

POLYTECHNIC OF TURIN

Master Degree in TERRITORIAL, URBAN and
LANDSCAPE-ENVIRONMENTAL PLANNING

MASTER THESIS

SPATIAL AND SOCIAL INEQUALITY IN THE CITY OF TEHRAN



Supervisor

Prof. Alfredo Mela

Assistant Supervisor

Prof. Cristiana Rossignolo

Candidate

Zahra Nasrollahi

December 2017

Index

Summary.....	3
Introduction.....	5
1. Geographical and historical position of Tehran.....	8
1.1 Geographic framework.....	8
1.2 Brief history.....	9
1.3 Historical core.....	14
2. Urban governance of Tehran.....	17
2.1 Background of Urban Planning in Iran with special emphasis on Tehran.....	17
2.2 The main national plans in the field of housing and urban planning.....	19
2.2.1 National structural plan.....	20
2.3 Administrative and Political Structure of Tehran's urban management.....	22
2.4 The major urban plans in Tehran Province.....	23
2.5 Evaluation the effectiveness of urban plans.....	27
3.Social and spatial analysis of Tehran's districts.....	31
3.1 Social analysis.....	33
3.1.1 Population density.....	33
3.1.2 Population distribution.....	35
3.1.3 Old age index.....	37
3.1.4 Rate of masculinity.....	37
3.1.5 Spatial distribution of migrants.....	40
3.1.6 Rate of literacy	43
3.1.7 Rate of employment and major occupational groups.....	47
3.1.8 Spatial distribution of crime.....	51
3.2 Spatial analysis.....	53

3.2.1 Area of residential units.....	53
3.2.2 Number of room per a household	55
3.2.3 Construction year of residential units.....	57
3.2.4 Decayed blocks.....	59
3.2.5 Value of housing and ownership status.....	62
3.2.6 Access of residential units to basic services.....	65
3.2.7 Distribution of urban services.....	66
3.3 CONCLUSION.....	68
4. Informal settlements.....	77
4.1 Definition of informal settlements	77
4.2 Informal settlements in developing countries.....	79
4.3 Informal settlements in Iran.....	81
4.3.1 Slums typologies in Ira.....	83
4.3.2 Socio-physical characteristics of slums in Iran.....	84
4.3.3 National policies for confronting with the informal settlements.....	85
4.3.4 A best practice of informal settlements upgrading in Iran.....	89
4.4 Informal settlements in Tehran.....	91
4.4.1 Examples of informal settlements in Tehran’s districts.....	91
5. Conclusions.....	98
Acknowledgment.....	101
Bibliographical references.....	102

Summary

The city is the result of economic and social relations, and also efficient or inefficient urban policies. Urbanization in a developing country like Iran has been hasty and unplanned. Tehran as the capital of Iran, and the most important and populous city, reflects the path of urban development and structure of urban planning in Iran.

Failure to distribute urban facilities equally and to provide a safe and secure environment for the lives of all citizens is a serious challenge to sustainable urban development. The socio-spatial inequalities and the formation of informal settlements are the result of the neglecting a part of citizens by urban officials and not taking them into urban and regional planning processes.

The purpose of this thesis is to examine the socio-spatial heterogeneity between 22 districts of Tehran and a glimpse of informal settlements. Among the official information about the areas of Tehran, two social and spatial indicators are selected and classified. Social Indicator It includes demographic data such as population dispersion, population density, as well as information on unemployment, crime scattering, etc. Spatial data is the type of information that describes the quality and quantity of housing, access to urban services and infrastructure. The method of this thesis is descriptive-analytical and it has been used from the data of the last census of Tehran in 2006 and academic research.

In order to understand the level of development of Tehran's districts, in the first step, based on each of the social-spatial indicators, separate maps have been prepared and the status of the districts has been compared. In the next step, using numerical taxonomic model and based on the mentioned indices, the rate of development of the districts has been calculated and 22 districts of Tehran are ranked according to the degree of development. Due to study the status of informal settlements in Tehran, the factors that have contributed to the emergence of these settlements and examples of them in the city of Tehran have been described.

The results of the surveys show that Tehran suffers from socio-spatial inequality. The pattern of socio-spatial inequality between its areas is North-South. The northern districts are more developed than the Southern districts. Also, due to the ineffectiveness of urban plans, informal settlements in Tehran are still increasing and there are a various types of informal neighbourhoods inside the districts of Tehran.

Introduction

The present thesis attempts to draw a clear and precise picture about the state of social space inequality in Tehran. Investigates the phenomenon of informal settlements in Tehran and provides an analysis of the inadequacies of national and regional policies and programs in the construction of a decent city for all citizens.

Tehran has been suffering from a physical and social disruption for many years, and the story of the poor and rich separation living respectively in south and north is a familiar story to everyone. But how is this story true? Answering this question is the first and most important reason for the formation of this thesis. Although numerous studies have been done in this field, the present study attempts to consider a wider range of influential factors.

In the *first chapter*, the current geographic location of Tehran, population, size and administrative division of districts are discussed. Also, a summary of Tehran's urban history, the most important historical periods related to the its formation and the reasons for the rapid expansion of the city and the fast increase in its population is expressed.

In order to get acquainted with the urban planning system in Iran, especially in Tehran, the *second chapter* provides a background to urban planning in Iran, describes the most important urban development programs at the national and local levels over the last 30 years, expresses the administrative-political structure of Tehran's urban management and its components, and ultimately, attempts to address the weaknesses of the city's model of governance and the inefficiencies of urban plans to answer this question : Why Tehran, as the capital of Iran and the most important city in the country, and despite more than thirty years of urban planning experience, continue to suffer from major problems?

The main purpose of the *third chapter* is to depict the socio-spatial inequality in Tehran. To achieve this purpose, 22 districts of Tehran are compared in terms of social and spatial indicators. Social indicators include demographic

characteristics of each district and the most basic development criteria, such as illiteracy rate, unemployment rate and crime distribution model, and spatial indicators are those criteria that determine the quality of residential buildings,

the value of land, the availability of residents of each area Primary urban services and infrastructure studies. All of these indicators have been extracted and classified according to data available in the latest census in Tehran in 2006. After a separate comparison of each of the indicators in order to achieve a more comprehensive result, a numerical taxonomy model has been used. Numerical taxonomy is a classification model used to compare the development level of different points. The results of all comparisons and outputs of the numerical taxonomy model in the ArcGIS software environment are shown on the Tehran mapping map.

The *fourth chapter* aims to create a general but realistic picture of the situation of today's informal settlements in Tehran. For this purpose, firstly is defined what is considered as informal settlement in the world and in developing countries. Following that the history of informal settlements In Iran, the factors affecting its formation and expansion over the past three decades are described. Also, the National Document for Enabling and Regularising of Informal Settlements as the sole policy of the Iranian government in dealing with these settlements is examined. According to this document, the typology of informal neighbourhoods and their physical and social characteristics are categorized. In the next step, the informal neighbourhoods in Tehran and their examples are described. Subsequently, types of these examples are identified by referencing the definitions mentioned in the national document about various types of settlements.

Part 1

1. Geographical and historical position of Tehran

1.1 Geographic framework

Tehran is the capital of Iran and Tehran province, The population of Tehran according to the last census of the year 2016 is 8,693,706 people and its area is 730 km. Tehran is the most populous city in Iran and western Asia and is the second largest metropolitan area in the Middle East with 15 million people. The city, located in the southern foothills of the Alborz Mountain Range, the longitude is 51 degrees and 2 minutes east to 51 degrees and 36 minutes east, with an approximate length of 50 kilometers and latitude 35 degrees and 34 minutes north to 35 degrees and 50 minutes north has an approximate width of 30 kilometers. (Atlas of Tehran, 2007)

The height of the city reaches about 2000 meters of the sea in the highest parts of the north and reaches 1050 meters in the southernmost parts. Tehran from the north led to the mountainous regions, and from the south led to the desert areas, resulting in different weather conditions in the south and north of city. The northern, has cold and dry weather, and the southern regions has the warm and dry climate. (Atlas of Tehran, 2007)

The western part of the city is considered the most appropriate area for development, due to its relatively favorable geographic location. New townships and towns are also mainly developed and developed on this side.

Tehran city is divided into 22 districts, 134 areas and 370 neighbourhoods.

Tehran hosts nearly half of the industrial activities, as well as the most important administrative and political centers of Iran. (Atlas of Tehran, 2007)

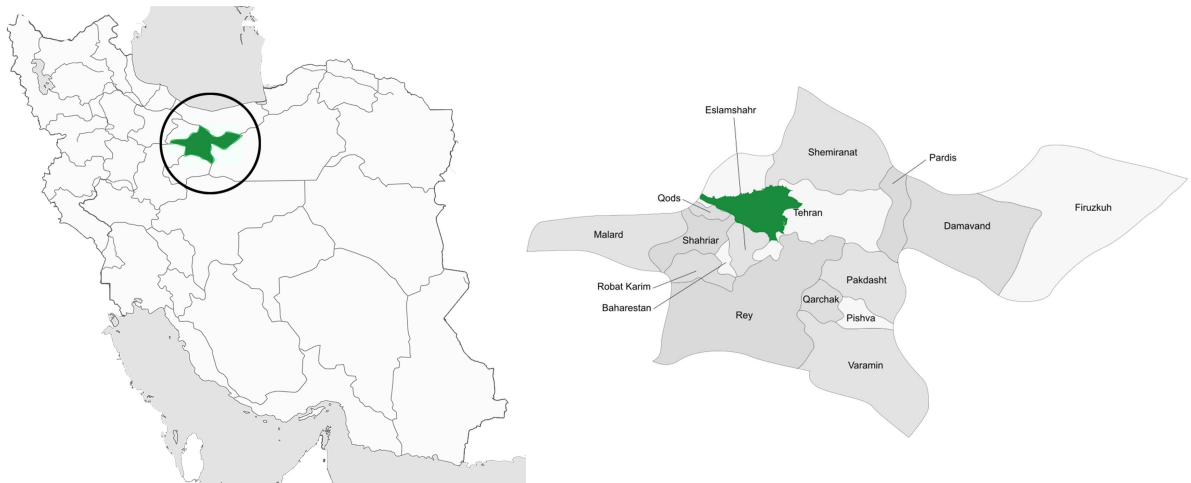


Figure 1.1: Tehran position in country and provincial divisions
Source: made by author

1.2 Brief history

Although Tehran from the point of view of Iran's political history, is the new city with 200 years old, but its historical record reaches over 3,000 years. Tehran was originally a relatively large village that had been located among the most magnificent and prestigious cities of the time, Ray and the foothills of Alborz. Tehran in 1785 had chosen as the capital for the first time, since then, Tehran has become the capital of three Qajar, Pahlavi, and Islamic regimes, each with its own structural features. (Atlas of Tehran, 2007)

Within a century, its population grew from 15 000 to 250 000. Towards the end of the twentieth century, it has become a city of 6.5 million population in the middle of a province of 11.1 million.

The city we know today as Tehran has gone through 8 important historical periods, and eventually it is in the form we see now.

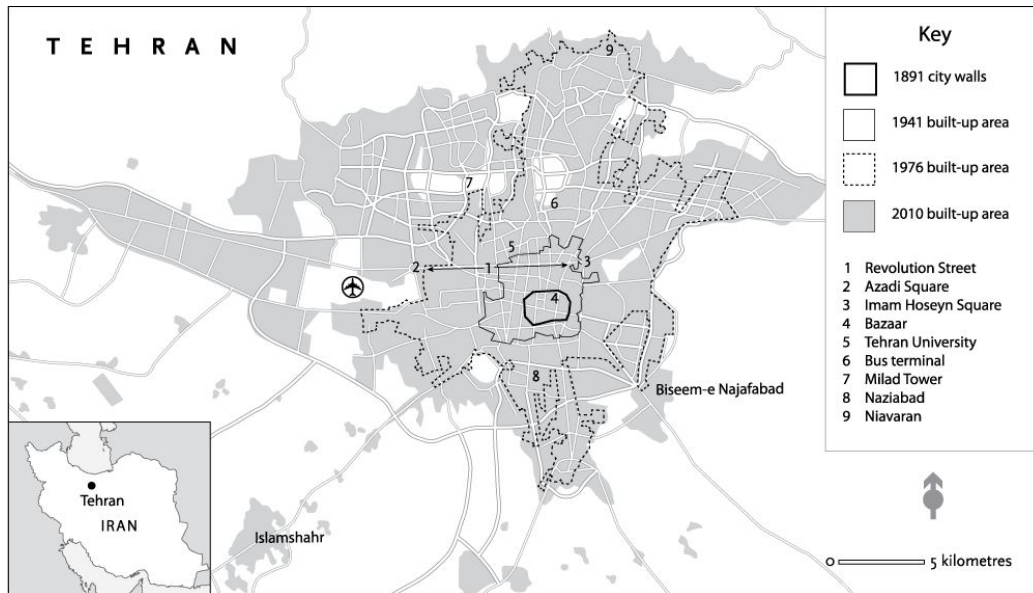


Figure 1.2:expansion process of Tehran
Source: Bayat,2011

These 8 periods,each one's transformations and generally the expansion process of Tehran are as follows:

- **In 1857**; Tehran was a country with a lot of gardens and pleasant weather. For this reason, was considered by king (Shah Tahmasb) and by his command, until 1857,was built a wall and 6 gates around Tehran. The area of Tehran rose to 440 hectares and its population was of about 100,000 people.

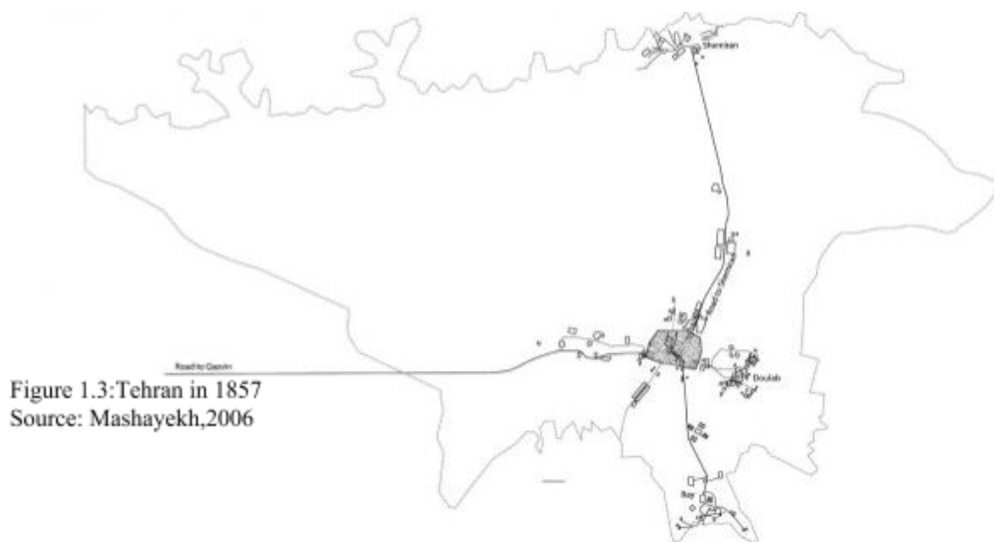


Figure 1.3:Tehran in 1857
Source: Mashayekh,2006

- **In 1890;** This year, Tehran was chosen as the capital. according to the order of king (Nasir al-Din Shah) and under the influence of the development of European cities, a new map was prepared for the city, according to which new lands entered to territory of Tehran. In this period Tehran was a city with 12 gates and about 150,000 population.

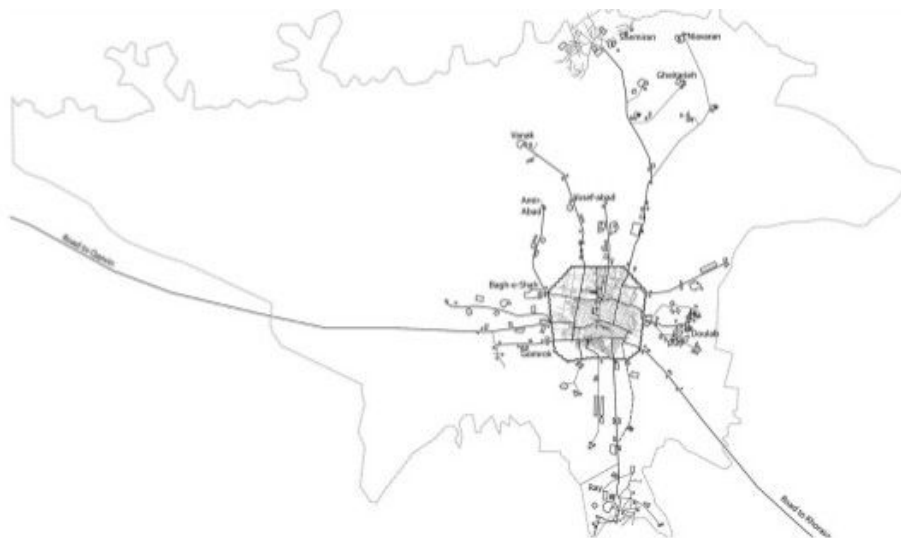


Figure 1.4:Tehran in 1890
Source: Mashayekh,2006

- **In 1937**; “Reza Shah” came to power in 1925; during his reign, the walls of the city were demolished and the city expanded beyond its borders, until 1937, the population of Tehran increased to 250,000. During this period the state affairs were concentrated in the capital and the number of state employees in the city increased rapidly, and Tehran, in addition to its previous two functions (political and business), also received a new duty that was an administrative task.

- **In 1953**; Before the 1940s, there was little difference between Tehran and other cities of Iran, but since the second half of the 1940s, coinciding with the Pahlavi regime, under the influence of more government investment for Tehran's prosperity, as well as job opportunities created rapidly, the city population grew to more than 1 million and half people by this year. As a result, Tehran has grown more than other cities of the country. (Bayat, 2010)

- **In 1968**; In the beginning of the 1960s, Tehran had a population of about 2 million. In the decade, due to rising oil prices and developments in economic structures, as well as land reform and the creation of jobs in the industries and services, especially since the second half of the 1960's, Tehran's population was increasing every day cause by the number of job seeker immigrants. These key changes were made Tehran's first comprehensive plan would be approved in this year. (Bayat, 2010)

- **In 1979**; Land reforms liberated about 3 million rural villagers without land from the countryside, they were in the city of Tehran pursuing a new life for themselves. The extensive migration of villagers to the city caused a dramatic increase in the population of the capital, so that over the course of 10 years (1965-1975) The population ranged from about 2.7 million to 4.6 million. Upon the 1979 revolution, Tehran with a population of about 5 million represented a hierarchy of classes, but not only in the economy, society and cultural conditions, but also This separation was also apparent in the city's spatial design. The collection of royal palaces and houses of first-class people were located in the north, the central areas from the east to the west, it belonged to the middle class: government employees, professionals, and small business owners. But the cheapest land belonged to the southern parts of the city, and therefore to rural dwellers, workers and other poor people. (Bayat, 2010)

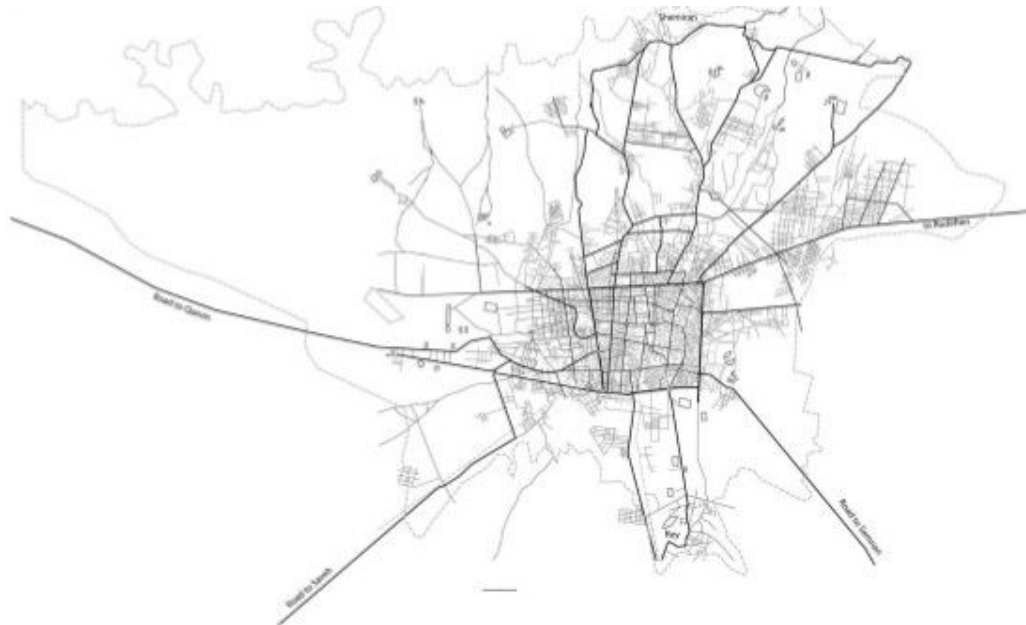


Figure 1.5: Tehran in 1979
Source: Mashayekh, 2006

- **In 1989;** Immediately after the fall of the Shah, a large number of immigrants came to the capital to benefit from the fruits of the revolution, which is the same occupation and home and social status. In addition to the rural migrants, in the years after the war, 2.5 million war refugees from across Iran, and later in the mid-1980s, 2 million Afghan refugees arrived in Tehran. All of these factors together contributed to an increase of 72% in the urban population of Iran over the 10 years (1976-1986), of which the major share belongs to Tehran. (Bayat, 2010)

- **In 1998;** The first postwar government, from 1989 to 1997, sought to overcome post-revolutionary and war years and its effects. Post-war rehabilitation began under the name of two five-year development programs. The first (1989 -94) revealed problems in Iran's development, such as population growth and inadequate infrastructure. The second plan (1994-99) called for efficiency in urban planning and management, municipal self-sufficiency through taxation, and The decentralization of power by the city councils. The second comprehensive plan of Tehran was approved in 1992. The population of Tehran increased by 2000 to 6,700,000. (Bayat, 2010)

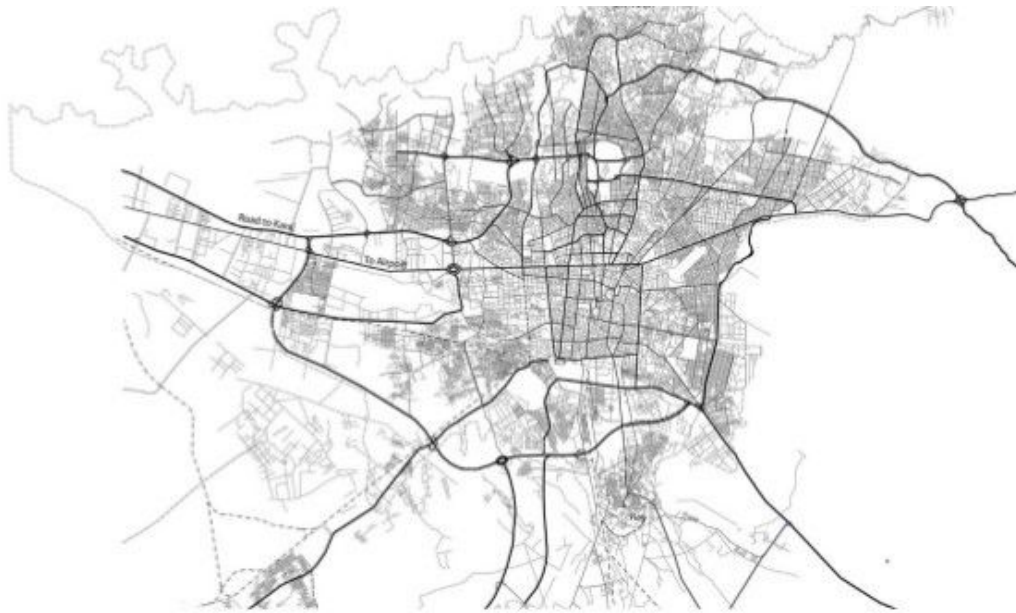
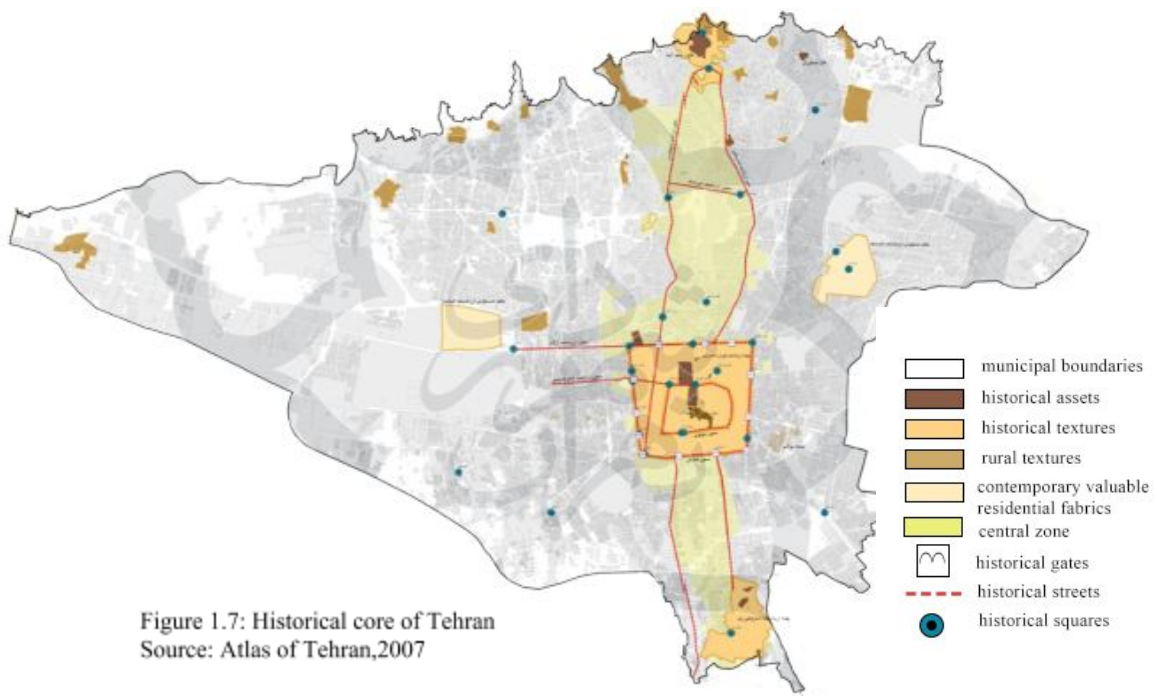


Figure 1.6: Tehran in 1998
Source: Mashayekh, 2006

1.3 Historical core of Tehran

Tehran has been the capital of Iran for more than two centuries. The historic center and the first nucleus of Tehran, known as Naseri Fence, belonging to the years 1848 to 1896, now have an area of 2250 hectares in the 11th and 12th districts of Tehran. It has the most valuable monuments and historical texture of Tehran.

Apart from the Grand Bazaar that has survived from the period of Naseri, the main functions in this area mainly include government functions such as the Islamic Consultative Assembly in Baharestan Square, the Presidential Palace is located in Valiasr-Pasteur and the Officer's School in the south, as well as religious and cultural activities such as the Sepahsalar Mosque and School in Baharestan. This area also includes a large number of important historical squares and streets that are due to antiquity and visual attributes have historical, contemporary or cultural value. (Atlas of Tehran, 2007)



Part 2

2.Urban governance of Tehran

2.1 Background of Urban Planning in Iran with special emphasis on Tehran

Iran has a long history of urbanization. The first census in Iran dates back to 1956. Therefore, the first official statistics of the urban population refers to this year. The data from the census show that in the last half century the urbanization trend in Iran has risen and is about 20% higher than the global average. Studies show that the number of cities in the country increased from 199 points in 1956 to 1139 points in 2011. From 1956 to 1976, Tehran was the only metropolitan of the country, but since 1986, the number of metropolitan cities has been rising. The most populous cities of the country in 2011 were Tehran, Mashhad, Isfahan, Karaj, Tabriz, Shiraz, Ahwaz, Qom, which totaled 19.4 million or 36.2% of the urban population and 25.8% of the total population of the country. According to the UN Human Development Report, the proportion of urbanization in Iran in 1960 was 34%, which increased by 58% in 1992.

The increase of urbanization due to the two main factors: the transformation of rural settlements into the city and migration of villagers to cities.

Hastily urbanization in Iran, and especially the quick expansion of Tehran's urban area, created the base to establish the urban planning system.

To survey the history of urban planning in Iran with a special look at Tehran, it can be divided into six historical periods; Although these periods are not aligned

in terms of the time scale, the events and transformations of each period distinguish it from the other.

The first period, before modernism (1871-1924): At this time, due to the numerous trips of the king and courtiers to the European countries, the first steps of urban planning in Tehran was took, by the modeling of the urban planning system of these countries. The map of Tehran is being prepared and based on which management and decision making, will begin to develop Tehran, but the main feature of urban planning during these years is centrality, authoritarianism and lack of collective participation.(Andalib,2008)

The second period; Modernism (1924-1979): The years of power of both the first and second Pahlavi dynasties. The first Pahlavi, with its Husumian pseudo-actions, split the old and integrated texture of the cities of Iran, and in particular Tehran, by create a network of streets due to cars traffic inside the city. First Pahlavi, to show Iran's power and authority, it tries to turn Tehran into a symbol of progress, but the actions of this period are often superficial and apparent. During the second period, In accordance with the sovereignty of the country, everything including the local government is under the control of the central government. The urban planning's key element of this period is preparing and approving Tehran's first master plan in 1968.(Andalib,2008)

The Third Period;Anti- -Modernism and Neglect of the Past (1979-1988): During the first ten years after the revolution, under the influence of the slogans and ideals of the revolution, including the struggle against imperialism and Western worldview, are confronted against Western urban planning and urban management patterns as Modernist currents, including by turning Tehran into a metropolis.

In this period, the first Master plan of Tehran is set aside. The government proposes to reduce migration to Tehran, but in practice, in the years 1980-1982, the process of immigration to Tehran intensifies, and thus begins the an unplanned development to the north, west and South of Tehran. During this period, the municipality is not active as a local government in urban planning and management,too.(Andalib,2008)

The fourth period; modern city (1988-1999): The first post-war government seeks to eliminate the effects of war and the quick reconstruction of cities, in the same way it tries to revive Tehran as a modern city. The urban planning system of this period , Is followed by a technocratic approach in the form of

instructional and communicative management. During this period, the Tehran's organizing plan is prepared, but with the arrival of the municipality of Tehran as the city's executive management and implementation of major projects such as the construction of the Navab highway and modern residential complexes Around it, the building in the north of Tehran and the sale of congestion, the organizing plan of Tehran is not implemented.(Andalib,2008)

The fifth period; a weakened technocratic approach (1999-2003): this period can be considered as a kind of continuation of the previous period by weakening the technocratic approach. However, during this period the Islamic city councils are formed, but the urban development approach is the same as the previous one, and The reason for the ambiguity of the position of city councils and the mechanism of their communication with mayors, these councils do not have the power to play a role in urban management and planning.(Andalib,2008)

The Sixth Period; The Restoration and Reformation Approach (2003-2008): The preparation of the newest Master plan of Tehran begins. For the first time, a specific institution is established for provide the development plans. However, the establishment of a special institution for the prepare of urban development plans represents an new approach in Urban Planning in Iran, but this approach has not had much impact on the flow of urban management and urban development processes.(Andalib,2008)

2.2 The main national plans in the field of housing and urban planning

Urban management in Iran can be introduced at three levels: National level, Regional level (provincial) and Local level.

Accordingly, at the national level, there are three main institutions: Ministry of the Interior, the Ministry of Roads and Urban Development, and the Supreme Council for Urban Planning and Architecture .Other institutions Effective on decision-making at the macro level of spatial planning are Environmental Protection Agency and the Housing Foundation. At the regional level, the Governorate and at the local level, the municipalities and city councils are the most important management and planning organizations.(Homafar & Rezvani,2013)

2.2.1 National structural plan

The problems caused by the rapid growth of the population and the consequent irregular spread of housing and activity centers, especially in the cities, the lack of basic studies of urbanization and the lack of land use plans and construction regulations across the country led to the thought of national and regional physical plans to planning of sustainable development of settlements and territory management in 1990. The study of structural plans is carried out at three levels: national, regional and zone. Based on this plan, Iran has divided to 10 main regions (including one or more provinces) and 85 zones . The main objectives of these plans are:

- To study the proportion of land to future expand the current cities and create new cities and towns
- The suggestion of the future urban network of the country and zoning across the land means determining the desirable land uses of the country.
- Separation and construction requirements for each designated application

After preparing and approving the national plan, regional studies were considered as second stage plans by the Ministry of Housing. Studies of regional somatic plans, as the second level of national somatic plans, began in 1995.

2.2.2 Urban Development Plans

In 1974, with the adoption of the Law on the Establishment of the Urban Development and Architecture Supreme Council, the urban development plans in Iran were divided into three categories of master, detailed and conductor plans. The duties and content of each of these projects are as follows:

-Urban Conductor Plan

Is a plan for the city future development and how to use urban land for various functions, it is to solve the city's urgent problems and provide short-term solutions suitable for cities which do not have the master plans.

The plan actually addresses the urban development general principles and directs the development path.

These plans were prepared by the Interior Ministry in 1964 as urban networking planning. Currently, they are usually provided for a ten-year period, for small towns with a population of less than 25,000 people.

-Master plans

The comprehensive plan is a long-term plan for determining the use of land and zoning for residential, industrial, commercial, administrative and agricultural areas, and facilities and equipments for renovating, upgrading and prioritizing areas. And the terms and conditions relating to all items, as well as the rules relating to the preservation of monuments, historical monuments and natural landscapes, are prepared and regulated and will be revised as necessary.

In fact, the master plan acts as a guide and defines the general policy of urban development. In the comprehensive plan - usually 1: 10000 and 1: 5000 scale - the location and distribution of major urban uses (such as educational, sanitary and green spaces), population density, boundaries and limits Urban (existing and proposed) and the direction of future development of the city are represented by signs and colors and is provided for cities with more than 25,000 inhabitants.

-Detailed plan

The detailed plan is a plan that, based on the criteria and general rules of the city's master plan, puts forward the mechanism to use urban land at different city districts, the exact location of the land for each of them, the precise and detailed conditions of the transit network, the density of population and the density of construction in urban units, priorities related to the areas of development and renovation, development and settlement of urban problems and the location of all the various urban factors are determined, and the plans and specifications relating to ownership on the basis of records are adjusted registered.

the detailed plan - as its title suggests - contains the details that the master plan has addresses them in general. The studies for preparation of the detailed plan is carried out in accordance with the master plan, and in fact, it designs micro plans and partial actions in urban areas and neighborhoods.

-Comprehensive housing plan

The comprehensive housing plan from 2014 to 2026 is based on documents the Constitution of the Islamic Republic of Iran, and the law on the regulation and protection of the production and supply of housing. The plan has been developed by the Ministry of Roads and Urban Planning on the basis of structural reforms needed in the implementation of studies and principles of housing policy making, It includes two main components:

- The first section provides an overview of the current housing situation as well as its quantitative outlooks and examines the demographic changes of the country over the past 20 years and the state of supply and demand for housing.

- The second part, however, addresses the objectives and implementation plans in the housing are. These goals and programs are pursued around the seven main axes:

- Housing of low income groups
- Improvement and renovation the decayed urban tissues and organization the informal settlements
- Reformation in land policies
- Supporting the building industry
- Improvement and development of housing finance system
- Rural housing melioration
- Development of the rental housing market

2.3 Administrative and Political Structure of Tehran's urban management

Tehran's city administration is the responsibility of Tehran's "municipality", a non governmental organization and its major revenue is the sale of congestion for real estate and construction. The organizational structure of the municipality consists of 9 deputies in various fields such as environment, transportation, human resources, social affairs and development affairs. Managing this organization is duty of the mayor of Tehran, which was previously appointed by the Minister of Interior of Iran, but now is elected by voting in the Tehran City Council. The Islamic city councils established in 1999, 20 years after the Islamic Revolution. The members of the city councils are elected by direct vote of the people, but the choice of the mayor is on the council, and they appoint a person who is outside the council members. In fact, people do not have a role in choosing a mayor.

Afterwards, the mayor, chooses heads of departments and deputies of the municipality and mayors of the 22 districts, the city council do not have any legal authority in these processes.

According to Tehran's organization plan, the hierarchy of the spatial organization of Tehran city consists of 5 levels: city and beyond, area, region, district and neighborhood. But, the Tehran Municipality management organization has been formed up to three categories : Tehran municipality, districts and areas municipalities and city council. Therefore, the neighborhood

unit in the management structure of Tehran has no specific and organized management. On the other hand, there is no defined planning section in the structure of the districts municipalities to implement the development and reconstruction plans of the district, area and neighborhood.

The appointment of the mayor has caused the strong dependence of the urban management elements on the macro-power structure and this process, has exacerbated the lack of civil institutions and public participation and has led to the transformation of the urban management area into a renewal arena for the political groups.

Also over the past 16 years since the establishment of the councils at the neighborhood level, due to the lack of established citizenship rights, the lack of mechanisms for guiding demands, centralized and government-oriented legislation and policy making, and the lack of clarity of the status of institutions and organizations in programs, the main strength is still at the central government, so the partnership model is top-down, and people do not have any participatory and supervisory role at the level of the metropolitan program, and not at the level of regional and local initiatives.

2.4 The major urban plans in Tehran Province and Tehran metropolitan

Iran is governed as a unitary state, meaning local organizations (such as municipalities and official organizations in provinces, cities and rural areas) are not independent, they are all subordinates of the central power and the central government controls and supervises their activities. (TaHERi,1998) So none of local and regional organizations are able to make policies independently, and their role is limited to execute and implement the plans and decisions made in higher levels of the hierarchy, they also can control how these policies and approved plans will be implemented and their task is to execute the policies and plans made by Ministry of housing and urban development, ministry of state and Supreme council for urban planning and architecture of Tehran. Some of the major plans for Tehran are as follows:

-Master plan and Detailed plan of Tehran which was discussed in the previous section, should be mentioned it has been defined a separate detailed plan for every of 22 districts of Tehran, based of its social and somatic characteristics.

- **Zonal plan and functional plans of Tehran** are another level of development of Tehran, and after Master plan (first level) and Detailed plan (second level) function as base guidelines for regulating and developing the city, and in fact are the operational level of the previous levels. This level of urban development includes all the aspects and requirements in the intra-city, inter-city, zonal and regional scales of Tehran, which in addition to detailed plan must be implemented in another level.

- The first Master plan in 1969

The first master plan of Tehran was provided by Victor Gruen. At a time when Tehran had an area of 180 square kilometers and 2 million and 700 thousand inhabitants, the plan divides the city into 10 regions, and the population of each region is estimated at about 500 thousand people.(Bayat,2010) These areas are connected with network of highways and rapid transportation. The plan's vision was predicted the city's expansion to its west, with an area of 650 square kilometers and a population of 5.5 million by 1990. The plan failed under the influence of the changes made in the 1960s and 1970s

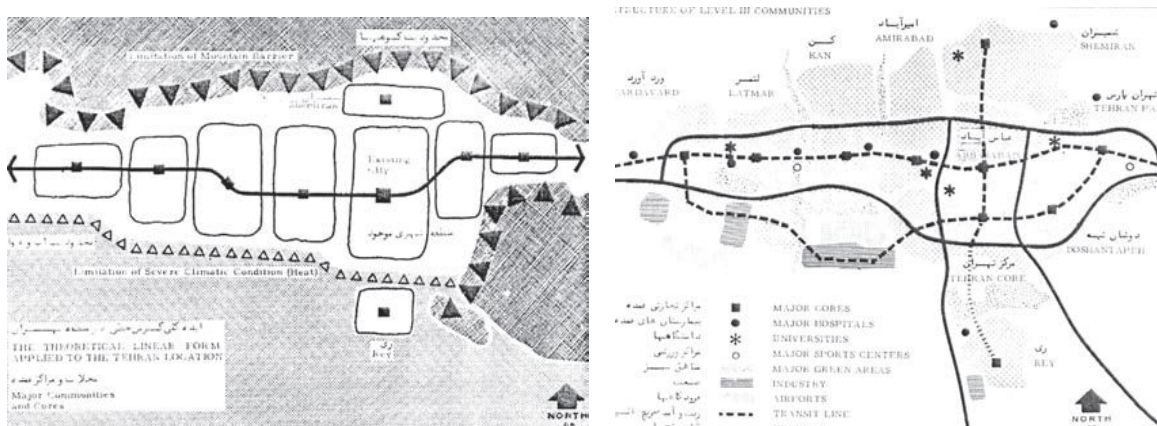


Figure 2.1: First master plan of Tehran
Source: Ministry of road and urban development,2017

- The second Master plan in 1991

Tehran's second comprehensive plan, based on the scope and structure of the previous plan, divides the city into five management domains, including 20 regions and 2 further regions. Based on this plan, the Tehran Municipality's financial benefits is provided through selling density and dealing with land owners for land utilization. The project also focused on around of Tehran, but without considering the existing cities and towns, five new cities were proposed to establish the population in zone of Tehran.

-The third and last Master plan in 2007

The third and final master plan of Tehran in 2007 was approved by the Supreme Council for Urban Planning and Architecture of Tehran as the Strategic Structural Development Plan of Tehran. Currently, the general policy and development policies of Tehran are determined based on the contents of this plan. Based on the third comprehensive plan, Tehran with a size of 611 square kilometers and 22 districts has been divided into 4 main areas including habitation, activity, complexity and green conservation.

For the first time, in this plan has been paid attention to the historic core and valuable historical buildings of Tehran, and has been established the rules and regulations construction in the historic limits. Also all rules related to building congestion, transportation network, high-rise building (12 floors and more), and segmentation and aggregation of blocks are stated.

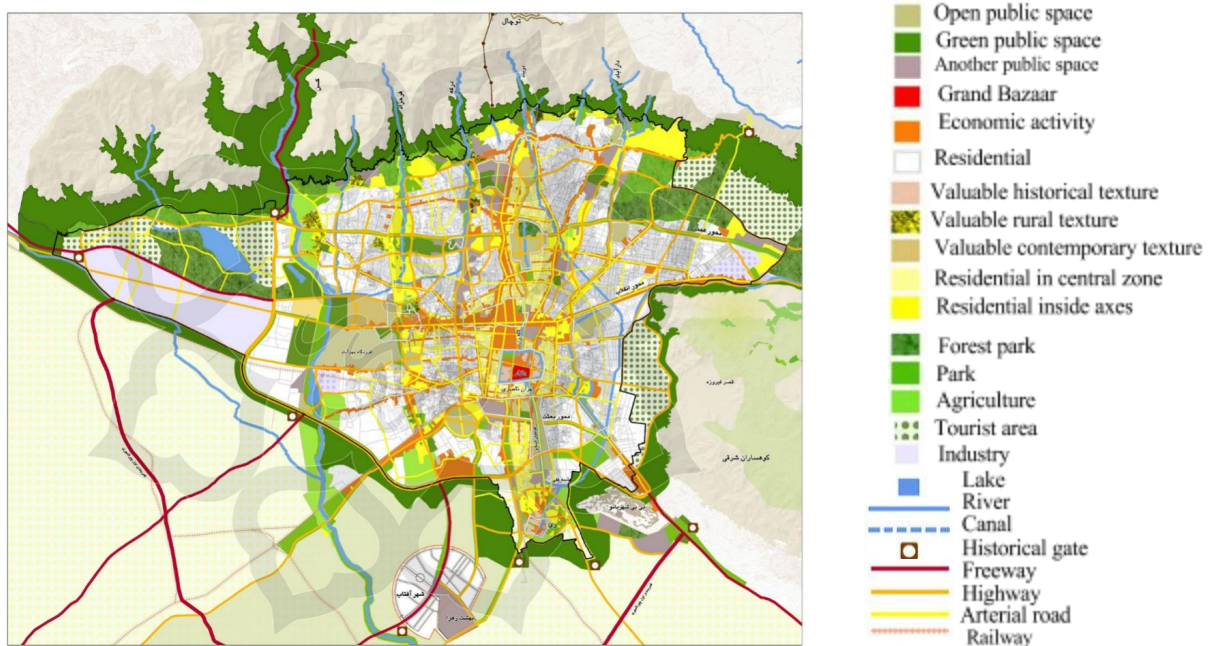


Figure 2.2: Spatial zoning of Tehran
Source: 3th Master plan of Tehran, 2007

The most important development strategies of the city of Tehran according to the latest master plan are:

- protecting the area and preventing any expansion of the city of Tehran and fixing the boundaries of its confines from the north, south, east and west of the city.

- Social development and settlement of population

The Tehran population in the vision of the plan (1405) based on the natural population growth and the analysis of the latest census results has been predicted about 8.8 million.

All programs has been done to fulfil needs and provide urban services for 9.1 million people including the resident population and working population (daily population). The resident capacity, is considered based on 120% of predicted population, which is about 10.5 million people.

- Economic development of Tehran

Replacing sustainable sources income to supply of urban costs and gradually reducing the of revenue from sales congestion

- Improvement the somatic condition and organization the urban spatial

- improvement,renovation and rebuilding of decayed texture in Tehran

2.5 Evaluation the effectiveness of urban plans

It has been about five decades since the preparation of first urban development plans in Iran, however these plans achieved some significant results, most of them, in practice, have been unsuccessful in developing urban processes, although these plans are the most important tools for city structure adjustments and a variety of measures and construction permits are carried out based on them. Also urban development plans in Iran have not been able to achieve horizons and goals at the end of their validity period. In other words, the main purposes of the urban development plans, such as maintaining the city limits, preventing expansion outside the city plan, accurately predicting future needs based on the population growth process, the proper distribution of congestion and utilization, etc., have not been implemented in most cases.

An overview of the process of preparing and approving urban development plans in Iran represents a centralized and top-down approach to providing them. Urban development plans are prepared and prioritized by the central government. These plans are prepared on the basis of the Management and Planning Organization authority and the decision of the Ministry of Road and Urban Development or the Ministry of State without which, in many cases, the plans implementer meaning the municipality, is involved in the procurement process (Tashakor, 2000). On the other hand, due to the lack of independent local governments and inadequate city councils, citizens are not involved in the process of preparing and setting up urban plans. Planners and decision makers are not aware of the real needs and priorities of the people, and therefore the objectives of the plans do not coincide the demands of the citizens. Now, people's participation in urban development process is limited to contribute people in implementing construction projects by financing them.

On the other hand, the process of preparing and implementation of urban development plans is not an integrated process, on the contrary it consists of two distinct parts of the compilation and implementation, and different authorities are responsible to do each of those sections, without any interaction and cooperation together. As a result, organizations involved in the preparation process, regardless of the facilities, capacities, constraints and credits of the

plans executives, meaning municipalities, specify objectives, time periods and priorities of plans, thus the municipalities are not able to execute them. Meanwhile, in recent years with the reduction of the government's funds to municipalities, most of them can not provide enough funds and also considering

the municipalities current tariffs and incomes, they are not able to implement some basic and necessary measures to develop cities. In another side, because of the economic conditions and level of urban households's income, it is not possible to raise urban taxes or tariffs.

One of the other weakness in the process of preparing and implementing urban plans in Iran is the lengthy process of reviewing and approving them. The process of reviewing and approving urban plans until to communicate them to executive agencies due to complex bureaucracy takes about three to four years. During this time, due to the hastily development of urbanization in Iran and its consequences, such as quick changes in the land use and continuous construction, in practice, some parts of the contents of the plans lose their function and effectiveness.

However, the urban development plans failure and their non compliance on cities's reality, depends not only on the reviewing and approving process, as described above, but also it depends on dominant content and thought of them.

The city as a complex structure, is formed of different aspects and diverse angles, in order to achieve a comprehensive development, should be provide the necessary conditions for growth of all its fields.

The preparation of urban development plans in Iran consists of three successive phases:

- Surveying and recognizing the current status including the general knowledge regional, the study and recognizing the city
- Analysis and inference of reviews
- Preparation of urban plans

Thus, Iran's urban development plans continue to follow the positivist model (survey / analysis / plan) based on Patrick Gadel's ideas., Is in fact the most emphasis on plan studies to achieve a product, rather than focusing on planning as a dynamic process. (Saeednia, Mehdizade, 2003) Therefore, it can be said that these plans, instead of providing strategy and urban development policies, only provide solutions based on quantitative data.

On the other hand, the most focus of these plans is on the development of visual structures (buildings, streets, city boundary,...), while the social, cultural and economic structures of cities are equally important, and the lack of attention to all aspects together, reduce the plan effectiveness and the practicality of their purposes.

Another problem related to the content of urban development plans in Iran is the lack of compliance of their content and structure with different geographic, social and economic characteristics of diverse cities. While the issues and priorities of each city can be different and therefore require solutions and strategies which suit their own circumstances, the description of the services and duties of these projects is the same for all cities.

In summary, the reasons for the ineffectiveness of urban development plans in Iran, from the point of view of content for how they are prepared and implemented, can be mentioned:

- The top-down decision-making process and lack of people's participation
- Lack of interaction between the organizations responsible for planning and implementing
- Insufficient funds to implement plans
- Lack of local government to accurately identify the real needs and priorities of citizens
- Disregarding the social, cultural and economic fields of cities and emphasizing only on visual aspects
- The ineffectiveness of some part of the plan's content because the process of preparing, approving and communicating plans is too long
- Description of the same objectives for all cities, regardless of the specific features and issues of each city

Part 3

3.Social and spatial analysis of Tehran's districts

In developing countries, the growth rate of urban growth in the past 30 years has been outstanding and very significant. Since 1950, the share of the population living in the cities of developing countries has almost doubled, from a figure of 16% to 32% . In Iran, with the increase of oil revenues, especially during the past 50 years, urbanization has accelerated so much that the growth of cities has surpassed their development (Sarafi,2002). This rapid and unplanned urbanization has caused a sudden increase in the number of millions-people cities in Iran. . In the year 1956 there was only one million-people city in Iran, but by 2006 this number increased to 5 million-people cities in a period of 50 years.

Unplanned expansion of cities, especially in large and populated cities, established a platform for uneven and unbalanced growth of the city in all its aspects. These conditions also is present in the spread of Tehran, as social problems and spatial heterogeneity have increased in recent years and have posed a serious obstacle to Tehran's sustainable development.

In the past century, Tehran has witnessed two parallel processes of rapid and all-round spatial and social growth and an ever-increasing separation between classes .

The geographical position of Tehran has had an important impact on the city's spatial quality in a way that, in terms of natural landscapes, there is a certain superiority for the northern regions. From the beginning of the nineteenth century, with the increase of land speculators, there was created a dual polarization in the city, this situation continued as the country entered the era of global capitalism and the transformation of social structures, and on the other hand, the pricing mechanism of land and property, Institutionalized the difference in values between various city regions . The spatial and social disparity between the north and south of Tehran as the main feature of the spatial structure continues after the Islamic Revolution and the war, in a way that this inconsistency is clearly seen at the city level. The north-south separation pattern of Tehran reflects the layers of the income of a society in which relationships are increasingly defined on the basis of people's access to money (Madanipour, 2006).

In the other hand, In David Harvey's view, social justice in the city must be in such a way as to respond to demographic needs; regional allocation of resources must be directed at individuals with the least gaps and objections to their rights, and in fact social justice means" Fair distribution through fair way".

Justice in the city should respond to the following propositions:

- Appropriate allocation of facilities and services
- Use of the potential and actual power of the city
- Eliminating the gap between the poor and the rich
- Preventing the creation of inappropriate and informal settlements (Harvey,2000)

This chapter attempts to answer such questions; How unbalanced development of Tehran has impacted on the body and spirit of the city? The socio-spatial inequality in Tehran in which aspects is visible? And what are the indicators that can describe it?

For this purpose, in order to investigate the forms of socio-spatial inequality in 22 districts of Tehran, two main groups of social indicators (including population, migration, education, employment rate and crime rates) and spatial indicators (including housing, infrastructure and worn out texture) have been selected.

The findings of this section are based on data from the last census of 22 areas of Tehran in 2006.

3.1 Spatial analysis of inequality

3.1.1 Spatial distribution of population

The hastily process of population growth in Tehran began at the beginning of the Pahlavi regime around 1921 and increased tenfold during 40 years. The population of Tehran in the next 40 years (1961-2001) reached 7 million people. The net population added in this period is more than 5 million people. The data show that the population growth in the districts of Tehran during these years was not equal to the same. (Atlas of Tehran, 2006)

During this time, the central parts of the city lost their populations, and population grew in the districts which are bordered by cities around Tehran. So population growth in areas 6, 13, 20 and 14 was negative, area 4 has the most population and area 22 has the highest population growth. While almost all districts in northern Tehran have increased population during the years 1986-1996, the population has only increased in about half of the southern districts of Tehran, while the other half have lost their population during this period. As shown in figure (3.2), population dispersion among the 22 areas of Tehran is not proportional to the area of the districts, for instance districts 21 and 22, respectively, with an area of 51 thousand and 10 thousand hectares, have a population less than district 15, which its area is 35 thousand hectares.

Tehran has undergone a sprawling spatial development during certain periods, especially from 1976 to 1986, with only 25% of its expansion due to population growth and the need for land. But in the next period, from 1996 to 2006, the city's area has not increased and population density has increased. (Ghadiri, Dasta, 2016)

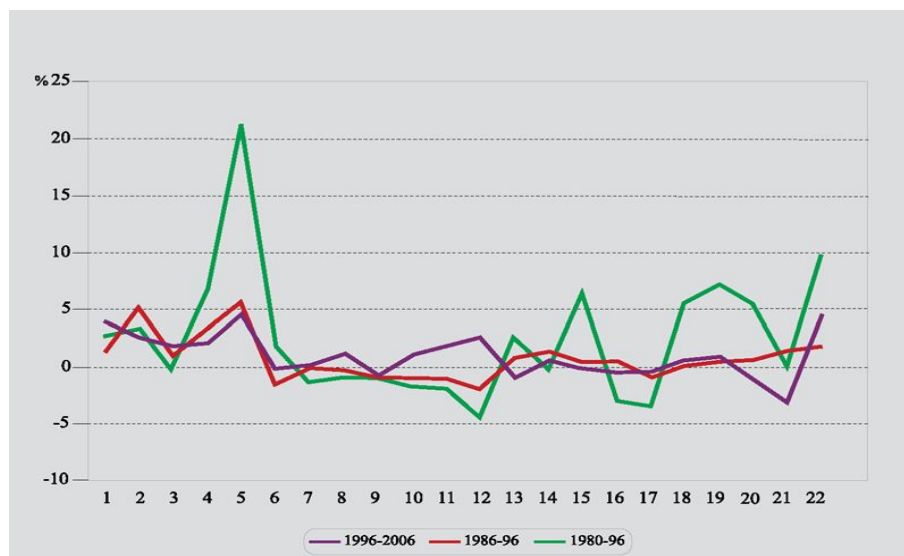


Figure 3.1: The population growth rate of districts of Tehran at different time periods
Source: Atlas of Tehran, 2006

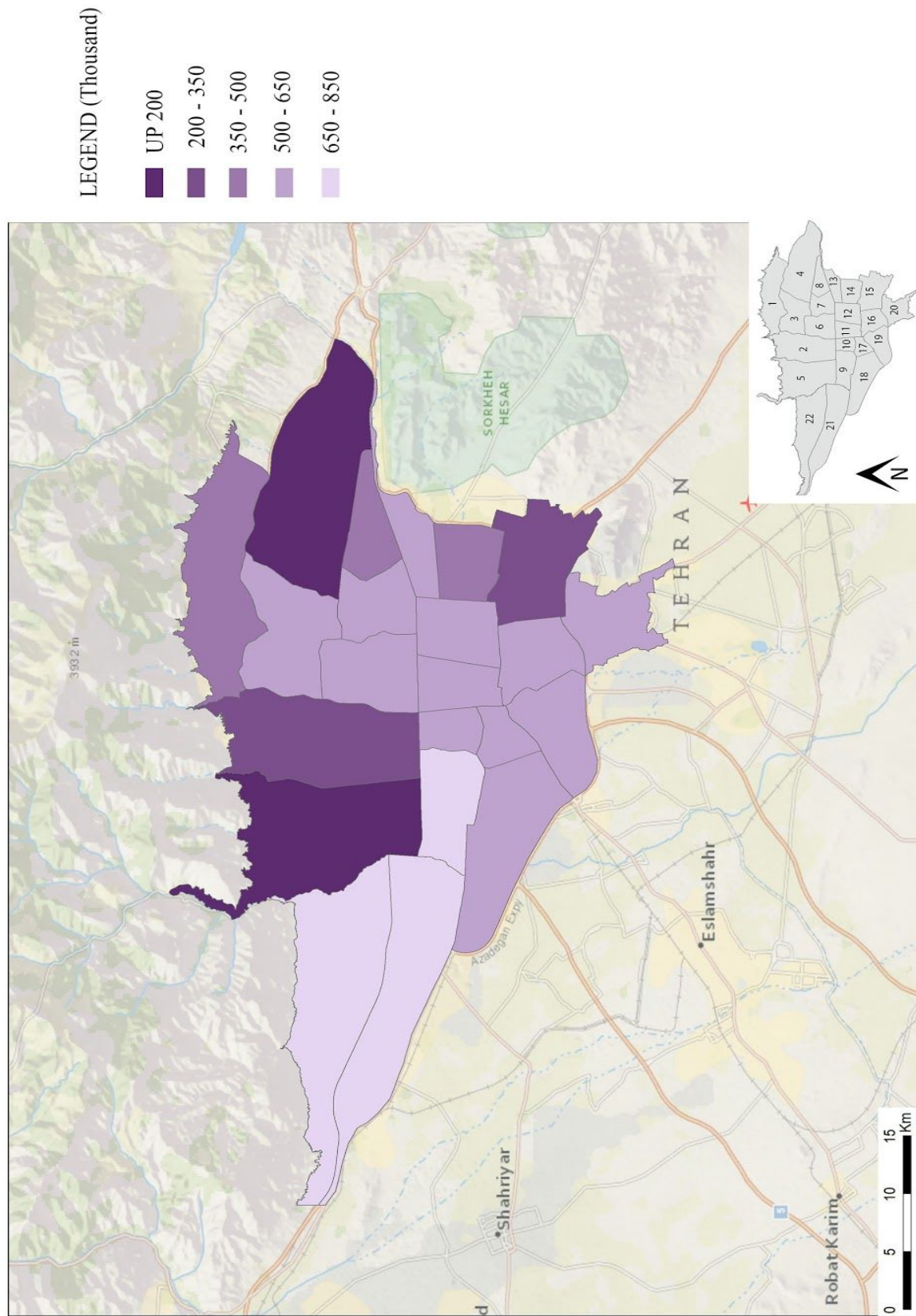


FIGURE 3.2: SPATIAL DISTRIBUTION OF POPULATION

Source: made by author

3.1.2 Population density

The population density index, indicates the proportion of an district's population to the area of the same district. The pattern of occupation of different parts of the city reflects their social and economic characteristics. That is why this indicator is the basis of many decisions of city planners and policymakers. The population density index, especially in the distribution of urban services, should be considered.

According to the latest census in Tehran, the average population density of Tehran in 2006 was about 131 people per hectare. Population density is not the same in all 22 districts of Tehran. There is a significant difference between the northern and southern districts of the city. The most densely populated areas are in the south-east of Tehran. The density of these areas is about 220-150 people per hectare, while the least densely populated areas of Tehran are located in the north of the city. The density of most northern areas of the city is about 10 to 70 people per hectare. The highest population density is observed in districts 10, 8 and 17, and the lowest density is found in the 12th and 22th districts in west of the city. A large number of southern districts of the city, such as 11, 12, 13, 16, 17 and 19, with areas less than 2000 hectares, have population of more than 200 thousand people. Therefore, the dispersion of the population in Tehran's districts as well as the area of different regions of Tehran are unbalanced and inconsistent. The 6 vast area of Tehran (1, 2, 21, 22, 5, 4) are more than twice the size of other areas, but as can be seen in figure (3.2) the population of some of these vast areas is equal or less than the smaller areas.

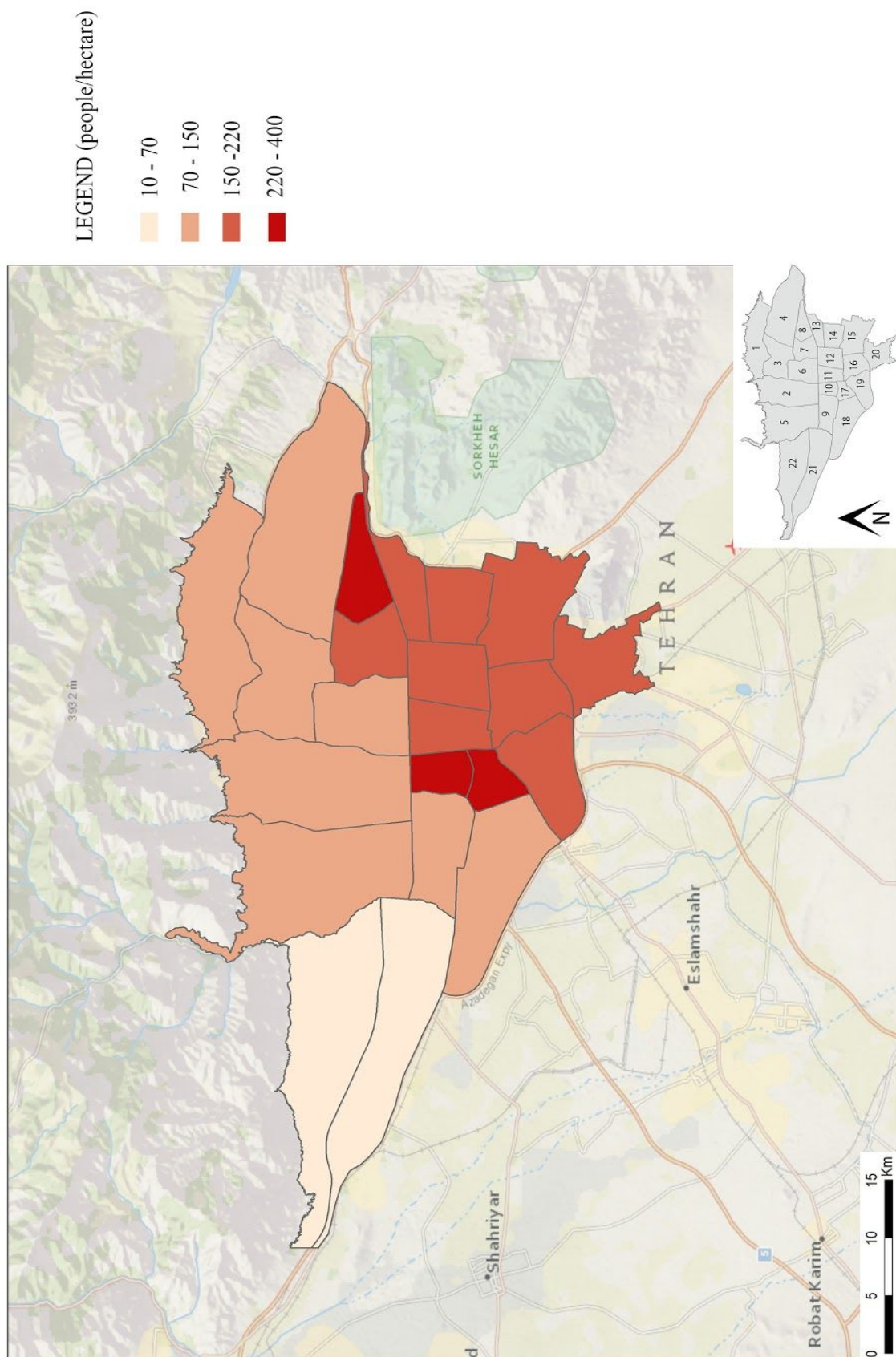


FIGURE 3.3: SPATIAL DISTRIBUTION OF POPULATION DENSITY

Source: made by author

3.1.3 Old age index

Tehran has an old aged population than other cities in Iran. The average age in Tehran is 31.2, while the average age in the whole country is 27.9. (Atlas of Tehran,2006).The distribution of age groups in Tehran is not monotonous. The southern and western districts have the youngest population. Apart from the 4th district in northeastern Tehran, the rest of northern areas of Tehran have an older population.The average age of the population in these areas is about 36 years old.

On the other hand, as far as the center of the city moves towards the margins, the average age of the population decreases (figure 3.4). The main reasons for youth population in districts 15, 19 and 18 are higher fertility rates and the migration of these areas (Atlas of Tehran,2006). But districts of 21 and 22 have youth population because they are newly established districts. These two territories were added to the city's legal territory in the second master plan of Tehran in 1991.

3.1.4 Rate of masculinity

Based on the data of the last census in 2006, 3986419 men and 3817464 women constitute Tehran's population. Thus, the number of men in Tehran is more than women. Masculinity rate means the number of men to women in Tehran is 104.4.

In most parts of the northern city of Tehran, there is a slight difference between the number of women and men, but the maximum masculinity rate is found in the southwestern regions to the west and south-east (figure 3.5). This is due to the fact that men migrate from the other places of country to these areas and because of the low cost of living in the southern parts of the city they choose these districts for their residence (Atlas of Tehran,2006)

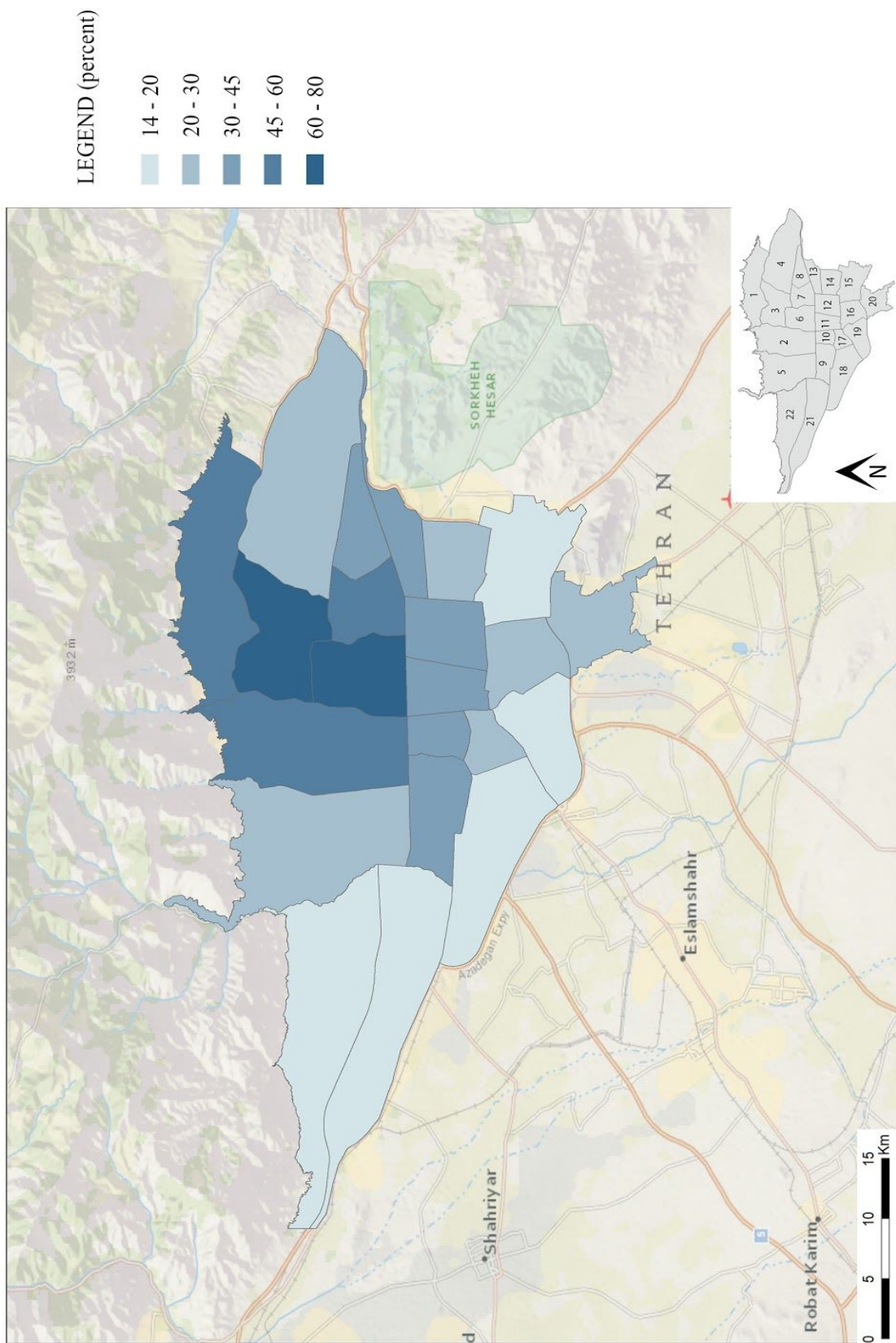
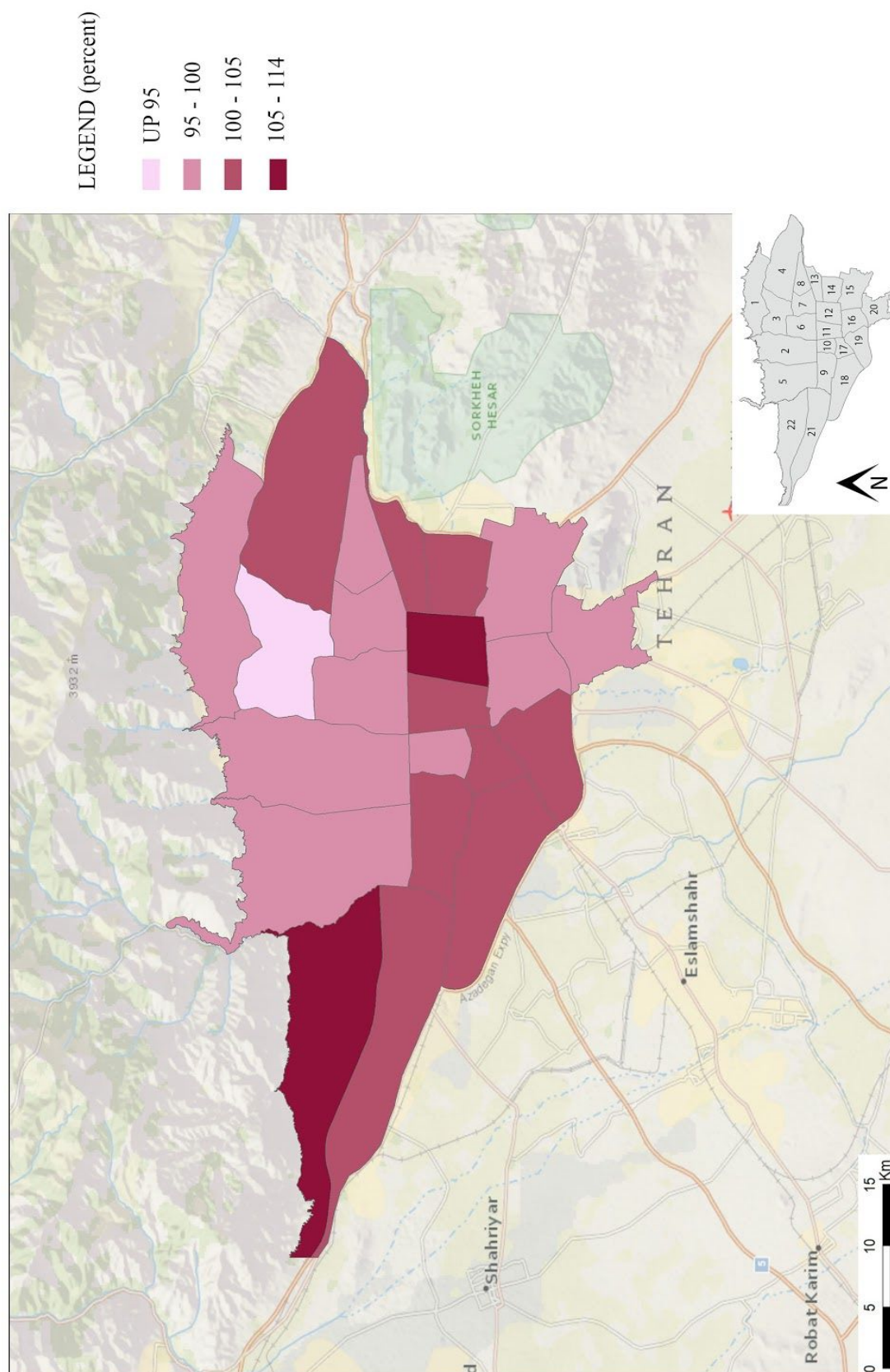


FIGURE 3.4:SPATIAL DISTRIBUTION OF OLD AGE INDEX

Source:made by author



Source:made by author

3.1.5 Spatial distribution of migrants

Tehran, as the main market for employment, value added and economic production in the country, is the first and the largest destination of immigrants. Currently, 20 to 30 percent of the total number of immigrants in the country is in Tehran province (Census,2006).A survey of population growth over three decades (1956-1986) shows that if the population of Tehran during these years only increased by natural growth, its population reached about 3,300,000 in 1986 but given that Tehran's population was about 6 million in 1986. It can be said that about 2,700,000 Tehran's over-population was due to immigration. (Iran's Statistics Center,2006)Also according to the latest national census in 2011, the increase of Tehran population from 2006 to 2011,it was not caused by natural growth due to fertility ,it rose because of immigration. According to this report, 88% of one million and 84 thousand people of added population of Tehran province is migrant population.

According to a study of information in the latest census of 22 districts in Tehran, the main reasons for immigration during the year of 1996-2006 are family follow-up, job search, and academic motivation.

By comparing two maps of the population dispersion (figure 3.2) and spatial distribution of immigrants (figure 3.6) in the districts of Tehran, there is a significant relationship between the high population and the district's immigration. The districts 5,4,2,1 and 14 have high population size and also the number of immigrants arrived in them during the years 1996-2006 is more than other districts. During this ten-year period, the population of these areas has been growing upwards. Except for the 15th region, which despite the high population and it accepted many number of migrants during this period, its population growth is negative (about -0.1 percent).

As shown in the figure 15, about 9-12% of the inhabitants of most districts of Tehran are immigrants. The districts of 6,9 and 22 have the highest proportion of immigrants to the their total population, around 15 to 19 percent.

On the figure (3.7) the migrants arriving in Tehran are divided into three groups based on their origin:

From the other cities of Tehran province, from other cities of Tehran region and from other regions of the country. Among these three groups, in all districts of Tehran, immigrants who came from other regions ,have the highest rate. Also, the largest number of job seeking immigrants,from 1996 to 2006 entered the areas 9,12,16 and 18 and generally entered the southern districts of Tehran.

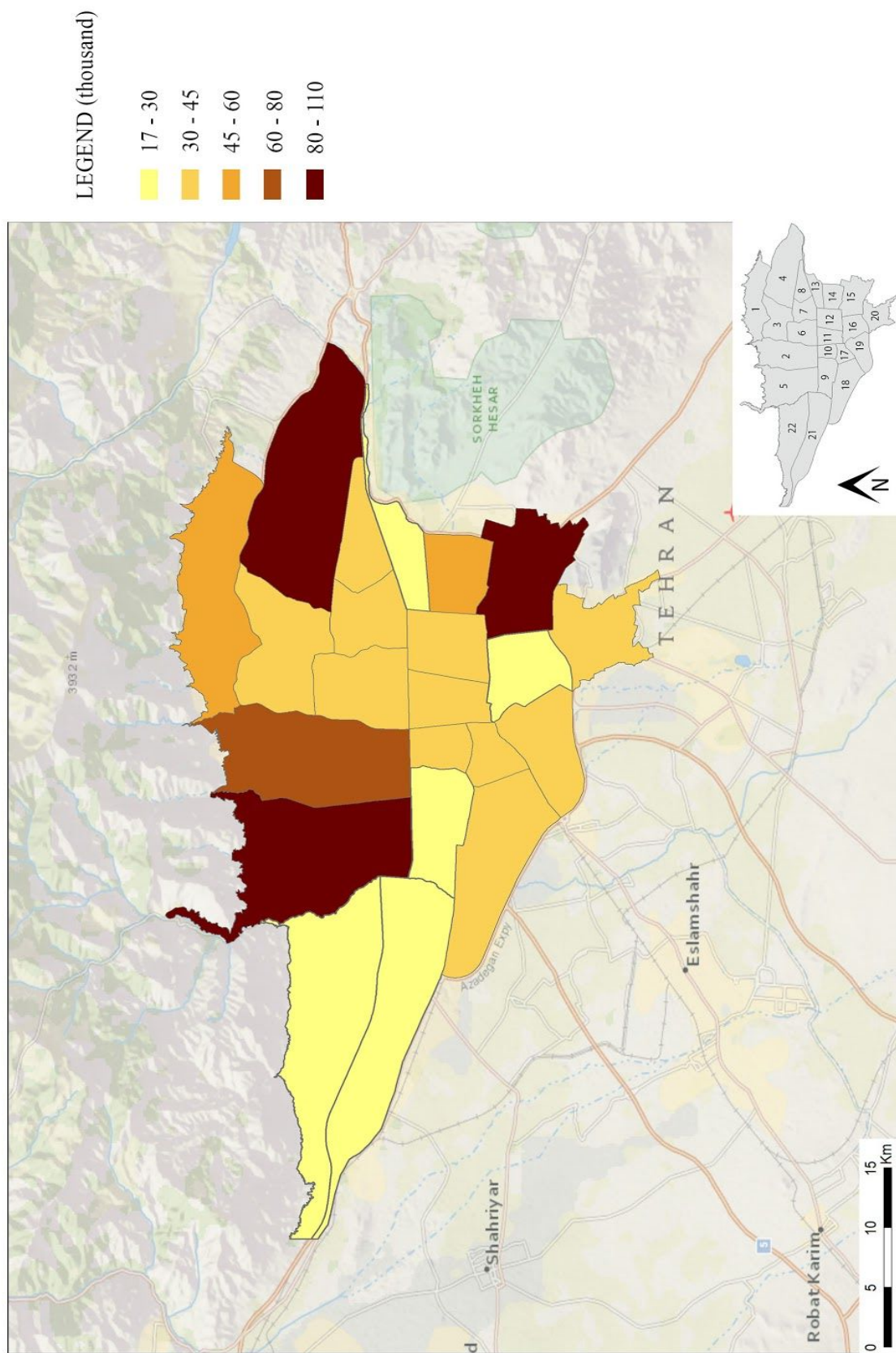


FIGURE 3.6: SPATIAL DISTRIBUTION OF IMMIGRANTS

Source: made by author

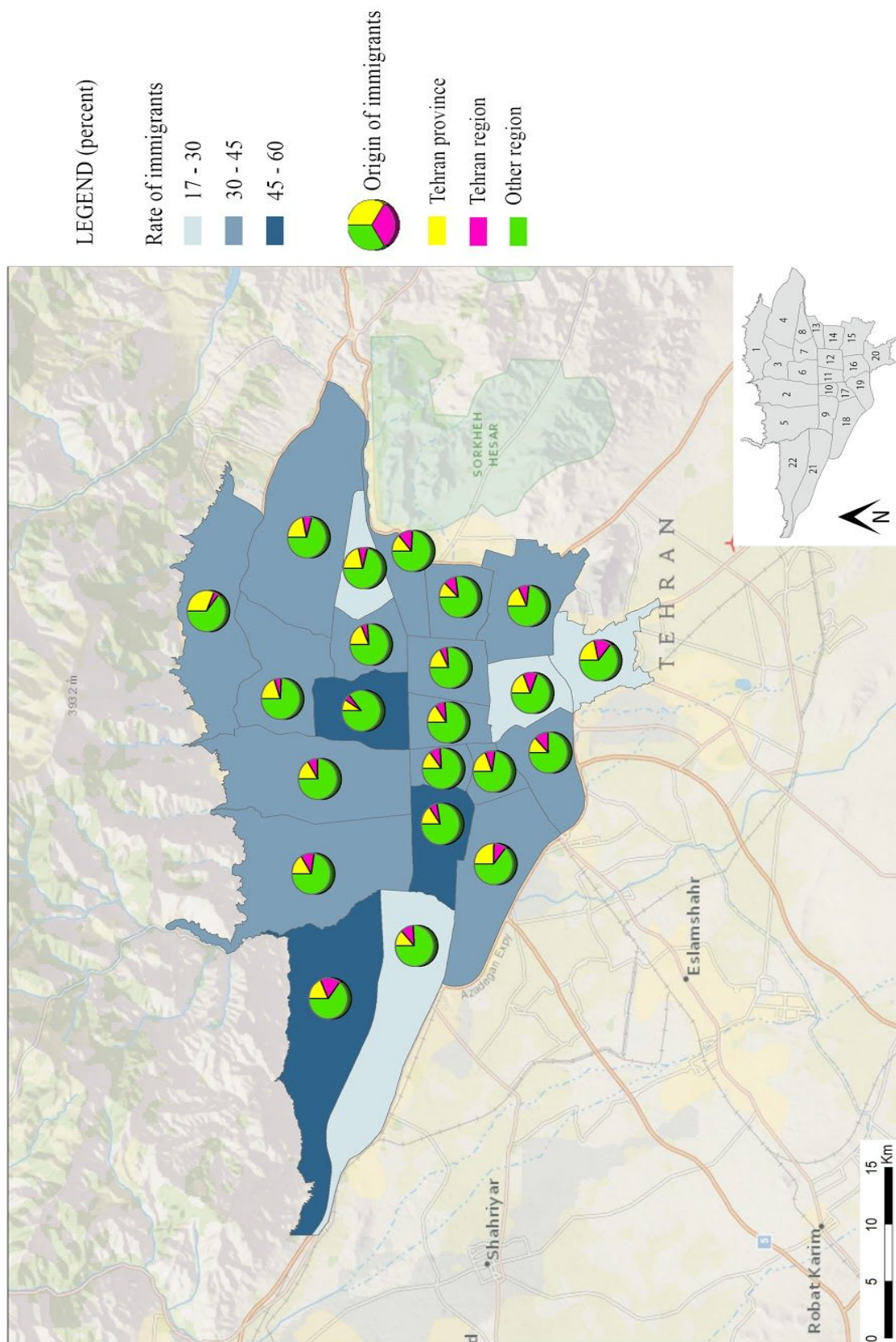


FIGURE 3.7: SPATIAL DISTRIBUTION OF IMMIGRANTS BASED ON THEIR ORIGIN

Source: made by author

3.1.6 Rate of literacy

Rate of literacy is one of the development indicators that is derived from the division of the number of literate individuals in a region into a population of 6 years old up. According to the definition of the Iranian Statistics Center, Literacy is the ability to read and write in Persian or any other language.

The difference in literacy rate in Tehran is about 10.5%, which means that the lowest literacy rate in the areas is 87% and the highest is 97.5%. The 16, 17, 18 and 19 districts in the south of the city have the lowest literacy rates. (figure 3.8) In these districts in 2006, about 10 to 13 percent of the people are illiterate.

Considering that in the map of the old-aged index, southern districts of the city, district 4 in the east and district 22 in the west, have younger population than the central and northern districts, but the literacy rate is about 3.5 to 10.5 percent less than the elderly districts located in the north.

On the other hand, by comparing the density and dispersion of the total number of literate and illiterate families, it can be said that in the densest parts of southern Tehran, in 12,16,18 and 20 districts, there are families which none of members have the ability to read and write. These families make up about 5 to 6.5 percent of the total households in these districts. (figure 3.9) In all areas with population of more than 150 people per hectare, 2.5 to 6.5 percent of families are those who have no literate members. While the this index for all northern districts, excluding 7 and 8, is less than 2.5%.

The next indicator to survey the education level between Tehran districts is rate of people with academic education to the population over the age of 18 in each districts. Based on the data obtained in figure 19, the least amount of this index belongs to the southern districts and except for the three districts, only 9% to 20% of people over the age of 18 have academic education. In contrast, 40 to 60 percent of over age of 18 old in central and northern districts ,have academic education.

From the comparison of the literacy rate, the number of families which do not any literate member, and the number of people with academic education in each districts, can say that in all three cases there is a clear difference between the northern and southern districts, which means in the southern districts there are people who have less possibility to access to education (at all levels) is much higher than in the northern districts. The fact that in the eight southern districts of the capital, which also have the youngest population, 89-90% of people over the age of 18 years do not have academic education ,is a notable point.

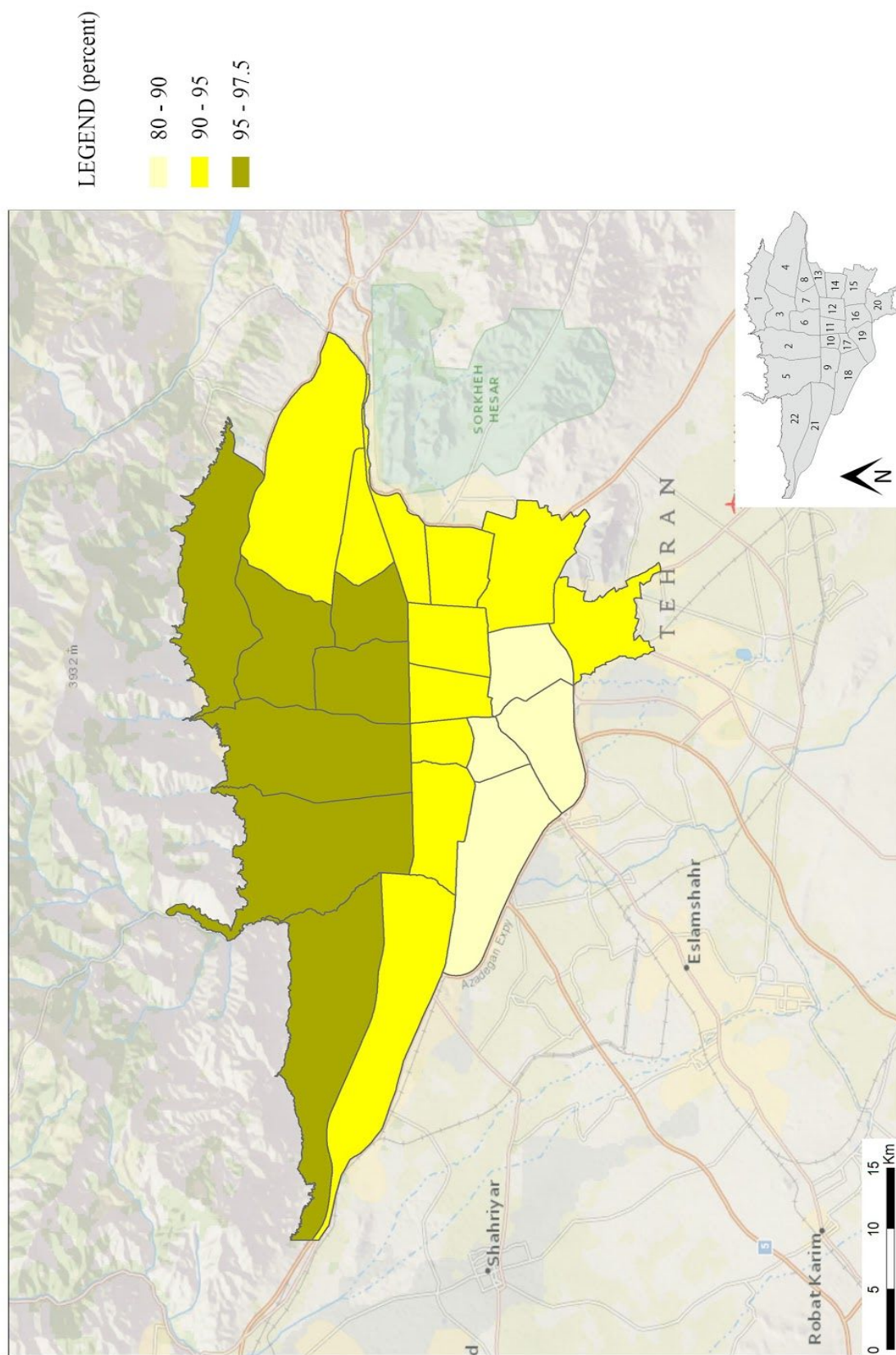


FIGURE 3.8: SPATIAL DISTRIBUTION OF RATE OF LITERACY

Source: made by author

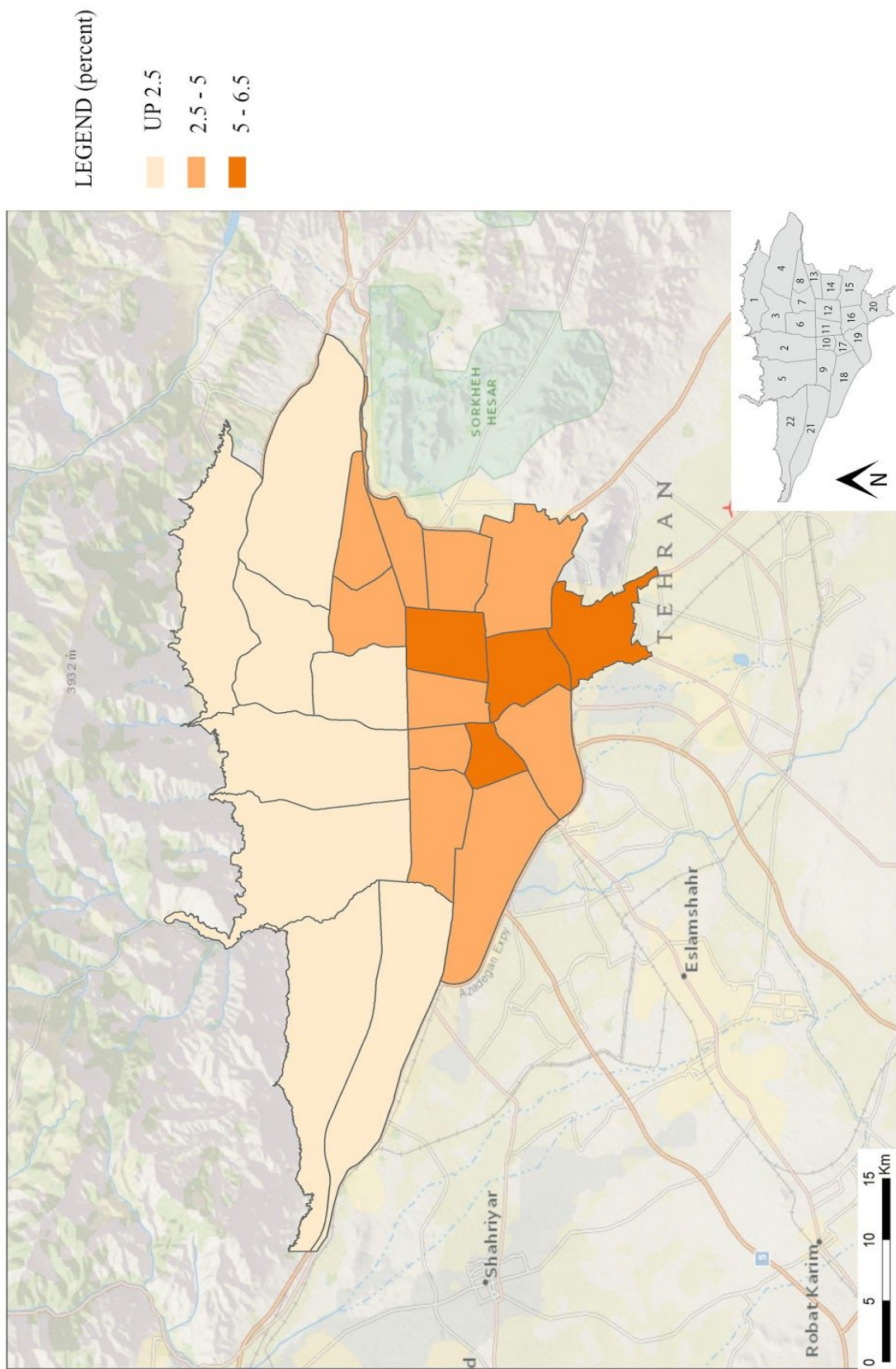


FIGURE 3.9:SPATIAL DISTRIBUTION OF FAMILIES WHICH HAVE NO LITERATE MEMBER

Source:made by author

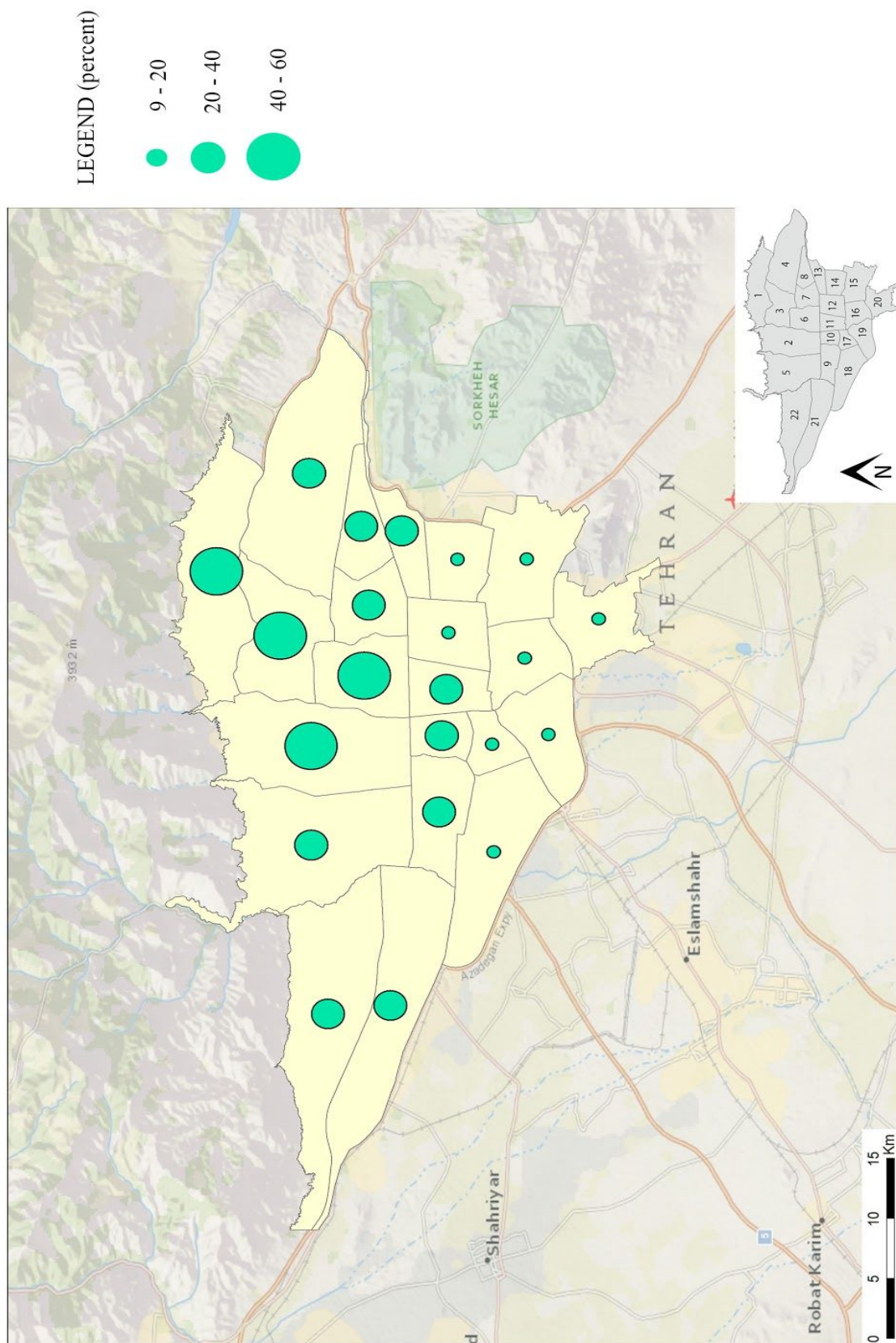


FIGURE 3.10: SPATIAL DISTRIBUTION OF ACADEMIC EDUCATION INDEX

Source: made by author

3.1.7 Rate of employment and major occupational groups

According to the definition of the Iranian Statistics Center in 2006, the active population is a population consisting of employed and unemployed people over the age of ten years old, who have the ability to produce a product or or service at a determined time. Thus, the percentage of active population in each district is equal to the rate of active population to the population over ten years old. Also, the center of the ISC defined the worker as follows: people over ten years old who working at least one hour per week, while according to the definition of the International Labor Organization, the minimum age for normal work is 15 years and for difficult tasks 18 years old.

Further, as unemployment, employment rates and major occupational groups are examined in follow, include the population over ten years old of each region. The number of employed and unemployed people has been calculated by dividing their numbers into the active population.

In order to compare the employment status of the 22 districts of Tehran, two maps have been provided. Figure (3.11), shows two indicators: the percentage of active population and the unemployed population in each district. In all areas of the south, except in the 14th and 12th can be seen the high rate of unemployment, about 6.5 to 10.6 percent of the active population is unemployed in the southern districts. The high unemployment rate is also seen in 2, 5, 21 and 22 districts located in the center and west of Tehran, but in most northern districts the unemployment rate is less than 6.5%. However, the dispersion of the active population in all districts is same.

The next figure (3.12), illustrates, the percent of employment of active people, as well as the distribution of people employed in four major occupational groups. The four job categories are: simple workers and workers in the service sector, managers and legislators and specialists, office employees and scholastic and health affairs, expert workers of the industry and agriculture sector.

As shown in the map, the highest percentage of employed population belongs to the northern, central, and eastern regions. About 91 to 94.7% of the active population is employed in these areas. On the other hand, most of the workers in these districts are managers, legislators and specialists. And the lowest share of workers in the northern and central districts belongs to simple workers, workers service sector and workers in the industrial and agricultural sectors.

Each of the four groups of workers resides to the same measure in the western and eastern districts. As far as we move from northern Tehran to the south, it will increase the residence of lower income groups. The apparent difference between the location of various occupational groups in the north and south of reflects the class-spatial gap in Tehran .

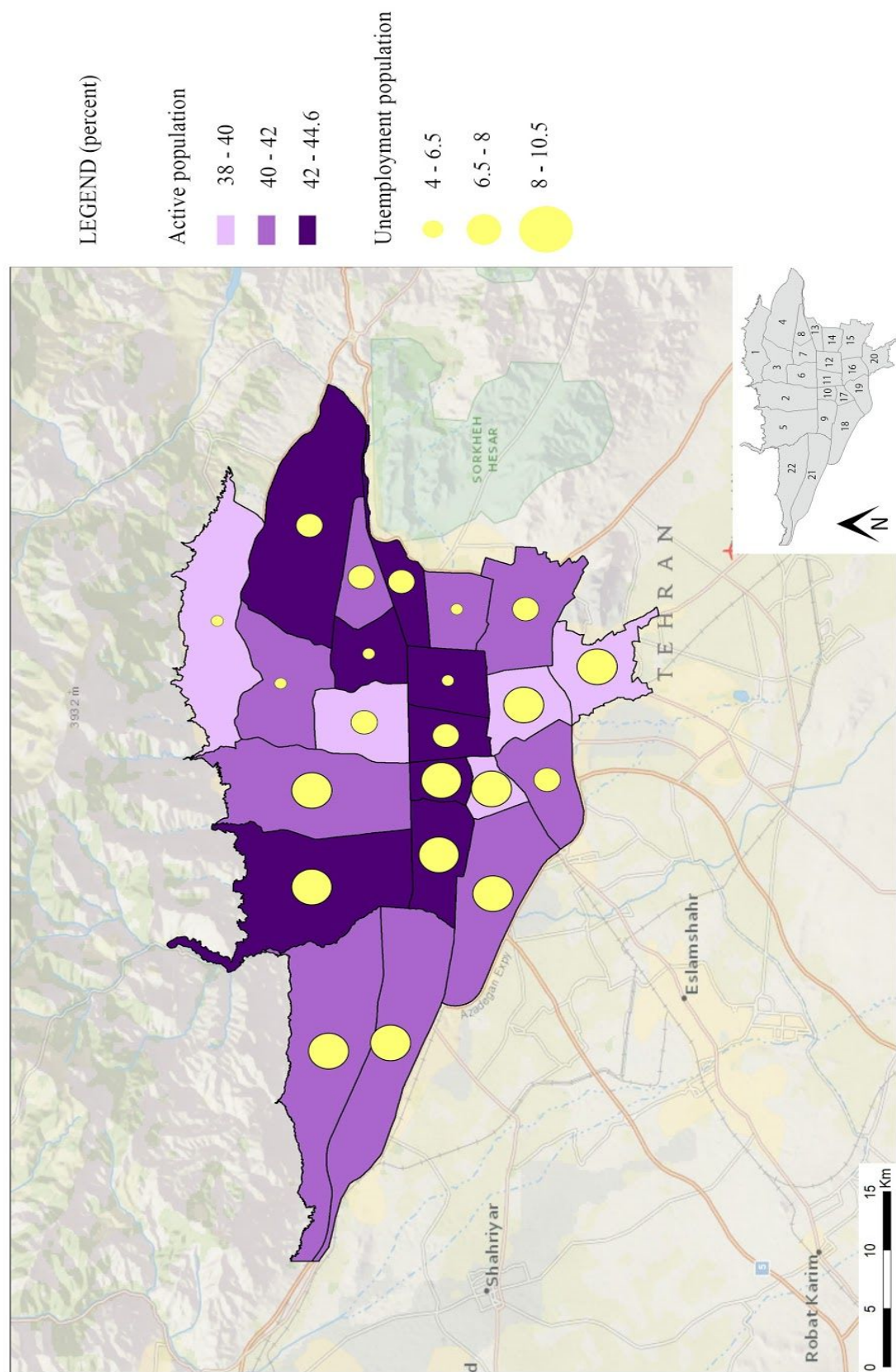


FIGURE 3.11: SPATIAL DISTRIBUTION OF RATE OF UNEMPLOYMENT

Source: made by author

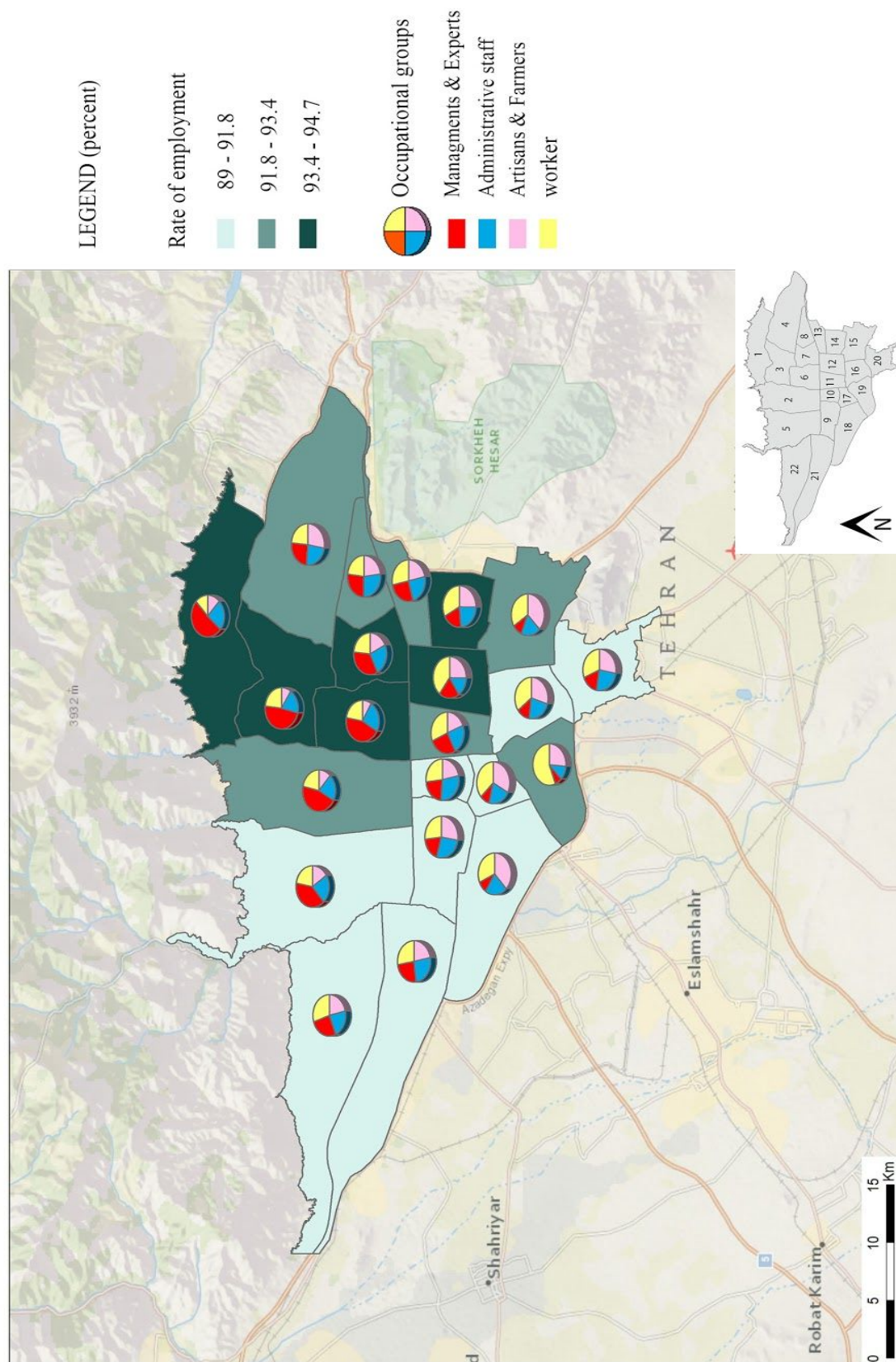


FIGURE 3.12: SPATIAL DISTRIBUTION OF MAJOR OCCUPATIONAL GROUPS

Source: made by author

3.1.8 Spatial crime distribution

One of the most important social and security issues in Tehran is the high crime rate. According to the Tehran police report, there are about 15 to 20 thievery from houses per day in the city.(Shamaei et.al,2013)

According to a research conducted in Tehran, there is a significant relationship between the “hot spots of crime” and the density of population in the districts. The study, based on cases involving murder, theft and fights in Tehran's police station in 2009, says that the highest crime in Tehran is theft and the highest rate of crime has occurred in the areas of 7,3 and 12 (figure 3.14).

The Center for the Reduction of Delinquency in the United Kingdom defines hot spots of crime as: a geographic area where the occurrence of crime is higher than the average, or the area where the crime is more concentrated than the distribution of crime in the entire area (Shamaei et.al,2013)

The study also states that with the increase in population density in the 22 areas of Tehran, the rate of urban crime has also increased, means all hot spots of crime have been located in high density areas. According to the results of the survey, the 7 district with 7873 Crimean crime and 22 district with 322 crimes are respectively the highest and lowest levels of crimes committed in Tehran.

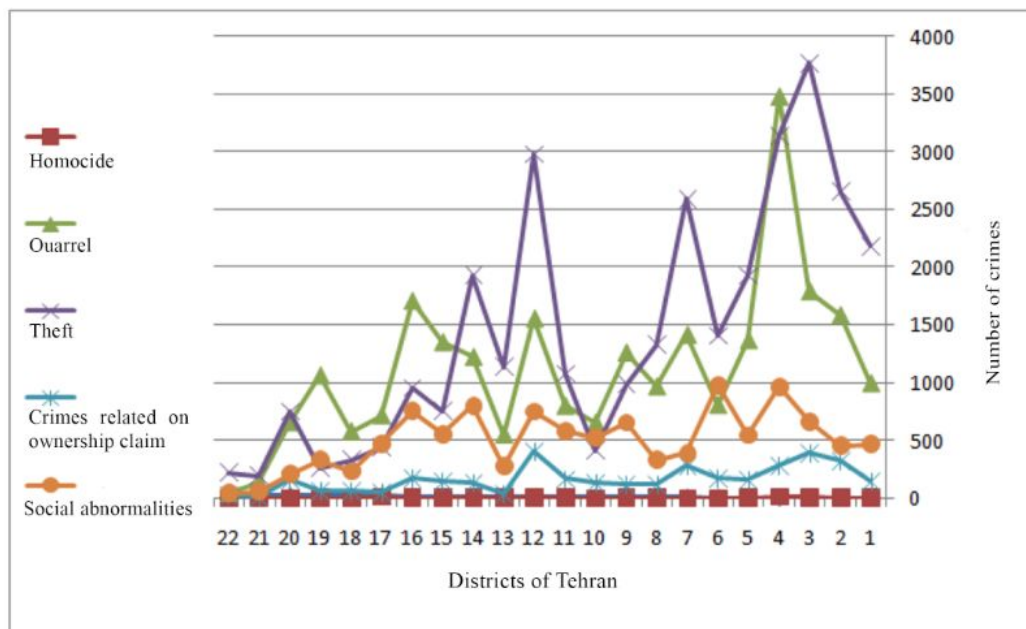


Figure 3.13 :crime rate in the districts of Tehran
Source:Shamaei & others

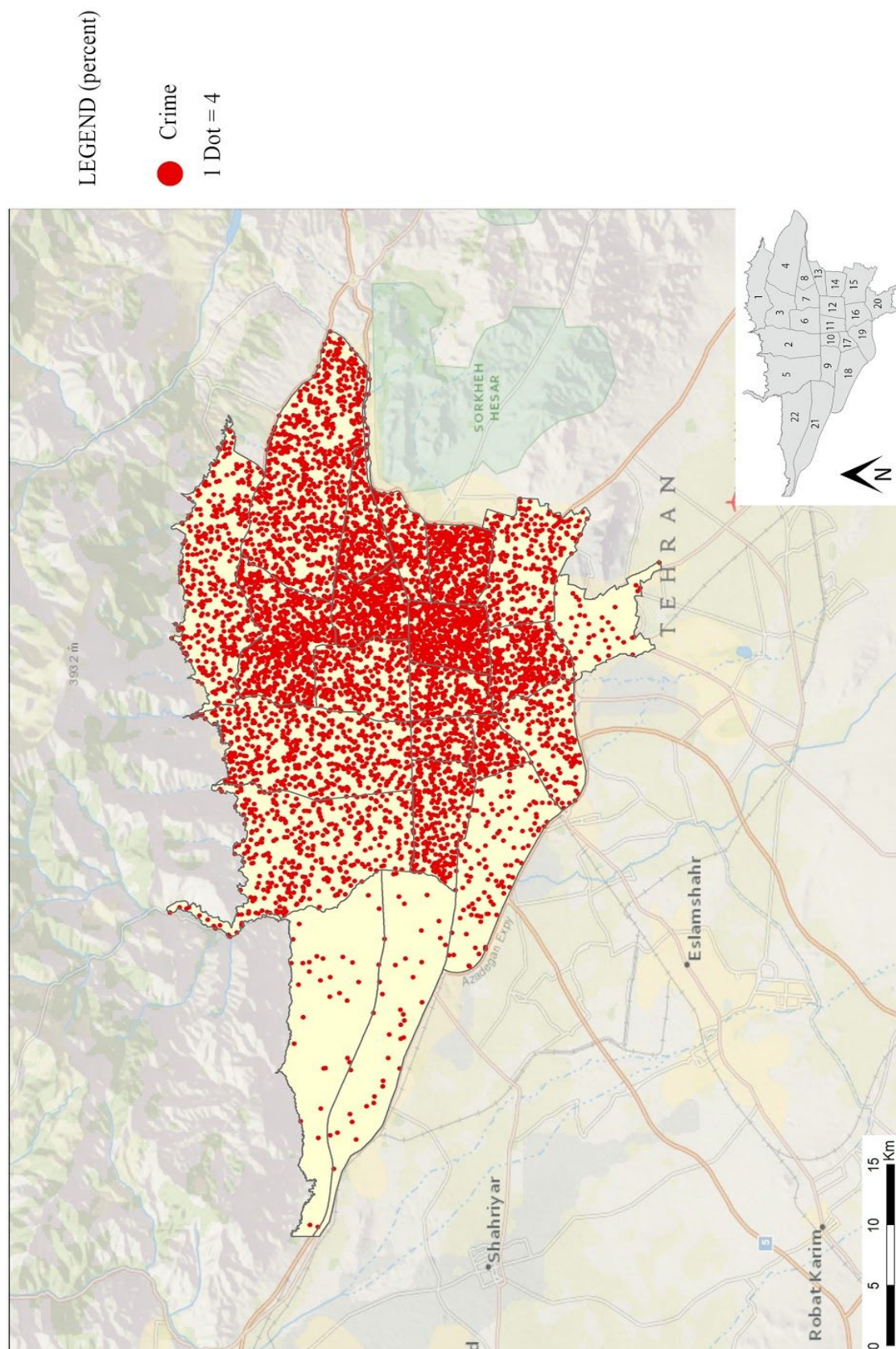


FIGURE 3.14:SPATIAL DISTRIBUTION OF CRIME

Source:made by author

3.2 Spatial analysis of inequality

In order to analyze the spatial inequality in the city of Tehran and among its 22 districts, two main factors of housing and urban services are considered. due to examine how housing conditions are in different parts of the city, different indicators have been selected. These indicators are: the area of residential units, the distribution of households based on the number of rooms at their disposal, the construction year of residential units, the stability and instability of residential units, the status of ownership of residential units, and the value of housing.

Also, with the following indicators, access of residents to urban facilities is studied: access to basic services, distribution of urban services including health centers, scholastic centers and cultural centers and parks at the districts level.

3.2.1 Area of residential units

According to the figure (3.15), the area of residential units is classified into four groups, residential units less than 50 square meters, residential units with an area of 50 to 100 square meters, residential units of 100 to 300 square meters, and residential units with an area of more than 300 square meters.

As it can be seen, in all parts of southern Tehran residential units with an area of 50-100 square meters constitute the largest number of residential units. On the other hand, the largest number of residential units with an area of less than 50 square meters are also found in these areas, especially in districts 17, 10 and 19, which in percentage of residential units with an area of less than 50 square meters, respectively is 35, 32 and 26 percent of the total number of residential units. The percentage of residential units with an area of 300 square meters and more in the southern districts is zero or close to zero. While in the northern districts of the city, the largest number of residential units belongs to residential units with an area of 100 to 300 square meters. Among the northern districts in the district of 1, 4.4 percent and in the district 3, about 3 percent of the residential units are over 300 square meters. The lowest share of residential units in the northern districts belongs to those with an area of less than 50 square meters.

Thus, while the area of most residential units in the southern regions does not exceed 100 square meters, but in the north, residential units ranging from 50 to 300, and in some cases even more than 300 square meters.

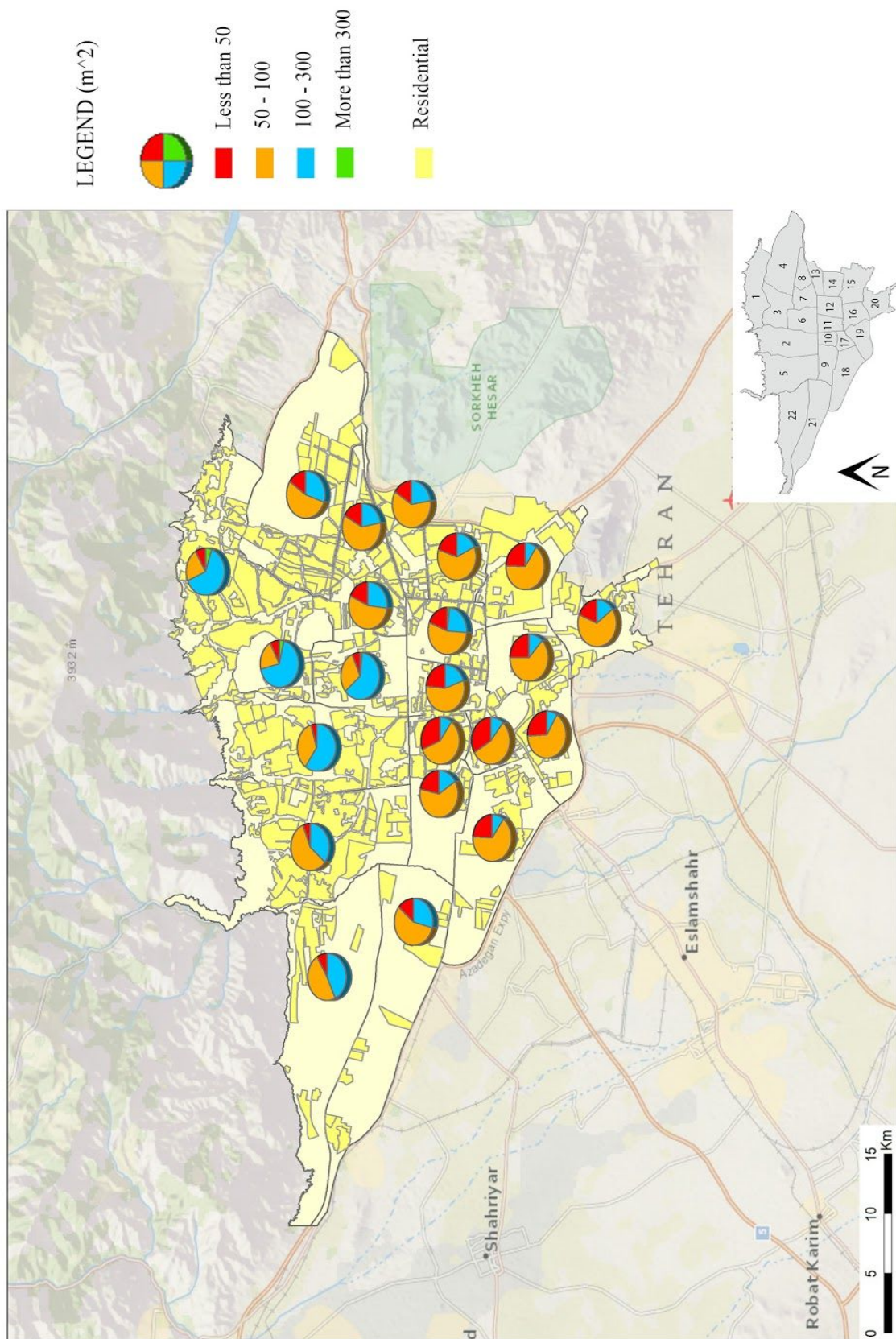


FIGURE 3.15: SPATIAL DISTRIBUTION OF RESIDENTIAL UNITS BASED ON THEIR AREA

Source: made by author

3.2.2 Distribution of households based on the number of rooms at their disposal

The distribution of households according to the number of rooms in their residential units is not monotonous in Tehran's districts. Here, households are in two main groups: 1. Those who living in residential units with two or less rooms 2. Ones which has 3 rooms or more in residential unit.

Another factor is also considered in order to achieve a better understanding of this indicator: the rate of households with more than 5 members to the total of families in each district.

In terms of the distribution of households with more than 5 members, there is a significant difference between the northern districts with the southern and western parts. As figure (3.16), shows, in the northern districts just 12.5 to 20 percent of the households are five or more members, while in all In these areas, over 60% of families access to more than two rooms at their residence.

In contrast, in the southern districts there is a completely different situation. In most southern districts, 20 to 30 percent of families have more than 5 members, while in these areas, at least 40 percent and up to 60 percent of households have just two rooms or fewer at their disposal. In other words, despite the fact that the number of populous families in the southern districts is higher than in the northern, however, the most southern families access to two or less rooms.

In both figures 23 and 24 , smaller residential units, households with fewer rooms, and also more populous households are located in the southern districts.

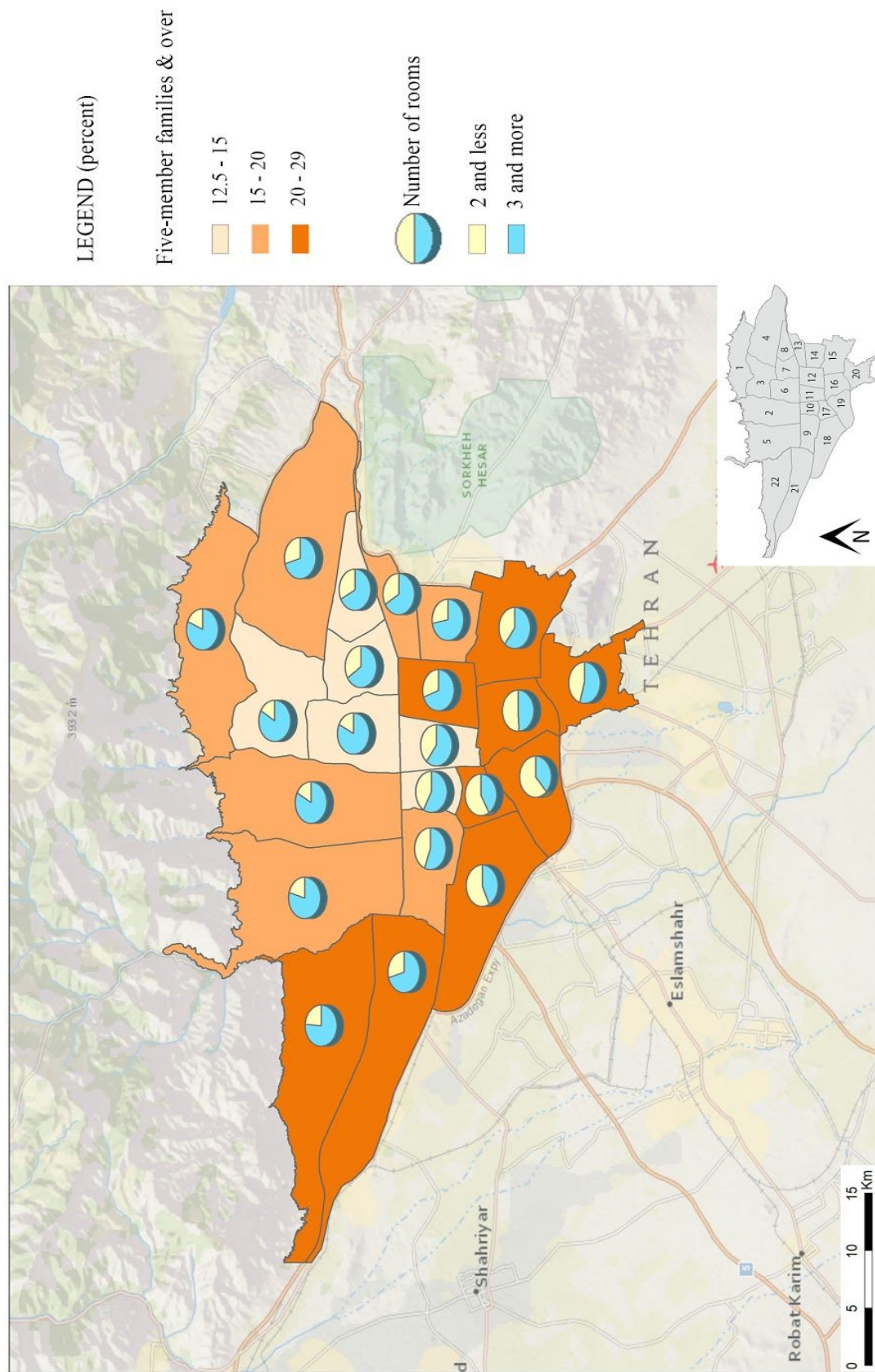


FIGURE 3.16: SPATIAL DISTRIBUTION OF FAMILIES BASED ON NUMBER OF ROOMS AT THEIR DISPOSAL

Source: made by author

3.2.3 Distribution of residential units based on construction year

Except for districts 18, 19 and 20 in the rest of the southern and central districts, between 20% and 30% of existing residential units were built before 1976. Among them, districts 6, 9 and 17 have the lowest construction of residential units in 1996 Up to 2007, about less than 30 percent. The rest of the residential units in these districts were all built before 1996.

While in the vastest northern districts, means in districts 1, 5, 2, and 4, as well as in the two western districts 21 and 22, only less than 10% of the existing residential units belong to pre-1976.

However, should not forget that the city of Tehran has witnessed the construction of many houses in all areas due to the rapid expansion over the past three decades, and in most of its districts, low-rise houses quickly replaced with high-rise apartments. But the newer houses do not mean that they are more durable and stable, because due to the conditions of hastily and out of plan expansion, such as lack of adequate supervision, lack of clear rules and coherent, many buildings were built without observing the principles and standards required.

For this reason, despite the differences regarding the age of residential units between the northern and southern districts, as can be seen in the figure(3.17), in all parts of Tehran (with the exception of the districts 9 and 17), more than half of the residential units were built over the years 1986 to 2007.

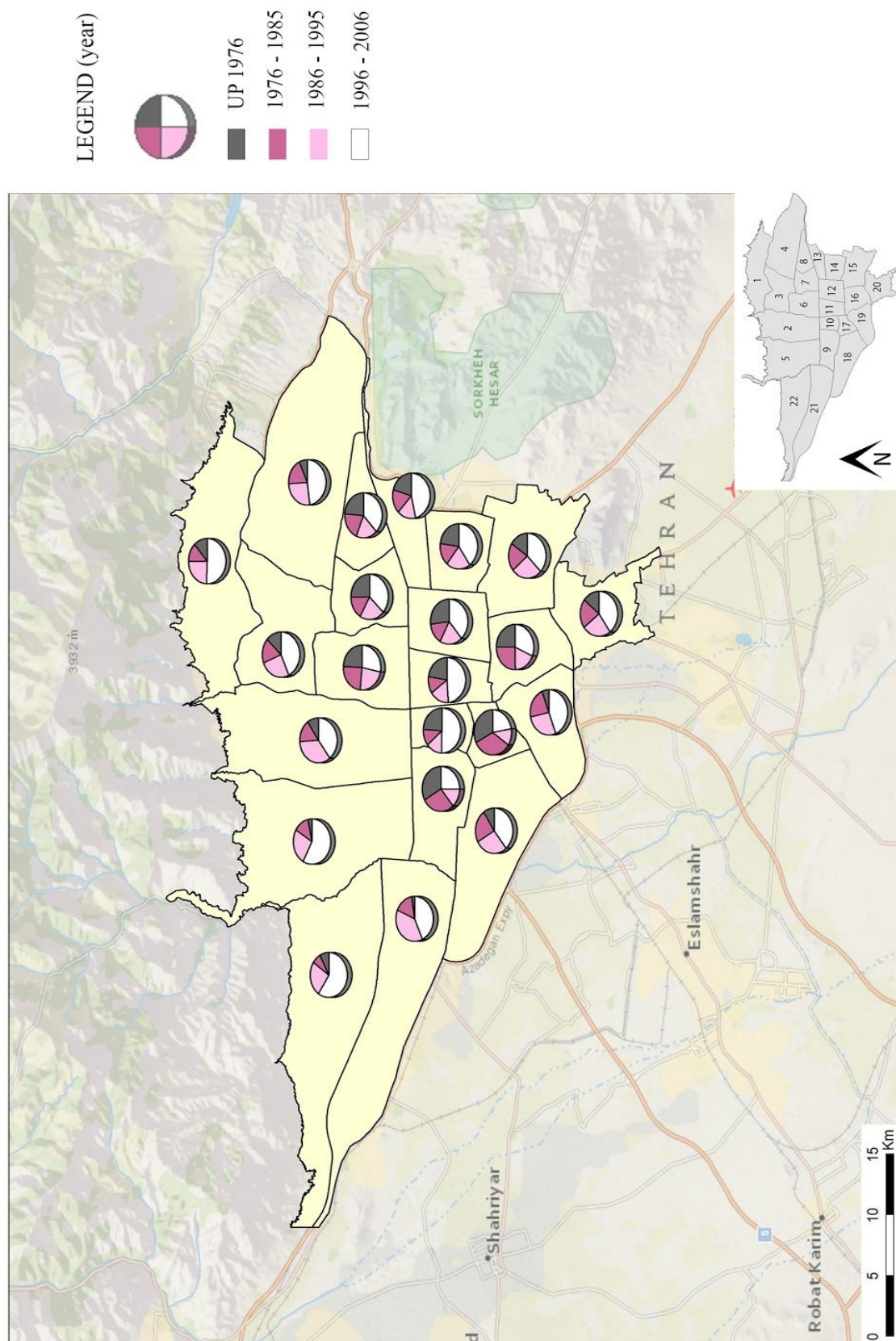


FIGURE 3.17: SPATIAL DISTRIBUTION OF RESIDENTIAL UNITS BASED ON CONSTRUCTION YEAR
Source: made by author

3.2.4 Dispersion of urban decayed blocks

The Ministry of Roads and Urban Development of Iran defines the urban decayed texture as: decayed texture is classified into blocks that have the following three characteristics:

- at least 50% of the existing buildings in the block are not stable enough.
- at least 50% of the passages of that block have a width of less than 6 meters.
- at least 50% of the buildings in that block have an area of less than 200 square meters.

The figure(3.18), illustrates us the dispersion of blocks based on these three features. The study on the dispersion of worn out tissue in Tehran shows that the highest percentage of decayed texture is concentrated in the central and southern districts. From 18 to 37 percent of blocks in the districts 17, 11, and 12 are the worn out fabric.

Also, the highest percentage of urban blocks with an area of less than 200 square meters is seen in the southern districts, so that in half of the southern districts (except districts 18, 19), at least 13% of urban blocks have an area of less than 200 square meters. This amount is increased in some areas up to 35 percent, such as districts 10 and 17.

however, as we move from the south to the north, the percentage of worn out texture and blocks with an area of less than 200sqm is clearly reduced. The highest rate of decayed fabrics in these districts and in the western districts is 4.3% and the biggest share of blocks smaller than 200 square meters is about 5.7%. Apart from the three areas 7, 8 and 13, which have a similar situation to the southern districts.

Finally, it should be noted that since the most decayed blocks with a width of less than 6 meters are located in the southern districts, and on the other hand, the extent of these areas is far less than the northern ones, therefore the difference in the quality of residential areas between the northern and southern half of the city completely is imaginable.

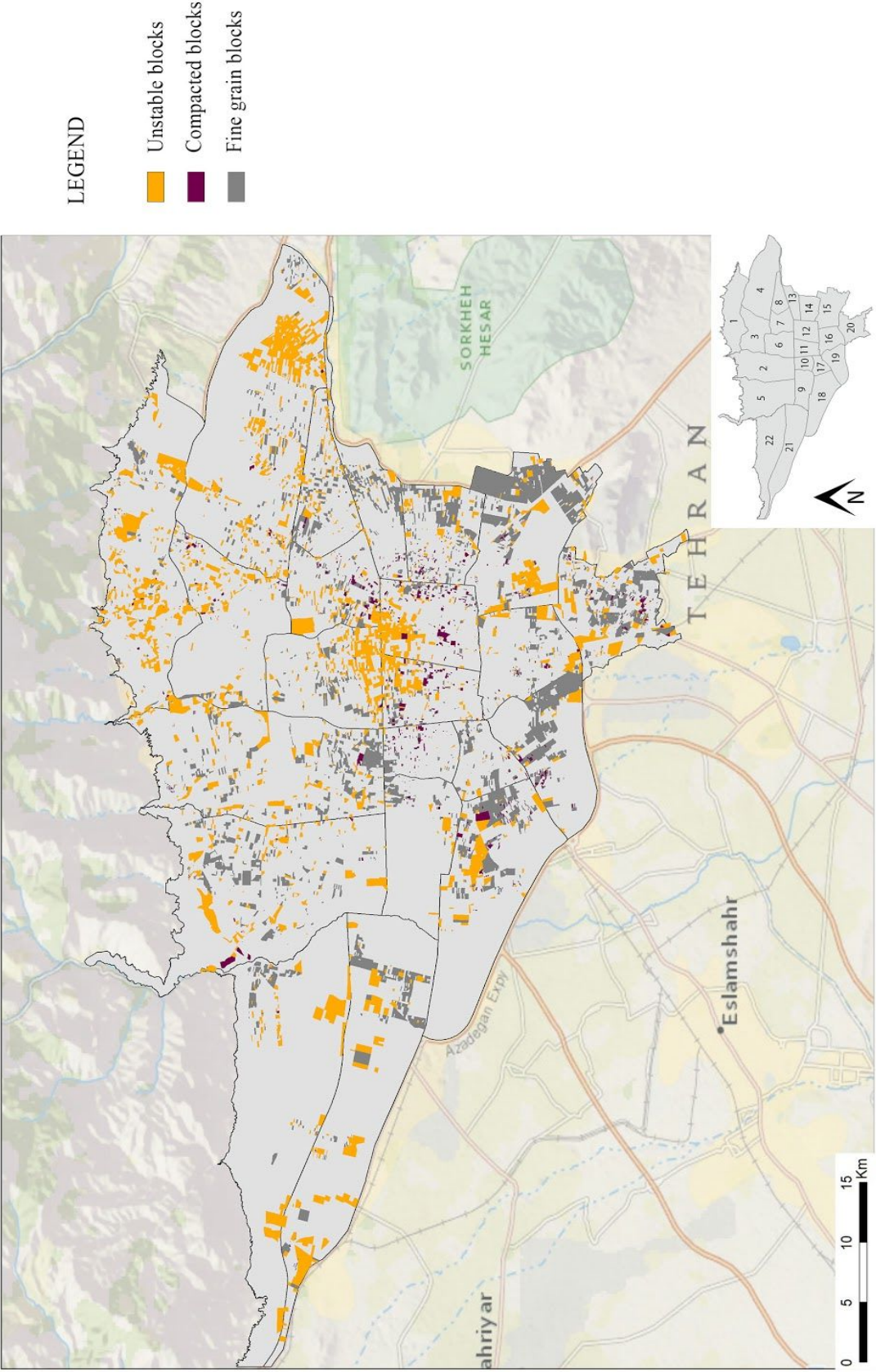


FIGURE 3.18:SPATIAL DISTRIBUTION OF DECAYED BLOCKS BASED ON THREE FEATURES

Source:made by author

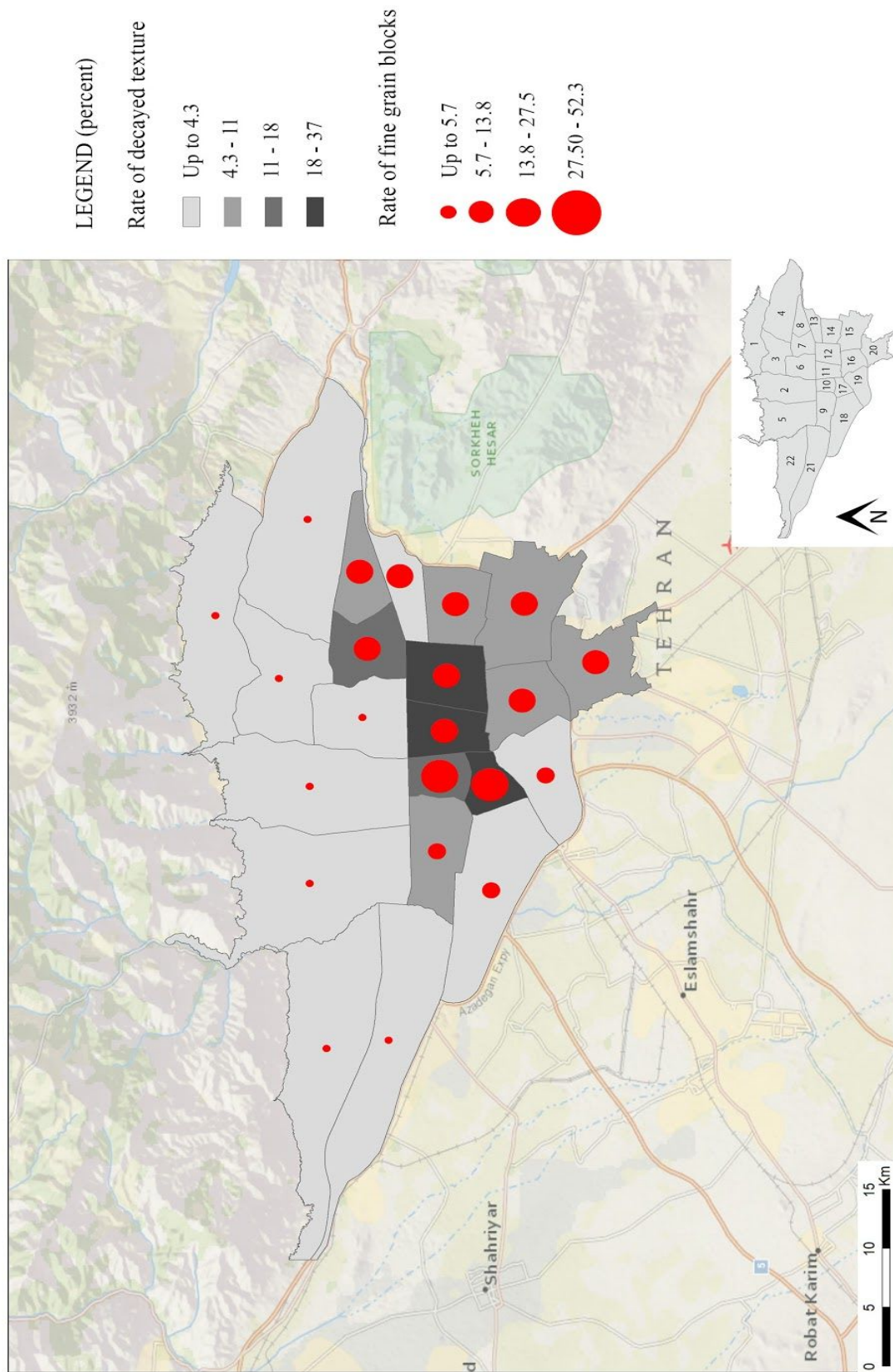


FIGURE 3.19: SPATIAL DISTRIBUTION OF DECAYED BLOCKS

Source: made by author

3.2.5 The value of housing and ownership status of residential units

The results of the 2013 survey of Iran Statistics Center show that the average housing price and rent in Tehran are 2.5 times the national average and Tehran is the most expensive city in Iran, while the average price of a residential unit in this year in the whole country has been around 200 euros per meter, but in Tehran, residential units with an average price of 500 euros per meter have been sold.

however, housing price is not the same in all districts of Tehran, and its distribution pattern is completely unbalanced and bipolar, so that the cheapest residential units (from 458 to 800 euro/m) are located in the southern half and the most expensive residential units with price at least 800 euro/m belong to the northern half of city. Districts 1 and 3 are the most expensive areas of Tehran, the price per meter of residential units in these districts is between 1500 and 2200 euros. In other words, the most expensive point in Tehran is worth about 4.8 times than the cheapest point.

Now, looking again at the distribution of the population of major job groups in different districts, it is better understood why most residents of the southern districts of the city are simple labors and labors of industrial and agricultural sector, and in contrast, managers and legislators and experts inhabit in the northernmost areas the city.

On the other hand, households are divided into three main groups based on how they occupy a residential unit: 1. Households owned by the residential unit and its land. 2. Households owning a residential unit. 3. Households that are tenants. As it seen in figure 29, it can be said that in all 22 districts of Tehran, most inhabitants of each district, are the owner of the residential unit and its land, and in this case there is no significant difference between the northern and southern half. Nevertheless, it should be added that the largest number of households who own a residential unit live in districts 1, 2, 3, 4, 6, and 7; about 11.5% to 16% of households in these districts own a residential unit, whereas the highest percentage of tenants reside in the southern districts such as 10, 18, 15, 20, and 19. Approximately 36 to 40 percent of the inhabitants of these areas reside in rented houses.

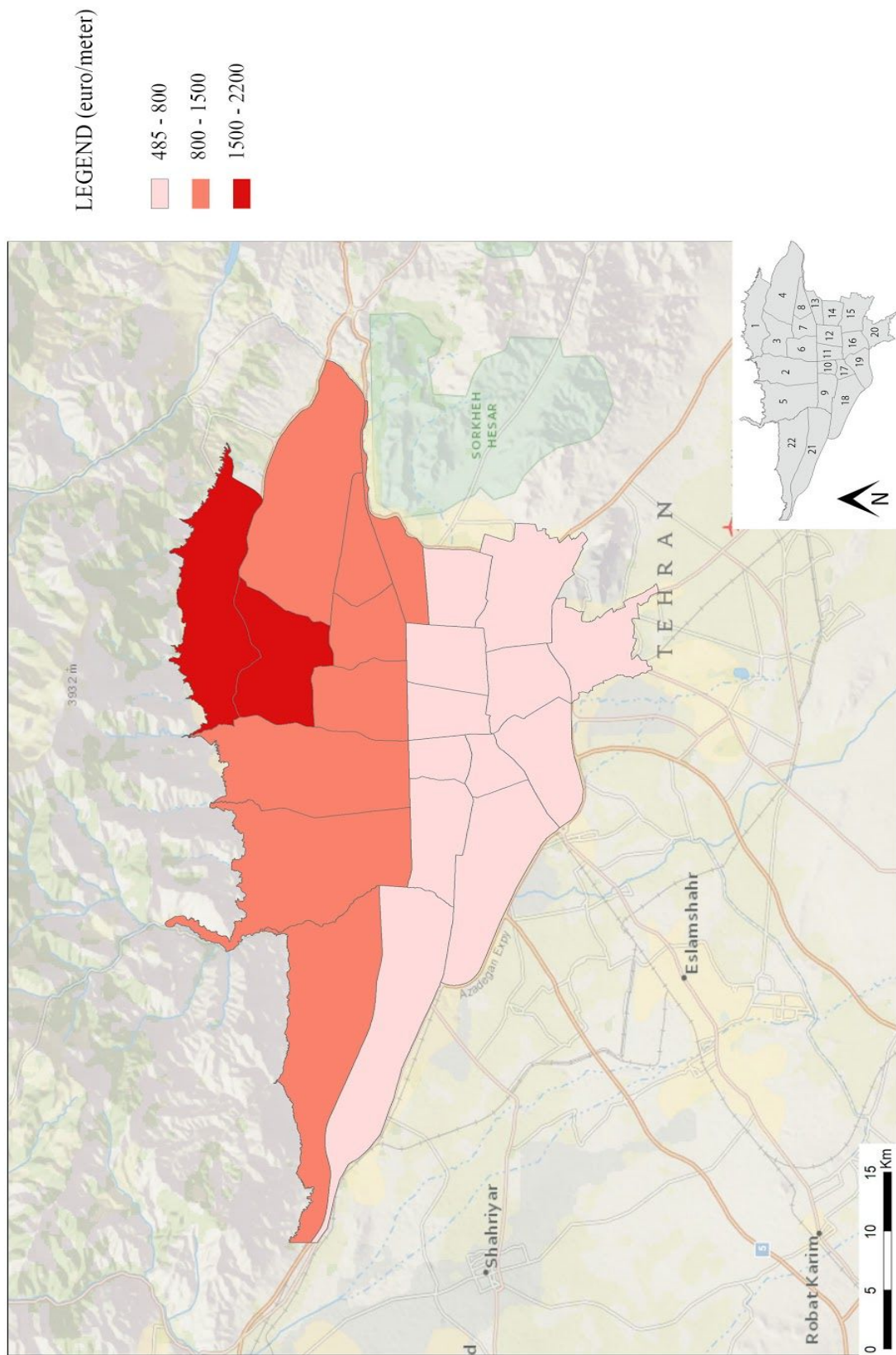


FIGURE 3.20: SPATIAL DISTRIBUTION OF LAND PRICE

Source: made by author

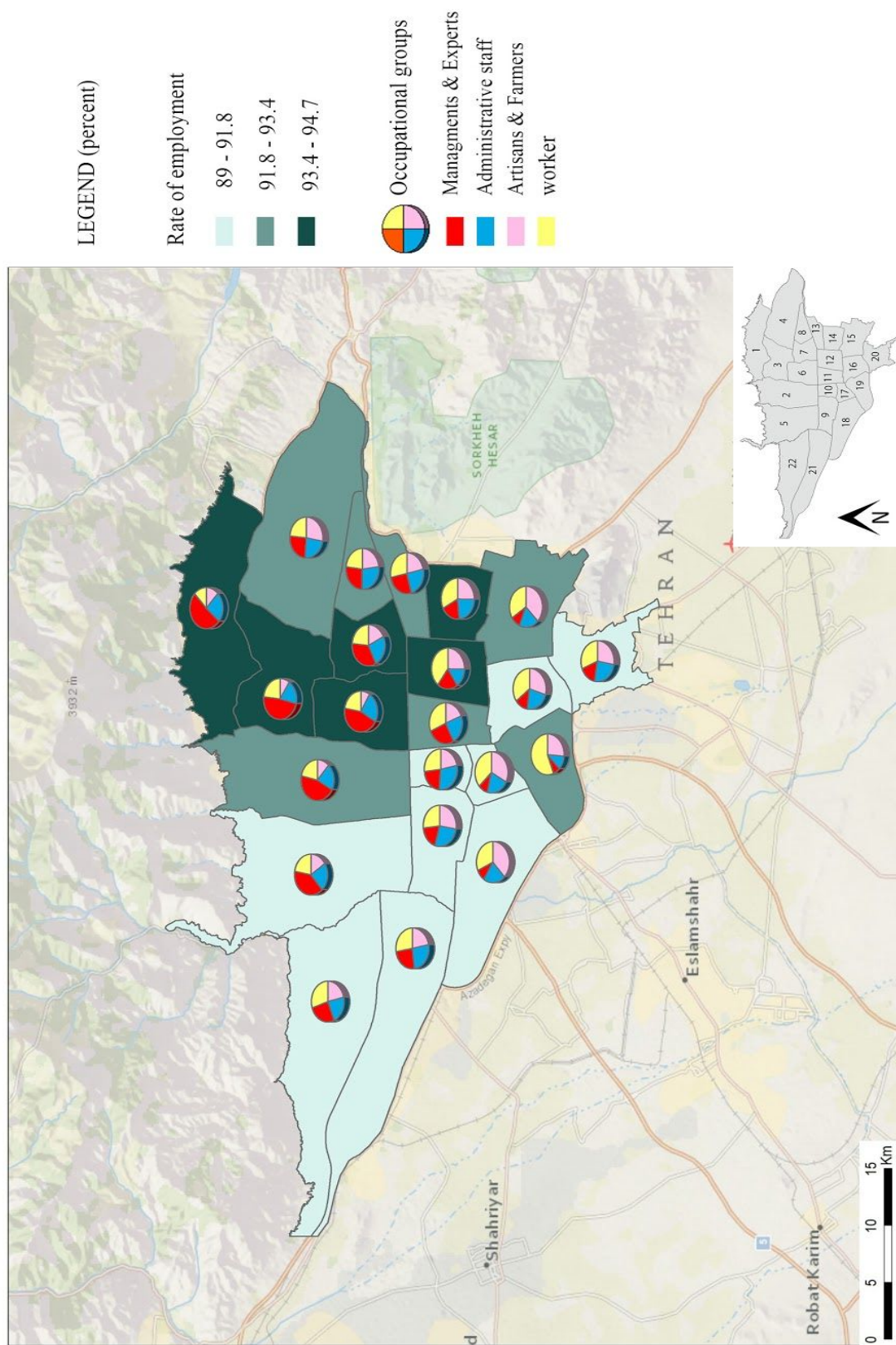


FIGURE 3.21: SPATIAL DISTRIBUTION OF MAJOR OCCUPATIONAL GROUPS

Source: made by author

3.2.6 Access of residential units to basic services

The level of access of residential units to primary services is studied based on the amount of access to electricity, piped gas, tap water and bathroom. As shown in the diagram 30, 100% of residential units in all districts of Tehran have access to electricity, but about other indicators the situation is not the same in all districts. For instance in district 22, about 30% of the residential units still do not have access to piped gas, 13% to tap water and 11% to the bathroom. The dispersion of the lack of residential units to infrastructure does not follow a specific pattern, for example, in the most expensive district in Tehran, namely, district 1, respectively in 5% and 8% of residential units there is no piped gas and tap water. In addition, the residential units of 12 district are in an undesirable situation. 10% of the units in this district are not bathrooms and 5% do not have access to piped gas.

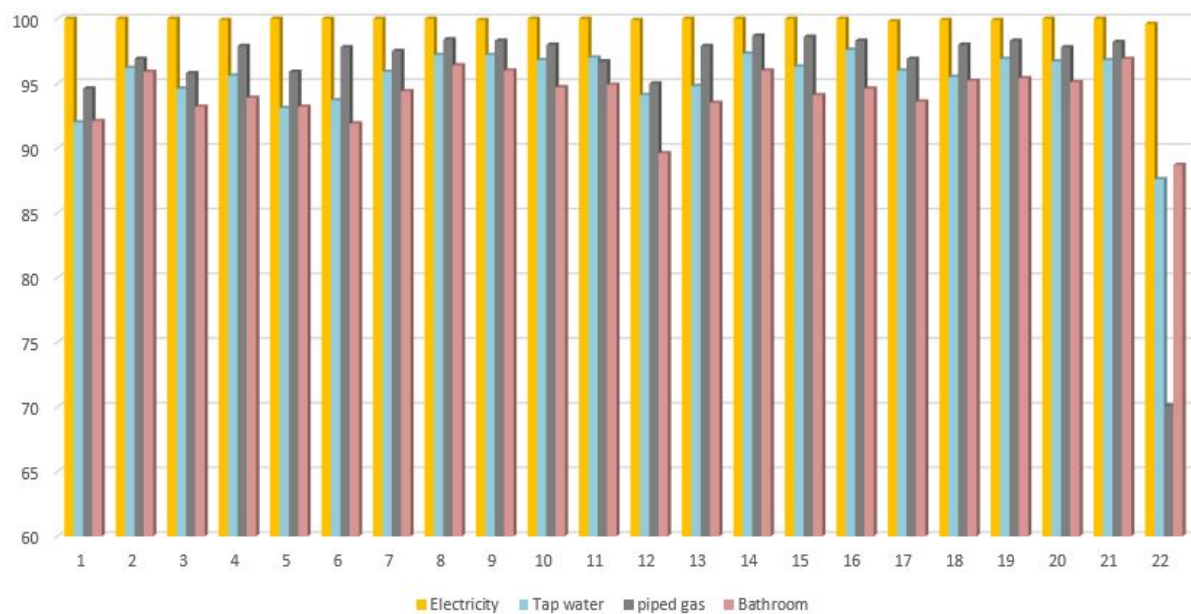


Figure 30: accessibility of residential units to basic services
Source : made by author

3.2.7 Distribution of urban services in the districts

Failure to properly distribute urban services in different parts of the city can cause essential problems such as traffic and increase inter-regional travel for achieve to various services, or may even lead to a disruption of population distribution among different districts, as well as increased citizens' dissatisfaction from their place of residence.(Kamran et.al,2010)

Three main indicators have been considered in order to survey of distribution of urban services between the districts of Tehran: 1. scholastic, 2.therapeutic and 3.cultural-religious. Each of these indicators includes certain centers of services: Scholastic: kindergarten, school, university, science and art institutes

Therapy: hospital, pharmacy, clinic, radiology

Cultural - Religious:gallery, cinema, theater, museum, library, mosque.

Figure (3.23),shows that the city of Tehran has not been successful in the balanced distribution of urban services between its districts, and there is a deep gap between the different districts. Overall, it can be seen that the concentration of medical and scholastic centers in the northern half and the concentration of religious- culture centers is more in the southern half of the city.

According to the obtained data, the highest number of cultural-religious centers in the southern half belongs to districts 12, 17, and 16, which have respectively, 711, 520, 456 centers. while the highest number of health facilities is related to districts 6, 2 and 3 , respectively 577, 417, 386 centers and the most scholastic centers, respectively, are in districts 6, 2 and 4 ,which have 795, 735, 627 centers. On the other hand, districts 22, 21 and 19 have the lowest number of health facilities (36, 44 and 79 number), and districts 22, 8 and 19 have the lowest number of scholastic centers (63, 87 and 110 number).

Also, on the chart 32 , it can be seen that the access to parks in Tehran is not distributed equally between different districts, and there are many differences between districts with the highest number of parks and the fewer number of parks. Whereas, in each of the districts 1, 2, 4 there are more than 150 parks, in other areas, such as 9, 10, 11 and 21,there are less than 50 parks.

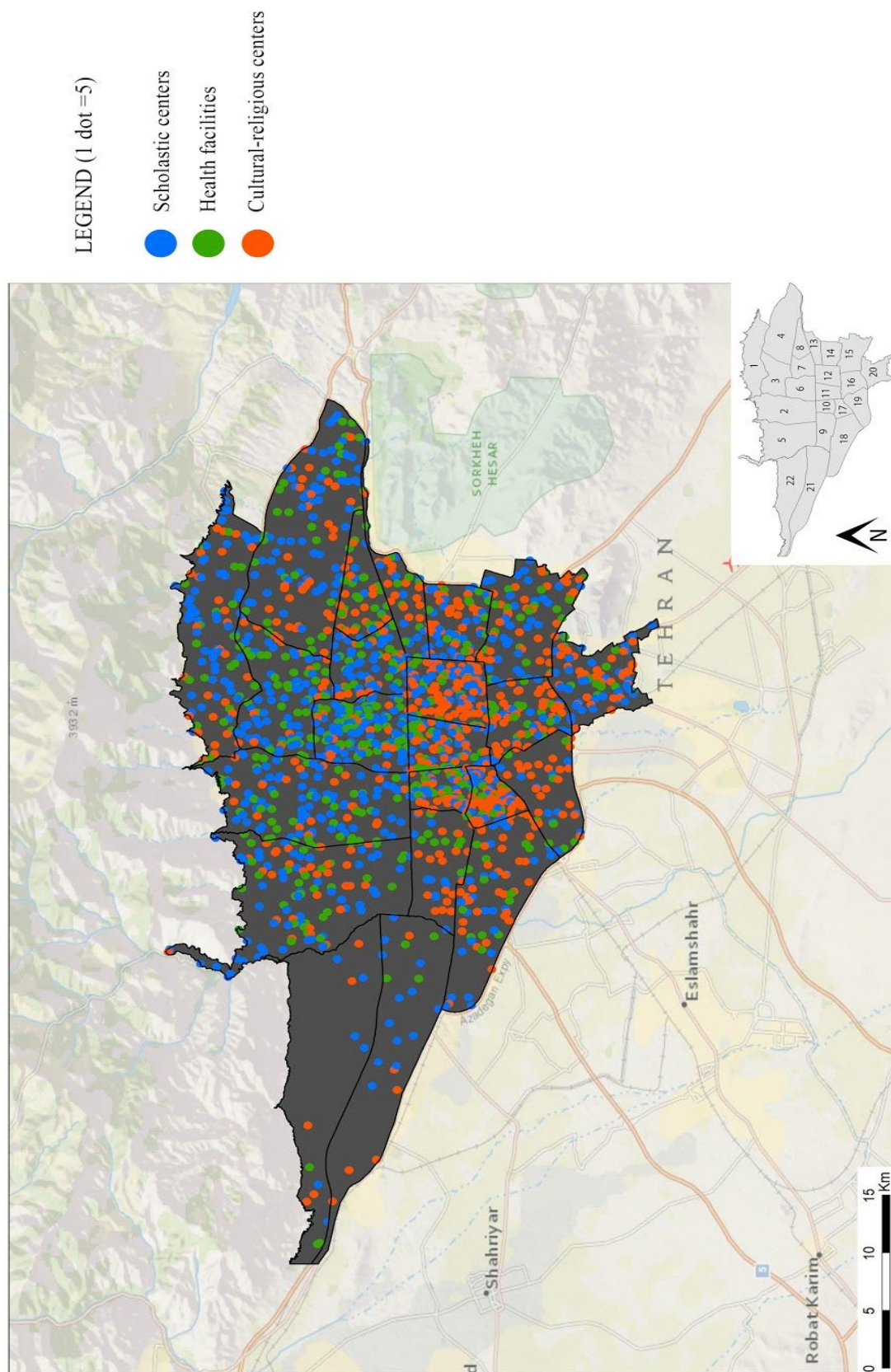


FIGURE 3.23: SPATIAL DISTRIBUTION OF URBAN SERVICES

Source: made by author

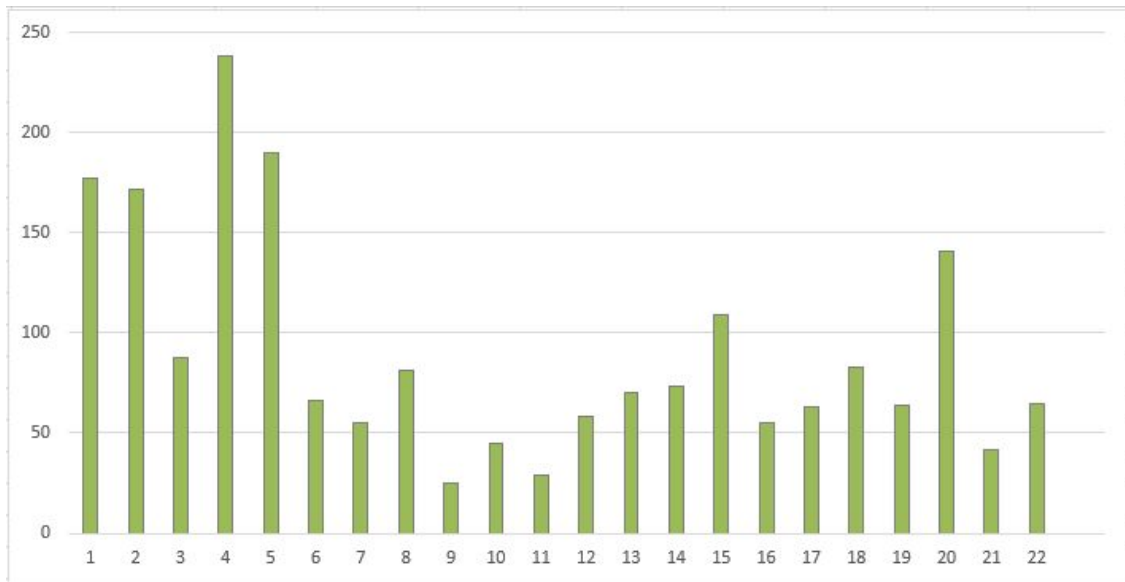


Figure 3.24: Number of parks in each district
Source: made by author

3.3 Conclusion

In order to arrive at a comprehensive understanding of how socio-spatial inequality is between the districts of Tehran, it needs to summarize all the indicators examined. For this reason, it has been tried to show the extent of development of each district using the “numerical taxonomy” model.

Numerical Taxonomy is a multivariate decision method for classifying indices into homogeneous groups based on their similarity. This method also calculates the distance of the remaining points from the ideal point by considering a point (district) as the ideal point (more developed), thus attributing to each point the degree of development. Then points can be ranked based on their degree of development. The degree of development is a number between zero and one, the smaller and closer number to zero, means this district is more developed, because its distance is a few from the ideal point.

This model, like many other multivariate decision-making models, has disadvantages, the most important disadvantages of this model is the same assumption of indicators. In this model, the indicators do not differ based on their importance. In order to answer the question which of the districts in Tehran are more favorable or more developed, 16 socio-spatial indicators were considered as the in the primary matrix of numerical taxonomy. These criteria are shown in Figure (3.25).

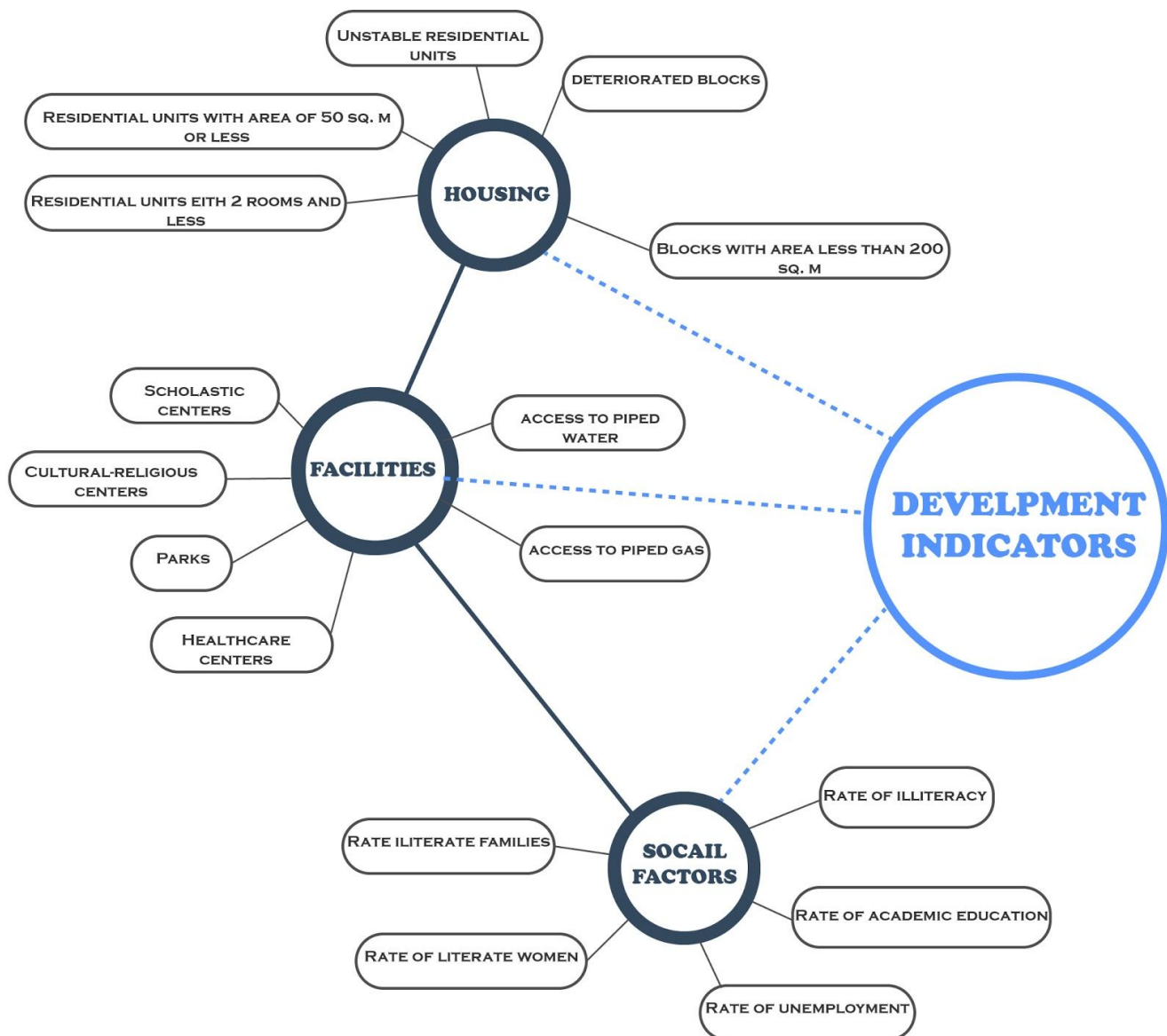


Figure 3.25 : Development indicators
Source : made by autore

To calculate numerical taxonomic steps, Excel software has been used. These steps are summarized as follows:

Step 1 - Identify the options(districts) and determine the different indicators

Step 2: Make decision matrix and then calculate average and standard deviation

Step 3: Formation of Standard Matrix (Normalized) and calculate the ideal point

Step 4 - Determine the distance between the options

Step 5 - Determine the shortest distance

Step 6 -Homogenize options

Step 7: Determine the Pattern or Example Options: Determine the distance of each option from the ideal point (Cio)

Step 8 - Grading or ranking developmental Options (Fi):

	<i>X1</i>	<i>X2</i>	<i>X3</i>	<i>X4</i>	<i>X5</i>	<i>X6</i>	<i>X7</i>	<i>X8</i>	<i>X9</i>	<i>X10</i>	<i>X11</i>	<i>X12</i>	<i>X13</i>	<i>X14</i>	<i>X15</i>	<i>X16</i>
<i>A1</i>	3	54.7	1.9	96.5	5.6	7.2	17.3	1.4	572	232	269	177	0.54	92.1	92	2.9
<i>A2</i>	3.1	50.8	1.9	96.2	8.2	3.8	15.3	0.4	735	418	252	172	0.56	95.9	96.2	5.4
<i>A3</i>	2.5	54.9	1.9	97.2	5.3	6.5	14.9	0.8	586	368	155	88	0.56	93.2	94.6	2.9
<i>A4</i>	5.3	27.8	2.4	93.1	7.2	13.7	30.5	0.1	627	277	350	238	0.3	93.9	95.6	5.7
<i>A5</i>	3.5	39.2	1.9	95.6	8.6	4.9	19.5	0.2	586	328	300	190	0.56	93.2	93.7	3.8
<i>A6</i>	2.5	57.2	1.8	96.7	6.6	5.4	15.9	0.2	795	577	174	66	0.61	91.9	95.9	5.3
<i>A7</i>	5	34.1	3.5	93.2	6.2	16.9	36	15.5	431	254	230	55	0.57	94.4	95.9	21.1
<i>A8</i>	5.8	29	4.1	92.1	7.3	15.4	34.2	10.9	87	207	215	81	0.57	96.4	97.2	27.5
<i>A9</i>	7.9	22.9	4.8	88.8	9.4	20.9	54.6	7.5	129	89	174	25	0.48	96	97.2	9.7
<i>A10</i>	6.9	22.2	4.9	90.3	9.5	32.3	43.4	18.1	268	216	322	45	0.51	94.7	96.8	52.3
<i>A11</i>	5.9	26	4.1	91.7	7.3	23.2	41.2	29.2	367	233	349	29	2.15	94.9	97	22.4
<i>A12</i>	9.3	19.9	5.6	48.1	6.2	17.8	31.7	37	411	150	711	58	3.28	89.6	94.1	19.1
<i>A13</i>	5	27	3.7	93.2	7.4	14.3	35.1	4.3	145	108	166	70	0.62	93.5	94.8	17.7
<i>A14</i>	6	19.9	4.1	91.9	5.5	19.2	28.5	10.7	282	158	332	73	0.47	96	97.3	21.1
<i>A15</i>	9.9	10.5	4.4	87	7.3	24.6	41.4	7.9	316	194	326	109	0.64	94.1	96.3	22.2
<i>A16</i>	11.4	12.6	6.4	84.8	9.6	25	50.7	9	211	152	456	55	0.74	94.6	97.6	21.3
<i>A17</i>	12.7	10.1	6.3	83.5	10.5	35	56.9	29.2	260	135	520	63	0.76	93.6	96	41.1
<i>A18</i>	10.5	10.3	3.6	86.2	8.8	24.2	55.9	2.7	272	133	359	83	0.4	95.2	95.5	9.7
<i>A19</i>	12.4	9.7	3.9	83.8	7.4	26	60.2	1.1	110	79	244	64	0.51	95.4	96.9	13.8
<i>A20</i>	10	14.7	5.1	87.1	8.7	17.7	46.2	6.1	366	118	363	141	0.74	95.1	96.7	16.9
<i>A21</i>	5.3	23.1	2.3	92.8	9.7	12.3	30.5	0.1	134	44	62	42	0.54	96.9	96.8	2.9
<i>A22</i>	4.5	26.1	2.3	94.4	10.6	7	23.5	0	63	36	47	65	0.48	88.7	87.6	0.9
<i>Average</i>	6.745	27.4	3.677	89.28	7.859	16.97	35.61	8.745	352.4	204.8	289.8	90.41	0.754	94.06	95.53	15.71
<i>STEV</i>	3.259	15.24	1.472	10.15	1.609	8.935	14.45	10.82	216.8	129.8	148.6	57.04	0.667	2.062	2.239	13.02

Figure 3.26: step 1 & 2
Resource : made by autore

	<i>X1</i>	<i>X2</i>	<i>X4</i>	<i>X5</i>	<i>X6</i>	<i>X7</i>	<i>X8</i>	<i>X9</i>	<i>X10</i>	<i>X11</i>	<i>X12</i>	<i>X13</i>	<i>X14</i>	<i>X15</i>	<i>X16</i>
<i>A1</i>	-1.15	1.792	0.711	-1.4	-1.09	-1.27	-0.68	1.013	0.209	-0.14	1.518	-0.32	-0.95	-1.58	-0.98
<i>A2</i>	-1.12	1.536	0.682	0.212	-1.47	-1.41	-0.77	1.765	1.643	-0.25	1.43	-0.29	0.893	0.298	-0.79
<i>A3</i>	-1.3	1.805	0.78	-1.59	-1.17	-1.43	-0.73	1.077	1.257	-0.91	-0.04	-0.29	-0.42	-0.42	-0.98
<i>A4</i>	-0.44	0.027	0.376	-0.41	-0.37	-0.35	-0.8	1.267	0.556	0.405	2.587	-0.68	-0.08	0.03	-0.77
<i>A5</i>	-1	0.775	0.623	0.461	-1.35	-1.11	-0.79	1.077	0.949	0.069	1.746	-0.29	-0.42	-0.82	-0.92
<i>A6</i>	-1.3	1.956	0.731	-0.78	-1.29	-1.36	-0.79	2.041	2.868	-0.78	-0.43	-0.22	-1.05	0.164	-0.8
<i>A7</i>	-0.54	0.44	0.386	-1.03	-0.01	0.027	0.624	0.363	0.379	-0.4	-0.62	-0.28	0.165	0.164	0.414
<i>A8</i>	-0.29	0.105	0.278	-0.35	-0.18	-0.1	0.199	-1.22	0.017	-0.5	-0.16	-0.28	1.135	0.745	0.905
<i>A9</i>	0.354	-0.29	-0.05	0.958	0.44	1.314	-0.12	-1.03	-0.89	-0.78	-1.15	-0.41	0.941	0.745	-0.46
<i>A10</i>	0.047	-0.34	0.1	1.02	1.716	0.539	0.864	-0.39	0.086	0.217	-0.8	-0.37	0.311	0.566	2.81
<i>A11</i>	-0.26	-0.09	0.238	-0.35	0.697	0.387	1.89	0.067	0.217	0.398	-1.08	2.094	0.408	0.656	0.514
<i>A12</i>	0.784	-0.49	-4.06	-1.03	0.093	-0.27	2.611	0.27	-0.42	2.834	-0.57	3.788	-2.16	-0.64	0.26
<i>A13</i>	-0.54	-0.03	0.386	-0.29	-0.3	-0.04	-0.41	-0.96	-0.75	-0.83	-0.36	-0.2	-0.27	-0.33	0.153
<i>A14</i>	-0.23	-0.49	0.258	-1.47	0.25	-0.49	0.181	-0.32	-0.36	0.284	-0.31	-0.43	0.941	0.79	0.414
<i>A15</i>	0.968	-1.11	-0.22	-0.35	0.854	0.401	-0.08	-0.17	-0.08	0.243	0.326	-0.17	0.02	0.343	0.498
<i>A16</i>	1.428	-0.97	-0.44	1.082	0.899	1.044	0.024	-0.65	-0.41	1.118	-0.62	-0.02	0.262	0.924	0.429
<i>A17</i>	1.827	-1.13	-0.57	1.642	2.018	1.473	1.89	-0.43	-0.54	1.549	-0.48	0.009	-0.22	0.209	1.95
<i>A18</i>	1.152	-1.12	-0.3	0.585	0.809	1.404	-0.56	-0.37	-0.55	0.466	-0.13	-0.53	0.553	-0.01	-0.46
<i>A19</i>	1.735	-1.16	-0.54	-0.29	1.011	1.701	-0.71	-1.12	-0.97	-0.31	-0.46	-0.37	0.65	0.611	-0.15
<i>A20</i>	0.999	-0.83	-0.22	0.523	0.082	0.733	-0.24	0.063	-0.67	0.492	0.887	-0.02	0.505	0.522	0.091
<i>A21</i>	-0.44	-0.28	0.347	1.144	-0.52	-0.35	-0.8	-1.01	-1.24	-1.53	-0.85	-0.32	1.378	0.566	-0.98
<i>A22</i>	-0.69	-0.09	0.504	1.704	-1.12	-0.84	-0.81	-1.33	-1.3	-1.63	-0.45	-0.41	-2.6	-3.54	-1.14
<i>DOj</i>	-1.3	1.956	0.78	-1.59	-1.47	-1.43	-0.81	2.041	2.868	2.834	2.587	-0.68	1.378	0.924	-1.14

Figure 3.27: Step 3
Resource : made by autore

District	Cio	Fi	Rank
1	5.50	0.48	6
2	4.10	0.36	1
3	5.45	0.47	5
4	4.84	0.42	2
5	5.03	0.44	3
6	5.44	0.47	4
7	6.74	0.58	7
8	7.42	0.64	9
9	9.06	0.79	16
10	9.20	0.80	18
11	8.2	0.71	13
12	10.8	0.94	22
13	7.9	0.68	12
14	6.9	0.60	8
15	7.75	0.67	11
16	9.07	0.79	17
17	10.52	0.91	21
18	8.29	0.72	14
19	9.28	0.80	19
20	7.66	0.66	10
21	8.54	0.74	15
22	10.48	0.91	20

Figure 3.29 : steps 7 & 8
Source : made by autore

The rate of development and the development rank of a district show which district is more beneficial of indicadores.

The middle of development is considered to be 0.66 , This amount is the average of development rates, therefore, all districts which their rate of development is less than 0.66, their situation is more favorable and, on the other hand, districts which their rate of development is more than 0.66, they have a worse state.

The results of taxonomy show that districts 2 and 4, with development rates of 0.36 and 0.42, are the most developed regions and districts 22, 17 and 12 with development rate of 0.91 and 0.94 are Less developed areas. The figure (3.30) shows the 22 districts of Tehran based on the development rank.

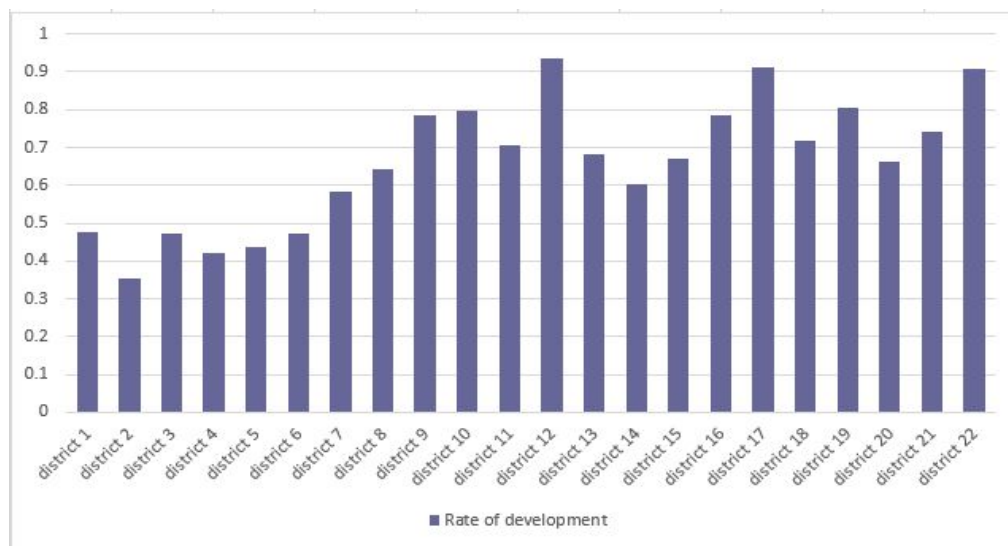


Figure 3.30: Rate of development of districts
Source : made by autore

Except two districts of 14 and 20 with the rate of development of 66. The figure (3.32) and (3.33) illustrate which district in which location of Tehran is benefited from the indicators.

All areas in the southern and western parts of Tehran their rates of benefit from positive indicators such as the rate of women literacy, the rate of people over 18 years with academic education, access to health facilities and etc are few or extremely few. In comparison, the northern districts of Tehran, are in a more appropriate conditions, means there are fewer negative indicators such as illiteracy rates, unemployment rates, decayed blocks and etc in these areas. So, as it can be seen, the pattern of social-spatial inequality in Tehran geographically is North-South.

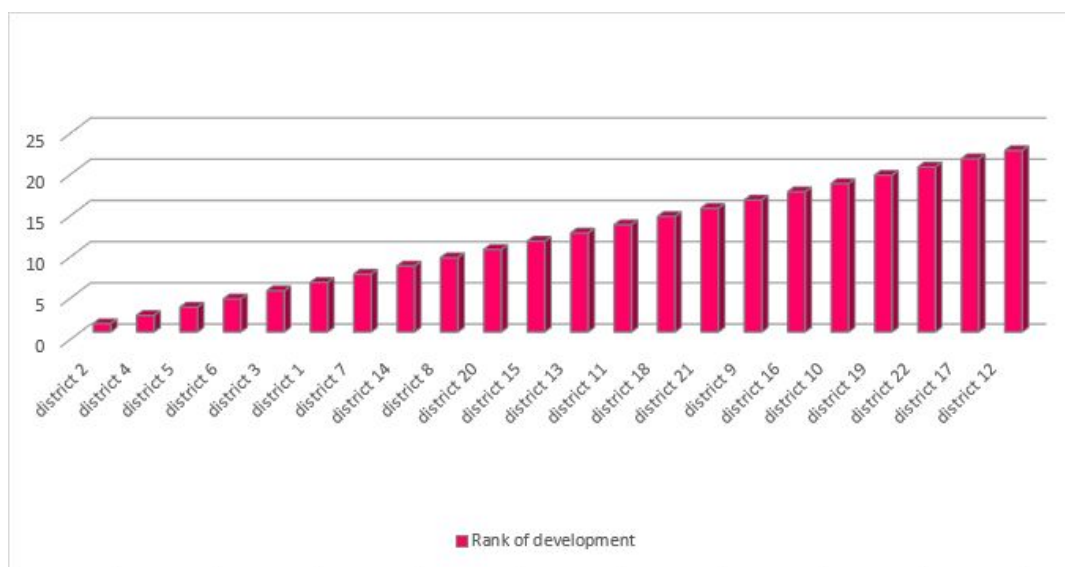


Figure 3.31 : Rank of development of districts
Source : made by autore

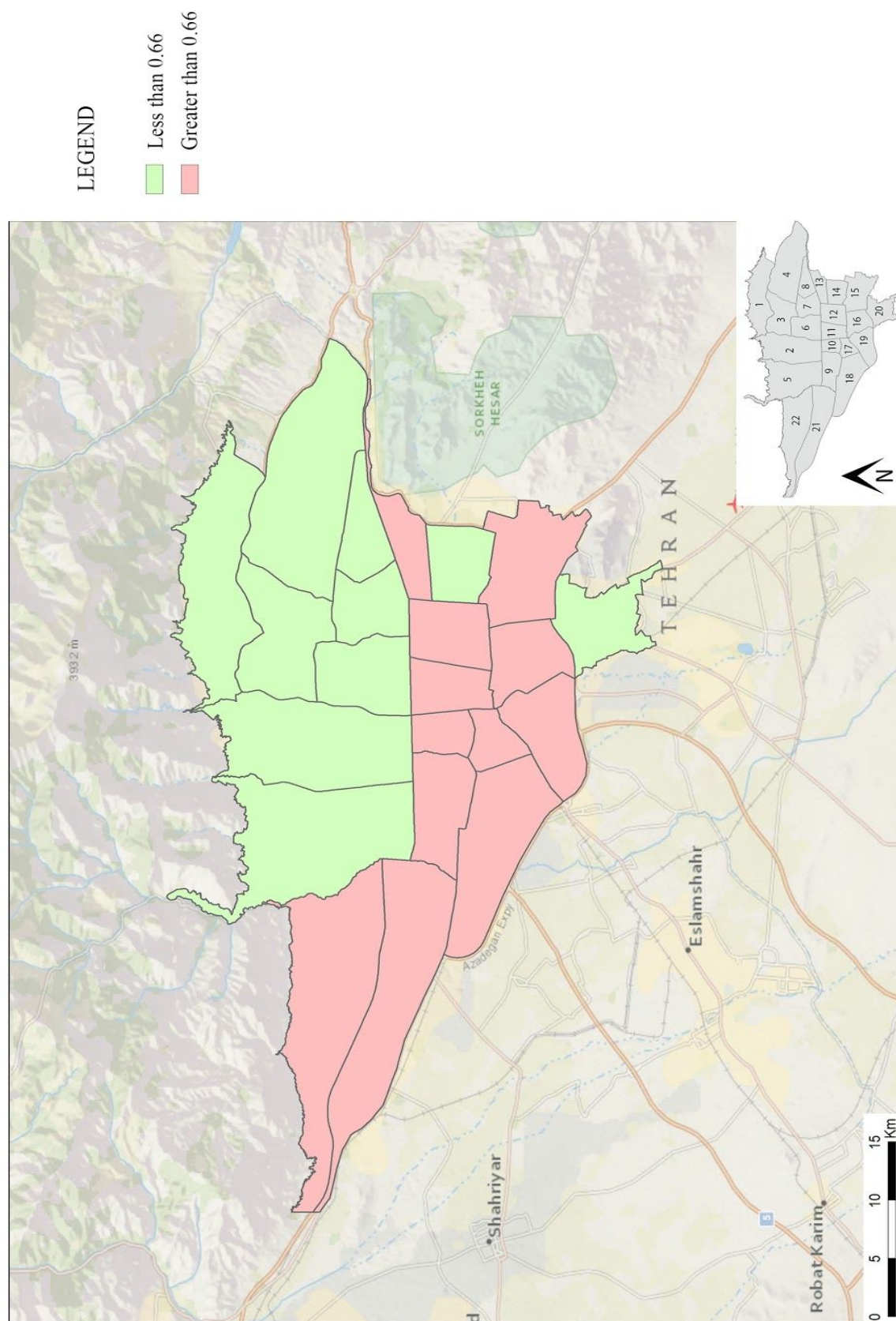


FIGURE 3.32: DISTRICTS BASED ON THEIR RATE OF DEVELOPMENT

Source: made by author

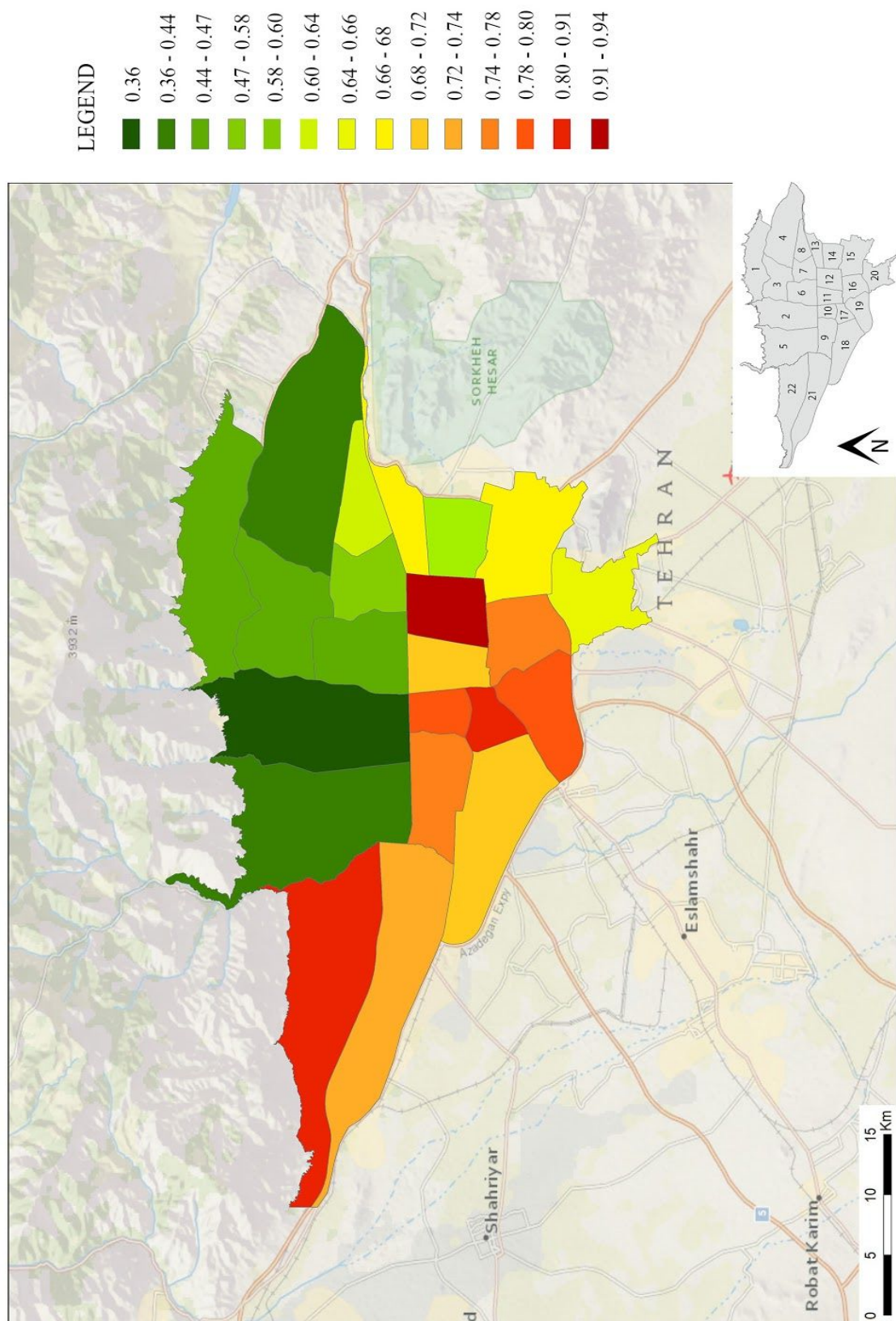


FIGURE 3.33: DISTRICTS BASED ON THEIR RATE OF DEVELOPMENT

Source: made by author

Part 3

4. Informal settlements

4.1 Definition of informal settlements

An important part of the world's inhabitants living in marginal areas, slums, ghettos and the like are faced with unfavourable conditions. A report from the United Nations, in 1998, states: In dense urban areas, every year, 10 million people die because of poor living conditions, such as non-standard housing and inappropriate health.

The word “slums” was first used in the 1820s and has since been used to identify areas with inappropriate hives, poor health conditions, marginal activities, such as drug and crime abuse. In the late nineteenth century, slums was called to the streets and alleys that were located in the busiest areas of the city and their inhabitants were very poor or from the lower classes of the community. The twentieth century sought to find a better term for a more precise description of this phenomenon, and chose words were such as “worn-out neighbourhoods” or "shared houses." Today, the definition of slums is very diverse, and the specifying a single definition for the word of slums is complicated because it is a broad concept that can include a range of inappropriate housing so that there can be different forms of slums in a country or a city, and according to the geographical location, the native features and different social and cultural contexts specific to each country and region have their own characteristics. In many documents and policies, slums are defined as: Slum is the neglected part of the city where housing and living conditions are very poor. Slum dwellings can be areas with high density and illogicality in

urban centers, or illegal settlements in the city that are sprawling on the edges of the city.

Based on the *un habitat programme*, they are grouped into two general groups:

- Residential areas that were illegally built in areas or land not owned by its residents. The habitants has illegally seized the place.
- Inhabitants outside the program and areas where housing construction is not in accordance with existing plans and construction regulations.

Proportion of each country's urban population living in slums (according to UN-Habitat definition).

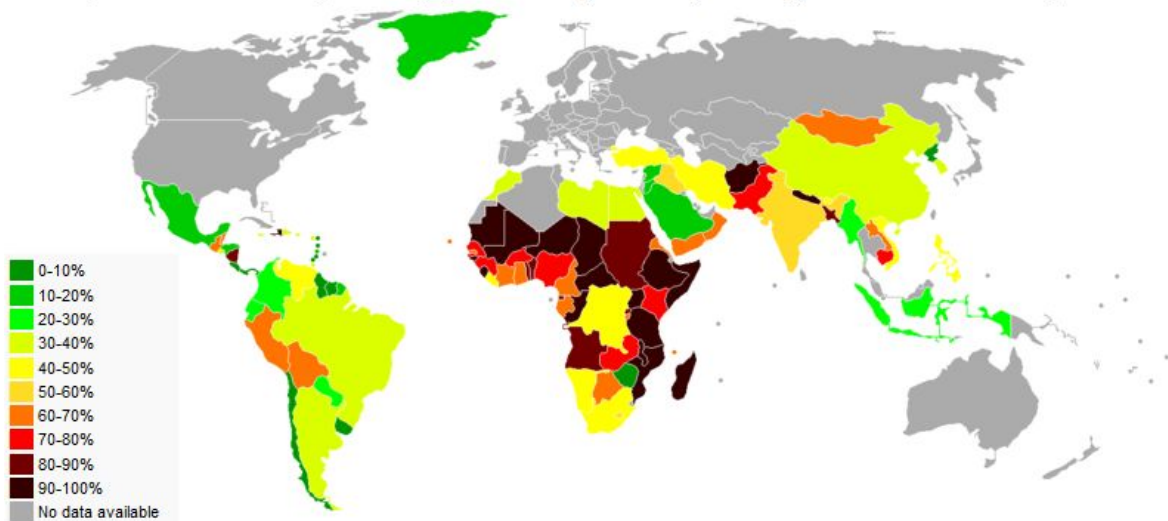


Figure 4.1 : Urban population live in slums
Source : UN Habitat, 2007

According to the definitions used by national and local governments, statistical institutions and institutions related to the slums problem, the following attributes can be considered for slums:

- Basic service shortage: Primary service deficiencies are one of the most common features of slums in all global definitions, and the most important part is the lack of access to healthy water and sanitation facilities.
- Inappropriate and illegal housing: slums are made up of a large number of non-standard buildings with poorly-durable materials.
- Highly-crowded and dense: high population density, and lack of minimum space per person. In most slums, 5 or more people live in a single room and have only one room for sleeping, cooking and living.
- Unhealthy living conditions: Because of the lack of access to basic health services, the level of health in slums is very low. Slums may be based on

hazardous areas or inappropriate areas for habitation such as waste disposal sites.

- **Insecure tenure:** Among the most important features of slums, is insecure tenure, because of the illegal or unofficial tenure of land or buildings, most people living in slums do not have a formal document showing their legal rights to their place of residence.
- **Poverty and social exclusion:** In many studies, low income and poverty are considered as key features of these areas. Social exclusion and the vulnerability of the inhabitants of these areas, has transformed slums into abusive and crime-causing places.
- **Minimum size of settlements:** For many definitions, slum is one of the smallest settlements.

4.2 Informal settlements in Developing Countries

In the process of globalization and the expansion of the capitalist system, Third World countries will become markets for the consumption and sale of goods and products of the producing countries, so the major cities of developing countries will be converted into a commodity exchange, therefore non-specialized and temporary jobs will quickly flourish. On the other hand, in these countries a significant portion of the country's income is allocated to the metropolitan areas, especially the capital. This encourages migration of ruralites without specialization or education from less-facilitated villages to large cities.

Therefore, the continuous flow of migrants and the growth of the entire city has made it extremely difficult to provide urban services for all citizens. The heterogeneous distribution of education, health, urban design, the delivery of healthy drinking water and the beautiful environment, especially for low-income groups, are becoming more and more complex. (Piran, 1987)

In developing countries, the term slum, if used, does not cover all its aspects and meanings, and in most cases refers only to low-quality housing or informal housing.

On average, throughout the world, slum housing increased steadily during the 1990s. During this decade, urban population in less developed regions increased by 36%. However, this was not the same for all countries. In Asia, however, public urban housing standards increased during this decade, and official construction continued to grow as cities grew. by the time of the 1997 these conditions were still in place in most southern-west countries. Even though

some Asian countries, such as Thailand and India, continued to improve the conditions of the cities even after the crisis, but after this year, the number of cities in Asia and especially in South Asia grew rapidly and exceeded the capacity of the cities.

Marginalization in developing countries is often made up of immigrants who have targeted large cities for various reasons, but due to low technical skills and lack of sufficient capital, they have no power to enter the main city text. Have to accept the marginal life.

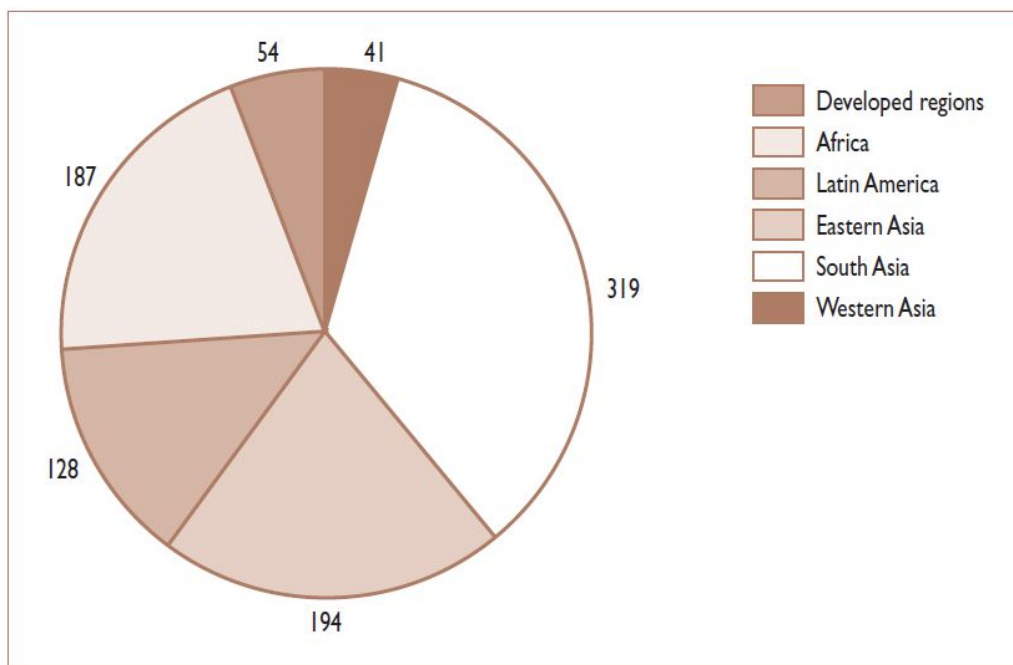


Figure 4.2 : world distribution of slums dwellers (million)
Source UN Habitat , 2001

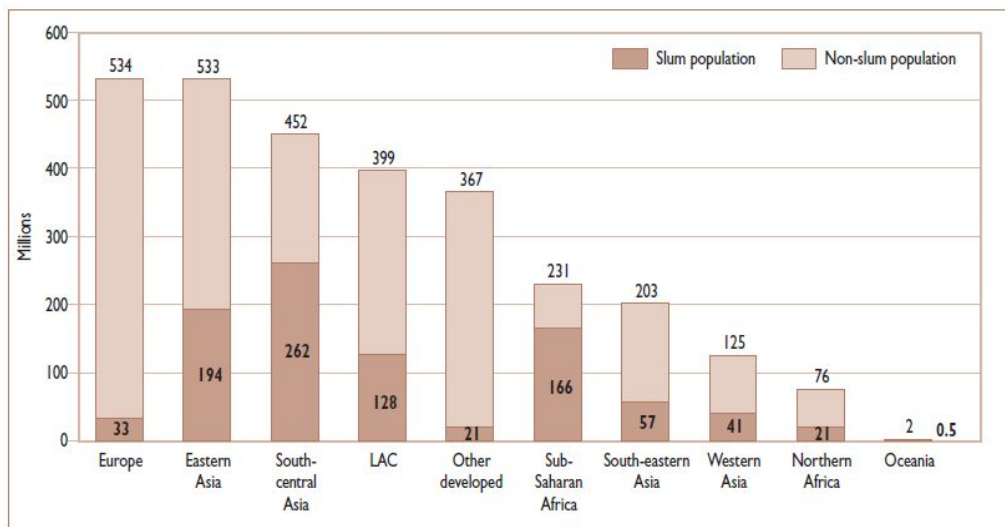


Figure 4.3 : proportion of slums dwellers in urban population
Source :UN Habitat,2001

4.3 Informal settlements in Iran

Like in most developing countries, marginalization in Iran is largely rooted in immigration and urban-rural repulsion and attraction factors. The lack of amenities and services in rural and small cities exacerbated the migration process, and marginalization emerged, thus forming one of the most prominent manifestations of immigration in Iran, as in many other developing countries.

In Iran, before the 60s, urbanization grew sluggishly, and, by the beginning of the 60s, about 33 percent of the country's population lived in cities, but in the 1960s and 70s, the expansion of urban facilities and communication networks, as well as rising oil revenues, boomed cities and created urban attractions, and on the other hand, land reform and mechanization intensified rural repulsions.

In a comprehensive survey conducted at the Institute of Social Studies and Research of the University of Tehran in 1972, 91 percent of the families of marginalized population in Tehran were villagers, 72 percent of them were previously peasants and 59 percent of the petty landowners. Also, similar research findings in 1966 showed that 62% of Tehran's marginalized labourers were unskilled workers, 12% of semi-skilled workers were 14% skilled workers. With the increase in oil revenues in the 70s, urbanization grew faster, and it grew so fast that in 1978 the urban population of the country reached

64%. Tehran, until September 1979, had nearly 10,450 households and 4,500 homes. After the Islamic Revolution, migration to cities continued as a result of insufficient infrastructure facilities for employment in rural areas, so that the growth of urban population during the twenty years prior to the revolution (that is, between 1956 - 1976) increased by a growth rate of 5%, and this trend during the twenty years after the revolution (1976 - 1996) continued at a rate of 4.3 percent. (Ahmadian, 2004)

According to sociological studies, 67 large and small towns in 16 provinces in 2001 are faced with marginalization, with a population of more than two million inhabitants, the average population density of the marginalized areas is about 200 people per hectare. (Eftekhari Rad, 2001)

In Iran, marginalization has been rising. Informal settlements have increased from 5% of urban population to 13% in 1976 to 11% in 1986 and 19% in 1996. In 2016, the Minister of Roads and Urban Development announced that about there are 20 million marginalized people living in the country, that's about 30 percent of the country's total population. This population is settled in an area about 55,000 hectares of informal settlement.

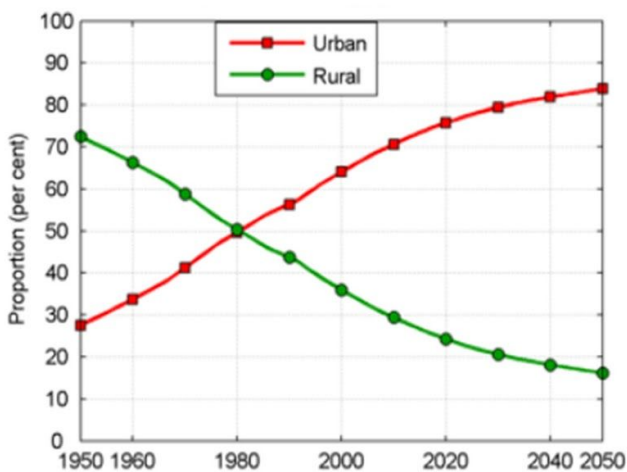


Figure 4.4: Proportion urban and rural in Iran
Source : UN Habitat , 2014

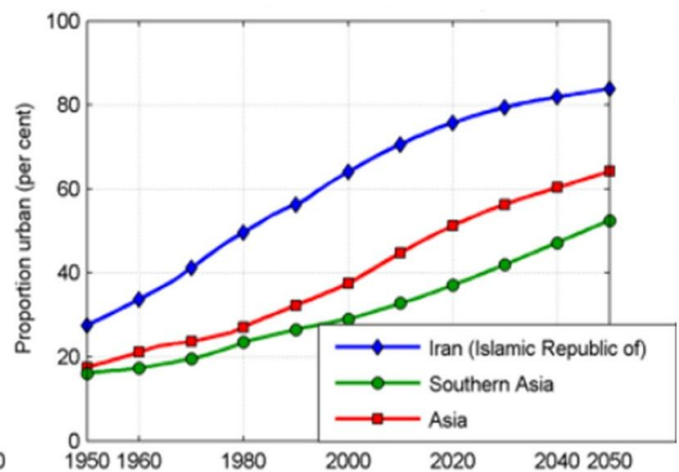


Figure 4.5 : Proportion urban by region & major area
Source : UN Habitat , 2014

In the specific case of Iran, the migration factors from rural areas to cities should be studied at three levels:

1. At the transnational level: Iran's economic structures under the influence of the capitalist system and the process of globalization were rapidly transformed into a consuming country and, as a result of excessive oversupply, became a major market for the sale of goods and services which demand pseudo-jobs and work forces without special expertise.
2. At the national level: lack of attention to rural areas and agriculture in the country's economic, social and cultural development programs. However, in the years after the Islamic Revolution, there were significant measures to provide services to rural areas, but these measures were not accompanied by the expansion of employment opportunities in rural areas, and on the other hand, the economic and social attractions in large cities grew rapidly.
3. At the local level: Due to the delay in Iran's urbanization with respect to western countries, urban management has not had enough scientific experience and tools to deal with urban problems, including marginalization, although effective measures were taken in the years after the revolution to strengthen urban administrations and organizations. But because of the lack of these measures on the one hand and the permanent transfer of rural problems to large cities on the other hand, urban management has not made much progress. in connection with the transfer of rural problems to urban areas Schumacher states: rural unemployment causes mass migration to cities and rural unemployment becomes urban unemployment. (Ahmadian, 2004)

4.3.1 Slums typologies in Iran

Based on National Document for Enabling and Regularising of Informal Settlements , typology of different slums in Iran is divided by reference to their location and origin:

1. Declining areas within the cities: they have long been low-income neighbourhoods or have become in a recent downward disinvestment spiral that has caused their steady physical and social degradation.

2. Slums outside official confines of cities: these slums are formed by migrants who do not able to supply housing in the formal market of land in the cities.

3. Slums in suburban villages: this type has previously been a village , but due to its proximity to the city , it became to a destination of low-income groups.

4. Slums recently incorporated into cities: they have formed outside city boundaries as well as two previous types but ,more populated,so government recognize them such as a formal part of city to provide them basic services.

5. Squatter settlements : they are result of post-revolutionary and post-war conditions in the late 1970s and early 1980s.

6. Slums formed in and around brownfields: this types have been formed in and around semi-active or abandoned industrial areas.



Figure 3.6 : Iran, Khorasan
Source :Mehr news agency ,2016

4.3.2 Socio-physical characteristics of informal settlements in Iran

- Household size and population density : The statistics on household size and population density in Iran's informal settlements indicate that these figures are numerically higher than the city average. (Ebrahimzade, et al, 2004)
- Migrant's ratio: Although in most informal settlements the majority of the residents are immigrants, either those coming from rural areas or those arriving from other cities, but the situations of living in informal neighborhoods in Iran is changing, and goes toward the point that after the emergence of these

neighborhoods, the majority of the immigrant population will be inhabitants of other neighborhoods of the city. (Irandoust et al, 2007)

- Income and unemployment rate: In all informal settlements, the income is below the median income of the urban population, employment is mainly in the informal sector of the economy, and a high percentage of absolute poverty among residents, are the most important characteristics of these neighborhoods. Also, because the jobs of most people living in these neighborhoods are unsustainable urban jobs, such as seasonal workers and pseudo-jobs, there is a high unemployment rate in these areas.
- Officially-unrecognized citizens: Due to not being accepted in official communities, while most residents of these neighborhoods have traditional social capital, such as being united against strangers and taking care of each other's territories, but are excluded from modern social capitals, such as participation in local actions.
- Unlicensed, illegal and out of urban plans housing units
- Low value of land and cheap housing
- The low quality of buildings, the use of less-durable and unsustainable materials and construction without complying with construction standards
- Low residential per capita in these neighborhoods relative to official districts located in the cities and as a result: excessive population accumulation per unit area
- Lack of full and authorized access to welfare facilities
- The lower per capita access to healthcare and education facilities in these areas relative to official urban areas
- Most homes in these homes are private, but in terms of legal and ownership documents, many residential units lack official ownership documents and are mostly seized or hold unofficial documents.

4.3.3 National policies confronting with informal settlements:

In 2004, the government of Iran approved “ National Document for Enabling and Regularising of Informal Settlements”. The document is the result of the cooperation of the Iranian government and the World Bank, with loans worth 8 million dollars. In addition to the Ministry of Roads and Urban Development, was established “National Committee” to follow up on the objectives of this document. The purpose of the National Committee is to institutionalize

multi-sectoral interventions in relation to slums upgrading and the role of the government has been considered as facilitating the actions (Ministry of Roads and Urban Development, 2004).

The joint project with the World Bank began in 2004, and ended in 2009, while not achieving its goals, and only about 39% of the original budget was paid during these five years. The World Bank rated the project "moderately unsatisfactory". One of the reasons for the failure of this project was economic sanctions on Iran, which affected the payment of loans, contracts and travel of officials and experts to Iran. (Amoli, 2011)

According to the National Document for Enabling and Regularising of Informal Settlements, deteriorated urban fabrics as well as informal neighborhoods are target areas. Over the past decade, it seems that most of the government's efforts have been to promote deteriorated fabrics, which are in the legal urban boundaries, although the reasons for this were clearly not mentioned, but according to many experts, the legality of the decayed areas and the payment of taxes by their residents has played a significant role in the government's approach towards them.

Believing that the majority of the population will live in poverty and discrimination and in non-conventional conditions, development will not take place for the country; this document has the following objectives:

1. Preparations for enhancing the of an environmental conditions a comprehensive and sustainable fashion, for the empowerment of health, safety, education, and human dignity of the people living in existing informal settlements.
2. Preventing the expansion of informal settlements in the future and laying the groundwork for the construction of suitable housing, basic services and infrastructure in the formal urban spaces, to the extent which are affordable and accessible to low income groups.
3. Providing ground for the benefit of citizenship and urban privileges for residents of these settlements, along with their participation in local decision making and actions.

-Main strategies and policies of National Document

1. In order to realize the first objective of National Document (the foundation for improving the environmental conditions of informal settlements in a sustainable and comprehensive way), the strategy of government is , upgrading the informal communities, through the empowerment of participation of residents. In this

strategy, the main reliance is on the existing capacities of communities, and the role of government is merely support and guidance. The policies and actions associated with this strategy are as follows:

- National actions to establish informal settlements headquarters and its related organizations in the target regions

- Supporting the establishment of a popular elected body in these settlements and recognizing it as a central reference in all the negotiations and decision-making process to strengthen social capital.

2. Due to achieve the second goal of the document, namely, to prevent the spread of informal settlements and to provide adequate housing with related services for low income groups, the government strategy is strengthen the role of the public organizations to guarantee the access of low-income groups to housing. Meeting this need , requires the coordination and cooperation of all sectors at all levels. The policies and actions associated with this strategy are as follows:

- Government support of low-income households to build residential units and encouraging local private sector to supply the needed goods and services, and prioritize social housing projects in this area.

- Launching and assisting to the preparation of upgrading projects in the informal settlements with the participation of local institutions under the guidance and supervision of the regional headquarter.

- Establishing a national center for information, research and exchange of experiences in different regions of the country and international best practices.

3. To realize the third objective of the document (planning to grant the urban privileges and citizenship to residents of informal settlements), the government strategies are:

- Revision of all laws and regulations restricting the access of low-income groups to official facilities and the use of initiatives appropriate to the lack of formal ownership.

- Creation the local funds through people's participation to investment on the housing and employment sector , while benefiting from public and private and resources.
- Prioritizing those government resources that is used to provide basic infrastructures and services in informal settlements.
- Special support of creation the public spaces in the existing informal settlements.

However, over 10 years after the drafting of the National Document for Enabling and Regularization of Informal Settlements, despite some successes, according to many experts, the number of informal settlements in the metropolis of Iran is increasing. Can be mentioned the reasons in follow for the failure of adopting policies :

-The most important reason for the emergence of marginal and informal communities is poverty and the unequal distribution of wealth and opportunities, so providing housing is not the ultimate solution for informal neighborhoods, in order to ensure sustainable development of these areas, the most essential measure is to provide jobs and skills for residents.

-Despite the studies conducted, there is a few official data and information on this issue. It is not officially known how many informal settlements, in which cities there are? how much population and in what social and physical conditions there are?. Without a clear and accurate imagination of the status of these settlements, the effectiveness of policies seems unlikely.

-Residents of informal settlements, such as residents of the city's official neighborhoods, are not recognized. They are not involved in planning processes, and the government and policymakers are not aware of their needs and priorities, while the first step is to improve their living conditions, is recognizing them.

-Loan policies are among the strategic factors in providing settlement. Equipping the financial resources, decreasing loan application fees, improving the efficiency of the financial mediators and predicting the security systems to guarantee its return were considered the actions in housing section of the government. But the most important factor has been ignored: providing loans

for needy people. For example those families, who do not have enough income even for their every day requirements, how can they afford the down payment of the loans? There should be some policies in the banks to support these families (Zoqi.2011)

4.3.4 A Best practice of informal settlements upgrading in Iran:

The World Bank defines upgrading as: Upgrading is to increase capacity and improve the ability of individuals or groups to make better choices and turn these choices into desirable outcomes. (World Bank, 2001)

One of the most successful joint operations of the Government of Iran and the World Bank was the empowerment of one of the informal neighborhoods in the city of “Bandar Abbas”, located in south of Iran. In this city, about 30% of the population lives in marginal areas outside the formal boundaries of the city, and in the 30% of the city’s neighbourhoods inhabit the informal and low-income groups. The selected location for the upgrading project was a neighborhood within the formal boundaries of the city with about 300 households called "Behesht Zahra." The priority of residents were , access to piped safe water, mechanization of the sewage system, and improving the public health of the neighborhood. Although, at the beginning of the project, due to the lack of coordination between the involved agencies and the complex bureaucracy, the necessary measures were delayed, but ultimately this project is an example of the effectiveness of the central government's cooperation with local institutions.

The duration of the project was 5 years and pursued two major goals: upgrading the physical conditions of the neighborhood and empowering the residents; in this regard, the mayor of Bandar Abbas, in order to better communicate with the residents of Behesht Zahra, selected a resident as his special assistant, and also formed a group of 22 women elected by residents as coordinators, they were cooperating with the municipality in pursuit of the people's demands. In this way, the municipal budget was spent on actions that were the priority of the people. For example, the group was able to mobilize residents to raise the money needed to buy cement, thus they helped the municipality to asphalt the streets. (Amoli, 2011) The Bandar Abbas Project is an example of effective being citizen

participation in empowerment processes , confidence in vulnerable groups, improves their ability, increases their sense of belonging to their environment, and prevents the authorities from making false, short-term decisions, and away from the reality.

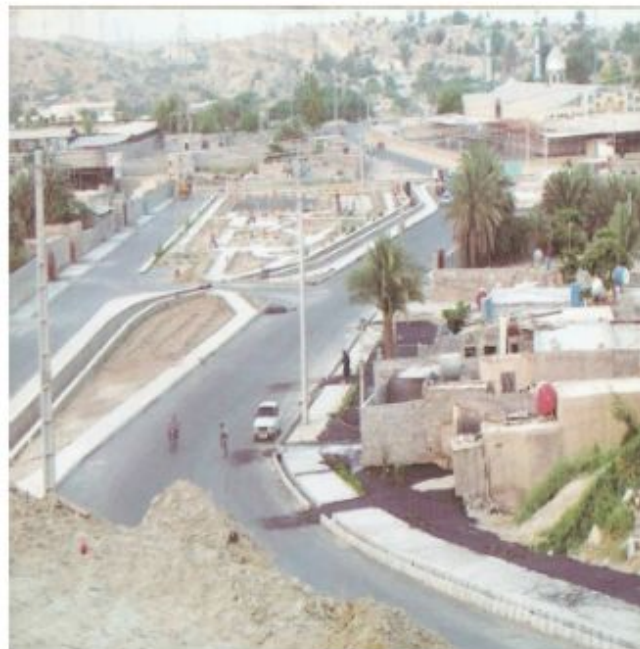
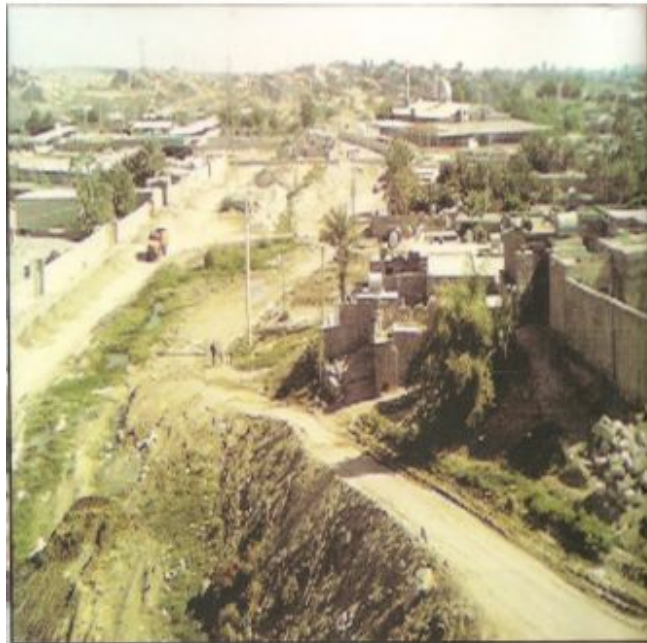


Figure 3.7 : “Behesht Zahra” informal neighbourhood before & after upgrading
Source : Haftshahr journal , 2011

4.4 Informal settlements in Tehran

Due to the unequal distribution of capital and services between the urban areas of the entire country, Tehran is the main destination of immigrants from all over Iran. According to Iran's Center of Statistics, while around 10% of the total population lives in Tehran, but 23% to 28% of The national income, 24% of gross national product, 30% of the country's budget for urban development, is dedicated to Tehran. In addition, 55% of bank deposits, 27% of industrial workshops and 42% of cinema halls belong to Tehran. The population of Tehran has increased by 2.5 times over the past 30 years, the first factor of population growth in Tehran is migration.

The informal settlement in Tehran is the result of immigration from other cities and villages and also from the inner city, the first group who moves to Tehran with the motivation to find a job and make a better life, but because of the high living costs in the capital in particular high value of housing, they do not able to supply housing in the official market, thus, they inevitably have to provide housing on the informal market in the periphery and far from the basic facilities. But the second group who resided in Tehran a few times ago, cause of the getting increasingly expensive of housing, they left their habitat, and moved to the marginal areas and the informal settlements, it has seen an increase in this type of displacement, especially in the last three decades.

The average national housing prices in all cities of Iran have increased by 60 to 90 percent over the past 20 years. According to official statistics, more than 30% of the population of the province of Tehran resides in informal settlements. In the 30 years, 1977-2007, about 42% of 8 million people who added to the population, have been settled informally (Zanjani, 2008)

4.4.1 Examples of informal settlements in Tehran's districts

District 19

Is located in the southwest of Tehran with an area of 89.19 square kilometers and a population of 244350 people (including 124481 men and 119869 women) has 5 areas, 49 neighborhoods and 70,349 households.

This district was an environs rural in 1964 but in 1981 it was recognized as a legal and independent region by the municipality of Tehran. By 1986, due to the establishment of brick furnaces and successively the formation of housing in the

vicinity of the furnace and also the arrival of a large number of immigrants due to low land prices, population has to a 51% increase.

In 2 neighborhoods of the 3rd areas of this district and around brick furnaces, 17 informal settlements are formed. These settlements consist of undesirable residential houses which have built by their inhabitants from the years 1986 to 2010. these settlements suffer from some radical problems such as:

- Lack of access to drinking water in a number of settlements
- lack of garbage collection mechanism
- The total area of the building of residential units (mostly less than 50 square meters)
- insanitary repulse the wastewater of residential units wastewater inside the settlements
- Lack of durable and standard materials in the construction of residential units
- The dry and sandy paths of the main and secondary streets in a number of settlements



Figure 3.8: informal settlement in district 19

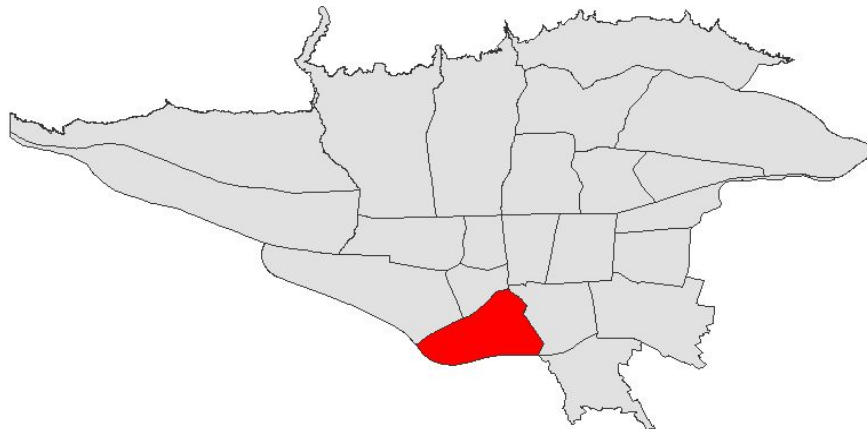


Figure 3.9: Location of district 19
Source : made by autore

District 4

Is located in the northeast of Tehran. Its population is 861280 and includes 429903 men, 431377 women and 270948 households.

District 4 consists of 9 areas and 20 neighborhoods and comprising 10% of the area and 11% of Tehran's population.

The informal settlement of "Shemiran No" located in neighbourhood 7 of area 4 has been established by unauthorized construction without permission from the municipality and by its inhabitants. Apart from unauthorized residential units, there are also cases such as living in tent and building hut. A large number of the streets of this neighborhood are not connected to the urban wastewater network due to their narrow widths, half of the residential units lack documentation, and more than 80% of the neighborhood's tissue is so decayed that it will collapse against the slightest vibration.(Kazemian et al , 2010)

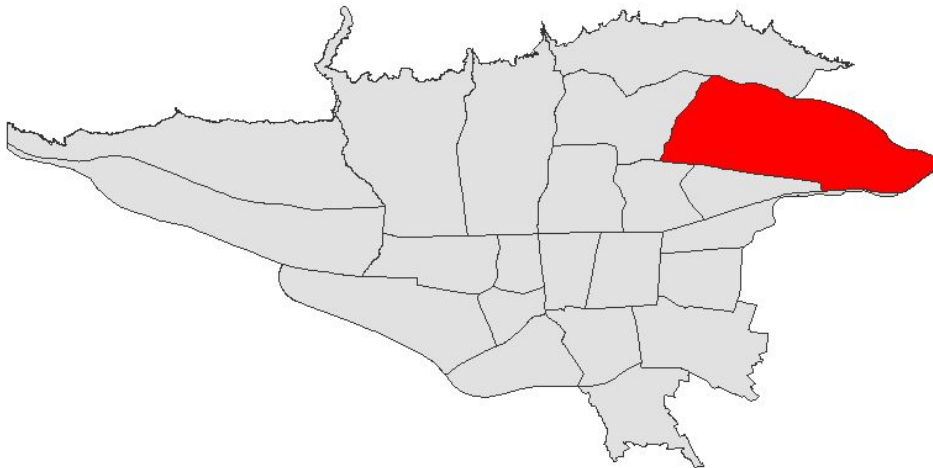


Figure 3.10 : Location of district 4
Source : made by autore

District 15

Is located in the south-east of Tehran, the population of this district is 638,740, including 32,5133 men, 31,347,272 women and 19,2610 households. The district is divided into 8 areas and 20 neighbourhoods.

-In the “shush” neighbourhood which belongs to area 1 of this district, is recognized some cases of informal settlements;most parts of this neighbourhood is made of decayed tissue.

According to one of the country's official newspapers (ISNA,2017), "Labe khat" is one of the informal settlements located there. This settlement is one of the poorest urban area in the Tehran, all of its residential units are built without documents or legal permission by their habitats and also they are made of by

unstable materials. Resilience is sustained by the residents themselves. There is no garbage collection mechanism in this area, most homes do not have access to the bathroom and the health is very low-In this neighborhood, another informal settlement is also known: “Darvaze-ghar”

“Donya-e- eghtesad” newspaper in 2016 ,reports the features of this settlement as follows: durable, incomplete and ruin housing , homelesses, groups living in tents, low levels of hygiene; poverty as well as insecurity due to the fact that about half of the inhabitants suffer from addiction (according to a report by the Economist In 2013, “sush” neighbourhood is the most polluted city in Tehran from the point of view of addiction.)



Figure 3.11: informal settlement in district 15

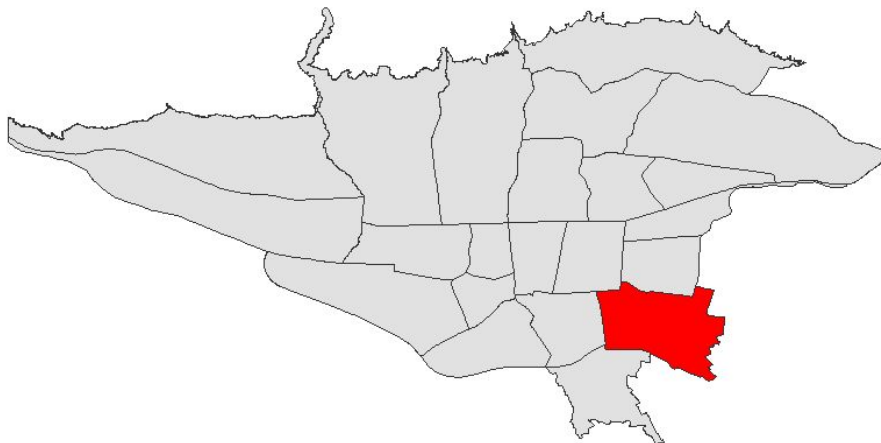


Figure 3.12 : Location of district 15
Source : made by autore

District 18

It is located in the southwest of Tehran, with a population of 391368 people, of which 6,623 are men and 191745 women .It also has 115,151 households and consists of 7 areas and 18 main neighborhoods.

Based on the information published by the municipality of district 18, the decayed tissue is scattered in areas 1,2,3 and 4, but according to one of the official newspapers of the country (Sharq, 2014), the worn out tissue also seen some parts of area 5 which have also characteristics of an informal settlement: "Noruz abad".in this settlement ,most homes have a total area less than 40 mq,while the average household size of the entire district is 3.4. All most entire of residential units are built by the residents themselves

without the permission from the municipality, without observing the technical principles of construction.During most hours of the day, the flow of water is cut off, they have no access to public transportation, and they have to walk a lot to get to the first bus station, which, in addition to poverty, The issue has also prevented many children from studying.



Figure 3.13- informal settlement in district 18

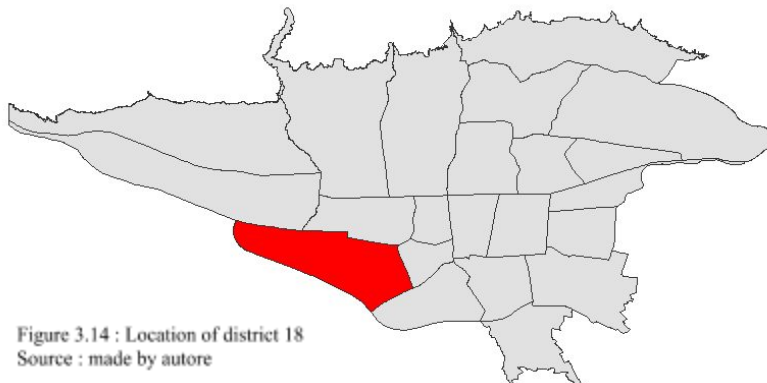


Figure 3.14 : Location of district 18
Source : made by autore

District 2

It is located from the city center to the north and consists of 9 areas and 21 neighborhoods. According to the latest census, its population is 632,917, including 312,830 men and 320,080 women, and 205,883 households.

According to a research published by "Parviz Piran" in 2014; there is an informal settlement in the neighbourhood 1 of this district. The land area of this settlement is 2,500-3,000 square meters, with 390-400 inhabitants living in 22 shanty homes made of plywood, corrugated metal, sheets of plastic, and cardboard boxes.

homes are made of 2 bedrooms, and these rooms have an area of 6 to 20 square meters. They have no access to adequate and sanitation water, electricity is unauthorized, toilets are non-standard and open-sided just behind of homes.

During the day most of men, women and even children, peddle, scavenge or sell cigarette due to earn money. In this 400 person community, there is only one teenager who has been educated until high school.

The municipality of Tehran in 1366 attempted to demolish the neighborhood, but after demolishing several units, faced to the resistance from inhabitants, thus stopped the continued destruction. A few earlier, in another measure, the municipality allocated some lands to these inhabitants in another district, but residents declined to accept the municipality's proposal for two reasons: first, most residents did not have enough money to build and finish the building in the new neighborhood; secondly, the residents did not trust the municipality; They believe that municipality's proposal is to destroy the slums and worry about repossessing the land after evacuating their neighbourhood.

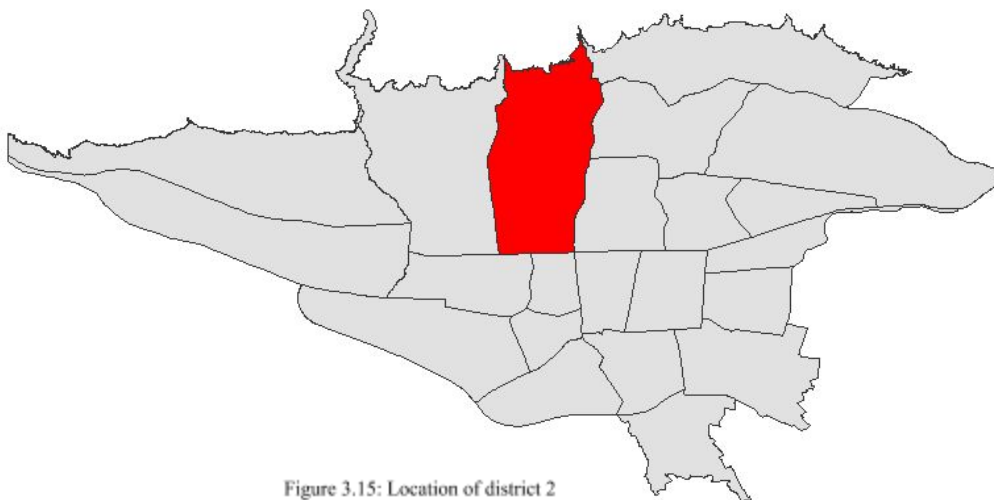


Figure 3.15: Location of district 2
Source : made by autore

There is no official information about the number, location and conditions of informal residences in Tehran. Some of these settlements are sometimes referred to in general, and sometimes transiently in some detailed plans of the districts. In the following are provided examples of these neighbourhoods within the official boundaries of Tehran, as are mentioned in academic researches and official news.

Earlier, it was said that the slums document in Iran was divided into six groups according to their status and origin. According to this typology, we can say that four types of slums are shown in examples of informal settlements in Tehran.

Settlements located in District 19

According to the definition of the national document area of informal neighbourhoods that are adjacent to semi-active or abandoned industrial sites, are considered as slums or brown fields. Since all 17 informal settlements in the district 19 are located near the semi-active or inactive brick furnaces, they belong to this type of slum.

Settlements located in districts 4, 15 and 18

The informal neighbourhoods located in these areas, according to the definition of the national document, belong to the first group and are classified as deteriorated and inadequate urban areas.

Majority of these neighbourhoods, due to lack of fair and balanced planning have hosted low-income groups for a long time. These neighbourhoods gradually became poorer and worse. Wealthier residents moved out of these areas, poor ones but remained. They did not have the money to improve their homes and neighbourhoods, and did not pay taxes, so the value of land in these areas became less and less. These neighbourhoods became a good destination for poor immigrants, they seized the abandoned land illegally and constructed homes without the required permissions. With the transformation of these areas from poor, but formal urban areas into illegal settlements, the municipality refused to provide services to these neighbourhoods.

Settlements located in District 2

Based on what the national document defines from the Isles that are annexed to the cities, Farahzad's marginal fabric belongs to this group. An informal settlement, which is formed near a village outside the Tehran, has been populated by low-income groups and is recognized as the legal area of the city due to its proximity to the city's boundaries. The early residents of the Islamabad neighborhood were low-income groups who migrated to the capital early in the post-revolution years hoping to achieve a better life and benefit from the results of the revolution. Based on the initial formation of the neighborhood, it can be defined as squatter settlement.

CONCLUSION

The thesis examines the socio-spatial inequality in Tehran and the status of informal settlements in it. After selecting and categorizing 18 criteria in the form of two groups of demographic indicators and indices related to residential spaces, 22 districts of Tehran were compared in terms of the extent of having these indices. Also in order to achieve a comprehensive comparison using the numerical taxonomic classification model, the developmental level of each district was evaluated. Based on the studies carried out in this section and the observation of the geographical distribution of development criteria, socio-spatial inequality is proven in 22 districts of Tehran. Lack of balanced access to quality housing, primary urban services, literacy and employment, especially between the northern and southern regions, is apparent. The least development indicators belong to the regions located in the southern half of the city, so that all southern regions are below the developed development rate, but in contrast to most development indicators in the north of Tehran, the most developed regions They are in this part of the city. The lowest development indicators belong to the districts located in the southern half of the city, so that all southern districts are below the development threshold. but in contrast. The highest development indicators are concentrated in the north of Tehran, and the most developed districts are located in this part of the city. In other words, the city of Tehran has not succeeded in fair distribution of development indicators between its districts, and the hypothesis of the gap between the poor and the rich in the two sides of the city is true, as based on the achievements of this thesis, the most affluent of the community, such as legislators, specialists and highly-ranked directors are living in more developed North, while less developed districts are home to low income groups, such as simple workers and skilled workers and government employees. The socio-spatial heterogeneity between the north and south of the city, which has also raised the issue of class discrimination, is the result of

the inefficient urban planning system in Tehran. The centralized, top-down management model that is the function of the political structure of the Iranian government is not able to find the right solution for the needs of all groups.

In the administrative hierarchy of the urban planning system of Iran, the Ministry of Roads and Urban Development and the Ministry of State are the decision-makers about urban approaches and responsible for developing urban programs, without involving municipalities, namely, the executives of urban programs or local governments, the ones that have the closest connection with the citizens, in the processes of compilation and decision-making. Therefore, on the one hand, the urban planning process is not an integrated and comprehensive process and not only is there no interaction between all the involved levels, but the programs and plans are of unilateral nature. And on the other hand, because of the inability of citizen participation in urban politics, most urban plans do not fit the reality of cities and the real needs of citizens. For this reason, despite numerous urban plans and government awareness of many problems and shortcomings, the urban planning system has not been able to remove the existing barriers to the development of Tehran and move towards sustainable development.

The study of informal settlements in Tehran shows that the history of these settlements dates back to the 60s and 70s, but their rapid growth has taken place over the past three decades. The most important reason for the formation of informal settlements, high land costs and high living costs in the capital is. For this reason, deteriorated and cheap neighborhoods or adjacent fields to inactive industrial centers are targets of low-income groups who either emigrated to Tehran from other cities in search of work, or who previously lived in better neighborhoods, and because of the increase the cost of living moved to these settlements. There is no official and accurate information on the geographical location and living conditions of all informal settlements in Tehran. In this regard, more field studies and surveys are needed, but with the adaptation of examples from previous researches (complying with the typology presented in the National Document for Enabling and Regularising of Informal Settlements) and considering that about thirty percent of the population of Tehran lives in informal settlements, according to official statistics, it can be said that there are various types of these neighborhoods within the formal boundaries of the city. The findings of the thesis show that most of the areas in which these samples are located are themselves from the accumulation of informal settlements and have been added to Tehran's official district between the years 1980 and 1981. This fact can be interpreted as: even more thirty years after the adoption of these areas as official areas, they are

still the chosen destination for the formation of informal settlements. In other words, basic steps have still not been taken to solve the problems of these areas. The most important action of the Iranian government to face the phenomenon of informal settlements is the drafting of National Document for Enabling and Regularising of Informal Settlements. In 2003, prior to this document, the dominant government's approach to dealing with this phenomenon was the destruction of these settlements. The presence of informal settlements and their increasing trend over the past three decades is another reason for the failure of the urban planning system in Tehran, while there is still insufficient information on the number, location and physical and social conditions of informal settlements. Residents of these settlements are not officially recognized as other citizens, and thus the municipality of Tehran does not consider itself responsible for providing services to these areas. The defected cycle of informal life in informal neighborhoods is not stopped by the mere formulation of a document.

Acknowledgments

I would like to express my thanks and gratitude to my supervisor, Professor Alfredo Mela for his positive and supportive guidance. Also i would like to thank Professor Cristiana Rossignolo the assistant supervisor for her positive feedbacks during the process of this thesis.

I want to thank my families and friends for their support and encouragement:

قبل از همه باید تشکر کنم از پدر و مادر نازنینم ، آنها که با وجود کیلومترها فاصله ، لحظه ای حمایتشان را از من دریغ نداشتند و عشق بی نهایتشان در تمامی مسیر به خصوص در سختی ها دلگرمی و پناهم بوده است. قلب من برای شما می تپد.

تشکر میکنم از خواهرها و برادرهای عزیزم؛ فرشته، سعید، سمیه و کمیل بدون محبت ها و حمایت های شما به پایان رساندن این راه ممکن نبود. تشکر کردن از شما انسان های فوق العاده آسان نیست از شما بسیار آموخته ام، بیش از همه انسانیت را.

هم چنین قدردانی میکنم از دوست بی نظیرم فروغ که وجودش برایم چون گنجی است ، او که با مهربانی بی پایانش همیشه در کنارم بوده است .

و متشکرم از تو عشقم ، امیدم ، شادی ام ، روشنایی ام! متشکرم از تو شعیا که هم تکیه گاه هم بودی هم الهام بخشم، کلمات کافی نیستند برای بیان احساسم به تو ، متشکرم از تو به خاطر بودنت، به خاطر همیشه بودنت.

References

Alaedini,P. and Fardanesh,F. (2014),From shelter to regeneration. Tehran: Urban Development and Revitalisation Organisation,61-76.

Amoli,S. (2011). Effectiveness of national strategies to secure participatory slum upgrading. [online] Academia. Available at: http://www.academia.edu/1434707/EFFECTIVENESS_OF_NATIONAL_STRATEGIES_TO_SECURE_PARTICIPATORY_SLUM_UPGRADING_A_STUDY_OF_IRAN_S_COMMITMENT_TOWARDS_ENABLING_AND_EMPOWERING_COMMUNITIES_WITHIN_INFORMAL_SETTLEMENTS [Accessed 30 Sep. 2011]

Andalib,A. (2009). Tehran Urban Development Planning Authority: Past, Present and Future. Manzar,[online] 1(1).23-25. Available at: http://www.manzar-sj.com/article_216.html [Accessed Nov. 2009]

Athari,K. (2014). Housing poverty in Iran. Refah,[online],5(18),113-128. Available at : <http://refahj.uswr.ac.ir/article-1-1934-fa.html> [Accessed 5.Jun.2015]

Atlas of Tehran,(2006).Population and migration. [online] Available at: <http://atlas.tehran.ir/Default.aspx?tabid=264>

Bayat,A. (2011). Tehran paradox city. Pbs [online] Available at: <https://www.pbs.org/wgbh/pages/frontline/tehranbureau/2011/01/tehran-paradox-city-2.html>

Dadashpoor,H. and Alizadeh,B. (2010),Relationship between security of tenure and the quality of housing in the informal settlements. Hoviatshahr,[online],4(7),31-42. Available at: http://hoviatshtahr.srbiau.ac.ir/article_1133.html [Accessed 10 Dec.2010]

Eskandari,Z. (2009). Lessons learned from execution empowerment projects In target areas in cities Zahedan and Bandar Abbas. *Hftshahr*,2(30),146-151.

Homafar,M. and Saeidi,N. (2014). A comparative study of Iran's Planning Structure and Management of Urban Collections with Metropolitan regions such as Sydney and Toronto. *Urban studies*,[online] 3(12),73-86. Available at: http://urbstudies.uok.ac.ir/article_10949.html [Accessed Oct. 2014]

Irandoost,K. and Azami,M. Tavallaei,R. (2014). Definition of informal settlement's indicators in Iran. *Motaleate shahri*,[online],6(21). 43-60. Available at: <http://www.ensani.ir/fa/content/333755/default.aspx> [Accessed Jul.2014]

ISNA,(2017). News services. [online] Available at: <https://www.isna.ir/news/93040905212/%DA%AF%D8%B2%D8%A7%D8%B1%D8%B4%DB%8C-%D8%AA%DA%A9%D8%A7%D9%86-%D8%AF%D9%87%D9%86%D8%AF%D9%87-%D8%A7%D8%B2-%DB%8C%DA%A9-%D9%85%D8%AD%D9%84%D9%87-%D8%AF%D8%B1-%D8%AA%D9%87%D8%B1%D8%A7%D9%86> [Accessed 12 Apr. 2017]

ISNA,(2014). News services.[online] Available at: <https://www.isna.ir/news/93043017267/%DA%AF%D8%B2%D8%A7%D8%B1%D8%B4%DB%8C-%D8%AA%DA%A9%D8%A7%D9%86-%D8%AF%D9%87%D9%86%D8%AF%D9%87-%D8%A7%D8%B2-%DB%8C%DA%A9-%D9%85%D8%AD%D9%84%D9%87-%D8%AE%D8%A7%D8%B5-%D8%AF%D8%B1-%D8%AA%D9%87%D8%B1%D8%A7%D9%86> [Accessed 30 Jun. 2014]

Izadi,M. (2010). National report on improving urban areas. *Hftshahr*,[online],3(35),64-84. Available at: http://www.haftshahrjournal.ir/article_10243_0.html [Accessed Nov.2010]

Kamran,H. And Parizadi,T. And Hoseini,H,(2010). Leveling of urban services in metropolitan areas of Tehran.*Urban ecology research*,[online] 1(1),147-164. Available at: http://grup.journals.pnu.ac.ir/article_42_13.html [Accessed Aug. 2010]

Kazemian,Q. And Ghorbanizade,V. And Shafia,S. (2011). Evaluation and identification of the unsustainable development of informal sites.*Architecture*

art,[online],4(8),131-146. Available at:
http://aup.journal.art.ac.ir/article_159.html [Accessed Apr.2011]

Mahmoudi,B. (2010). Distribution structure of Informal settlement in the 19th district of Tehran and the factors influencing its organization. Vira science,[online],8-18. Available at: <http://www.virascience.com/thesis/553543/>

Madanipour,A. (2006). Urban planning and development in Tehran. Sciencedirect,[online] 23(6),433-438. Available at:
<http://www.sciencedirect.com/science/journal/02642751/23> [Accessed Dec. 2006]

Ministry of roads and urban development,(2017). Urban plans. [online] Available at:
<http://www.mrud.ir/%D8%B4%D9%87%D8%B1%D8%B3%D8%A7%D8%B2%DB%8C/%D8%B7%D8%B1%D8%AD%D9%87%D8%A7%D9%8A-%D8%B4%D9%87%D8%B1%D8%B3%D8%A7%D8%B2%D9%8A-%D9%88-%D9%85%D8%B9%D9%85%D8%A7%D8%B1%D9%8A>

Nazarian,a. and Rahimi,M. (2012). Managerial analysis of Tehran city. Human Geography Research,[ONLINE] 3(81),111-126. Available at:
https://jhgr.ut.ac.ir/article_24983.html [Accessed Nov. 2012]

Piran,P. (2009). Informal settlements to lack of settlements. Hftshahr,2(20),7-17.

Piran,P. (1987). Sprawling and heterogeneous urbanization. Etelaat siasi,[online],(21),51-55. Available at:
http://www.noormags.ir/view/fa/creator/149206/%D9%BE%D8%B1%D9%88%DB%8C%D8%B2_%D9%BE%DB%8C%D8%B1%D8%A7%D9%86?pn=6
[Accessed Jun.1987]

Rajabi,A. And Safahian,A (2009). Spatial expansion model of Tehran metropolis.Daneshname,[online] 3(3),57-70. Available at:
http://daneshnameh.srbiau.ac.ir/article_4027.html [Accessed Nov. 2009]

Sarrafi,M. (2002). Towards a theory for organizing informal settlements - from marginalization to urbanization. Haftshar,[online]1(8),5-11. Available at:
http://www.haftsharjournal.ir/article_8561.html [Accessed Sep. 2002]

Shamaei,A. And Ghanbari,A. And Eynshahi,M. (2013). Spatial analysis of urban crime in districts of Tehran Metropolis. Strategic research,[online]2(2),117-130. Available at: http://ssoss.ui.ac.ir/article_17097.html [Accessed Dec. 2013]

UN-Habitat, (2015). Habitat III issue. [online] Available at: <https://unhabitat.org/habitat-iii-issue-papers-22-informal-settlements/>

UN-Habitat,(2003).The Challenge of Slums – Global Report on Human Settlements 2003. [online] Available at: <https://unhabitat.org/books/the-challenge-of-slums-global-report-on-human-settlements-2003/>

Urban management,(2010).Modules.[online] Available at: <http://urbanmanagement.ir/?Type=Modules&Module=TextModule&Code=89> [Accessed 11 Nov.2010]

World Bank (2010), Implementation completion and results report,[online] (IBRD-47390). Available at: <http://documents.worldbank.org/curated/en/375311468326426795/Implementation-completion-and-results-report-guidelines> [Accessed August 2011]

Zoqi,A. (2008). Informal settlements in Iran. Fraunhofer,[online],217-223.Available at: <https://www.irb.fraunhofer.de/CIBlibrary/search-quick-result-list.jsp?A&idSuche=CIB+DC11066>