embedded in the Philosophical concept of justice; the values and criteria that lead to the development of a “good city”. The progressive vision of Just City requires a creative way of entrepreneurship, not only for preparing welfare but also to raise economic values. Moreover, the just-led city needs a plan not only to empower the poor

and those who are deprived of their rights but also guarantee the future of the social middle class [15]. After numerous debates, philosophical arguments and examining various opinions related to justice in the city, Fainstein concluded that the primary criteria of justice are: i) equity; ii) democracy and iii) diversity. Based on three criteria, she compared the selected cities. Fainstein argument is based on the principle that realisation of justice is a cyclic process in which equal priority provokes positive feelings; democratic habits prepare the environment for participation and diversity increases tolerance [16].

In Expert discussions, two different concepts of justice have polarised the debate: The first focuses on redistribution issues, while the second is more concerned with decision-making processes [17]. Some authors have classified different types of spatial justice. Typologies of equity such as those suggested by Lucy (1981) and Crompton and Wicks (1988) are useful guides when attempting to do this. Between them, these authors identify four significant classes of equity about the allocation of resources, each of which can be operationalised in one or

more ways. As Fig. 2 illustrates, the four categories are: i) equality; ii) compensatory (Crompton and Wicks) or need (Lucy); iii) demand and, iv) market [18].

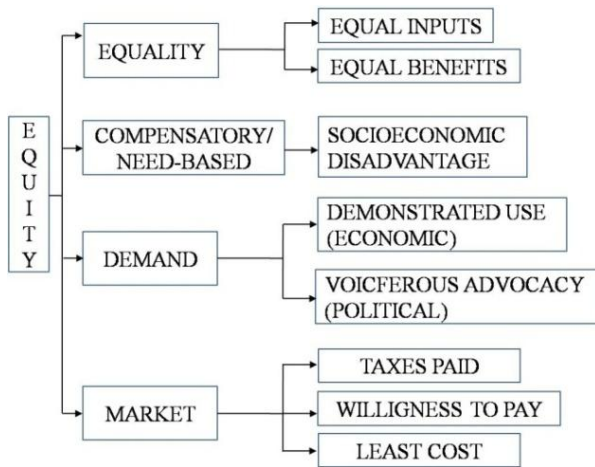


Fig. 2 Taxonomy of equity models (after Lucy (1981), and Crompton and Wicks (1988) [18])

According to the results of Dadashpoor et al. Research (2016) on 44 articles, focusing on spatial justice in Iran, there are two general approaches: Distributive justice and structural justice [19]. Table 1 shows these studies' criteria.

Table 1 The approach, main and sub-criteria in the researches (Dadashpoor et al. (2016) [19])

Approach	Main criteria	Sub-criteria
Distributive justice	Spatial distribution of services and population	Population size, Area, Per capita compatibility \
	Service performance	Incompatibility of services with adjacent land use,
	Residents need for services	Proximity to access network,
	Spatial dependence	Stretchability to the applicant's community, The area of services economic, Social, Special
Structural justice	Freedom	
	Equal opportunity \ Equality	
	Difference \ Diversity	
	Need \ Demand	
	Participation in public Interest	
	Desert	
	Democracy	

In pursuit of justice as a principal, spatial dimensions show particular importance; in this respect, planners pay attention to type, location, the relation of urban activities, quality of place, access to services and infrastructures. These are the components of the spatial structure. Spatial justice is closely related to spatial planning. It can determine how places are interconnected, how to enhance communication and links, and what kind of development

for housing, employment, leisure is appropriate. If criteria of justice do not accompany spatial planning that designs and manages urban spatial elements (spatial structure), they will lead to spatial discrimination and inequality. The physical inequalities can be views as spatial segregation, ghettos, worn-out areas, and slums or socially like racial, ethnic, or religious discriminations.

Overall, spatial justice research aims to ascertain whether the distribution of public services is equitable and correlates with observed socio-economic spatial patterns [20]. As Bertaud writes it is not possible to define an optimum city shape because city development objectives change with time. However, it is possible to identify the type of city shape that would be consistent with a specific purpose [21]. Spatial justice can indicate distribution principles tending to present the urban space as a good to be enjoyed by all. Accessibility can become one of the essential attributes of spatial justice. Any division, separation or partitioning of space appears then as obstructing this kind of justice [22].

Spatial segregation in the cities as a result of imbalances in the urban space can be used as common issue related to spatial justice and structure. Many factors influence on spatial segregation in various social, cultural, and economic dimensions, but the spatial structure of cities, especially in distribution and urban services as central issues of spatial justice, has an essential impact on building and continuing spatial segregation. The distribution pattern of urban services centres is a factor that causes the different value of urban spaces and intensifies segregation of social groups. Thus, urban planners have a critical role in making and strengthening social segregation and also differences quality of life in the city [23]. As a consequence, spatial justice can use both to critique the structures of inequity physically codified into the built environment and to signify attempts to reconfigure urban form to reflect societal values [24] better. Yazd situated in Iran's central desert. Since many years ago it has been a significant city in national communications. In a segregated development, City area has expanded 15 times from 1966-2006 (710he-11000he) while the population has grown 4.6 times. Also, population density has decreased from 131 to 37 persons per hectare. This growth has created a separated and fragment structure that caused spatial segregation in the city.

Historic district with over 700-hectare area in the middle of the city is the most important feature of Yazd city, which fights with the exogenous city development. Developing and transferring of many city services and spaces from the centre to the south has attracted the population to the peripheral districts. In spite of sufficient main infrastructure, this trend creates a significant contradiction in the city that Central regions have no attraction for the citizens. This segregated spatial organisation has other side issues, such as increasing traffic, air pollution, environmental destruction especially agricultural lands and gardens, raising the price of marginal lands relative to the inner, etc. So by simultaneously analysing the spatial justice and structure, we can measure the impact of these two theories on the city to find spatial conflict.

3. MATERIALS AND METHODS

Based on the David Harvey assumption that equitable territory distribution, will lead to equal distribution among people, the present study assumption is the same as if elements of spatial structure organised equitable; it can meet the needs of residents according to the principles of justice.

According to Defraud, spatial justice can be seen as process and outcome; Research approach is result-oriented because it has examined the outcome of syntax and distribution of urban elements. First, all the layers are scored by using fuzzy Delphi analytical hierarchy process (FDAHP). Fig. 4 shows scores of main and sub-criteria's spatial justice based on FDAHP. Also, spatial justice is

measured from the perspective of equal opportunity; which means that all the people receive the same public interests regardless of their socio-economic characteristics.

After collecting data and information, 40 areas each as a neighbourhood identified to analysing spatial justice. According to Just City theory presented by Feinstein, three main criteria are equity, diversity (human and physical) and democracy. Fig. 3 shows selected sub-criteria which have been used to assess the field of study, Yazd city. It should be noted that these criteria are selected based on spatial structure consideration of spatial justice. So to evaluate spatial structure most indicators and measures has a physical theme. A physical representation of democracy in the urban spaces is public spaces.

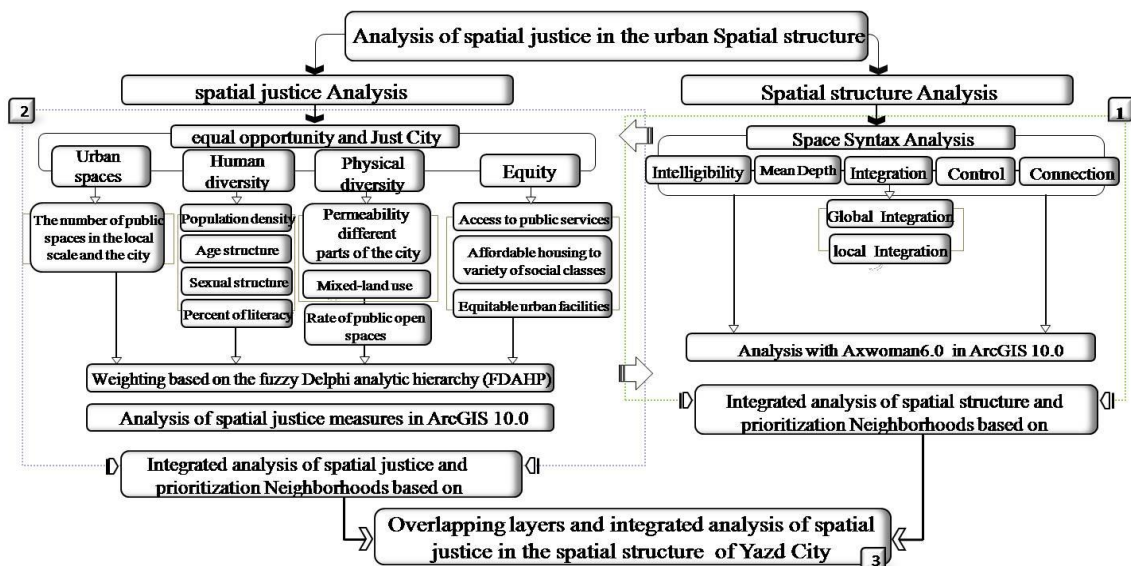


Fig. 3 Analytical framework for analyzing spatial justice and structure

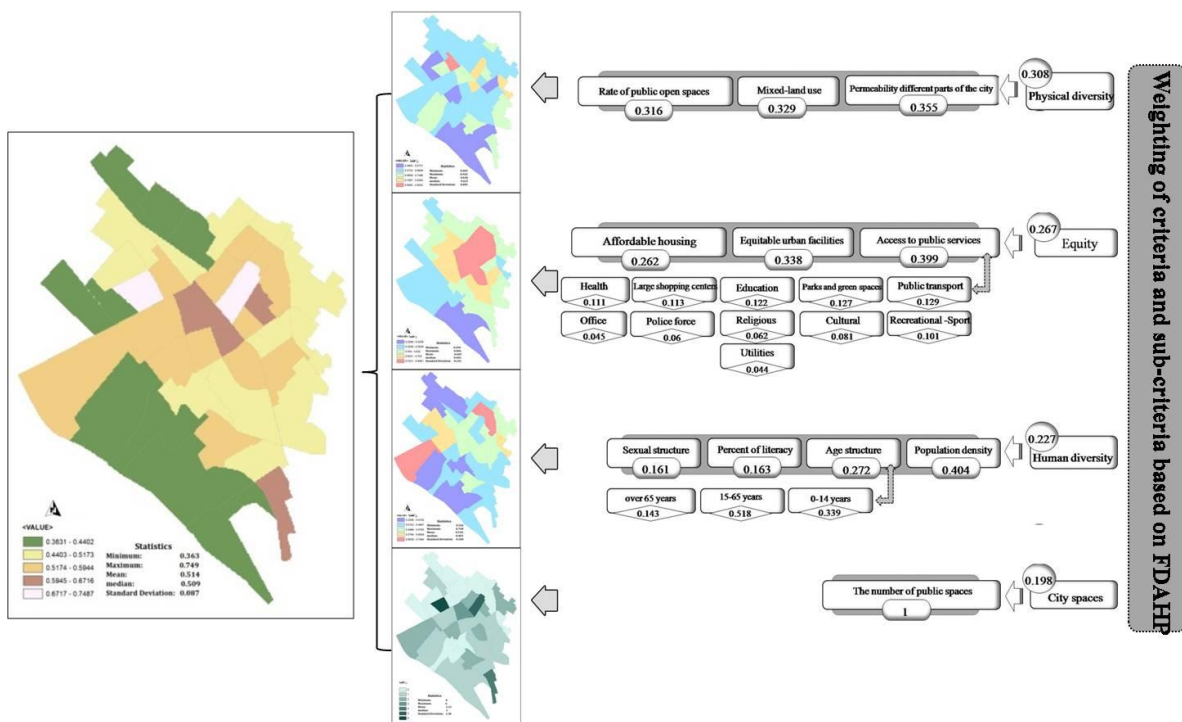


Fig. 4 Evaluation of spatial justice's main and sub-criteria and the final map in Yazd city

Based on studies, it can be argued that the more public spaces exist, the more democracy in urban spaces implement. Fig. 4 presents ranked neighbourhoods by normal score of equity, physical and human diversity and public spaces.

To analyse spatial structure, according to Space Syntax

technique, GIS and axwoman6 extension, five layers are made: Global (G) and local (L) Integration, depth, intelligibility, control and connection. According to these layers, each axis of the urban network has value due to the whole urban structure. As Fig. 5 shows, areas have been ranked by normalising the scores and overlapping the layers.

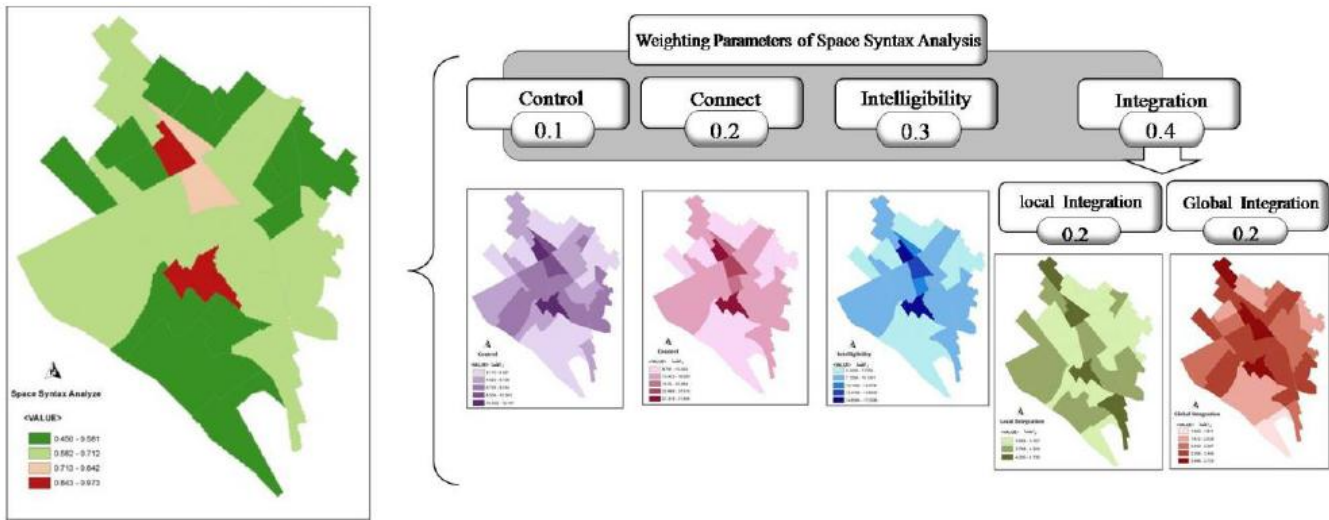


Fig. 5 Space syntax analysis parameters and the final map in Yazd city

4. CREATING ZONES

Due to descriptive statistics, in a typical distribution, the mean, median and mode are equal. Since in spatial Justice Scores distribution, mean is higher than median and mode ($MO < m < X$), there is positive skewness distribution data. Skewness statistics show the data concentration in one part of the x-axis (the right or the left). As these statistics are closer to zero, there is more data conformity with the normal curve and average distribution data. The skewness is 0.497 and data distribution curve is to the right. This statistic shows most

scores of neighbourhoods are less than mean, and numbers of them are more than those that their scores are higher than mean.

Kurtosis, the next statistics, measures the data dispersion. In the normal distribution kurtosis is zero. Positive kurtosis shows more concentration of data around the mean and negative kurtosis means more scattered data. The value of Kurtosis in terms of spatial justice is 0.413.

Thus the curve is stretched, and data are concentrated. For spatial structure, this value is 1.95. Therefore there is positive kurtosis and high data concentration. Fig. 5 shows distribution scores with the normal curve histogram.

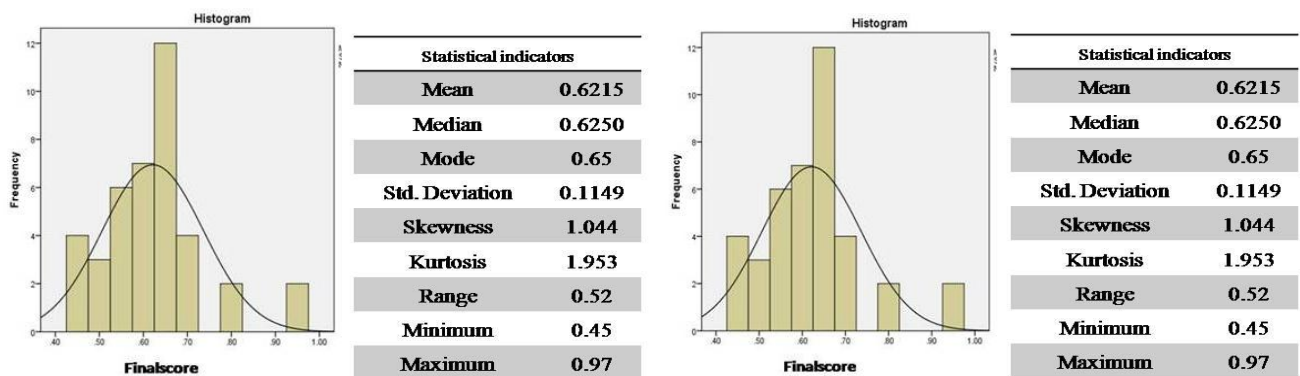


Fig. 6 Matching areas points with normal distribution curve; left: spatial justice; right: Spatial structure

Classified scores map based on standard deviation (SD) is presented to gain more understanding of data dispersion. In The standard normal distribution, 68% of data are between +1 and -1 SD and 95% of them are between +2 and -2the SD.

Tables 2 and 3 compare SD ranges based on 1SD in five normal distribution categories (Column 4) with

corresponding categories in this research (Column 3). In spatial justice, the observed values are lower than normal only in the -2 to -1 range, and at all other intervals, they are more than it. As the same, in spatial structure, the values in the <-2 and > +2 ranges are more than normal. So according to SD ranges, Justice zoning have been created. i) "disadvantageous" zone; less than 1 SD or

0.471, ii) "moderate favorable" zone; between -1 and +1 SD or 0.472 to 0.557 and iii) "favorable" zone; more than +1 SD or 0.558.

Table 2 Scores dispersion classification based on 1SD, spatial justice

SD range	Frequency	% Of Sample	% Of the Normal curve	Difference
<-2	2	5	2.5	2.5
-2 - -1	10	25	13.5	11.5
-1 - +1	17	42.5	68	-25.5
+1 - +2	9	22.5	13.5	9
> +2	2	5	2.5	2.5
total	40	100	100	0

Table 3 Scores dispersion classification based on 1SD, Spatial structure

SD range	Frequency	% Of Sample	% Of the Normal curve	Difference
<-2	7	17.5	2.5	15
-2 - -1	5	12.5	13.5	-1
-1 - +1	21	52.5	68	-15.5
+1 - +2	3	7.5	13.5	-6
> +2	4	10	2.5	7.5
total	40	100	100	0

In the same manner, in spatial structure, three zones have been created. i) "fragment" zone; Less than 1 SD or 0.565, ii) "Semi-coherent" zone; between -1 and +1 SD or 0.566 to 0.678 and iii) "coherent" zone; more than +1 SD

or 0.679. Table 4 and 5 present the scores and categories.

Table 4 Final scores classification based on 1SD, spatial justice

Neighborhood	Final score	Neighborhood	Final score	Neighborhood	Final score	Neighborhood	Final score
Imanshahr	0.7487	Cilo	0.5610	Taleghani	0.5048	Rah ahan	0.4412
Labkhndagh	0.7147	Azadshahr	0.5524	Naicm abad	0.4969	Kheir abad	0.4386
Saredorah	0.6379	Navab	0.5503	Atashkadeh	0.4956	CHarkhab	0.4384
Kadj	0.6158	Fahadan	0.5487	Sahra	0.4879	Sajadic	0.4301
Gazorgh	0.6110	Yaghobi	0.5442	Mehdi abad	0.4877	Amir abad	0.4220
Mojahedin	0.5966	Khajc khezr	0.5375	SHohada	0.4873	Razmandegan	0.4061
Takhtostad	0.5892	Maskan	0.5272	Afshar	0.4797	Mahmod abad	0.3928
Akbar abad	0.5854	Jahanfar	0.5200	Safaic	0.4726	Frodgah	0.3910
Farhangian	0.5823	KHoramshah	0.5188	Yazdbaf	0.4706	Mehravarar	0.3723
SHeikhdad	0.5755	Maryam abad	0.5140	Nasr abad	0.4462	Daneshgah	0.3631

Table 5 Final scores classification based on 1SD, spatial structure

Neighborhood	Final score	Neighborhood	Final score	Neighborhood	Final score	Neighborhood	Final score
Rah ahan	0.9730	SHohada	0.6534	Maskan	0.6221	Atashkadeh	0.5394
Farhangian	0.9290	KHoramshah	0.6512	SHeikhdad	0.6151	Yaghobi	0.5346
Saredorah	0.8190	Taleghani	0.6509	Khajc khezr	0.6103	Imanshahr	0.5333
Sahra	0.7881	Fahadan	0.6482	Labkhndagh	0.6084	Yazdbaf	0.4946
Navab	0.6999	Kadj	0.6459	Akbar abad	0.6005	Nasr abad	0.4922
Mojahedin	0.6966	Jahanfar	0.6454	CHarkhab	0.5822	Cilo	0.4787
Afshar	0.6850	Azadshahr	0.6450	Frodgah	0.5786	Amir abad	0.4667
Mehdi abad	0.6763	Naicm abad	0.6448	Gazorgh	0.5687	Maryam abad	0.4631
Kheir abad	0.6736	Safaic	0.6407	Razmandegan	0.5570	Sajadic	0.4570
Mahmod abad	0.6616	Takhtostad	0.6315	Daneshgah	0.5415	Mehravarar	0.4501

According to the Fig. 7 favourable zones are in the central city district. Middle city areas are moderate pleasant, and northeast, west and southwest neighbourhoods are in the disadvantaged zones.

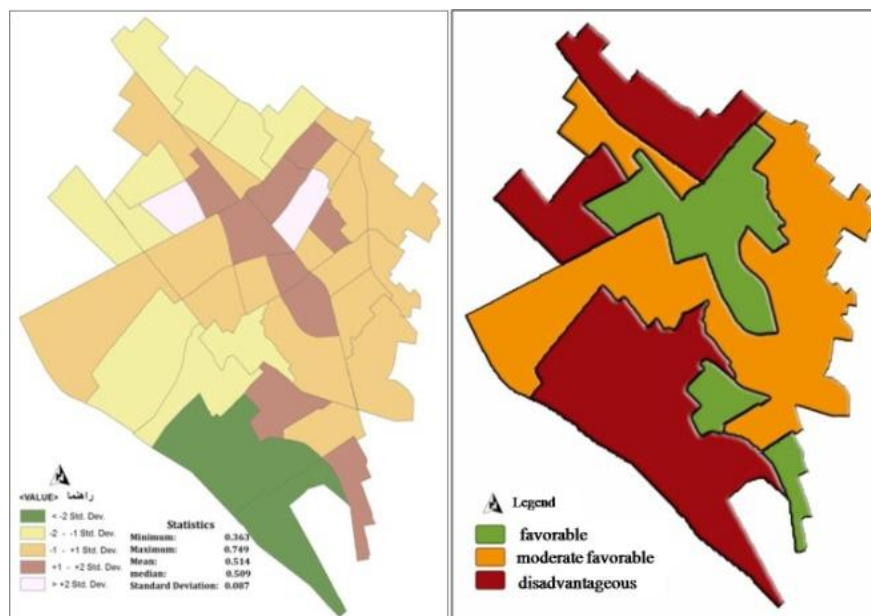


Fig. 7 Yazd areas zoning based on spatial justice integrated indicator

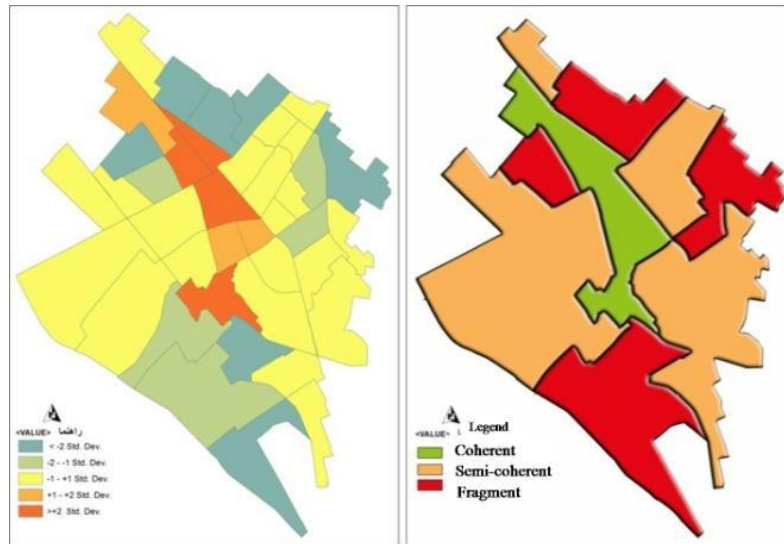


Fig. 8 Yazd areas zoning based on spatial structure integrated indicator

4.1. Comparative relationship between spatial justice and structure

To analyse the comparative relationship between spatial structure and justice, urban areas divided into four

categories: Central area (historical district), middle urban area, north suburbs and south suburbs areas. It is necessary to state that synthesis map is achieved by Geometric mean of two layers scores.

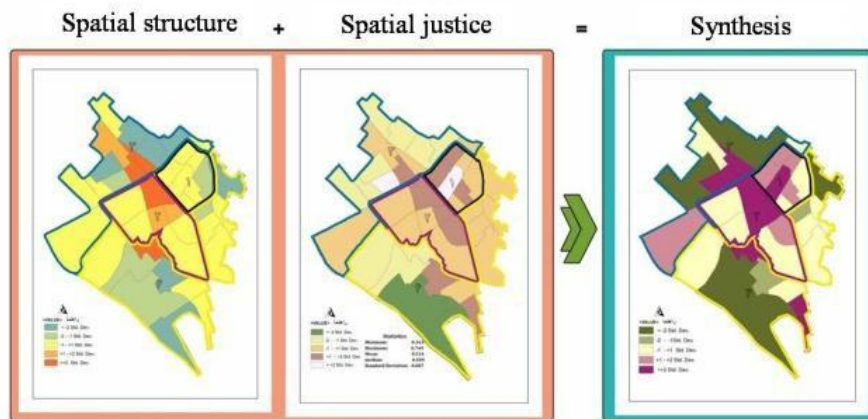


Fig. 9 Yazd Four kinds of districts and comparing them from the perspective of spatial justice and structure

By comparing of the spatial justice and structure maps in the central area (historical district), it can be inferred that spatial structure had no substantial influence on spatial justice distribution. Although all neighbourhoods in central area belong to the desirable zone in justice scale, the ranks of them in spatial structure are low.

Table 6 Total scores of Yazd quad districts

Areas	Spatial justice	Spatial structure	Synthesis
Central area	0.5887	0.6024	0.5946
Middle area	0.5580	0.6796	0.6154
North suburb	0.4869	0.6128	0.5424
South suburb	0.4769	0.6086	0.5347
Total	0.5139	0.6213	0.5618

Average spatial structure score in the central area is 0.6024 which is lower than the entire neighbourhoods

(0.6213). Also, average spatial justice score in this area is 0.5887 which is much higher than total spatial justice score which is 0.5139. So in these areas the impact of spatial justice is more than spatial structure. Also in the final synthesis, the average of this area is higher than the overall areas ($0.5946 > 0.5618$). It demonstrates the greater impacts of the spatial justice. However, the spatial justice analysis indicates that although the formation of these neighbourhoods in central area is not coinciding with contemporary structure, this does not prevent the just distribution of services and uses.

The middle urban area has formed after the entrance of modernism and before its entire privilege. Because of the low speed of the evolutions in its formation, it almost benefits from the contemporary lifestyle privileges. In this area, the positive effect of spatial structure on spatial justice can be viewed. The internal neighbourhoods with high scores in the spatial structure are in a favourable and

moderate zone in spatial justice and other neighbourhoods which have the low rating of spatial structure, are in disadvantaged and deprived area. A similar result also appears in combining these two scales. The average of spatial justice and structure is higher than the average of the total city; apparently, the average of their synthesis is also higher than the whole city, it shows that the general conditions of these neighbourhoods are better than others.

Formation and development of suburb areas refer to the periods after the Land Reform in Iran, which has been formed with the rapid increase of population and urban development as sprawl. Some characteristics of this district are its uniform composition, without identity, disharmonic, generally without public spaces, lots of wastelands and being indifference to values and climate conditions. The comparison of maps shows in the borders neighbourhoods; spatial justice influenced by spatial structure, but in central neighbourhoods did not. On the other hand, the average of spatial justice in this area is 0.4869 which is lower than the average of the total city which is 0.5139. Moreover, the average of spatial structure score is 0.6128 which is lower than the total. Also the average of final synthesis is lower than overall areas. This indicates the level of general situation in north suburb area is lower than the entire city. Thus, it can be admitted that the spatial structure in this area also has impacts on justice distribution; particularly these are highlighted in the border neighbourhoods. The difference

between south and north suburb is the pace of development, so that in south suburb this is much higher than the north. The city's development wave is to southward, which has had a significant influence on the land prices in this region, so that the prices in this area - especially south and southwestern - are higher than the others. Besides, most of these neighbourhoods are accommodated by upper social classes.

The comparison of maps shows that spatial structure has influenced on the justice distribution patterns. As a result, by going away from the centre, the relation between spatial structure and justice increased, and the more compatibility is seen.

5. CONCLUSIONS AND DISCUSSION

Sustainable development is an approach to have an urban justice space which brings us equity, democracy and diversity. Each ethno national, economic and social Conflicts have a spatial expression. Thus inefficient spatial structure can lead to the increase of distances among people, jobs, and amenities and consequently diminish environmental quality and compromise the quality of life [25]. According to the findings of this research, although some neighbourhoods belong to the old and worn out districts, they are in an appropriate place in spatial justice analysis.

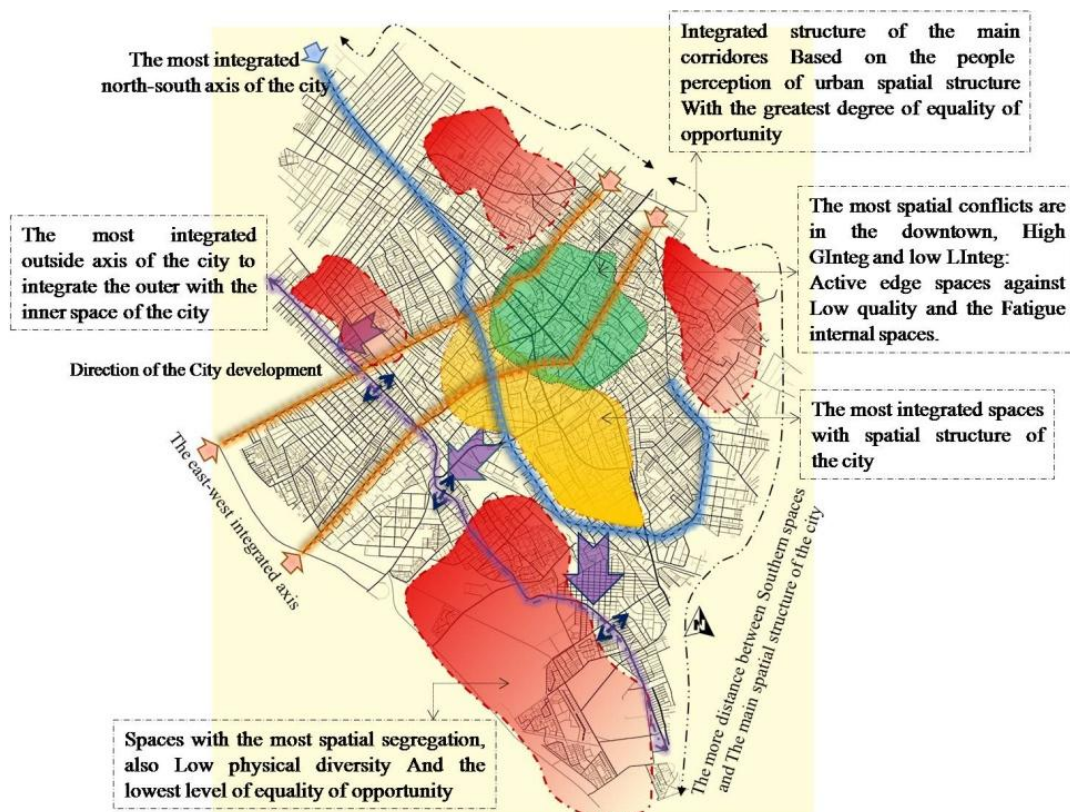


Fig. 10 Spatial conflicts in Yazd based on research findings

This locating is for lacking essential qualities of contemporary citizen's life, as they are not congruous with people's expectations. Lack of desirable spatial condition

at the central neighbourhoods is due to incoherence and no integration structure with the entire city. Although most of the main infrastructures are located in the central districts,

Population growth rate is lower than the suburb areas. So it is necessary to plan for improving the quality of these communities and use the internal opportunities to promote inner development and avoid the inconsequent expansion to the suburbs.

On the other hand, in the worn out and historical neighbourhoods the influence of the spatial structure in justice distribution is not significant, but in the middle and suburbs areas this have shown a cooperative relationship, Where the neighbourhoods with more coherent spatial structure, have a better condition in the distribution of justice.

Finally, the city requires to a justice urban spatial structure system, because spatial structure (physical forms and spaces) can alternately promote or suppress the collective will of the citizenry and influence on equitable distribution of urban facilities and public spaces. However, the spatial structure as a system that shows the urban identity and function has a significant influence on residents' welfare, qualities of life and finally obviates their needs, because indeed the urban spatial structure is the urban skeleton and other different urban features shape based on it. Fig. 10 shows the result of these analyses and spatial conflict in Yazd city. What makes current study different from similar is that most studies are conducted based on "Accessibility" indicator to analyse spatial justice, But this is not exceeded the radius services of urban facilities. Moreover, these studies have not investigated the justice throughout the city, and they were just limited to some types of municipal services. While searching spatial justice in urban spatial structure will lead to better understanding of the causes of inequality and get

better valid results.

Correct planning, which considers population density and emphasises on justice-led decisions to prevent the creating of isolated districts, pays more attention to urban neighbourhoods not only as separate administrative areas but also as an integrated network. It also tries to integrate the inner spatial structure of the city to prevent the excessive growth of suburbs, and pay attention to citizens' role and their participation in the planning process in creating unprejudiced city. These are all suggestions that can lead to the Just city planning, that coincides to the dynamic spatial structure. A just city only through participation in practice can be achieved. It is necessary to have informed and sensitised citizens enough to demand, reclaim and even fight for their right over space. In other words, civic awareness is a critical factor that can and should be mobilised in participatory planning processes [26]. As a summation, table7 present Just city criteria and their spatial strategy and demonstration. The other aspects of this topic that can be titled for future researches are: How to achieve spatial justice through diversifying in the city's objective and subjective spaces, define the process of attaining the spatial justice through citizen participation, various topics of spatial/ environmental justice at macro-local levels of planning and etc. Also the most two crucial factors that limite the use of this article method are "data" and the "availability of various digitalized layers" of the city. The results will be more apparent if these factors be more accurate and complete. The next point is the definition of "measurable indicators" that can be varied in each city in proportion to the existing data.

Table 7 Just city criteria and spatial demonstration

Just City	Spatial Goal	Strategy	Focus areas	Spatial Result
Equity	Equitable public service provision	Community-led planning	Local municipality	Equitable access
Diversity (physical-human)	Diversity of urban spaces and users	Compound Planning	Design Professions, urban planner	Well designed communities for all
Participation	Livable urban environment	Bottom-up planning	Government, Local Municipality, NGO's	Just and friendly environment

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest regarding the publication of this manuscript.

REFERENCES

[1] Pullan W. Spatial discontinuities: conflict infrastructures in contested cities. In W. Pullan and B. Baillie (eds) *Locating Urban Conflicts: Ethnicity, Nationalism, and the Everyday*, London, Palgrave MacMillan, 2013.

[2] Daneshpoor Z. Analysis of spatial inequality in cities the study of Tehran, *Soffeh Journal*, 1999, Vol. 29, pp. 36-48.

[3] Zarabi A, Moosavi M. Analysis of the population and urban services distribution In urban areas of Yazd, *Geographical research Quarterly*, 2010, Vol. 97, pp. 27-46.

[4] Saeidnia A. *Urban land use, Municipalities Green Book, Volume II*, municipalities Publication, Tehran, 2003.

[5] Marsoosi N. *Spatial analysis of social justice in Tehran*, PhD Thesis, Tarbiat Modarres University, Faculty of Human Sciences, 2004.

[6] Soja E. *The city and spatial justice*, justice spatial/spatial justice, www.jssj.org, December 2012.

[7] Buchanai M. Evaluation of spatial - social imbalances of Ilam City from the sustainable development perspective, *Journal of the Municipalities*, 2006, Vol. 22, pp. 63-75.

[8] Yiftachel A. urban justice and recognition, In P. Marcuse (ed.), *searching for the Just City: debates in urban Theory and practices*, London and New York, Routledge, 2009.

[9] Trowell J. What makes justice spatial? What makes spaces just? three interviews on the concept of spatial justice, *Critical Planning, UCLA Journal of Urban*

- Planning, 2007, Vol. 14, pp. 23-27.
- [10] Campbell S. Green cities, growing cities, just cities? urban planning and the contradictions of sustainable development, In Readings in Planning Theory, 1996, pp. 435-458.
- [11] Potter C, Novy J. Searching for the Just City: Debates in Urban Theory and Practices, London and New York, Routledge, 2009.
- [12] Talen E. The social goals of new urbanism, Housing Policy Debate, 2002, Vol. 13, pp. 165-188.
- [13] Tsou Ko, Yu-Ting H, Yao-Lin Ch. An accessibility - based integrated measure of relative spatial equity in urban public facilities, Cities, 2005, Vol. 22, pp. 424-435.
- [14] Javan J, Abodollahi A. Spatial justice in dual-urban areas, Geopolitical explanation of Inequality patterns in the Mashhad metropolitan fringe, Geopolitics Quarterly, 2008, Vol. 2, pp. 156-131.
- [15] Fainstein S. New directions in planning theory, Urban Affairs Review, 2000, Vol. 35, pp. 1-44.
- [16] Novy J, Mayer M. As Just as it gets? In P. Marcuse (ed.). searching for the Just City: debates in urban Theory and practices, London and New York, Routledge, 2009.
- [17] Dufaux F. Birth announcement, justice spatial/spatial justice, www.jssj.org, 2008.
- [18] Nicholls S. Measuring the accessibility and equity of public parks: a case study using GIS, Managing Leisure, 2001, Vol. 6, pp. 201-219.
- [19] Dadashpoor H, Alvandipour N. Urban spatial justice in iran; meta-study of selected articles' theoretical framework, Journal of Honar-ha-ye- Ziba, Tehran University, 2016, Vol. 21, No. 3, pp. 67-80.
- [20] Omer I. Evaluating accessibility using house - level data: A spatial equity Perspective, Computers, Environment and Urban Systems, 2006, Vol. 30, pp. 254-274.
- [21] Bertaud A. The spatial organisation of cities: Deliberate outcome or unforeseen consequence? Working paper WP-2004-01. Berkely, CA: Institute of Urban and Regional Development, 2004.
- [22] Stavrides S. Youth uprising in athens: spatial justice in an emergent, City Of Thresholds, 2008www.jssj.org, December, 2012.
- [23] Hataminejad H, Farhoodi R, Mohamadpoor M. Analysis of social inequality in access to urban services, the study of Esfaraaien, Human Geography Research Quarterly, 2008, Vol. 65, pp. 71-85.
- [24] Wilson B. Social Movement Towards Spatial Justice: Crafting a Theory of Civic Urban Form, PhD Thesis, the University of Texas at Austin, 2010.
- [25] Hepp S. Metropolitan Spatial Structure: Measuring the Change, University of Maryland, College Park, in partial fulfilment of the requirements for the degree of Doctor of Philosophy, 2011
- [26] Foka Z. Shared space in conflict areas: exploring the case of nicosia's buffer zone, Athens Journal of Mediterranean Studies, 2015, Vol. 1, pp. 45-59.

AUTHOR (S) BIOSKETCHES

M. Rafieian., *Associated Professor, Urban Planning, Art and Architecture Faculty, Tarbiat Modares University, Tehran, Iran*

Email: Rafiei_m@modares.ac.ir

A. Alizadeh., *MA, Urban Planning, Art and Architecture Faculty, Tarbiat Modares University, Tehran, Iran*

Email: A_alizadeh67@yahoo.com

COPYRIGHTS

Copyright for this article is retained by the author(s), with publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>).

HOW TO CITE THIS ARTICLE

M. Rafieian., A. Alizadeh., (2017). An Integrated Approach of Spatial Justice and Structure to Detect Spatial Conflicts in Yazd City. Int. J. Architect. Eng. Urban Plan, 27(2): 105-114., December 2017.

URL: <http://ijaup.iust.ac.ir/article-1-207-en.html>

