



THE DEVELOPMENT OF THE LAND CONSUMPTION PATTERN IN THE CITY OF OSHAN-FASHAM-MEGHUN

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Abstract

With the increasing world's population and the expansion of urbanization in the world in recent decades, a large part of urban land has undergone land use changes and has replaced relatively permeable natural surfaces with impermeable hard surfaces, including pavement, asphalt, and high-dense areas full of buildings. Therefore, the present study was an attempt to identify and analyze the development of the land consumption pattern in the cities of Oshan-Fasham-Meghun. This study is applied in terms of aim and descriptive-analytical in terms of nature and method. The study data were collected using documentary, library, interviews with pundits (30 samples), and citizen questionnaires (384 samples). The samples were selected purposeful and the sample volume was increased until complete data were reached. The results revealed that the development of the land consumption pattern in the cities of Oshan-Fasham-Meghun can be explained in five periods. These developments have been affected by urban land policies, natural factors, and infrastructural developments, especially the issue of accessibility, i.e. proximity to the metropolis of Tehran, rather than due to the growth of the urban population. Land consumption pattern has changed extensively in the city with the expansion of the city, especially in the 2000s. The results of the factor analysis showed that 4 primary factors have had the highest impact on the changes and developments of land consumption in the city. These 4 factors estimate 76.40% of the total variance.

Keywords: Development, Land consumption pattern, Effective factors, Oshan-Fasham-Meghun.

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Introduction

The urbanization of the population and the development of big and small cities is one of the most significant characteristics of our age (Flood, 1997:1635). An increase in the urban population in the countries has caused several problems in the cities, including spatial imbalances, extreme fluctuations in land and housing prices, urban sprawl, social polarization (Williams et al, 2000:4), environmental pollution, excessive consumption of energy, unplanned development, increase in infrastructure costs, and construction of high-quality agricultural

lands, etc. (Rahnama and Abbaszadeh, 2008: 93).

Today's cities can be viewed as outcomes and impacts of modernity (Fazeli, 2012: 258). The city is so connected with modernity that it is not possible to imagine modernity and the processes shaping it. Also, the modernist mentality without imagining the city is not possible. The relationship between consumption, modernity, and the modern city has been manifested in the form of rational organizations, planning, science and scientific progress and technology (Mozaffari and Ghelich, 2017:16). Land and space are considered as a public source of life and a

consumable public good. Its use should be monitored and carefully managed as much as possible to provide public benefits, now and in the future. The phenomenon of land consumption is associated with several territorial crises, such as poverty in very good agricultural land, urban sprawl, spatial and ecological division, hydrogeological disturbance, etc. In other words, the geography of consumption plays a vital role in the development of today's cities (Gerundo and Grimaldi, 2011:1152).

Rapid land consumption can reduce open spaces around cities and endanger biodiversity and ecosystem stability since only some species of life can continue to live in built lands (Briasulis, 2019: 21-22). Thus, negative impacts such as the decline of food security, the social and economic vulnerability of human societies, reduced level of safety, and the reduction of factors affecting the health of the earth's livability pattern have been threatened since many forests, meadows, and agricultural lands have been used for other purposes and have disrupted the ecological balance (Higgins, 37:2012). Moreover, it is essential to pay attention to the physical environment, plants and animals, water, climate and air quality, safety of residence, and biodiversity of habitats. It is also necessary to pay attention to concepts and perspectives in sustainable development, such as urban sustainability, sustainable city, healthy city, green city, and ecological city in the process of correcting and making land use sustainable (Rahnama, 2008: 71-71). In other words, land consumption can be introduced as a bridge that connects a person to the urban environment. The land use, approved or unapproved, is a function of land consumption, not subject to it. Thus, the issue of land consumption can explain the patterns of urban growth and development (Ghelich et al., 2019: 65).

Oshan-Fasham-Meghun regions have always attracted permanent and temporary populations in recent years since they are suitable for tourism. During this time, uncontrolled land consumption has continued in the steep lands of these regions without considering the basics of sustainable development. It has caused problems such as a lack of land for balanced development, environmental and climate problems, water and soil pollution, and social problems. These developments and the development of the consumption pattern are

more complicated than simply dealing with land use changes since land use is the result, but the explanation of the consumption pattern can explain all the factors involved in the changes in land consumption (which has led to its commodification). Oshan-Fasham-Meghun is one of the best examples to examine such an issue. Thus, this study seeks to investigate the development in land consumption since the beginning of modernity and modernization in the spatial-political structure of the country. Thus, this study seeks to answer the question of what is the development of the pattern of land consumption in Oshan-Fasham-Meghun in the contemporary century.

Theoretical foundations

The concept of land consumption is a significant environmental issue that develops in rural areas. This concept includes the need for objective knowledge and quantitative measurement of urban sprawl phenomena. For this reason, measuring land consumption has become a significant issue in recent years (Gerundo and Grimaldi, 2011: 1153). Land consumption and the dynamics of land cover changes are associated with significant environmental impacts such as the loss of high-quality agricultural land, increased flood risk, loss of biodiversity, and climate change (Jinglian, 2021:105). The term "urban land consumption" is generally defined as natural land modified for human-made structures due to the living, social, and economic purposes of urban residences (d'Amour et al., 2017).

The term "land consumption intensity" is a significant quantitative measure designed to reflect the state of land consumption. Since urban land consumption can be investigated from different fields, the land consumption intensity has many impacts. Economically, it is defined as the area of urban land consumed per unit of gross domestic product (GDP) (S. Wang, Cebula, et al., 2020). Population density is used as one of the indicators to identify the intensity of land consumption in different countries, including Puerto Rico and the United States (Grekousis & Mountrakis, 2015). Several factors affect land consumption in the city and cause changes in urban consumption. The most significant of them include the factors affecting urban land consumption, population growth, culture, financial institutions, transportation system development, development of information technology, industries in the city, political aspects of urban land, urban and regional planning system

in the urban system, and geographical morphology issues (Estvar, 2009).

Table 1- Opinions of some pundits on the subject of land consumption

Row	Name of pundit or author	Work name	summary of the perspectives
1	Mark Jane	Cities and Consumption (2006)	Consumption is not a category that can be studied separately and apart from other processes. Production, consumption, identity, representation, and monitoring are the rings of this process.
2	David Clarke	Consumer society and the post-modern city	Without an industrial and productive city, and without commodity space-time and market-based relationships, the system can survive. However, without a city as a space-time of code and reproduction, the system cannot survive.
3	Mojataba Rafeian	Translation of the American Urban Planning Association's Realization Methods book	Economic-social cost-benefit analysis and not just economic should be considered in the land consumption issue.
4	Pedram Akhavan Guran	Cities and Consumption (2006) Consumer society and the post-modern city Translation of the American Urban Planning Association's Realization Methods book Analysis and evaluation of policy research on the role of official institutions in the process of providing land and urban housing by providing solutions and suggestions in Iran.	In the land consumption analysis, it is necessary to pay attention to the type of ownership, the nature of the owner, ownership rights, restrictions on land use, how land is managed (private, public, mixed, cooperative), transfer of ownership, and transfer of use.

Research background

-In an article entitled "Land Consumption in Cities: a comparative study around the world",

Jingliang Hu et al. (2021) used remote sensing images to provide the data needed to investigate and analyze the amount of land consumption in

cities. The results revealed that urban land consumption is very different around the world. They also used a special indicator "the ratio of land consumption to population growth rate" for monitoring. This indicator is specially designed to monitor urban land consumption and thus measure the effective use of space. However, monitoring the intensity of urban land consumption or development on a global scale consistently is still a major challenge.

-In an article entitled "Land Consumption and Income in Ecuador", Pontarollo and Mendieta Muñoz (2020) analyzed the existence of an inverted U-shaped curve relationship between land consumption and economic development by using the Bayesian comparison method applied in a spatial plane using the data available from 2007 to 2015. Their results revealed that knowing the spread of space leaks in space and their functional form supports the planning of policies effective in land consumption.

-In an article entitled "The effect of industrial and commercial land consumption on municipal tax revenue: evidence from Bavaria", Langer and Korzhenevych (2018) emphasized that tax revenue is one of the primary reasons for continuous land consumption by municipalities. Some previous case studies suggest that these effects may not be large enough, especially in municipalities, thus making land development unprofitable. The results of their studies revealed that the size of this effect will be different due to population densities. When large cities are excluded from the sample, the overall positive effects are much smaller. According to these results, policies to limit land consumption should be discussed in municipalities.

-In an article entitled "Urban land policies and its effect on the development of Tabriz City", Rahimi (2020) showed that in the past decades, the development and land consumption change policies in the city has caused sprawl development and it has increased the cost of development and the provision of urban facilities. Also, these incorrect policies have led to the destruction of gardens and surrounding agricultural lands. The results revealed that the development of the city towards the east and northeast, which primarily included gardens and agricultural lands, and the areas for the development of metropolitan services, confirm this issue. Generally, the land and housing policy in Tabriz has not been suitable, and development without a city plan or emphasis on

the approach of connected development has created many challenges for the city and will cause several problems in its future development.

-In an article entitled "Modernity, City, and Consumption (Investigating the Phenomenon of Consumption in the Tehran Citizens)", Zakai and Omidi (2017) emphasized the status of consumption in the system of living experiences of citizens and its role in shaping Tehran's urban spaces and focused on the fluid identities in this metropolis, and investigated the effect of consumption on the development of the identity of the city and its citizens. Their results revealed the irreducible multiplicity of forces affecting consumption and multi-part identities and related urban spaces, the signs of being consumed and the relative independence of consumption practices from the act of consumption, and the existence of a dialectical relationship between consumption and restricting and directing frameworks for consumption behaviors and mentalities, and transcending these frameworks in the form of the dialectic of consumption.

- In an article entitled " Mehr Housing: Reforming the pattern of urban land consumption and improving the quality of urban life", Aeini (2010) emphasizes that one of the most significant ways to achieve the goals of the vision document is to improve the productivity of all production factors, reduce consumption, and reforming the consumption pattern in all areas.

- In the area of housing and urban development, the commodity that is consumed the most is a very valuable commodity called "urban land". The city needs urban land to continue its life and development. Excessive urban land consumption will lead to excessive consumption of other items such as water, electricity, gas, and vehicle fuel. The results of the study revealed that the Mehr housing project not only greatly improves the productivity of urban land, but also improves the quality of urban life according to urban planning standards. If this project can be directed into the city with some measures and if the existing capacities in the cities, especially the worn-out urban tissues, are used, it will improve the average productivity index of the urban land significantly.

Materials and Method

The present study is descriptive-analytical in terms of method, applied in terms of purpose, and library and field in terms of collecting data and information. In the field method, the opinions of 30 pundits were used in the form of interviews,

and the opinions of 384 citizens were used in the majority of the questionnaire. The samples were selected purposefully. The sample size was increased until complete information was reached. SPSS software was also used for data analysis. Cronbach's alpha method was used to calculate the reliability of the questionnaire.

The coefficient was calculated at 0.74 for the questions of the questionnaire, which is an acceptable value. To analyze the research data, the factor analysis method was used. Factor analysis is one of the multivariate methods in which independent and dependent variables are not examined since this method is one of the interdependent techniques and all the variables are considered dependent on each other. It also tries to summarize a large number of variables in a few primary factors. This is one of the primary advantages of this method compared to similar methods. Accordingly, the hidden relationship between all the variables is established and finally, the most effective factors that have more explanatory power than others are discovered and identified by the pundit in this method. The human mind cannot identify these complex relationships without using factor analysis. Also, the powerful methods available in this method separate it from the application of pundit taste opinions and replace it with mathematical logic and precise statistical tests.

Study area

Oshan-Fasham-Meghun region is located 25 km northeast of Tehran and in the middle of the Alborz Mountain ranges. This city is generally mountainous and cold. Its weather is mild in spring and summer and very cold and rainy in winter and autumn. It has a mountainous texture and is located in a valley surrounded by mountains with a height of 2500 to 3500 meters. Most of the houses and gardens in this city are located on a slope of up to 60 degrees. Heavy snowfall in winter has led to the creation of three ski resorts in the north of this city, namely Shemshak, Darbandsar, and Dizin.

The river passing through the city is one of the branches of the Jajrud River. Moreover, it is located in the north of Shemiranat City. It is one of the two cities under the governorate of Shemiranat city and a part of the Rudbar-e Qasran District. With an area of about 60 square kilometers, it became a city in 1958 (Mohammad Meyghuni, 2016: 35-40). Based on the latest official census of the Iran Statistics Center in 2015, its population was 6945 people. Also, 2294 households are living in this city. Reviewing the population of the previous censuses, a significant negative growth rate of the city's population is observed in 2015. The percentage of the city's population growth rate in the last census was -2.774%; indicating a declining trend of population growth in the city.

Table 2: Number of populations during the years 2006-2016

Year	Population	Household number	Percentage of population growth
2006	6895	2019	-
2011	7994	2509	3.002
2016	6945	2294	-2.774

Source: Iran Statistics Center (2006-2016)



Figure 1- Location of the study area

Results and Discussion

Factors affecting the pattern of land use in Oshan-Fasham-Meghun using factor analysis

A factor analysis was used to identify the most significant factors affecting the pattern of land consumption in Oshan-Fasham-Meghun. In this regard, the scores obtained from 14 indicators in natural, social, cultural, and physical dimensions were entered into the test. In the first step of factor analysis, the initial matrix of factor analysis is formed based on the scores calculated in the previous steps. In the second step, the values of commonalities related to

each indicator with other indicators are calculated. The commonalities of a variable are the square of multiple correlations for the corresponding variable using factors. Thus, it is a proportion of the variance of the test estimated by the common factors extracted in factor analysis. For example, in the Extraction column of the natural resources indicator, 81% of the variance of the scores of the natural resources indicator is the common factor variance. The Initial column reports all the commonalities before extraction. Thus, all of them are one. Table 2 shows the amount of common variance between the indicators used in the analysis and is called the table of commonalities.

Table 3 - The amount of common variance of indicators affecting land consumption patterns in the city of Oshan-Fasham-Meghun

Row	Indicator	Initial	Extraction
1	Natural resources	1.000	0.815
2	topography	1.000	0.629
3	Climate	1.000	0.888
4	Social base	1.000	0.892
5	population	1.000	0.634
6	sub-culture	1.000	0.817
7	participation	1.000	0.744
8	Technology	1.000	0.865

9	Job opportunities	1.000	0.848
10	investment opportunities	1.000	0.534
11	government policy	1.000	0.780
12	Urban plans	1.000	0.686
13	Development potential	1.000	0.822
14	Access	1.000	0.745

Source: Research findings

KMO and Bartlett's Test were used to determine the appropriateness of the data for factor analysis. The closer the KMO index is to 1, the better the sampling adequacy is in selecting the agents (observed variables). The cut-off point of the KMO index for sampling adequacy is 0.6. It means that if the KMO index is higher than 0.6, the criterion of sampling adequacy has been

fulfilled, and if it is lower than 0.6, it means that the criterion of sampling adequacy has not been fulfilled. The calculations show that the internal consistency of the data is suitable for using the factor analysis technique. Bartlett's statistic is significant at the level of 0.01, indicating the confirmation and appropriateness of the factor analysis.

Table 4: KMO and Bartlett's Test statistics

Factor analysis	KMO	Bartlett's Test
Factors affecting land consumption pattern in the city of Oshan-Fasham-Meghun	0.684	236.259
Sig		0.000

Source: Research findings

Table 4 presents the most significant components affecting the pattern of land consumption in the city of Oshan-Fasham-Meghun. Accordingly and based on the final rotated factor matrix of the Varimax, 4 categories of final factors affecting the land consumption pattern in the city of Oshan-Fasham-Meghun were obtained. According to the values obtained and the scores of the indicators, the selected final factors are categorized as follows: First factor explains 38.72% of the total variance and based on the final rotated matrix, it is closely correlated with "social base", "urban plans", "sub-culture",

"participation", "job opportunities", and "development potentials" indicators. The second factor explains 16.95% of the total variance and based on the final rotated matrix, it is closely correlated with the indicators of "government economic policies" and "technology". The third factor explains 12.12% of the total variance and based on the final rotated matrix, it is closely correlated with the indicators of "climate", "topography", "natural resources", and "population". The fourth factor explains 8.59% of the total variance and based on the final rotated matrix, it is closely correlated with the indicators of "access" and "investment opportunities".

Table 5- Factor loads obtained from the rotated matrix for effective variables of Land consumption pattern in Oshan-Fasham-Meghun

Factors	Variables	Factor load
First factor	Social base	0.925
	Urban plans	0.814
	sub-culture	0.757

	Participation	0.754
	Job opportunities	0.713
	Development potential	0.593
Second factor	Government economic policies	0.875
	Technology	0.811
Third factor	Climate	0.916
	Topography	0.759
	Natural resources	0.724
	population	0.532
Fourth factor	Access	0.713
	Investment opportunities	0.627

Source: Research findings

Areas and mechanisms of the land consumption pattern change in Oshan-Fasham-Meghun

Urban management is not uniform in Iran and limited authorities are given to municipalities and the plans have a top-down approach in the fields of urban development. This problem causes urban development projects to not be effective. Oshan-Fasham-Meghun is not an exception in this regard. The areas of development of the land consumption pattern in Oshan-Fasham-Meghun started from the start of the construction government. In this period, the areas for the formation of the land exchange were formed at the level of the Lavasanat region, and from the 2001s, this issue became more serious, so land exchange, land consumption, and construction increased in this decade. Also, we see a change in land use from agricultural land to residential land. Thus, fundamental developments in changing the pattern of land use have been seen in the city of Oshan-Fasham-Meghun since the 2001s. These major developments are due to the proximity of this city to the metropolis of Tehran and the favorable climate of the region, which has attracted tourists from Tehran to this region. However, the factor of inflation cannot be overlooked in this regard. The economic policies of the government have caused an increase in inflation in the society. In recent years, especially in the last two decades, this factor is visible in the change of land consumption patterns in Oshan-Fasham-Meghun. The influx of high levels of capital in the land and housing market in this decade caused false value for land and housing and the land market became a capital commodity. The development of land and housing prices in recent years in Oshan-Fasham-Meghun has

been such that the average price of land per square meter in the city has increased to 150 million Rials. One of the factors involved in increasing the price of land and housing in Oshan-Fasham-Meghun is the fixed boundaries of the city of Tehran for development, which has caused investors to invest in land and housing in the neighboring cities of Tehran to meet the capital needs of their citizens due to the completion of the capacity of the northern areas of Tehran with a pleasant climate.

Developments of land consumption in Oshan-Fasham-Meghun before the Islamic development until now

The most significant developments in the area of housing pattern changes can be analyzed in 5 separate periods. The first period includes the 1940s and 1950s. In these two decades, the predominant land consumption in the study area is in the agricultural sector. The second period includes the 1960s and 1970s. In this period, the land consumption pattern has changed from arable agriculture to horticulture due to the mountainous nature of the region and the ease of horticulture compared to arable agriculture and being more economical. The horticulture sector has been economic for the native citizens of the region. The third period is related to the 1980s and the beginning of the 1990s.

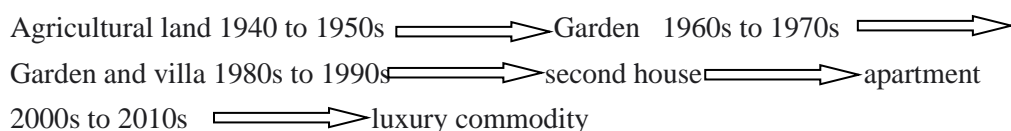
Political developments such as the Iran-Iraq war in the 1980s caused this area to become a living place for a group of people in Tehran due to its ease of access, its mountainous nature, and greater security. It finally led to the formation of villas and second houses in this region. In the later periods (1990s and the beginning of the 2000s), the policy of stopping the sale of density in the city of Tehran caused an increase in the price of land and housing in Tehran and the investors

decided to invest in the cities adjacent to the metropolis of Tehran, including Oshan-Fasham-Meghun.

The 2000s is the most significant decade of land developments in the Oshan-Fasham-Meghun. The most significant characteristics of the mentioned decades are mass constructions, especially apartments, and the change of all types of land uses, from garden land use to residential use legally and illegally. The fifth period includes the 2000s and 2010s.

Owing to the increase in inflation in the last two decades, the development of infrastructural

services at the city level, especially the development of highways leading to the city and the widening of roads, has made it easier for the citizens of Tehran to access the Oshan-Fasham-Meghun, is considered as the most significant characteristics of this period. The emergence of the culture of leisure and recreation in society caused tourists, investors, and citizens build luxury houses. In this period, we see developments beyond the goals of existing programs in urban development projects, which have caused the deviation of the goals of sustainable urban development.



The most significant political, social, and economic developments that created a turning point in land consumption. The most significant political development mentioned by the pundits participating in the interviews was the Iran-Iraq war, which caused this region to become a living place for a group of people in the Tehran region due to its mountainous nature and greater security. Moreover, in the next periods, the policy of stopping the sale of density in Tehran city caused the increase of land and housing prices in Tehran and investors decided to invest in the cities adjunct to Tehran metropolis, including Oshan-Fasham-Meghun. One of the most significant social developments is the increase in the level of luxury living and the increase in welfare in the last two decades. It has made citizens and tourists to build or buy a second private apartment or villa. Additionally, the emergence of the culture of leisure and recreation among the society, and the culture of keeping up with the Joneses in having luxury houses have caused citizens to build luxury houses. Some of the economic reasons mentioned in the interviews are an increase in inflation in the last two decades, the development of infrastructure services at the city level, especially the development of highways leading to the city and the widening of roads that make it easier for the citizens of Tehran to access Oshan-Fasham-Meghun.

The direction of legal and illegal developments in the Oshan-Fasham-Meghun

Cities are always shaped and developed under

the effect of various forces. In recent years, changes without urban development projects have caused many negative impacts on cities. Investigating the physical, social, and economic developments of the Oshan-Fasham-Meghun shows that new developments in the city have been directed toward the heights and legal limits and the city's privacy in the last two decades. No violation is seen outside the legal limits of the city due to the control of relevant organizations. Most of the new developments are in the form of neighborhoods and noble apartments in New Meghun and the margins of Oshan-Fasham roads. However, illegal developments occur in the garden and agricultural lands on the margins of the legal limits of the city due to the consumption of usable residential land in the city. In the future, new developments, either legal or illegal, are expected on the existing lands in the heights of the city and garden and agricultural lands. Due to the rapid growth of the development of luxury apartments in the last one or two decades, a large part of urban land will be consumed sooner or later with the density and accumulation of urban spaces in the Oshan-Fasham-Meghun.

Violations related to land use in Oshan-Fasham-Meghun

Based on law, any construction in agricultural lands outside the boundaries of the cities or outside the scope of the Hadi plan or without the permission of the Commission of Note 1 of Article 1 of the Land Use Preservation Law of the Ministry of Agricultural Jihad is not allowed. However, due to an increase in housing and land

prices in the Oshan-Fasham-Meghun, especially since 2010 onward, owners have shown a willingness to change land use. The measures taken in recent years have often led to destruction in the city. Most of the violations committed in the field of land use are related to changing the garden land use to residential land use and changing residential land use to commercial land use. According to the data provided by the municipality of Oshan-Fasham-Meghun, violations related to the change of land use in the city and the legal limits of the city

between 2013 and 2016 are shown in Table 5. An increase in demand for land use, especially in residential use with the increase in the number of tourists, the lack of land in the primary communication axes and the central areas of the city such as Old Meghun and New Meghun, the interest of the land owners to change the garden or agricultural land uses residential and commercial land uses due to the economic benefits are among the causes mentioned by the pundits regarding the violations related to land use.

Table6 - Status of land use violations in the city of Oshan-Fasham-Meghun

Legal limits of the city	City privacy	Year
26	31	2013
119	98	2014
194	194	2015
41	41	2016

Source: Data collected from Municipality of Oshan-Fasham-Meghun

The status of the density and occupation rate and the rate of violations committed in the city of Oshan-Fasham-Meghun

They are considered the product of city development projects and documents given the urban construction restrictions in the form of rules and regulations aimed at controlling the physical development of the city. The density and occupation rate and the violations by owners and builders have increased in the Oshan-Fasham-Meghun due to an increase in the population, especially the increase in the number of tourists, and the high demand for urban construction in recent years, especially since 2010, the increasing trend of land and housing prices in the city. The statistics provided by the municipality on the rate of violations committed from 2001 to 2020 suggest an increase in these violations every

year. As shown in Table 4-51, in 2001, the rate of violations registered by the municipality is 12,200 square meters, which has increased every year since 2001 until now, so the rate of violations increased to 37,125 square meters in the first half of 2020. The economic nature of such violations due to the high price of land and housing and the high level of demand in the Oshan-Fasham-Meghun are among the primary causes of construction violations in the Oshan-Fasham-Meghun. Such violations are still economical despite paying a fine to the municipality owing to the high price of land and housing for builders and since construction violators are aware that most of the commission's votes lead to fines and they are sure that they will gain many times more profit by paying a fine or even delaying its payment. The violators are sure that the municipalities will only consider a fine for them and they order the destruction of the building only in a few cases. Also, the municipality relies on these sources of income from construction violations, which are the primary source to compensate for its costs.

Table 7- Status of violations committed during the years 2001 to 2020 in the city of Oshan-Fasham-Meghun

Row	Year	License		Non-violation		Violation rate	Number of violation	End of work	
		n	area	n	area			n	Area
1	80	50	22,115	5		12,200	30	7	

2	81	14 0	74,200	1 4		13,750	57	17	
3	82	12 5	65,196	1 2		17,200	60	25	
4	83	11 2	63,270	1 7		25,400	78	38	
5	84	11 5	65,200	5 0		29,800	62	42	
6	85	90	62,275	5 2		34,200	75	38	
7	86	87	65,200	3 9		37,150	102	35	
8	87	80	60,170	4 0		44,150	105	29	
9	88	10 3	89,250	5 4		57,800	117	35	
10	89	10 6	115,20 0	7 1		47,200	97	39	
11	90	11 7	127,15 0	5 2		45,000	95	58	
12	91	13 0	172,20 0	4 9		36,000	87	54	
13	92	15 4	94,664	4 8	24,56 9	47,160	150	56	37,783
14	93	54	37,218	3 7	35,38 9	28,897	104	44	35,608
15	94	60	34,279	4 4	46,60 1	39,680	95	28	22,083
16	95	40	8,150	3 1	16,97 5	17,120	72	17	12,776
17	96	45	17,200	3 4	17,20 0	25,176	85	21	25,315
18	97	47	18,950	3 7	18,15 0	42,150	112	25	28,100
19	98	52	27,200	3 9	19,10 2	44,200	117	27	24,200
20	99	33	9,120	4 2	21,70 5	37,125	94	29	29,150

Source: Data collected from Municipality of Oshan-Fasham-Meghun

Conclusion

Rapid urbanization is one of the biggest challenges of the current century. It has created complex problems, especially for developing countries. The development of cities has

various impacts on both the urban areas and the surrounding rural areas. The rapid development of urbanization in developed countries has caused the expansion of the city to the surrounding areas. Urban development in these countries is primarily planned and managed. However, the rapid growth of urbanization in developing countries has resulted in an invasion of urbanization in the areas surrounding the cities and their villages and it has affected the lives of the residents of the cities and

caused complex challenges for urban designers. Many of today's problems in the big cities of the world are due to the lack of urban land management by local institutions. The International Earth Coalition, Land Policy Initiative, World Bank, The Food and Agriculture Organization of the United Nations (FAO), and the Global Network of Earth Instruments have conducted studies on land governance in recent years. With its comprehensive review of land issues, Global Land Instrument Network has concluded that many countries do not have land policy and management approaches appropriate for the 21st century. These countries often suffer from a lack of transparency, high levels of corruption, and weak governance, which is partly related to the issue of land rights, and the lack of transparency and accountability of institutions and cumbersome administrative procedures for land transactions.

Among developing countries, Iran has almost high urbanization growth. This issue has caused the area around the cities to be heavily affected by urban activities and the rapid increase in the urban population has caused the farms and gardens around the cities to become residential, industrial, and service areas. The studies conducted in the Oshan-Fasham-Meghun revealed the progress of the earth's changes and developments during the past decades well. They can be explained in five periods. These developments have been due to urban land policies, natural factors, and infrastructural developments, especially the issue of accessibility (proximity to the metropolis of Tehran) rather than due to the growth of the urban population. We see changes in the land consumption pattern in the Oshan-Fasham-Meghun due to the expansion of the city, especially in the 2000s. With the construction of second houses for tourists in this decade, land mass consumption began in the city, followed by the increase in inflation and the rise in land prices, and the formation of the land market in the region. All of them resulted in a change in land use from agricultural and horticultural uses to urban land uses for explosive construction in the field of housing. In the 2011s, the development of infrastructural services at the city level, especially the development of highways leading to the city and the widening of roads, which made it easier for the citizens of Tehran to access the Oshan-Fasham provided the conditions for building luxury apartments, especially in the heights of New Meghun. This

issue has led to the expansion of the city to the surrounding areas and the invasion to the agricultural and garden lands of the region.

The present study was an attempt to explain the development of land consumption patterns and the factors affecting it using qualitative and quantitative methods. According to the obtained results, proximity to the metropolis of Tehran and access to tourist attractions were the most significant factors involved in the development of the land consumption pattern in the Oshan-Fasham-Meghun. As seen, the proximity to the metropolis of Tehran has been the most significant factor in the development of land consumption in the city. Its positive impacts were an increase in the city's income generation with the increase in the number of tourists from Tehran, the development of infrastructure with the increase in income from the economic prosperity of the region, the prosperity and development of businesses in the field of land and housing, and increasing job creation in the field of housing. Its negative impacts were increasing unprincipled growth and development outside the rules and regulations of city development projects, increasing constructions in the land in the river boundary, increasing violations in the field of land use and building density, destruction of gardens and agricultural lands due to the high demand for land consumption, and an increase in the price of land and housing in the region. Generally, it can be stated that the problems caused by urban land in the field of land consumption have increased in recent decades, especially the 2000s and 2011s, and the rate of violations from the rules is increasing in this sector. Due to the fragmentation of urban management in Iran, integrated management in the field of urban management, especially in the field of land consumption, is now being felt. Preventing from applying the personal tastes and preferences of various organizations and institutions in making land decisions and the attention of city managers to the goals and policies of urban development can be a priority, so the pattern of land consumption at the city level reaches a balance point.

Recommendations

In the recommendations section, an attempt was made to provide recommendations that are practical and based on the reality of the current situation of the Oshan-Fasham-Meghun.

- Creation of an information bank to know the more accurate trend of land consumption patterns

in Oshan-Fasham-Meghun.

-Changing existing rules and regulations in the field of change in land use and land consumption.

-Adopting realistic and applicable executive mechanisms to prevent excessive and illegal land consumption

- A proportion between the fines related to land use and building violations and the price of land and housing in Oshan-Fasham-Meghun.

- Preparing an urban development project based on the reality and urban needs of Oshan-Fasham-Meghun.

- A shift in the approach of city managers in dealing flexibly with existing violations by understanding the outcomes of massive land consumption for the city.

- Integration of land management in the city and non-application of personal tastes and preferences of different organizations in the field of land and land uses.

References

1-Aeini, M., (2010), Mehr Housing: Modifying the pattern of urban land consumption and improving the quality of urban life, Housing Economy, Issues 47 and 48, pp. 31-43.

2-Briasulis, H., (2010), Analytical patterns of land use change, theoretical approach and modeling, translated by Rafiyan and Mahmoudi, Azarakhsh, Tehran.

3-Rahimi, A. (2020), Urban land policies and their impact on the development of Tabriz city, Environment preparation, 13(48), 109-130.

4- Rahnama, M., Gholamreza A., (2008), principles, bases, and models for measuring the physical form of the city, Mashhad University Jihad, Mashhad.

5-Zokaei, M., Omid, M. (2017), Modernity, City, and Consumption (Research on the Phenomenon of Consumption in the World Life of Tehran Citizens), Cultural Research Society Quarterly Journal, Volume8, Issue 2, pp. 19-44.

6-Fazli, M., (2003), consumption and lifestyle. Qom: Sobh-e Sadegh.

7-Ghelich, M., Mirzaei, H., Rabbani, T. (2019). Urban foresight as an approach for urban policy-making and planning (with emphasis on the foresight experience of Tehran metropolis). Iran Future Research, 4(1), 51-69.

8-Mozaffari, M., Ghelich, M. (2017). The

causal model of the relationship between professional commitment, organizational socialization, and the disclosure of secrets of management students in Qazvin province. Iranian Social Development Studies, 9(3), 7-19.

9- Higgins, B. (2012), Environmental planning for land development: a guide for sustainable local planning and design, translated by Seyyed Hossein Bahreini and Keyvan Karimi, 4th edition, University of Tehran, Tehran.

10-d'Amour, C. B., Reitsma, F., Baiocchi, G., Barthel, S., Güneralp, B., Erb, K. H., ... & Seto, K. C. (2017). Future urban land expansion and implications for global croplands. Proceedings of the National Academy of Sciences, 114(34), 8939-8944.

11-Flood, J. (1997). Urban and housing indicators. Urban Studies, 34(10), 1635-1665. Grekousis, G., & Mountrakis, G. (2015). Sustainable development under population pressure: Lessons from developed land consumption in the conterminous US. PloS one, 10(3), e0119675.

12-Gerundo, R., Grimaldi M, (2011), the measure of land consumption caused by urban planning, procedia engineering, volume 2, 1152-1160

13-Hu, J., Wang, Y., Taubenböck, H., & Zhu, X. X. (2021). Land consumption in cities: A comparative study across the globe. Cities, 113, 103-163.

14-Langer, S., & Korzhenevych, A. (2018). The effect of industrial and commercial land consumption on municipal tax revenue: Evidence from Bavaria. Land Use Policy, 77, 279-287.

15-Pontarollo, N., & Muñoz, R. M. (2020). Land consumption and income in Ecuador: A case of an inverted environmental Kuznets curve. Ecological indicators, 108, 105699.

16-Wang, S., Cebula, R. J., Liu, X., and Foley, M. 2020. Housing prices and urban land use efficiency. Applied Economics Letters, pages 1-4.

17-Williams, K., Burton, E., & Jenks, M. (2000). Achieving sustainable urban form: an introduction. Achieving sustainable urban form, 2000, 1-5.