

Spatial Analysis and Geographical Configuration of Second Homes: A Case study of Rural Districts of Ramsar County

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Abstract: Today, different factors underlie the development of second homes, as a major geographical phenomenon and a new model of movement. These factors include the ever-increasing population and urbanization, technological developments, change in attitudes and lifestyle, rural-urban migrations, people's attachment to their birthplace and reverse migrations, the rise of villagers' capitals, economic reconstruction, rural destitution, and development of transportation and communication. This study has been initially concerned with exploring the number of second homes across the world. The configuration and spatial model of second homes have then been studied. The study area covers rural regions of Ramsar County in Mazandaran province (4 rural districts including 256 villages and settlements). Geographically speaking, this area encompasses four major regions: coastal, plain, foothill, and highland. The findings suggest that there are 7674 second homes (56.30% of total residential units) spread over the area's rural regions. Distance from the city and rural road decide second home configuration and residential density. Also, there can be observed two types of houses: modern and traditional. There is a temporary population of almost 30660 in Ramsar County, constituting 43.8% of the total population of 70000. Field studies and library research shape the present study. Yet, the study is based on field studies. GIS, Excel and Spss software have been employed to extract maps and tables.

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1. Introduction

“Second home” proves to be a crucial geographical phenomenon (Opačić & Mikačić, 2009: 163). This phenomenon can be more or less observed in all countries. Configuration and development of second homes in developing countries have been often spontaneous, unplanned and bereft of any regulation (Rezvani, 2008: 31). This has given rise to the degradation of natural resources and agricultural farms, the rise of property values, scarcity of housing for local people, and spatial heterogeneity and aesthetically undesirable landscape. In the face of the dynamic nature of second home, this term has also been referred to as “up-country residence”, “holiday home”, “cottage”, “summer home”, “weekend home”, “camp”, “tent” and so forth. For instance, the international term “cottage” and second home is used in Canada and China respectively (Wang, 2006:20). Second home is also a preferred term in Iran. Today, second home expansion, as a new model of housing and mobility (Pitkaˆnen, K. & M. ˆlaˆinen, V, 2008:1), indicates urbanization level in different countries, which covers a vast array of factors, including, senility and urban population density, the rise of capital in urban regions, abandonment of rural housing, reconstruction, economic transition from industry to service, change in working conditions and

working flexibility, transport and communication development and cuts in transport fares (Müller, 2007: 198). Studies suggest a direct relationship between the rate of second home occupancy and income. It can be, therefore, expected that more second homes are relatively more occupied by tourists in countries enjoying higher welfare standards. The same argument holds true for Iran where tourist attractions, landscapes and temperate climate in its rural regions have recently engendered a dramatic growth in tourism in these regions (Rezvani, 2011:39). Further, there have been different motives for constructing second homes in rural regions, including, agriculture demolition, recognition and development of tourism, growth of rural-urban and urban-rural (reverse) migration and rural abandonment (Galyan moghadam, 2009: 192).

Deciding on the number of second homes and proposing a working definition of the term, researchers are currently facing a couple of problems, namely the ever-growing number of second homes, lack of official statistic, failure to tell the primary and second homes apart, and poor statistical measurement. Yet, most of the definitions provided for second home seek to differentiate between permanent and non-permanent housing. Investigations reveal that second homes have a

supplementary function in the field of tourism, retirement period, investment, and housing, suggesting the typical nature of second homes (Wang, 2006:41). In this regard, the Institute for Social Innovation has defined second homes as “those homes occupied less than 91 days in each year” (Rezvani, 2003:60).

Today, in many parts of the world (this includes Iran), second homes have been distributed in both modern and traditional form which have, in some sense, different functions. Despite the different functions this phenomenon fulfill, the configuration of second homes associates with regions with high eco-tourism potential (Sharifnia, et al., 2010), indicating the disproportionate configuration of this phenomenon in rural regions worldwide, particularly in developing countries. Notwithstanding the multifaceted effects of this phenomenon, such an unbalanced distributional pattern is due primarily to the lack of planning in constructing second homes in most countries including Iran. Absence of planning in this filed appears to be one of the major deficiencies in rural programs, which is deemed to be one of the major factors of underdevelopment in rural construction in many geographical areas.

1.1 Number and geographical configuration of second homes across the world

Identifying the number of second homes is always giving geographical researchers a big headache as there is neither statistics regarding the issue nor the existing statistics are measured with precision (Jaakeon, 1986:369; Muller, 2002:14). In 2000, for example, Ähtäri municipality in Osterbothnia (Spain) which is a small municipality reported the number of second home owners to be 494, with the density of $637/100 \text{ km}^2$. This compares unfavorably with other reports suggesting that there were 265 second home owners in this very region (Müller, 2002:14). Nevertheless, using filed studies and occasionally official statistics, several researchers in different countries have, in a sense, managed to come up with the number of second homes in different geographical areas worldwide. For example, the first official census of second homes in Spain dates back to 2001 when the share of second homes in Galicia was 4.96% in 6.6% of the entire country. This figure in 30 years before then i.e. in 1970 was 2.13% (Borge, 2007:375-76).

Also, the number of holiday homes in EU countries has increased from 600000 in 1962 to 2900000 in 1999 (a 20.68% increase) (INSEE, Recensement général de la population, 1999, cited in Vanoni & Auclair, 2003: 80). Yet observing the construction of second homes in Denmark in 2001 suggests that the number of second homes until 1900

was 4274. This number rose to 5247 in 1900-04 only to rise again to 5534 in 1905-09 and reached 216193 in 1995-99 (Tress, 2002:119). Second home development in Stockholm archipelago has also experienced a 29% increase from 1991 to 2000 (Marjavaara, 2007:34). In 2001, the share of second homes in the total homes was 16%, in which 15% of households resided and the rates of second home growth (in Spain) in 1991 were 11.9% and 15% in 1991 and 2001, respectively (Colás et al., 2007:431). Also, in 2001 there were 182513 second homes in Croatia (9.72% of the total dwellings), of which 117893 properties were located in the coastal regions, accounting for 46.59% of the total second homes in Croatia (Mikačić, 2007, cited in Opačić and Mikačić, 2009: 161). In many countries second home occupancy is not confined to domestic households and many people living in developed countries reside in second homes in other countries of temperate climate. Take the example of Muller analysis (2007) which revealed that Sweden was home to 498943 cottages (second homes) in 1996 which increased to 500 to 700 thousand cottages in 2007. German owners consumed about 4000 and 5500 second homes in Sweden between 1991 to 1996 and 2001 respectively. Germans also occupied 300 thousand second homes in Spain, 100 thousand in France, 80 thousand in Italy, and 65 thousand in Portugal (G. Folkedoter, 2003:49). Second homes are widely distributed across the world. There were, for example, 329000 second homes in South East and South West London (England) in 1994-95 and 502000 in 2003-04. Further, studies suggest that there were nearly 5000 second homes in North Ireland (NI) in 2001 (Paris, 2006:7) and 64000 ones in Colorado in 2005 (long, et al, 2005:1-2). In some places multiple homeownership (two or three holiday homes) is common. For example, in China in the mid 90s there were about 6.2% primary and second home owners, of which 12% owned more than two homes (3 homes at least) (Huang & Yi, 2011: 434). In Iran, northern regions of the country are home to households dwelling in two or more holiday homes. Planning for purchasing or constructing second homes is therefore a common practice everywhere across the world. About 27000 households in NI, for example, currently own second homes, 7000 are considering purchasing one or more, and 33000 are likely to purchase second homes during the next few years (Paris; Jorgensen & Martin: 2006:6). Also, there were 101731 second homes in Denmark in 1966 which reached 148618 in 1974 (Danmarks Statistik, 1976, cited in Tress, 2002:116). Moreover, in 1998, 4.3% of primary (permanent) dwellings in Colorado were turned into second homes (Magnan & Seidl, 2004:9). Notwithstanding the absence of

precise data concerning second homes across the world, it can be inferred that second homes are expanding in many parts of the world, owing to

developments in technology, communication and transport.

Table 1. Indicative number of second homes in some major countries in the 1970s

Year	Country/ Region	The number of second homes	Statistical Year	Country/ Region	The number of second homes
1970	North America	3500000	1971	Sweden	490000
1970	USA	3000000	1969	Britain	200000
1973	Canada	500000	---	East Europe	1000000
---	West Europe	3000000	1967	Czechoslovakia	166000
1966	Denmark	140000	1967	Slovenia	3000
1969	Norway	170000	---	Australia	250000
1970	France	1500000	1971	Australia	200000
Total			14119000		

Source: Coppock (1977); Edited by the Wang, 2006: 26

2. Material and Methods

2.1 Geographical location of Ramsar County

Ramsar is the westernmost county in Mazandaran, North of Iran. It borders the Caspian Sea to the north, Qazvin Province to the south, Tonekabon County to the east, and Gilan province to the west. The area under study is located between latitude 36°67'72"N and 36°89'93"N and between longitude 50°31'30"E and 50°47'05"E. This county is 725 square kilometers in area and takes in four rural districts namely Jannat Roudbar (262 square kilometers in area; population: 627 in 261 households; 27 villages and 36 settlements), Sakht Sar (253 square kilometers in area; population: 6305 in 1695 households; 56 villages and 38 settlements), Eshkevar (151 square kilometers in area; population: 1600 in 428 households; 21 villages), and Chehel Shahid (59 square kilometers in area; population: 9554 in 2707 households; 43 villages). There are a total of 18116 people in 5091 rural households in this county with 137 rural regions (with permanent population) (Statistical Center of Iran, 2006).

Descriptive analysis of population and housing according to geographical patterns

There are two types of population i.e. permanent and temporary in the area under study. Permanent population is denser in plain, coastal and foothill regions than in highlands.

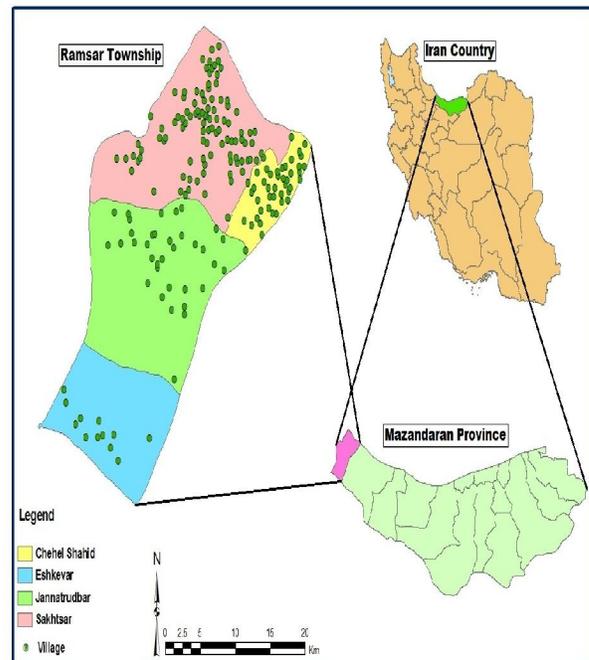


Figure 1- Geographical location map of villages in Ramsar County based on the hierarchy of country classification, 2006

Table 2. Permanent population density and area of rural districts of Ramsar County (2006)

Rural district	Area (km ²)	Population	Population density km ²	Number of settlements	Topography	Climate
Jannat Roudbar	262	627	2/39	46	Forested highlands and highlands	Cold humid
Sakht Sar	253	6305	24/92	52	Plain, foothills, forested highlands, and highlands	Temperate humid / cold humid
Chehel Shahid	59	9584	162/44	146	Plain and foothills	Temperate humid
Eshkevar	151	1600	10/59	12	Highlands	Cold arid
Total	725	18116	-	256	-	-

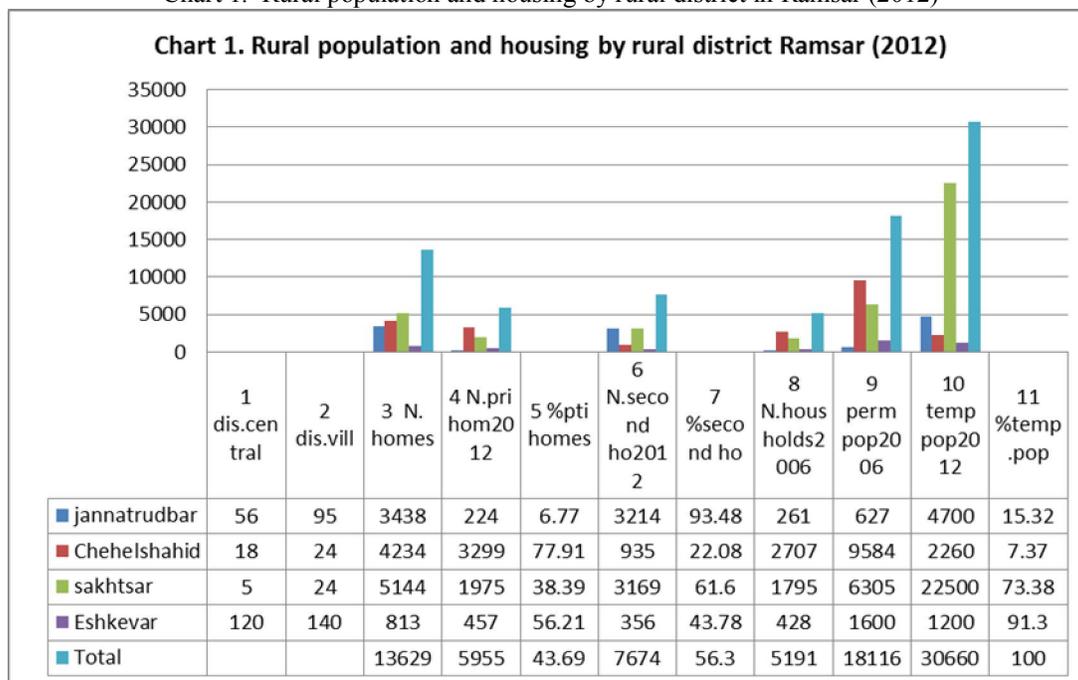
Source: Statistical Center of Iran (2006) and field studies of the author (2012)

Table 3. Rural population and housing by rural district (2012)

Rural district	Distance from the central city (kilometers)	Distance of the furthest village from Ramsar (kilometers)	Total number of homes (field study)	Number of primary homes (field study, 2012)	Primary homes in percentage terms	Number of second homes (field study, 2012)	Second homes in percentage terms	Number of households 2006	Permanent population 2006	Temporary population 2012	Ratio of temporary population to permanent population in percentage terms
Jannat rudbar	56	95	3438	224	6.57	3214	93.48	261	627	4700	15.32
Chehel Sahid	18	24	4234	3299	77.91	935	22.08	2707	9584	2260	7.37
Sakhtsar	5	24	5144	1975	38.39	3169	61.60	1795	6305	22500	73.38
Eshkevar	120	140	813	457	56.21	356	43.78	428	1600	1200	3.91
Total	-	-	13629	5955	43.69	7674	56.30	51.91	18116	30660	100

Source: Statistical Center of Iran (2006) and field studies of the author (2012)

Chart 1. Rural population and housing by rural district in Ramsar (2012)



Source: Khadije Galyan Moghaddam, field studies (2012)

Investigations give clue as to the fact that the rise in the number of second homes in plain and foothill regions of Ramsar County is steadier than in coastal regions and highlands. For example, second homes account for over 93% of rural housing in Jannat Roudbar. It is safe to say that there is a direct relationship between the spread of second homes and the rise of temporary population in Ramsar, which represent 43.8% of the total population (70000). Distance from the city of Ramsar also plays a crucial role in the number and density of second homes in this area.

2.2 Geographical configuration and spatial analysis of second homes according to topography and climate

1. Coastal region: Caspian Sea coastline is located at an elevation of Caspian sea at zero line level. This narrow line is the border between the sea and Ramsar County. A small part of this coastline is located in a rural area.

This narrow strip constitutes the border separating the city of Ramsar and the sea. A small portion of this coastal strip takes in rural areas. The village of Darya Poshteh is the only village bordering the coast. Though occupying a very small space, the village is home to about 50 modern second homes

owned by non-natives, along with a couple of multi-storey houses and several urban stylized primary homes. Dating of holiday villas (second homes) and houses is estimated to be around 40 years and that of primary homes less than 20 years. Second homes have been often constructed alongside the sea, posing danger for the residents in case of tides. Second homes are occupied by the owners at the weekends, summer time, and other holidays.

2. Plain regions: these regions are located at elevations from 0 to 100 meters, with temperate humid climate. The number and configuration of second homes in plain region villages are different and are decided by local conditions, including the rate of income and nativism. This explains why in some major villages there are only a few second homes, whereas in a neighboring village tens of second homes may have been constructed. It is tempting to say that villages with more second homes are relatively more developed. Field studies, however, suggest that constructing second homes in villages is an indicator of income level of rural households and the rate of property sales to non-natives. Said differently, the lower the income level of rural households, the more property households sell. Therefore, there appears to be a direct relationship between the rate of property supply or sales and villagers' income level, and between property purchases by non-natives and their income level. From the standpoint of income level, these two groups are indeed opposite. It thus seems that rural farmers endure overt and covert poverty to avoid which put their farm lands up for sale. Yet, nativism may push the rural community to refuse to take in non-natives. Consider the following examples:

Example one – Shosta village: in this 500-household village only 4 Tehrani households (2%) have constructed second homes (holiday villas), one of whom have lived there permanently since 30 years ago. The reason why the farmers in the said village have refused to supply their lands is their relatively high income derived from farming that meets their economic needs. Not surprisingly, the construction of second homes is under the natives' control.

Example two – Kelayeh Bon village: in this 300-household village around 50 (16.66%) villas have been constructed by non-natives. The same number of villas is under construction. A good proportion of farmlands have been thus far offered for sale by the villagers. Prompted by the low income level of native households, the construction of second homes in this village is growing unmanageably.

Example three – Villages of Tobon and Taleshmahalle Fotouk neighborhood: Tobon village

is home to 104 households and 4 second homes (3.84%) and Taleshmahalle fotouk village has 321-household and 4 second homes (1.24%). (The villages described above do not supply property to non-natives thus the construction of second homes is under the native's control)

3. Foothill regions: these regions are located at elevations from 100 to 400 meters with humid temperate and semi-humid climate. Over the past few years, foothill regions have experienced a number of developments concerning second home construction. Until 25 years ago, this phenomenon was confined to coastal and plain regions. All of a sudden this tradition changed once the villagers began to sell properties to non-natives in some foothill regions, resulting in second home construction. Aarba Kaleh village, for example, currently having 83 permanent households, over the past 16 years has witnessed the construction of several skyscrapers and high-density building blocks over the hills. A total of 354 villas and building blocks have been constructed in this village. Next example is the village of Sarlimak with 60 permanent households which is currently home to 30 modern villas occupied by the owners on holidays.
4. Highlands: these regions are located at the elevation of 400 to 3500 meters with semi-humid temperate, cold and humid, and cold and arid climate. Rural settlements have been constructed at elevations from 400 to 2000 meters. Over the past two decades, second home construction has unprecedentedly expanded in these regions. Configuration and scattering of second homes in highlands is in direct relationship with climate, availability of drinking water, and availability of country roads, such that the convenience of country roads has led to the construction of dense second homes in these settlements. Thus, geographically isolated villages with no access to the country road have fewer second homes which were once primary homes. Desirable climate and magnificent scenery, reverse migrations, rural-urban migrations, and the pressure of urban lifestyle are reasons for the expansion of second homes in these regions. Until 5 decades ago, second homes were dominated by the rich. This tradition, however, was about to change during the past two or three decades when a number of non-natives inclined toward the ever-growing field of second home construction. Javaherdeh village, for example, with an elevation of 1800 meters incorporates 2500 homes, only 76 of which have permanent

residence and over 2400 are second homes. These holiday homes are resided by local people dwelling in plain regions and non-native urban dwellers on holidays and in the summer. Or Garesmasar village located at an elevation of over 2000 meters takes in about 600 second homes. The village has been recently known as a tourism village.

2.3 Configuration of second homes and distance from City Center

Studies so far suggest that besides topography and climate, configuration and scattering of second homes is also decided by the distance from the city. The villages are scattered in all parts of Ramsar County and in a similar fashion the second homes are distributed in this area. Distance from the central city (Ramsar), therefore, has a major role to play in the configuration of second homes. Drawing on the field studies, except for the coastal regions, villages with the shortest and longest distance from the city take in fewer second homes, while there are a great number of permanent homes in these regions. Having said this, configuration of second homes is grouped into 4 groups by distance from the city of Ramsar as follows:

- a) Coastal villages: this high-density residential region is located 3 kilometers of the city center which includes a village called Daryaposhteh covering a very small area. There are 50 modern villas and a couple of multi-storey buildings and cottages inhabited on holidays and weekends.
- b) Plain villages: this region is located between 2 to 15 kilometers of the city center. The number and density of second homes in this region is relatively lower than the coastal strip and higher than foothill regions. The distance from the central city has seemingly no effect on the number and configuration of second homes but income level of the rural household, deciding on to sell or not to sell properties by the villagers, and nativism are deciding factor in second home construction. For example, the 104-household Toben village, located in 3 kilometers of Ramsar is home to only 4 second homes constructed by non-native households. Nativism and natives' unwillingness to offer properties to non-natives are reasons behind the lack of second home construction. Or take the example of Chalkrud village with 50 modern second homes. Due to job loss in fishery and farming in this village, local people put their properties for sale as to overcome economic pressures. Yet another example concerns Shadmoradmahalleh village with 407 households which is located 5.5 kilometers of the city center home to 3 modern second homes constructed by non-

natives. Therefore, nativism and the level of income in this region appear to have a greater effect on second home construction than does the distance from the city.

Foothill regions: this region is located at 15 to 25 kilometers of Ramsar. Second homes appear to scatter individually all over the region. Distance from the city decides the number and configuration of second homes to a great extent yet the income level of rural household is not ineffective. For example, Asyabsar village, located 18 kilometers of the city center, with 170 native households includes 63 second homes and Piyazkash village located 23 kilometers of the city center with 75 households assimilates 15 second homes constructed by non-natives. Accordingly, distance in foothill regions plays a major role in configuration of second homes.

Highlands: these regions are located between 25 to 140 kilometers of Ramsar. Here the distance plays a twofold role. In other word, In other words, there is a higher density of second homes in villages closer to the city than in further ones. For example, the furthestmost village of Sakhtsar rural district is a seasonal village called Javaherdeh located 24 kilometers of Ramsar. This village takes in 2500 residential unit of which 2424 units (96.92%) are second homes which are resided by the 20000-temporary population in summer and on holidays. Or, Namakdarreh in Jannatroudbar rural district, located 55 kilometers of Ramsar, has 205 residential units of which 185 units (90.24%) are second homes. Also, Lega village, as the furthest village in Jannatroudbar district, is located 95 kilometers of Ramsar. There are around 45 residential units in this village, which are consumed by permanent residents. A small number of primary homes have been turned into second homes inhabited by the residents' offspring in summer. A characteristic of the permanent residents in here is their seasonal presence in permanent homes. Said differently, although, due to harsh winter conditions, the permanent residents of Lega village spend the winter in plain lands to feed their cattle, in springtime they return to the village as to resume animal and crop husbandry. The furthestmost villages in the area under study are located in Eshkevar rural district. This district includes 11 villages, the nearest of which is located 120 kilometers of the city center and the furthest 140 kilometers of the city center. The permanent population of villages in this highland district is much more than those of Jannatroudbar rural district and of Sakhtsar highland district. In villages of Eshkevar, most of the residential units have been constructed traditionally and relatively fewer modern villas can be observed. Studies show that over the past few years in some villages of the district a number of modern second homes have been

constructed and some are under construction. Due to the long distance from the city, non-natives have no control over the area. Second homes are thus occupied by local owners who have returned as immigrants and consumed the primary homes as second homes.

In general terms, it is safe to say that the short distance from the central city to the village has demotivated local residents from second home construction yet this proves to be an impetus for non-natives for second home construction in these distances (up to 15 kilometers of the city center). Also, in the distances from 15 to 80 kilometers of Ramsar, both natives and non-natives are motivated enough to construct second homes. In the distances from 80 to 140 kilometers, non-natives are less motivated and the only consumers of second homes are local people of the region, who have returned as seasonal migrants to the region and occupy the primary homes as second homes.

2.4 Configuration of second homes and rural road

Field studies suggest that the rural road plays a major role in second home formation in different regions. Most of the plain land second homes, for example, have been constructed alongside the main road. Further, in foothill regions constructing second homes could be failed once there is no rural road as the slope in these regions impedes carrying heavy modern materials to the construction site. Also, in highland regions, there is quite high density of second homes in villages located abreast of rural road, while villages located far away from the road take in fewer second homes. For example, Ekrasar in Jannatroudbar district, which is located 48.5 kilometers of Ramsar has rural road for about five decades. This 354-household village is very small in area; however, the village has a high residential density such that most of the residents are facing problems in terms of neighborhood boundaries. Of the total residential units in this village, 351 (99.15%) units are second homes occupied on holidays and in summertime.

Another example: Galyan village is located 80 kilometers of Ramsar, at the end of rural road. There are about 85 houses (64 second homes) in this village, of which the construction of some dates back to one and half a century ago. Yet given the antiquity of the houses, this village does not enjoy high residential density. Over the past 10 years, two second homes, in modern architectural style, have been constructed in this village. Yet 4 modern second homes are under construction since 3 years ago.

3. Results and discussions

3.1 Spatial model of second homes in rural regions of Ramsar County

Investigations bear witness to the fact that in the past spatial development of rural areas followed a slow yet organic growth. With the emergence of rural-urban migrations, the growth of summer villages was halted and plain land villages developed greatly. With the second homes on the rise, coastal areas were all of a sudden swarmed with second home construction. However, plain land villages, to some extent, kept themselves away from this frenzy of construction. During the past two decades, second home development in highland regions have shifted from a recession in construction toward high-density construction (villages such as Javaherdeh, Garsmasar, Izaki, Limak Deh, Namak Darreh, Chorteh, Salmal, Sormoshk, Palham Jan, etc.)

Generally speaking, due to low population and abundance of land in the past, rural houses were constructed with great distance again each other and the network of passages followed a chaotic pattern, making the residents to use the spaces between houses as passages. Such a network of passages can be still observed in old settings. The residents also used to hedge around their properties as to protect their properties and to specify neighborhood boundaries. Over the past three decades, however, with the appearance of urban lifestyle in rural environment, the residents started to feel that their properties (primary or second homes) should have boundaries and the yard should not be too close to that of neighbors. This led to the fragmentation of more lands and scattered second home construction. It bears noting, however, that in central rural settings houses are such compact that setting up separate garden for each second or primary home is impossible. In some older villages, the distance from the nearest neighbors does not reach one meter and occasionally properties with separate ownership completely attached (e.g. Javaherdeh village). Yet in places where second home construction has just begun, the distance could range from 10 to 100 meters (e.g. Saray Dasht village).

In very general terms, considering the studies conducted in this area in 2012, two major factors i.e. distance from the city and rural road decide configuration and construction of modern second homes in rural regions. These factors are investigated by rural districts using Pearson correlation as follows:

1. Jannatroudbar rural district: Locating in forested highlands and highlands, this district is 262 kilometers in area with a population density of 2.39 per km². This district includes 43 villages and settlements, 154 primary homes (4.79%), 3214 second homes (95.21%), and it is home to a temporary population of 4700. The furthest and nearest villages to the city are located 47 (Izaki

village) and 95 kilometers (Lega village) of the city. Rural road and the distance from the city exert a major effect on second home configuration in this district. In distances between 47 to 65 kilometers, second home density is much higher than between 65 to 95 kilometers. Ekrasar village, for example, located 48.5 kilometers of Ramsar city center, is situated alongside rural road. Of 354 residential units in this village, 351 units are second homes (modern and traditional). Also, Galyan, located 80 kilometers of the city, and Lega, 95 kilometers of the city are both situated on the opposite side of rural road. There are a total of 85 rural houses in Galyan village, of which 65 are second homes (of which only 5 houses have a modern construction). In Lega, there are also 45 rural houses, of which 35 are primary homes and 10 are second homes (28.57%).

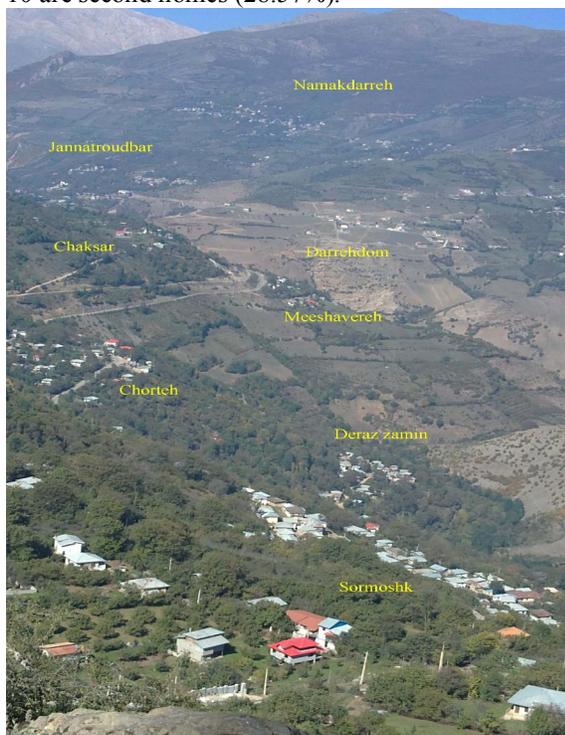


Figure 2- Spatial distribution model of second homes in the central part of village Jannat Rudbar – Ramsar County, 2012

To appreciate the association between the number of second homes and the distance from the city of Ramsar in Jannatroudbar rural district, Pearson correlation has been employed. The correlation coefficient between the two indexes is calculated as -0.26. As the correlation is significant at above 0.05, it is inferred that there is no relationship between the two indexes (Table 4).

Table 4. Analysis of the relationship between the number of second homes and distance from the center of county in Jannatroudbar rural district

Number of second home	distance		
-.026	1	Pearson Correlation	distance
.867		Sig. (2-tailed)	
43	43	N	

Chehelshahid rural district: located in plain and foothill regions, this district is 59 km² in area with a population density of 162.44 in km². It is home to a temporary population of 2260 and includes 44 villages and settlements, 3299 primary homes and 935 second homes (28.34%). The furthest and nearest village to Ramsar are 25 kilometers (Piazkash village) and 6 kilometers (Lowsar village) of the city of Ramsar respectively. Due to geographical location (the fertility of the soil, favorable whether in winter, and unfavorable weather in summertime), there are relatively fewer second homes, compared to primary homes, in this area. Here, natural scenery proves to be more effective in second home construction than are rural road and distance from the city. For example, Aarba Kaleh and Shosta villages are located in 12 kilometers and 15.5 kilometers of Ramsar respectively. Although the two villages are of almost equal distance from the city, in Aarba kaleh, due to its unique topography, its overlooking the sea, and having a pleasant scenery, of the total 438 houses, 355 (76.62%) are second homes and 83 primary homes (23.37%). However, locating in plain lands and lacking a beautiful scenery, Shosta includes only 4 second homes (2%) and 200 primary homes (98%) out of 204 houses in total.

To better understand the relationship between the number of second homes and distance from the city of Ramsar in Chehel Shahid rural district, Pearson correlation has been used. The correlation coefficient between the two indexes equates -0.038 and as it is significant at above 0.05, it can be concluded that there is no relationship between the two indexes (Table 5).

Table 5. Analysis of the relationship between the number of second homes and the distance from the center of Chehel Shahid district

Number on second home		
-.038	Pearson Correlation	distance
.809	Sig. (2-tailed)	
44	N	

Sakhtsar rural district: located at coastal, plain and foothill regions, this district is 253 km² in area with a population density of 24.92 per km². It

has a temporary population of 22500 and is home to 56 villages and settlements, 1795 primary homes, and 3169 second homes. The greatest and smallest distances from the city are attributed to Javaherdeh (24 km) West Tang Darreh (2 km). The distance from the city has no effect on the configuration of second homes, yet favorable sceneries lead to second home development in this area. The coastal village of Daryaposhteh, for example, which is located 3 kilometers of Ramsar has experienced high-density second home construction (50 modern second homes). Conversely, located in 5 km of Ramsar, Mianlat village, though the center of district, is home to only 6 second homes (5.6%) of the total of 106 rural houses, due to lack of desirable sceneries. Also, in highland regions of the district, the effect of distance and rural road on the formation of second homes is clearly observable. That is the more the distance from the city, the more is the effect of rural road on second home development, due to approaching highlands, climate change, and favorable sceneries. For example, the furthest village of this district is Javaherdeh village located in 24 km of the city. This is a purely tourism village which includes 2424 second homes (96.92%) of a total of 2500 houses.

Once more Pearson correlation has been used to study the relationship between the number of second homes and distance from Ramsar in Sakhtsar district. The correlation coefficient is calculated as .022 and since the relationship is significant at less than 0.05 the two indexes are significantly correlated. That is to say, the more the distance from the city center, the more the number of second homes (Table 6).

Table 6. Analysis of the relationship between the number of second homes and the distance from the center of Sakhtsar County

Number on second home	distance		
.374(*)	1	Pearson Correlation	distance
.022		Sig. (2-tailed)	
37	37	N	

* Correlation is significant at the 0.05 level (2-tailed).

Eshkevar district: this district is entirely located in highland regions and is 151 km² in area. Having a population density of 10.59 per km², the district includes 12 villages and settlements, 457 permanent homes, 356 second homes (77.89%), and has a temporary population of 1200. The smallest and greatest distances from the city relate to Keyt village (117 km) and Mij village (140 km). Distance from

the city center and rural road appear to have a grave effect on second home formation and configuration. Given that Eshkevar district has harsh winters and cool summers, second and primary homes are almost equally distributed in the entire district. Yet another issue leading to the distinction between this district and other districts is the small number of modern second homes. Said differently, although the number of primary and second homes (457 and 356 respectively) is almost equal, nearly all second homes have been formed as the result of primary homes turning into second homes. This is due primarily to the relatively great distance of the district from the city and Every single second home is virtually owned by local residents of the district in a hereditary fashion and occupied by residents in summertime.

To understand the association between the number of second homes and the distance from the city, Pearson correlation has been employed. The correlation coefficient between the two indexes is calculated as 0.05. As the correlation is significant at above 0.05, it is inferred that there is no relationship between the two indexes (Table 6).

Table 7. Analysis of the relationship between the number of second homes and the distance from the center of Eshkevar County

Number on second home		
.005	Pearson Correlation	distance
.988	Sig. (2-tailed)	
11	N	

4. conclusions

Several factors underlie geographical configuration of second homes in rural regions of Ramsar County, including, rural road, nativism, climate, topography, distance from the city, income, urban-rural migrations and reverse migrations. Investigations suggest that there is currently a total of 7644 second homes (56.30% of the entire residential units) in this area, which are consumed by a temporary population of 30660 (43.8% of the total population). Drawing on the field studies, different factors including rural road, distance from the city of Ramsar, topography, climate, and nativism decide the number and configuration of second homes in different geographical areas. so finally Regression model is calculated in the following equation.

$$Y = -0.015 a + 0.026 b + 0.325 c + 0.007 d$$

That in above question "a" is the distance from the center of county in Jannatroudbar rural district "b" is the distance from the center of Chehel Shahid district, "c" is the distance from the center of Sakhtsar County and "d" is the distance from the center of Eshkevar County.

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