

## **AN ANALYSIS ON THE ORGANIZATION OF DISTRESSED (OLD) URBAN TEXTURE WITH AN EMPHASIS ON PHYSICAL – SPATIAL DIMENSIONS; (CASE STUDY: KARAJ CITY)**

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### **Abstract**

Uncontrolled and unplanned spatial expansion of cities large and medium in the past decades, causing the formation of new tissues in the vicinity of urban areas And the displacement of residents and urban areas are new. Therefore, replacement of old tissue gradually working and social life of cities - have lost their economic And the texture of urban life with the loss of their tendency towards stagnation and burnout have found. Karaj old texture of this study was selected as the study area, the main purpose of this study, social and economic characteristics of residents aged textured (Karaj) and understanding the physical condition of tissue. The research method according to research objectives and hypotheses is bibliographical – field method (observation, interview and questionnaire). In this study the sample size has been estimated with the use of Cochran's formula which is equal to 320 people and the sample has been selected with the use of random sampling method. Information and data have been analyzed with the used of Excel and SPSS with the use of variance analysis and Pearson's correlation coefficient statistical tests. According to data analysis, the results indicate that Limitations, the indigenous inhabitants of urban services and infrastructure migration from other parts of town Tissue and cause negative population growth over recent years has been On the other hand, because of socio\_economic status of residents, texture, Has led to the improvement and modernization within the tissue, which causes wear to these factors and more tissue destruction is.

**Keywords:** organization, dilapidated structure, urban land use, the city of Karaj

### **1- Introduction**

#### **1-1- Problem statement**

City is a dynamic system. The city space under the influence of geographical, social, cultural, economic and political relations is constantly changing. The importance of balance in economic, social, cultural, natural and physical structure of the city in the present and future is a lead for urban sustainability. Lack of attention to balance in urban structure and old texture of city in not a too distant past has caused duality in the city texture. Old and rusty urban textures are among the most important problems of today's managers of old cities (Yazdi, 2008: 49).

Today the old textures of a number of cities of Iran are facing with a so much serious pervasive crisis and an increasing trend in a way that so many of these cities are facing with the phenomenon of urban neighborhoods decay. A tangible instance of this decay is the decline in social life in these neighborhoods. Abandonment and semi-abandonment of buildings, improper and abnormal housing and decline in social – economic qualities are all among the side effects of

urban decay. Major parts of these spaces that don't bear the historical past of the social life of some groups with the passage of time have lost their development and have been decayed and this process that rots cities from within has so many reasons. In any case, following the transformation in life styles and current settlements and especially due to the need to transportation infrastructure, Access to installations and facilities and so on for life old urban neighborhoods due to failure to adopt with the new conditions have found such as trend. Preventing the development of these neighborhoods and eliminating their inefficiencies and shortcomings like any other activity should be based on a scientific and systematic foundation of knowledge (Keshvardoust and Delkhoush Kasmaee, 2011: 3).

In Iran during the past few decades decay and destruction of old textures have taken extensive dimensions to itself that can threaten the security and identity of urban spaces severely. Intervention in the field of urban distressed and decayed areas have been started with modernization in physical – spatial organization of old texture in 1<sup>st</sup> Pahlavi period (Nazarian, 2009: 134) and so far different projects such as rehabilitation and reconstruction and renovation projects, problematic textures and civil and rehabilitation projects have been developed and implemented for the modification of old urban textures. Considering the old regions of Karaj city we can understand that this city is among those cities that large portions of it contain old texture. Rusty texture of Karaj with more than 50,000 population consist around 680 acres of area of Karaj city and 21% of rusty texture area has been also occupied by historical and cultural texture as well (Renovation Organization of Karaj Municipality, 2014).

### **1-2- Importance and necessity of research**

From the middle of the Qajar period, following the trips of Iran's kings to Europe, Iran went under a western thinking transformation. Lack of the required context for accepting these transformations have been followed by the emergence of some contradictions and inconsistencies. In these period residential units undergoes transformation and with change in life style domicile and occupancy give their place to residential unit and manse. In fact, what has happened in our cities is replacement instead of repair (Nasr, 2004: 19-20). Cities have high levels of economic, social and cultural values. This value and importance in old texture of Karaj city is an undeniable necessity. Old texture of Karaj which is the primary origin of Karaj city at a time has been the most appropriate residential place in this city and today due to different social, cultural, economic and physical problems and issues has lost its attraction and has become the place of residence of different groups of society with different social status. In this study in addition to establishing solving rules and guidelines we have tried to reduce theoretical inconsistencies and conflicts in dealing with texture and also sustain planning for reviving and rehabilitating old texture of Karaj city and in the meantime we have tried to prevent decay and destruction of urban texture with identifying the economic and social status of the residents and studying the positive and negative effects of the implemented projects and the future projects and programs which are being implemented for reconstruction and rehabilitation of the rusty texture of this city.

### **1-3- Research background**

Intervention in old texture of cities of Iran was seriously started with the rise of Reza Khan and the city of Karaj is one of the first cities that have been influenced by this movement. Most of the implemented projects have had a destructive effect on the textures and its residents that this demands the attention of the most of the planners in this regard. Among the most important conducted activities and studies in this area we can mention the following:

Narimani, Masoud (2000), who in his book with the title of Rehabilitation of Historical Texture has provided regular solutions for organization of the old texture of cities and has provided the experiences of some of the countries regarding rehabilitation of old textures of cities.

Alizadeh, Abbas (2005) has found that Boushehr city has two separate textures that construction has been done without considering the climatic conditions of the city and has caused the city to have a chaotic map and on the other hand, the imposed war has (Iran – Iraq war) ruined and destructed this texture.

Koochaki, Gholam (2007), who in his dissertation has sought to study physical – spatial structure and identify the factors destructing and restricting the old texture of Khoramabad city and has found that environmental factors and physical development of the city has caused the decay of the old texture of the city.

Vafaei, Abuzar (2007), in his study he has found that in addition to the fact that Kashan city is recognized as a historical city, what has caused the change of old texture form of this city and has decayed the texture of this city is the change of the overall structure of the city from single-core to multi-core structure.

Yousefi, Leila (2008), that in her Dissertation has studied the changes and transformations of Reyhan and Khiyaban neighborhoods in Qazvin city has found that environmental factors, urban physical development and migration of residents has caused the change and transformation of these two neighborhoods.

#### **1-4- Research goals and objectives**

The main aim of this research is to study the economic and social characteristics of the residents of the old texture of Karaj city and also to study the physical condition of this texture. The secondary aims of this research in the framework of the main aim of the study are as per the following:

- To identify the physical – spatial structure, existing issue and problems of the distressed area of the region under study
- To identify the effective factors on destruction of the distressed area of the region under study
- Preventing the distressed area in the region under study from becoming evacuated and empty from population and life
- To provide correct and scientific solutions for organization (rehabilitation or reconstruction) distressed area of the region under study

#### **1-5- Research hypothesis**

1<sup>st</sup> hypothesis: it appears that lack and shortage of urban services and facilities in distressed texture and area causes more decay and destruction to the texture.

2<sup>nd</sup> hypothesis: it appears that the social – economic condition and status of the residents in the old texture caused the decay of the texture.

#### **1-6- Research methodology**

Considering the topic, aims and hypotheses of the research, in different stages the methodology of the study is a combination of descriptive, analytical and correlation methods. In section of collecting data regarding the existing condition and situation, two methods of field studies and bibliographical studies have been used. In field study method with the use of questionnaire preparation techniques (that 320 questionnaires have been filled in this way) for data analysis and studying the variables, table preparation and calculations SPSS and Excel software have been used. Also, in this study for testing the hypotheses the Person test has been used.

### 1-7- Area under study

Karaj County of the counties of Alborz province that is located at the east of this province and its center is Karaj city. This city has three sections that include 8 towns, 7 villages and 128 Hamlets with residents. The area being studied in this research is Karaj metropolis (the 2<sup>nd</sup> city in the city of Tehran and the 4<sup>th</sup> National metropolis of Iran) that based on the latest statistics has 1,967,005 populations (Statistics center, Iran) and from this population around 59,438 people (3.1% of the total population of Karaj city) is living in the distressed area of Karaj. The average net density of population in distressed urban area is around 153.58 people per Hectare (Zenoozi, 2006: 11).

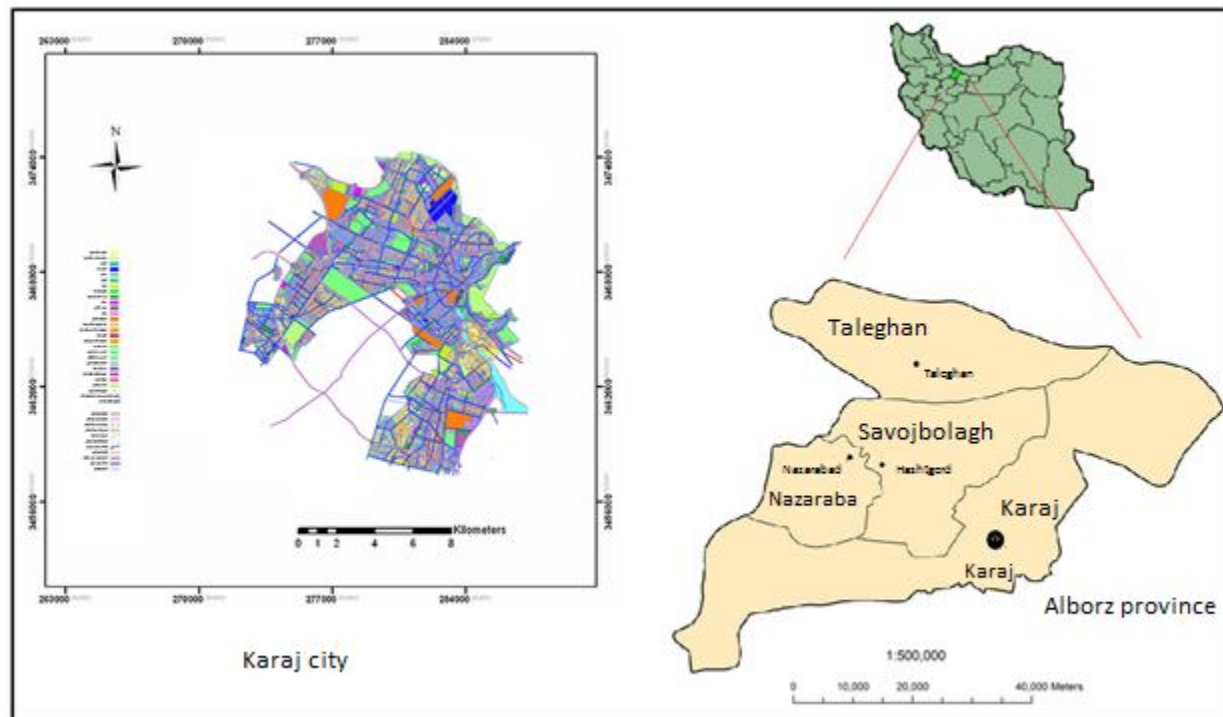


Fig. 1. Map of the location of the area being studied

## 2- Research theoretical principles

### 2-1- Definitions and concepts

**Renovation:** refers to returning new life to a building or space and reviving it, with emphasis on changing the shape of the space or city complex (Mith, 1996: 85). Renovation is performed when the urban spaces are active functionally; however, physical decay has reduced their efficiency and productivity (Saif Al-dini, 2002: 390).

**Rehabilitation:** refers to a series of action that are performed for Maintaining and improving the physical and urban environment in short-term (Mehdizadeh, 2001: 18). In fact, rehabilitation is performed when relative decay of environment has intensified functionally (Habibi et al., 2007: 47).

**Reconstruction:** refers to reconstruction. Reconstruction is performed at the time when in the building, city or city environment complete decay has been occurred (Shamaei and Pourahmad, 2005: 54).

**Rusty texture:** urban decay concept can be considered as decline in social, economic and physical conditions of urban texture. In general, decline in the efficiency of any phenomenon is followed with decay in it. When in an area of the city its life goes into recession, the urban texture of that area is placed in the course of decay (Rosemary, 2005: 9). It refers to urban textures that the existence of different factors and elements in it creates decline in qualitative

values of human environment (in terms of physical, functional, environmental, economic and social aspects) and with the decline of residential values renovation is stopped in the texture and inclination of migration increases in the resident population (Jahanshahi, 2003: 18).

## **2-2- Dimensions of urban textures decay**

By decay we mean inefficiency and reduction in efficiency of a texture comparing to the efficiency of other urban textures. Decay of a texture and the elements inside it occurs either due to age or lack of development plan and technical supervision on formation of that texture (Lusim, 1996: 79). Decay has multiple dimensions that are in mutual relation and connection with each other; however, the most important dimensions of decay are:

**Physical – structural decay:** a kind of decay which is resulting from Deterioration of the physical and body quality of the building or texture (fabric) that various factors can cause this type of decay including: the most important criteria for explaining the process of physical decay of the texture are:

- Smallness of the residential pieces which indicate to the increase in the compactness and the number of pieces more than 50% of the pieces with an area below 120 square meters;
- Lack of stability of the buildings and in general lack of physical and structural stability which indicates to improper structural system and Lack of robustness of Buildings;
- Lack of penetration which indicates to lack of proper access and passage network appropriate for alleys with width less than 6 meters.

Relative or economic decay: in most of the cases decay is not an absolute concept but is relative to other buildings and always is a relative concept. Therefore, when people have the power to purchase and have capital but they investment outside the historical texture area, it is at this time that the concept of relative decay or economic decay is raised and the reason is that the cost of investment in historical neighborhoods is more than the cost of investment in other places and on the other hand investment in these historical textures has less attraction (Alvin, 1970: 65). Therefore, for preventing decay of any kind to the texture the sustainability level should be increases with performing restoration in the urban space and with increasing the level of sustainability the live of urban space will be increased and its durability as a result will be increased (Amiri, 1995: 15).

## **2-3- Urban distressed area formation process**

Every historical texture in city can be considered as urban decay, but not every urban decay texture is a historical texture, hence the range of historical texture is larger than old texture and historical texture can encompass old texture (Shamaei, 2001: 64). Then, on this basis the old urban and rural texture of our country are considered to be the symbol of the culture and civilization of Iran, a witness to our history, tangible manifestations of identity and experience of our ancestors. These textures contain architectural and urbanization values and national identity and present our Tribal Memories and works which belong to present and future generations of our country which at the same time are as well Irreplaceable (Sartipour, 2006: 237).

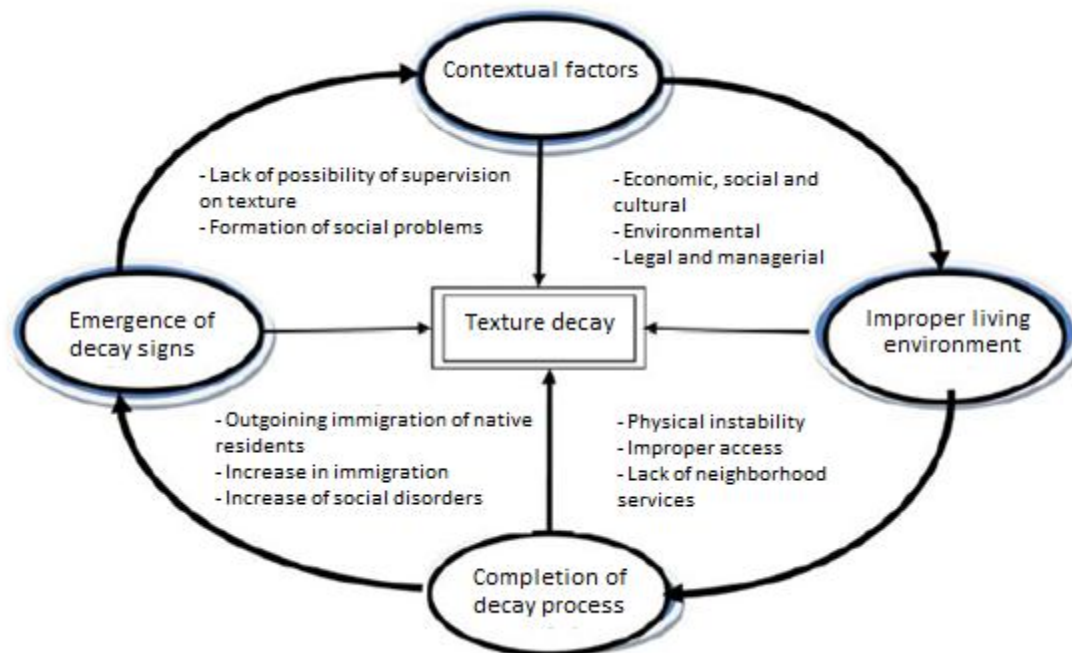


Fig. 1. Decay and depreciation process of texture (source: Andalib, 2010)

### 3- Analysis of research findings

#### 3-1- Karaj's old texture

The most prominent feature of today's Karaj urban texture is not having an urban structure. This feature on one hand can be explained by transformation of Karaj from a small village in 1941 to today's metropolis and on the other hand can be explained in the Context of rapid growth of urbanization in the region (Civil Renovation Company of Karaj city, 2006). During 1946 – 1976, Karaj has always received attention as summer trip destination around Tehran and this attitude has become the basis of the formation of scattered foci of urban gardens, villa textures and low-density incorporated cities, for temporary weekend stay or sometimes permanent stay of people. From the end of 1970s this collection of scattered textures together with a number of old villages located near them suddenly faced with an increasing wave of population of immigrants and in the lack of a coherent plan for guiding and controlling the development, the previous small and scattered foci in the course of hurried development and expansion gradually joined each other to formed the city of Karaj. On the other hand, in the half decade of 1990 the two semi-city core of Fardis and Mehrshahr also in spite of various kinds of limitations and restrictions resulting from their natural and artificial effects as well as the Heterogeneity of their physical structure joined Karaj city to form the today's Metropolis which doesn't have any urban structure. Among the most important features of the old texture of Karaj Metropolis we can mention the following:

- High population;
- Small size of the residential lands;
- Net and gross high Population density;
- Decay and compactness of residential texture;
- Severe shortage of open space and green urban space;
- Taking risk against possible risks;
- Existence of old and new pollutant foci in neighborhoods;
- Lack of efficient commute network in neighborhoods and sub-zones;

- Transitional and semi-traditional social and cultural structure;
- Severe weakness of body and frame and undesirable urban appearance.

Considering the extent and distribution of the old texture area of Karaj city and considering the Proximity and homogeneity factors, the city texture the city texture is divided into four Metropolitan areas and necessary analyses have been conducted on them.

Table 2 – General specifications of the zoning of old texture of Karaj

Metropolitan area	Area name	Location		Human density Person/hectare	General specifications
	Sub-area	Region	District		
Old Karaj	Old Karaj Isfahanis Kalak and Ghalamestan Tork Abad Sheikh Sa'di and Hesar	2 , 8 , 9	25 , 1 , 24	701	- eastern entrance (Tehran Karaj) - Existence of Jāmeḥ Mosque (Atique mosque) - historical monuments (Safavid bridge) - Marginalization (Hesar) social Insecurity - valley and river of Karaj and tourism potential
Hesarak	Heidar Abad Emameh Hesarak	5 , 6	12·13	510	- western entrance of the city - Checkered and dense texture - Irregular penetration, social insecurity
Mehrshahr	Hossein Abad Afshar Agh Tape, Sha'ban Abad, Akhgar Abad, Malek Abad and Sohrabieh	4	18 , 17	517	- environmental pollution - Recreational space - farming lands - historical value
Fardis	Fardis Ahari Street	10	28 , 29 30 , 32	532	- lack of attention to the User proximity principle - visual and environmental pollution



Source: specialized holding company of urban development and rehabilitation of Iran, 2008

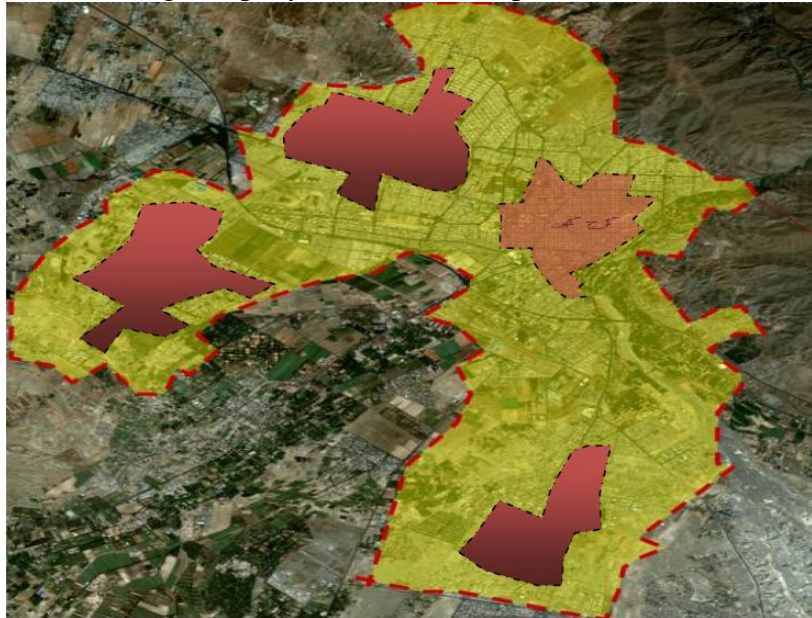


Fig. 2. Macro-zoning map of old texture of Karaj city

**3-2- Population trend changes of Karaj city and old texture**

Population characteristics of the old texture are studied with the use of the latest population statistics and data available from the census of 2011 and comparing it with the status of population of Karaj city, to not only identify the current situation and status but to determine its changes during different years as well.

Table 3 – The trend of changes in population of the old texture and Karaj city

Year	City population	Texture population	Population percentage of texture to city	Population density of the texture	Population Growth rate of the city	Population growth rate of the texture
1956	14526	14526	100%	116/27	-	-
1966	44243	44243	100%	138.51	0.98	0.98
1976	394360	115267	44%	297.84	3.99	7.1
1986	589954	139120	35%	227.49	7.50	7.1
1996	943161	79968	8.2%	206.63	3.80	-1.9
2006	1455073	75637	7.1%	195.44	1.59	-1.2
2011	1967005	59438	3.1%	153.58	3.2	-2.4

Source: Karaj municipality, Census of Population and Housing (1956 – 2011), Alborz Cultural Heritage Organization.

The first documented information and data which is available from population of Karaj, mainly is the reports of European and Muslims travelers and their itineraries. Until 1956, in which the first official census has been conducted in Iran, most of the population data and information related to Karaj and its various location have been documented in different historical sources, itineraries and ... .

Table 4 – Condition of the old texture area of Karaj city

Sub-area name	Area (hectare)	Area (percentage)	population	Population in percentage
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Old Karaj	183	27	19719	33.2
Hesarak	156	23	10904	18.2
Mehrshahr	143	19	19406	32.9
Fardis	198	31	9409	15.7
Total	68	100	59438	100

Source: Karaj municipality, Alborz Cultural Heritage Organization

### 3-3- Urban land use status of old texture of Karaj

Land use planning refers to the way of using, distributing and protecting land. Urban land use planning, classifies the organization of spatial urban activities and functions based on the needs and demands of urban society and different types of land usage and specifies their location as well (Ziari, 2005: 3).

Table 5 – Urban land use status of old texture of Karaj

Type of land use	The required area (square meter)	Current land use area (square meter)	Land use deduction (square meter)
Residential	2377520	2549781	-
Commercial	118876	167421	-
Administrative (office use)	89157	60524	28633
Educational	178314	72575	105739
Health – medical	44578	21420	23158
Cultural – religious	44578	94723	-
Sport	118876	24345	94531
Urban installations	297190	52436	244754
Police	16048	5326	10722
Parking	33285	22865	10420
Roads and pathways	1188760	623540	565220
Green space	416066	110342	305724
Total	4923248	3805278	1388892

### 3-4- Research field findings

#### 3-4-1- Physical (structural) status of the old texture

What is distinguishing textures of the cities of the Eastern countries of the world from other countries is that these textures have been formed considering social and economic conditions and they are the result of the growth in the urbanization culture and civilization in centuries. Unfortunately in urban development planning in these countries less attention has been given to these things and mainly spontaneous modeling and development and the existing construction in these countries which is without any connection with the past doesn't create anything except chaos and these model eventually create an environment that only can be an environment in western style which is often strange with the native conditions and culture (Gholami, 2008: 46).

Dynamism of the physical texture, social relations and strong emotional bond between residents, desirability of the living environment and so many of the desirable social achievements are among the effects and impacts of desirable urban appearance that has been considered in old

textures completely and strongly, but today only a name has remained from them. With the relative downturn of social life in the old texture of the city, the governing body proportions on this environment also has been changed and gradually economic preferences have replaced the old principles of the urban space and demand for reconstruction and increasing the height of the buildings have been placed in areas that have economic value added (EVA) and exactly have been implemented in those places and areas that their transportation network connects them to their locations of the city and allows the transport of population from other locations of the city to them (Detailed plan, 2002: 83).

In this section the physical (body) information of the texture that has been provided through the 320 questionnaires that have been completed by the texture owners will be presented:

**3-4-2- Building ownership type**

Considering the following table we can see that the maximum residents of the texture have rented ownership type of residential property and therefore, 30% of the residents have owned type of residential property, 46.2% have rented ownership type of residential property, 4.4% of the residents have accommodation ownership of property which is provided against working for a company, 11.9% of the residents have free ownership and 7.5% of the residents have other types of ownership. Therefore, one of the factors that cause decay to texture is the high rate of residents who are living on rented residential units and the reason is that these are constituted of immigrants.

Table 6 – Frequency and percentage of buildings ownership

Ownership type	frequency	Percentage
Rented	148	46.2
Owned	96	30
Accommodation (working for a company)	14	4.4
Free accommodation	39	11.9
Others	24	7.5
Total	320	100

Source: field studies of the author, 2014

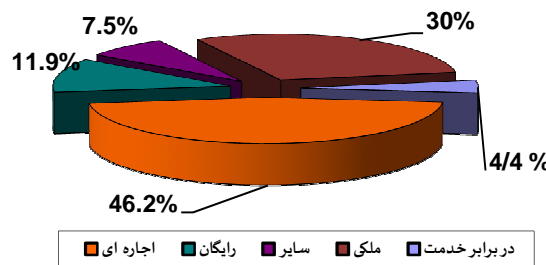


Diagram 2. Ownership status of residential units

The ownership way of residential units in old texture area of the city is different with other areas of the city, because endowment and private ownerships are more in this part of the city comparing to other parts of the city and this which is one of the barriers of rehabilitation and renovation in this area and has an obvious role in the decay and oldness of the whole texture, because those residential unites that have this type of ownership usually due to conflict between partners have faced Uncertainty and as a result no action has been taken for improving their condition and preventing their decay and depreciation.

### 3-4-3- Type of building materials

Considering the following table it can be seen that the texture from physical (body) point of view doesn't have a suitable condition, because more than 50% of the buildings of the texture have old materials. Therefore, 26.9% of the materials of the texture buildings are from clay, wood and mud and 28.1% of the buildings are from stone, iron and cement, 20.9% of the buildings of the texture are from Blocks, iron and cement, 15.9% of the buildings are constructed from brick, iron and cement and 1.8% of the buildings are from Reinforced concrete. As a result, they have faced decay and depreciation of body and structure.

Table 7. Buildings materials type status

Materials type	frequency	percentage
Clay, wood, mud	86	26.9
Stone, cement, iron	90	28.1
Blocks, cement, iron	67	20.9
Brick, cement, iron	51	15.9
Reinforced cement	26	8.1
Total	320	100

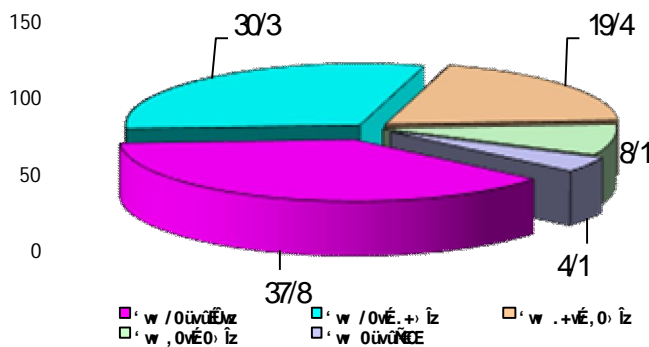


Diagram 3. Building materials type status

### 3-4-4- Building age

Considering the below table it is seen that the age of the most of the buildings of the texture is above 30 years old. Therefore, 37.8% of the buildings have an age above 45 years, 30.3% of the buildings of the texture have an age between 30 to 45 years, 19.4% of the buildings of the texture have an age between 15 to 30 years, 8.1% of the buildings of the texture have an age between 5 to 15 and 1.4% of the buildings of the texture have an age less than 5 years. Therefore, the decay percentage of the texture in terms of body is high.

Table 8. Frequency and buildings age status

Building age	Frequency	Percentage
Above 45 years	121	37.8
Between 30 to 45	97	30.3
Between 15 to 30	62	19.4
Between 5 to 15	26	8.1
Less than 5 years	13	4.1
Total	320	100

Source: Field studies of the author 2014

Diagram 4. Buildings' age status

**3-4-5- Socio – Economic status of the old texture**

Today one of the most important issues that have been attracting attention in old textures is the social and economic issues and problems of these textures. The old textures that once were the residence location of the nobles and wealthy classes of the city today have turned into the residence location of low income, poor and immigrant groups of people that have lost cultural and social consistency and integrity due to the different culture of these people and therefore the context for the occurrence of so many social issues and problems have been created in a way that various types of social crimes and damages are observed in them to a great extend and considerably (Soltanzadeh, 1993: 28).

Table 9. Population of the old texture area during census during the time period of 1996 – 2011

Description	2006	2011
Area (hectare)	680	680
Household dimension (person)	4	3.79
Number of household (person)	19033	15684
Male population (person)	39517	3146
Female population (person)	36120	28292
Total population (person)	75637	59438
Gender ratio	109.4	110.1
Population density (person in hectare)	200.1	157.45
Growth rate	-1.2	-2.4

Source: Statistics center of Iran – census of 1996 and 2006, Karaj municipality

Considering the conducted studies, although the age structure of the population of the old texture is young which indicate to high fertility rates; however, the population data and information related to census indicate that the population of the old texture area is reducing in a way that from the above table it is seen that the population growth rate is negative. Considering the fact that three factors considerably influence the population growth rate of an area which are birth, death and Immigration rate, therefore it can be concluded that immigration has had a significant effect on reducing the population growth rate and negative growth of the population of the texture is resulted from the immigration of its residents.

**3-4-6- Literacy status of the old texture**

One of the most important social and cultural indicators in any society which determines the development and advance level of that society is the literacy rate of the people of that society. in Iran during the recent few decades, especially after revolution, fighting with illiteracy has been one of the most important programs of the government that has gained considerable progress in this regard as well (Falamaki, 1986: 54).

Table 10. Literacy status of the texture during census of 1996, 2006, 2011

Census year	Literate	Literacy percentage	Illiterate	Illiteracy percentage	Total population
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1996	59970	68.1	28072	31.9	888049
2006	55347	73.1	20290	26.9	75637
2011	48254	81.1	11184	18.9	59438

Source: Statistics and data center of Iran, Karaj municipality

Considering the conducted studies and the above table it is seen that most of the illiterate population of the texture is related to older age groups and in lower age groups illiteracy rate is so much low; however, it should be noted that the education level of the most of the people in the area is below high school that the below diagram based on the completed questionnaires in the texture area (320 sample) shows this situation:

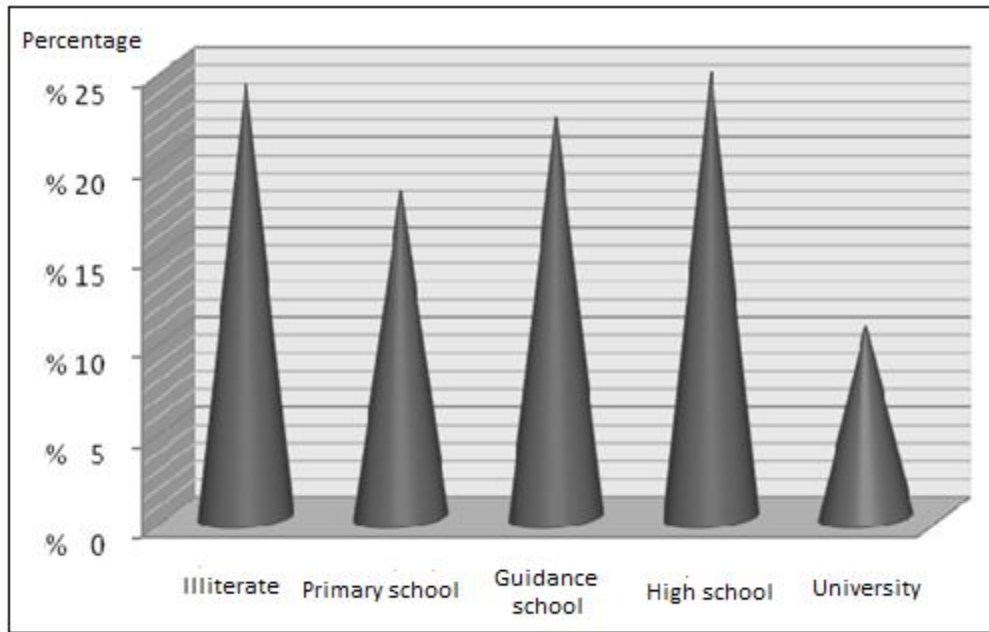


Diagram 5. Literacy status of the texture area residents

Source: Field studies of the author 2014

### 3-4-7- Employment status of the old texture

The employment status of every society indicates to the economic condition of that society and following that indicates to the creation of job opportunities for elevating employment level and reducing unemployment in that society (Falamaki, 1986: 58).

Table 11. Employment status of the texture area people, during the census of 1996, 2006, 2011

Census year	Employed	Employed percentage	Unemployed	Employment percentage	Total population
1996	17655	20.5	1970	2.2	88042
2006	20291	26.8	2256	2.9	75637
2011	16754	28.1	2985	5.1	59438

Sources: Statistics and data center of Iran, Karaj municipality

Considering the above table it is seen that the number of the employed people in the texture area from 1996 to 2006 has increased; however, from 1996 the number of employed people in decreasing and on the other hand, the number of unemployed people from 1996 is increasing that this situation indicate to the immigration of people to other locations. The below diagram shows the income status of the area residents according to the completed questionnaires (320 questionnaires):

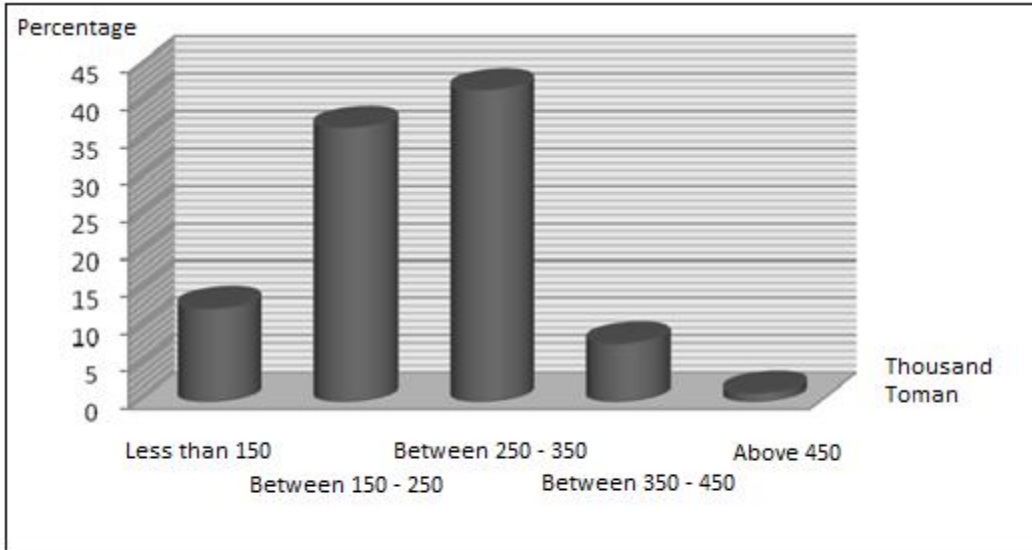


Diagram 6. Employment status of the area's residents

Source: field studies of the author 2014

**3-4-8- Birth place of the texture area residents**

Considering the below table it is seen that 57.8% of the residents are born in Karaj, 19.7% are born around Karaj, 14.1% are born in the cities of Alborz province and 8.4% of the residents are born out of Alborz province. Therefore, it can be concluded that about half of the residents of this texture are immigrants who have taken residents in this area.

Table 12 – Frequency and birth place status of the texture residents

Place of birth	Frequency	Percentage
Karaj	185	57.8
Around Karaj	63	19.7
Cities around Karaj	45	14.1
Outside Alborz province	27	8.4
Total	320	100

Source: field studies of the author 2014

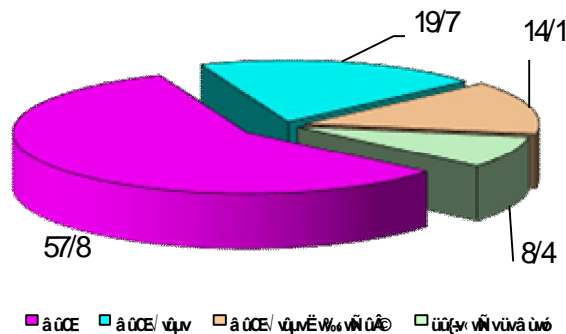


Diagram 4. Status of place of birth of the texture area residents

**Hypotheses test**

**1<sup>st</sup> research hypothesis test:**

It seems that the shortage of urban services and facilities has caused more decay and destruction to the texture of Karaj city.

Considering the table of urban land use status of the old texture it is seen that regarding the access to the required land uses in these texture citizens are facing a complete shortage and this is one of the most important factors that have caused decay to the texture. As it is seen, the dominant land use in this area is residential use which has consisted around 60% of the area in this texture. Considering the existing population in this area, desirable per capita total land uses should be 4,923,248 square meter but it is seen that this value is 3,805,278 square meter for this texture that the deficit of administrative (office) uses is 28,633, educational uses is 105,739, medical – health uses is 23158, sport uses is 94,531, urban installation uses is 244,754, police uses is 10,722, parking uses is 10,420, roads and pathways is 565,220 and green space uses is 305,724 square meters. Therefore, deficit of all the land uses of this texture is around 1388892 square meters. Therefore, 1<sup>st</sup> research hypothesis is confirmed due to shortage of urban services and facilities in this texture.

**2<sup>nd</sup> research hypothesis test:**

It seems that socio-economic condition of the residents of the old texture has caused decay to this texture.

For testing this hypothesis Pearson’s correlation coefficient has been used that in this test socio-social condition has been considered as independent variable and texture decay has been considered as dependent variable. As the results of the analyses show, there is a significant relationship between the socio – economic condition of texture residents. Therefore, it can be concluded that as much as the socio-economic condition of the residents increases, the texture decay reduces and vice versa.

Table 13 – Pearson’s correlation between social condition and texture decay

Variable		Social condition	Texture decay
Social condition	Correlation Coefficient	1	-0.123
	sig	0	0.001(**)
Texture decay	Correlation Coefficient	-0.123	1
	sig	0.001(**)	0
Social condition	Correlation Coefficient	1	-0.148
	sig	0	0.003(**)
Texture decay	Correlation Coefficient	-0.148	1
	sig	0.003(**)	0

(\*\*) correlation is significant at 0.01 level (\*) correlation is significant at 0.05 level considering the fact that social condition of the residents in terms of (the number of household people, age of the residents, residence duration and people’s education) and economic condition of the residents in terms of (job type, income level and ownership type of the residential house) don’t show a suitable and desirable condition, therefore 2<sup>nd</sup> research hypothesis is confirmed.

Table 14. Pearson’s correlation between economic condition and texture decay

Variable		Economic condition	Texture decay
Economic condition	Correlation Coefficient	1	-0.123
	sig	0	0.001(**)



Texture decay	Correlation Coefficient	-0.123	1
	sig	0.001(**)	0
Economic condition	Correlation Coefficient	1	-0.148
	sig	0	0.003(**)
Texture decay	Correlation Coefficient	-0.148	1
	sig	0.003(**)	0

(\*\*) correlation is significant at 0.01 level (\*) correlation is significant at 0.05 level Significant level in table 15 considering the value of F which is equal to 29.6 and the significant level which is smaller than 0.01 indicate to the confirmation of regression model and that independent model has the ability to predict the changes of dependent variable.

Table 15. ANOVA variance analysis

Description	Squares sum	Freedom degree	Mean square	F	Sig. level
regression	10890/681	1	10890/681	29.680	.000
residual	134599/927	359			
Sum	14549/608	360			

Source: Research findings

### 5. Conclusion

One of the main reasons of the problems of old texture in most of the locations of the world is Nonconformity of old textures with today’s needs. Especially in terms of structure and physic, these textures due to oldness and decay and Narrow passages don’t have the possibility of accessing new services and facilities.

Considering the conducted studies and the data analyses performed the following results have been obtained:

- It is seen that the old texture until 1953 contains all the population of Karaj city but after this year the population of this area reduces and from 1976 onwards the population growth rate of this area and texture has become negative. It can be concluded that multiple factors including physical development of Karaj city during the past recent years, shortage and lack of urban services and facilities and infrastructure facilities inside the texture, immigration of residents out of the area to other places and replacing non-residents with residents with different cultures and ... are among the main factors that have caused the growth rate of this texture to become negative during the recent years.
- Economic factors such as job group, income, ownership type of residential unit so on and social factors such as literacy level, household dimension and residence duration and so on are among influential factors that increase people’s inclination toward rehabilitation and renovation. But although these relationships in this texture are positive and have a significant correlation, but their correlation coefficient is not that much high and the reason is that socio – economic condition of the residents is not that much high.
- This texture in terms of different social, economic and physical (structural) aspects is facing with an increasing decay. In this texture lack of motivation for rehabilitation, repair and reconstruction due to different reasons such as (high cost of transporting building materials, difficulty of construction (which is due to narrow passages, lack and shortage of infrastructure installations, low durability of traditional used materials and so on), low cost of land and housing in this area comparing to other locations of the city, strict rules and regulations, weak financial power of the residents and so on are among the most important factors of an increase in the acceleration of physical (structural) decay

and destruction of the texture. Therefore, texture decay itself causes the immigration of residents with high and middle socio-economic condition in the texture and area and hence helps the acceleration of the texture decay course and destroys healthy urban life in this area.

- it was found that 39.7% of the residents have chosen this area for their residence due to cheap housing, 30.9% due to closeness to their workplace, 3.4% due to closeness to relatives and acquaintances, 8.8% due to cultural and religious places and 14.4% due to their place of birth. It is seen that the residents of this texture and area in terms of economical condition are considered to be middle to low class and has chosen this area because housing is cheaper comparing to other locations of the city and on the other hand due to their low financial power don't have any inclination toward rehabilitating and renovating their houses.
- Finally, 22.2% of the residents has mentioned the difficulty of obtaining a permit, 22.5% has mentioned the non-standard construction against risks, 15.6% has mentioned the unspecified development of the area in the future, 18.1% has mentioned the unconformity with today's life and 21.2% has mentioned the difficulty of obtaining a loan as the problems of living in this textures and that most of the people are unsatisfied with their life in this texture.

#### **6. Recommendations and solutions**

- Resolving the shortage and lack of the urban services and facilities required by the residents in the texture to have travel to other areas for their needs and resolving their shortages will cause that these people will be kept in their texture and be prevented from immigrating to other locations and areas of the city.
- Establishment and placement of land uses such as museum, library, culture house, tourism house and so on in valuable historical houses inside the texture for preserving these valuable buildings and increasing the awareness level of people regarding the importance and value of historical textures in order to prevent the destruction and decadence of these textures.
- Widening the passages for increasing the provided services as easy access of the citizens to the required services and also reducing the city traffic and quick transfer of Rescue forces (at the time of Unexpected Situations) to the location of event.
- Creating the required land uses for public welfare such as green space, sport land uses, leisure time land uses and so on in proper and suitable places such as desolate lands and wastelands or the ones that their owners are ready to sell them.
- Proper planning for collecting garbage and disposing it with the collaboration of the residents.
- Establishing relative rules and regulations for construction and reconstruction of the worthless buildings in the texture considering the potential risk of earthquake and repair or Rehabilitation of valuable buildings.
- Rehabilitation of residential units by owners with the support of public sector through bank loans
- Planning for organizing Surface water networks and directing water in a hygienic way because this has created some problems for the residents in the texture.

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