

Original Article

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Exploring the causes of center to periphery migration in the city of Tehran by thematic analysis*

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Abstract

In recent decades, migration, as the temporary or permanent movement of individuals from one place of residence to another, has left extensive effects on urban management, spatial balance, and the structure of metropolitan areas. Tehran, as the largest metropolis in Iran, has experienced a sharp rise in housing prices and intensifying spatial inequalities, creating the conditions for migration from the center to the periphery of the city. This process has increased pressure on peripheral areas and generated challenges for the sustainability of urban development. Therefore, a systematic identification of the causes of this movement is essential for the formulation of effective policies. The present study aims to identify and analyze the causes of migration from the center to the periphery of Tehran, considering the city of Tehran as the center and its surrounding urban complex as the periphery. The research was conducted using a qualitative approach and thematic analysis. Data were collected through semi-structured interviews with 20 experts in the fields of geography, urban planning, and policymaking, and were coded and analyzed in MAXQDA software in six stages. The findings indicate that economic factors (livelihood pressures), institutional factors (inefficient housing policies), physical factors (metro development and improved accessibility), environmental factors (air pollution), and socio-cultural factors (retirement) are the most important drivers of this migration, often operating in a combined and synergistic manner. Effective management of this process requires coordinated and integrated policies in housing, transportation, urban services, and quality of life improvement to achieve spatial balance.

Keywords

migration
Tehran
thematic analysis
urban center and periphery

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1. Introduction

Migration is a multidimensional phenomenon that can be examined from various perspectives. In general, migration is defined as the temporary or permanent movement of individuals or groups from one geographical location to another (Janaten et al., 2015, p. 169). In demographic literature, migration is the most important form of spatial population mobility within a geographical territory. It involves the movement of individuals from one settlement unit to another for temporary or permanent residence (Diyoudel, 2017, p. 12). The patterns of this phenomenon over time have been a reflection of broad social and economic transformations. In the second half of the twentieth century, rural-to-urban migration became a dominant global trend, leading to the explosive growth of metropolises in developing countries. These movements, primarily aimed at finding job opportunities and better living conditions, had profound effects on physical transformations and the organization of socio-economic life. However, in recent decades, a reverse trend, namely migration from cities to peripheral and rural regions, has also emerged (Hasrama & Caro, 2025, p. 98).

One of the main consequences of uncontrolled migration toward cities is the emergence of the phenomenon of urban marginalization. This social issue, which has deep historical roots, is observed in both developed and developing countries, although its contexts and characteristics differ. Iran, like many developing countries, has faced this phenomenon, primarily stemming from the interaction of push factors in origin areas (such as rural regions) and pull factors in destination areas (urban centers) (Shatabān et al., 2016, p. 3). Over the past five decades, transformations resulting from modernization and socioeconomic conditions have significantly reshaped patterns of internal migration in Iran. These changes have led to consequences such as the intense concentration of population in metropolitan areas, infrastructure imbalances, stagnation in development in certain provinces, and rural population aging (Mohabbi Mimandi, 2023, p. 3).

In the meantime, Tehran, as the most populous megacity in the country, has always been the center of complex challenges such as excessive concentration of population and economic activities, spatial inequalities, and double pressure on infrastructure. In response to these challenges, various policies have been implemented, including the creation of new towns, imposing restrictions on housing purchase and

employment, and even the plan to relocate the capital (Mahmoudian & Mahmoudiani, 2018, p. 57). Despite the focus of demographic and spatial policies on controlling migration from other parts of the country to Tehran as the center, internal migrations from Tehran to the surrounding metropolitan area (peripheral towns as the margin) have been less systematically and analytically addressed. This type of migration has had consequences such as horizontal and dispersed territorial expansion, exacerbation of spatial inequalities, increased pressure on the infrastructure and services of peripheral towns, and changes in patterns of residence and employment in the Tehran metropolitan region. The lack of precise understanding of the causes and motivations of these relocations has contributed to the inefficiency of population-control policies and spatial planning. Therefore, the present study is conducted with the aim of identifying and analyzing the factors influencing the migration of the population from the city of Tehran to the surrounding metropolitan complex. The results of this research can, by providing scientific evidence, assist in revising urban development policies, achieving balanced population distribution, and enhancing spatial-social sustainability in the Tehran metropolitan region.

2. Theoretical foundations

Migration is an ancient phenomenon as old as human history (Cham Asemani et al., 2024, p. 162). Migration means the movement of people from one place to another for settlement in a new place. Migration can be voluntary or involuntary and occurs for various reasons, including economic, environmental, and social issues (European Parliament, 2020: 1). In linguistic terms, migration is defined as the movement or relocation of people from one place to another for work or living. However, in reviewing the literature related to migration studies, a precise and comprehensive single definition has not been provided. Throughout history, humans have moved for reasons such as avoiding natural disasters like drought, fleeing wars, poverty, and misery, or, coercively, such as forced migrations. Sometimes these movements have occurred in the form of small groups, such as families or the inhabitants of a village, and sometimes on larger scales, such as the migration of the inhabitants of a city. Nevertheless, migration, according to one of the prominent theories, is regarded as a temporary or permanent change of residence without obstacle or restriction, and there is no

distinction between internal and external migration (Khademi-kouhi et al., 2024, p. 182).

The main objective of many migrations is also to improve the income prospects and the economic conditions of the family (Strak, 2019: 107). From the second half of the twentieth century, international migrations have been recognized as one of the important factors of social movement and development in the world. With the increasing mobility of the population, new forms of migration have emerged; in such a way that, unlike traditional societies where people stayed more in their place of birth, today migration occurs on a larger scale. Individuals, in search of security or a better life, whether inside the country or abroad, undertake relocation. This process has eroded the traditional borders between languages, cultures, ethnic groups, and nation-states (Janaten et al., 2015, p. 169). Global developments, especially in economic and urban structures, have transformed migration patterns and have led to a two-way flow of migration between towns and rural areas (Tong & Lo, 2021, p. 11).

Ravenstein's fundamental laws of migration, which were formulated based on empirical studies of internal migrations in England and Wales in the late nineteenth century, primarily emphasize socioeconomic and physical factors and, in total, consist of seven basic principles. First, the majority of migrations occur over short geographic distances. Second, the process of attracting migrants is such that rapidly growing cities first attract the populations of their peripheral areas and then gradually extend their pull to other parts of the country. As a result, these cities become focal points for migrants. Third, the process of dispersal of population is of an inverse but similar nature to the process of attraction. Fourth, for every migratory flow, usually a counterflow or counter-migration also forms. Fifth, with increasing distance between origin and destination, migrants typically prefer large commercial and industrial cities as their destinations. Sixth, the rate of migration among urban residents is lower than

among rural inhabitants. Finally, seventh, in short-distance migrations, women's participation is higher than that of men (Akbari, 2020, p. 324).

This study will focus on intra-provincial migration. The "center," as the most critical element of the urban spatial organization, is a complex, multidimensional concept, a blend of subjective and objective meanings. This concept, though rooted in the mind, has its own place, characteristics, and specific coordinates within the urban structure. The center or core of the city is an abstraction of the whole city and the locus of concentration of its main events and activities. In fact, the city center is considered the starting point of the city's formation, which, in interaction with other spatial and social components, gradually expands and shapes the overall structure of the city. (Hejazi et al., 2020, p. 13) The urban periphery refers to areas surrounding the official and central boundary of the city, which are often at a lower level in terms of services, infrastructure, and welfare facilities compared to other urban areas. These areas typically host populations that, for economic, social, or undesired migrations, have not been able to settle within the more formal fabric of the city. In general, suburbanization arises as a result of urban growth. This phenomenon occurs in such a way that in the early stages of growth, the city centers are occupied by affluent people and the upper class, but gradually, with the expansion of commercial and industrial areas in these locations, people who are financially better off migrate from the city center toward outer areas and live away from the city center (Seyed Hosseinzadeh Yazdi & Yaghoubi, 2020).

3. Literature review

In this section, studies have been reviewed that have directly or indirectly addressed the causes of migration from the city center to the periphery of Tehran. A summary of the results of each study and its relation to the present research is provided in the corresponding table.

Authors and year	Main research topic	Research method	Key findings and results	Relevance to the current research
Molani & Khayati (2016)	Evaluation of the performance of Andisheh New Town in absorbing the population overflow of the cities of Tehran and Karaj	Descriptive-quantitative, data collection through library method and interviews with residents (no tool was used for analyzing the interviews)	Andisheh New Town has successfully played its role in absorbing the population overflow of Tehran and Karaj. However, it has not been very successful in creating sustainable employment for its residents, and its main function has remained as a dormitory-service town, which, due to suitable access to Tehran, is not necessarily considered a weakness.	The creation of new towns around Tehran has been influential in migration to the peripheries of the city of Tehran.
Ghasemi Ardahaee & et al (2017)	Analysis of the causes of internal migration in Iran in the censuses of 2006 and 2012	Secondary analysis of Population and Housing Census data, multivariate analyses of the age and sex of migrants	Migrations in Iran that occur for demographic, social, and economic reasons disrupt the balance of human resources and create demographic and economic inequalities between regions. There is a direct relationship between the level of development of regions and their migration attractiveness, such that economic migrants mostly move towards metropolises and developed regions. In contrast, Follow-up migrations mainly go to villages and small towns, and this issue exacerbates the developmental gap between these regions and the metropolises.	Internal migrations in Iran that occur for demographic, social, and economic reasons, and migration to the peripheries of Tehran, can be considered as part of Follow-up migrations.
Moradimokaram et al. (2020)	Analysis of urban population changes in Tehran Province and its consequences on the urban network system of the region during the years 1976-2016	It is descriptive and analytical, and its type is inferential. The method of data collection was library-based, and the analysis was conducted using regional planning models, including city rank-size, primacy index, entropy coefficient, Lorenz curve, and Gini coefficient.	The expansion of the city and urbanization in Tehran Province has gained wider dimensions due to the sprawl of the Tehran metropolis and the formation of the Tehran metropolitan region. The formation of this metropolitan region has been linked to communication axes such as railways and highways. It has led to the concentration of the urban population, especially in the west of the province. The continuation of the core-periphery development pattern and the primate city role of Tehran has caused imbalance in the urban network, spatial divergence, and development instability in Tehran Province.	Communication axes such as railways and highways are among the reasons for the expansion of urbanization in Tehran Province, and have caused the concentration of the urban population, especially in the western part of the province. This issue can be considered as one of the reasons for migration to the periphery.
Ahar et al. (2023)	Effects of urban transportation infrastructures on the temporal-spatial growth of the Tehran metropolis	The transportation and traffic data of Tehran city were analyzed during the period from 1996 to 2021. This process was carried out in four stages with a quantitative approach based on common indicators of transportation and urban growth, and four indicators were used to analyze the data: "transportation infrastructure growth", "population density growth", "land use changes", and "geographically weighted regression".	Highways play a fundamental role in the expansion of the territory and boundaries of Tehran city. In the short term, the effect of highways on population density was greater than their effect on land use. In the long term, this relationship reverses.	In the short term, the role of highways in migration from the city center to the periphery is more significant than the role of land use, but in the long term, this relationship reverses.

Authors and year	Main research topic	Research method	Key findings and results	Relevance to the current research
Norouzi & Mahdian (2023)	Investigation of the causes and consequences of reverse migration to the rural areas of Buin and Miandasht County	The research is a descriptive-analytical survey. Data were collected through a questionnaire from 290 reverse migrants in 5 villages of Buin and Miandasht County, and were analyzed using descriptive analysis, factor analysis, and an independent t-test.	Among the causes examined, environmental-physical factors (such as city air pollution, pristine and beautiful landscapes, the absence of various types of pollution in the village, environmental health, ease of issuing construction permits, and the possibility of supplying materials) have been the most important factors and motivations for return to the village. Furthermore, the results of statistical analyses indicated that, in general, physical-environmental factors had the greatest impact on creating reverse migration, followed by economic factors and then social factors.	In this research, some examples of the causes of migration from the city center to the periphery have been presented, which provides a good insight into the possible reasons for further research.
Kocatepe et al. (2023)	Investigating the effect of municipal services on migration and reverse migration in Artvin Province by analyzing the mediating role of the media	The research method of this article is quantitative and was conducted by collecting 700 responses from migrants of Artvin in the provinces of Ankara, Istanbul, Bursa, and Kocaeli, and the deviant case analysis model was applied to investigate the phenomenon of migration.	There is a positive relationship between social municipalism and migration, and the media have a mediating effect between social municipalism and migration. While traditional media influence people's decision to migrate, social media play an important role in decision-making for reverse migration.	This research showed that state media and social media can be influential in people's decisions for reverse migration.
Saha et al. (2023)	Investigating the pattern of internal reverse migration in the Rangpur region of Bangladesh during the post-COVID era	It is mixed-methods (quantitative-qualitative), in which data were collected through semi-structured questionnaires, in-depth interviews, focus group discussions, and participatory observation, and were analyzed using descriptive statistics and thematic analysis.	The COVID-19 pandemic, due to the low level of preparedness and resource mobilization, has intensified the return of informal workers to their homeland. Most respondents in this study are at a severe level of unemployment. As a result, due to a lack of physical assets, they were unable to start new income-generating investments and faced food insecurity due to the unexpected increase in prices. This concerning result indicates that internal reverse migration is gendered, and its adverse impact is greater among female migrants than male migrants.	Internal reverse migration may occur after the emergence of specific conditions, such as the COVID-19 pandemic. In these circumstances, migration is higher among specific groups of society, such as those engaged in informal occupations and women, compared to other population groups. In-depth interviews and thematic analysis have been used to investigate the pattern of reverse migration.
Safavi Mir Mahaleh et al. (2024)	Analysis of the causes of reverse migration in the villages of Masal County	In the first step, the factors obtained from the documentary study, along with the factors extracted from 20 structured interviews, were examined by 10 experts in terms of content validity. Then, the final factors were developed in the form of a questionnaire, which was completed and evaluated by 330 migrants.	The results of the study were identified in the form of 9 urban push factors such as crowding, traffic, air pollution and noise pollution, water and electricity shortages in the city, and 29 rural pull factors including cheap land and housing, roots and prejudice, the greenery of the northern villages, protection of inherited properties, and the development of service and welfare facilities in the villages, among others.	In this research, some examples of the causes of migration from the city center to the periphery have been presented, which provides a good insight into the possible reasons for further research.

Authors and year	Main research topic	Research method	Key findings and results	Relevance to the current research
Zhuang, Z.C (2024)	Migration to the suburbs: Examining the intersections of global migration and suburban transformation	Not mentioned	In the process of migration to the suburbs, urban planning can lead to integration and spatial justice only when it simultaneously considers the role of local institutions in facilitating the participation of migrants, identifying their spaces and everyday actions, and paying attention to the lived experience and agency of migrants. Suburbs are not neutral spaces, but rather the product of the interaction between policy-making, the spatial agency of migrants, and power structures, which can lead either to the reproduction of inequality or to the creation of a sense of belonging and the "right to the city" for migrant groups.	In migration from the city center to the periphery, policies, the spatial agency of migrants, and power structures play a role.
Lerch et al (2025)	Internal migration during the period of urbanization in developing countries	Quantitative and comparative; specifically, by applying repeated population census data from 41 developing countries, a uniform definition of urban settlements based on remote sensing and statistical modeling, the patterns of various types of internal migration at different levels of the settlement hierarchy during the urbanization process have been analyzed and compared with one another.	The migration pattern in developing countries shows that population flows are gradually directed towards cities. In the early stages, movement occurs mostly between cities, and then migration from rural areas increases. Over time, the destination of migrants shifts from nearby cities to larger and more distant cities. At the same time, the rural peripheries around cities become one of the most important migration destinations.	This research has examined various types of migration in developing countries, and it has been stated that the rural peripheries around cities have become one of the most critical migration destinations. Still, it has not explained the causes of this type of migration.

The literature review shows that this topic has not been comprehensively studied to date, and most previous studies have focused only on a single dimension, such as communication infrastructure, policy-making, socio-economic factors, or specific conditions like the COVID-19 pandemic. The results of these studies indicate that factors such as the creation of new towns, highway development, the role of the media, subordinate and reverse migrations, and also the power structures and spatial actions of migrants can influence this type of migration. Overall, by presenting examples of the causes of migration, these studies have provided a basis and perspective suitable for conducting the present research. Examination of different studies shows that researchers have applied a variety of research methods to identify the causes of migration. Given the breadth of the study area and the multidimensional nature of influential factors such as economic conditions, access to urban services, quality of life, social and environmental changes, this study has employed a semi-structured method to collect the views of experts and local actors comprehensively. The data obtained will be processed using thematic

analysis, a method applied in previous studies to extract patterns and topics that influence migration and to enable deep and systematic analysis of the causes. This approach enables the present research to identify and provide a precise understanding of the various and complex dimensions of migration.

4. Methods

To identify and explain the causes of migration from the center to the surrounding areas of Tehran, qualitative data were collected through semi-structured interviews with 20 experts. The expert community included university professors in the fields of geography and urban planning, specialists from the Parliament Research Center, specialists from the Tehran City Renovation Organization, and researchers in urban affairs. The participant selection process was conducted by applying the snowball sampling method. Interviews continued until theoretical saturation was reached, such that new data did not lead to the extraction of new concepts or codes, and the conceptual patterns stabilized. Interviews were conducted in two modes: telephone and online (via

social media). The duration of each interview was about 30 minutes. Telephone interviews were recorded with an audio device, and online interviews were initially recorded as audio files. After each interview, the audio file was fully transcribed into written text.

Data analysis was conducted using thematic analysis. In this regard, the interview texts were analyzed through a systematic process including familiarization with the data, initial coding, extraction of initial themes, revision and refinement of themes, and finally the definition and naming of the themes. To manage, organize, and analyze the qualitative data, MAXQDA software was applied.

For ensuring the credibility and trustworthiness of the study's findings, qualitative validity criteria based on the Lincoln and Guba framework were applied, including credibility, transferability, dependability, and confirmability. Data credibility was strengthened through ongoing interaction between the researcher and the data, repeated reviews of codes and themes, and the application of expert opinions (review by participants or a peer researcher). To enhance trustworthiness, the data analysis process was

documented precisely and step by step. In addition, the complete recording of coding and analysis steps in the MAXQDA software enabled traceability and review of the analysis process. Transferability of the results was addressed by providing a rich description of the participants, the research setting, and the interview process.

Thematic analysis is one of the important methods in qualitative research that identifies, analyzes, and interprets meaning patterns (themes) in the data. This method helps the researcher extract structures and latent or explicit concepts from raw data to answer the research questions. A key feature of thematic analysis is its flexibility. Unlike many qualitative approaches, it is not bound to a specific theoretical framework, and the researcher can guide the analysis path according to the study's aims and questions. The ultimate goal of this method is to go beyond mere description of the data and reach a level of interpretation that enables a deeper understanding of the studied phenomenon. Braun and Clarke (2006) have provided a six-step guide, which is a very useful framework for conducting this type of analysis (Ghasemi & Hashemi, 2020, pp. 9, 12).

Table 2. Thematic analysis stages (Ghasemi & Hashemi, 2020)

Stage number	Stage title	Explanation
First	Familiarization with the data	The researcher must read the collected data (interviews, notes, and documents) several times to become familiar with their explicit and implicit meanings. Note-taking and setting aside assumptions are critical. This stage lays the groundwork for coding.
Second	Generating initial codes	The data are divided into meaningful units, and a "code" is assigned to each part. Codes can be predetermined or generated during the analysis process. This process is flexible and may be revised or merged.
Third	Identifying potential themes	The initial codes are categorized and organized into themes (broader patterns). This stage involves moving from the level of detail to the level of macro patterns. Themes are initially descriptive and then become analytical.
Fourth	Reviewing themes	The identified themes are reviewed and refined to ensure they are coherent and cover all the data. The researcher assesses the validity and robustness of the themes.
Fifth	Defining themes	The nature and meaning of each theme are clarified. The researcher explains what each theme is about, what concepts it includes, and its relationship to other themes. This work brings clarity to the structure of the analysis.
Sixth	Writing and final analysis	The research report is written, including the introduction of the themes, their relationships, and the interpretation of results within the framework of the research questions. At this stage, theoretical analysis and empirical evidence are linked together.

In this study, Tehran is defined as the "center" and the surrounding metropolitan area as the "periphery" to provide a comprehensive framework for analyzing the impact of housing policies on migration flows. Tehran, by concentrating population, economic activities, and welfare services, plays the role of the core nucleus of

the region, while at the same time facing challenges such as housing unaffordability, traffic, pollution, and high population density, which act as push factors facilitating the relocation of a portion of residents to peripheral areas. In contrast, the Tehran metropolitan area, which was first approved by the Cabinet in the

1970s and whose general framework and implementation conditions were confirmed in the 1980s, encompasses a wide range of cities within the Tehran, Rey, Shemiranat, Karaj, Varamin, Islamshahr, Savojbolagh, Shahriar, Robat Karim, Pakdasht, Damavand, and Najafabad counties, and functions as a

dynamic periphery with extensive economic, social, and physical links to the center. Accordingly, examining housing policies within the framework of the center-to-periphery relationship will be feasible only by considering this metropolitan area (Lavajou et al., 2023, p. 125).

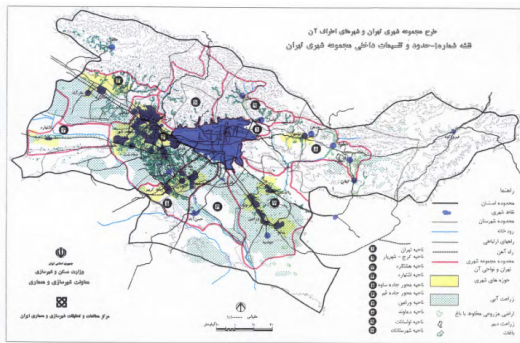


Figure 1. Tehran metropolitan area boundary (Iran Urban Planning and Architecture Research Center, 1999)

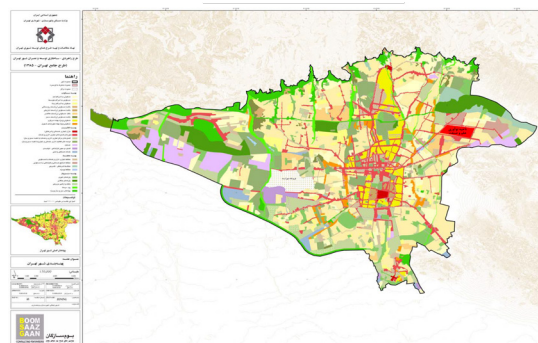


Figure 2. Tehran city boundary (Supreme Council of Urban Planning and Architecture of Iran, 2007)

Population growth rate is one of the most important indicators for examining demographic changes and identifying migration. If the population of a city increases rapidly over a period of time, it can indicate the attraction of migrants. Based on the latest General Census of Population and Housing of the country, conducted in 2016 (1395) by the Statistical Center of Iran, information has been collected on the population status, migration, housing, and socio-economic characteristics of households. However, at the time of writing this study, about nine years have passed since the date of this census, and, naturally, there have been many changes in Tehran's urban population trends and in the surrounding counties. Additionally, the migration data available in the census only shows the overall migration rate and is not able to provide an accurate picture of the flow of migration from Tehran to the

periphery.

In this section, data for the years 2006 and 2012 have been used in order to understand broader population trends. Examination of these data shows that, in the interval mentioned, most counties within the Tehran metropolitan area experienced a higher growth rate than the city of Tehran. It can also be observed that during this period there were changes in provincial boundaries; notably, Alborz Province was formed in 1389, and Khorasanjan (Karaj), Savojbolagh, Najafabad, and Taleqan counties separated from Tehran Province. Additionally, Pishva County was established in 1391 and Baharestan County in 1392 within Tehran Province, changing the administrative structure of the region. These developments imply that the analysis of population data and regional growth rates should take into account changes in provincial boundaries.

Table 3. Population growth rate of the center and periphery (Statistical Center of Iran & Tehran Province Statistics and Information)

Center and periphery	City/county	Total population 2006 (1385 SH)	Total population 2016 (1395 SH)	10-year growth rate (%)
Center	Tehran City	7803883	8693706	1.09
Periphery (Tehran metropolitan area)	Tehran County	7975639	8737510	0.91
	Damavand County	98053	125480	2.50
	Rey County	297711	349701	1.62
	Shemiranat County	38311	47279	2.13
	Karaj County	1732271	1973470	1.31
	Varamin County	542832	283742	
	Pishva County	It was part of Varamin County.	86601	21.04

Center and periphery	City/county	Total population 2006 (1385 SH)	Total population 2016 (1395 SH)	10-year growth rate (%)
Periphery (Tehran metropol- itan area)	Eslamshahr County	448864	548620	2.03
	Savojbolagh County	215991	259973	1.87
	Shahriar County	1047369	744210	3.22
	Malard County	It was part of Shahriar County.		
	Qods County	It was part of Shahriar County.		
	Robat Karim County	614586	536329	3.03
	Baharestan County	It was part of Robat Karim County.		
	Pakdasht County	242689	350966	3.76
	Nazarabad County	128725	152437	1.71

5. Findings

In this section, the six-stage thematic analysis is described.

5.1. Stage one: familiarization with the data

In this stage, the collected textual content regarding the causes of migration from the center to the periphery of Tehran was first reviewed and its overall structure identified. The data were in the form of a long text containing a detailed list of economic, social, physical (built environment), environmental, and policy factors gathered from interviews with experts. In this initial review, in the order of the mentioned items, the type of each factor (for example, an economic factor, housing policy, or an environmental factor) and its level of impact on migration were specified.

Next, the quality and clarity of the data were assessed. Duplicate or similar items were identified and marked so that, in subsequent stages, they could be merged or simplified. Moreover, to better understand the text, connections between different factors (for example, the link between density selling policies and rising housing prices or the impact of metro development on peripheral settlement) were noted. In this process, an overall picture of the scope and variety of reasons for migration was sought to determine which aspects (economic, policy, or environmental) the data focuses

more on and which areas would need further completion or analysis. This initial understanding provided the foundation for categorization, analysis, and reporting in the subsequent stages.

5.2. Stage two: generating initial codes (extracting concepts from semantic expressions)

In this stage, the raw text related to the causes of migration was reviewed line by line and paragraph by paragraph, and from each phrase or sentence that carried a specific meaning, an initial code was extracted. The goal was to transform descriptive and lengthy content into a set of short, meaningful labels that could preserve the core meaning within them. These codes were selected to be both clear and precise and to have the capacity to be grouped in later stages. For example, a phrase such as “the unprecedented rise in housing prices and rents in central areas” was converted into the code “increase in housing costs,” or the sentence “heavy traffic and air pollution in the city center” into the code “poor urban environmental quality.” Additionally, similar or closely related expressions were assigned the same or related codes to prevent unnecessary dispersion. To organize the initial codes, they were recorded in tables with “main phrase” and “initial code.” An example of these tables is shown below:

Table 4. Sample of initial code extraction from the text

Meaningful phrase from the text	Initial code
unprecedented growth in housing and rental prices in central areas	increase in housing costs
Density sale and land price inflation in Tehran	Policies increasing land prices
Severe traffic and congestion in the center	Urban congestion

Meaningful phrase from the text	Initial code
Development of metro and freeways in the periphery	Improvement of transportation access
Severe air pollution	Environmental pollution

5.3. Stage three: identifying potential themes

In this stage, after extracting the initial codes from the experts' interview texts, efforts were made to categorize codes that were conceptually and semantically overlapping or related into sub-themes. Each sub-theme covers a set of initial codes that point to a single semantic domain. Subsequently, sub-themes that are related to one another were organized under main themes to form the overall framework of the causes of migration from the center to the periphery of Tehran.

In this process, according to Braun and Clarke (2006), the primary criterion for identifying a theme was its

significance in addressing the research question, not merely its frequency of occurrence. For example, a set of codes referring to "economic pressure and housing costs" was organized under a sub-theme titled "housing affordability problems," which itself fell under the main theme "economic factors." In some cases, themes were clearly extracted from the interview texts (for instance, inefficient housing policies). In other cases, they were constructed by aggregating several dispersed concepts that shared a common meaning (such as environmental factors including pollution, density, and lack of green space).

Table 5. Sample of coding based on factors

Sub-theme	Initial codes
Housing affordability problems	High housing and rental prices, income-expenditure gap, tenant poverty, inflation growth, and long waiting period for homeownership
Ineffective housing policies	Density sale, centralization in decision-making, lack of affordable urban housing, and development of new towns without services
Residential incentives in the periphery	Mehr housing(Maskane Mehr), national housing, institutional housing, cheap land price, and dense construction with higher density
Demographic and social factors	Retirement, place attachments, return to hometown, preference for a quieter life, family ties.

5.4. Stage four: reviewing themes

In this stage, the main aim was to evaluate the coherence, completeness, and adequacy of the themes extracted in the previous stage. To this end, all sub-themes were reviewed for precise coverage of the concepts and codes, and their relationship to the main themes was assessed. The review process included examining the structure of the themes, merging overlapping themes, deleting minor or repetitive items, and transferring sub-codes or sub-themes to more appropriate main themes.

In this process, data related to each theme were systematically collected to enable assessment of their conceptual and semantic validity. Subsequently, sub-themes were aggregated within broader semantic

scopes and organized under the main themes. The primary criterion in this reorganization was to ensure that each main theme possessed internal coherence and represented a coherent and meaningful set of related codes and concepts. It was also checked that the main themes were capable of interpreting and explaining the studied phenomenon and were conceptually distinct from one another. The result of this stage was a set of main and sub-themes that, on the one hand, reflected the collected data and, on the other hand, possessed an analytical and systematic structure for explaining the study's findings. This final structure formed the basis for the next stage, namely the precise definition and naming of the themes.

Table 6. Causes of migration from the center to the periphery of Tehran

Row	Main theme	Sub-themes	Codes
1	Economic-market factors	Housing affordability crisis	Increase in housing prices, rent surge, lack of affordable housing, and an increase in land prices
		Household economic pressure	Inflation growth, a decrease in purchasing power, an increase in the cost of living, and a mismatch between income and expenses
		Livelihood insecurity	High rate of tenant poverty, dependence on fixed income, and decrease in income-generating opportunities.
		Asset optimization	Selling a house in Tehran and buying cheaper in the periphery, using the price difference
2	Institutional-policy factors	Relocation of the economic activity site	Establishing low-cost workshops in the periphery, and cheaper rent for commercial/industrial units
		Peripheral housing policy	Development of new towns, implementation of Mehr housing
		Weakness of housing governance	Lack of urban housing policy, weak demand management, inefficiency of financial support, and housing facilities in central areas
3	Physical-infra-structural factors	Weaknesses of supervision and legislation	Lack of control over peripheral development, destruction of gardens, and circumventing master plans
		Improvement of the periphery-center connection	Development of metro and freeways, improvement of public transportation, and an increase in private cars.
4	Environmental factors	Environmental crisis	Air pollution, environmental pollution
		Ecological-urban pressure	Population density, urban congestion, and the reduction of green space
		Psycho-social pressure	Stress and psychological pressure, unfavorable mental conditions of the metropolis
5	Social-cultural factors	Identity and place attachment	Return to hometown
		Lifestyle change	Retirement, desire to live in a quieter environment
		Welfare relocation	Living in more affluent suburbs (Lavasan and Fasham)
		Perception of quality of life	A decrease in the quality of life in the center.

5.5. Stage five: defining themes

In this study, after completing the fourth stage and refining the theme structure, all data, initial codes, and sub-themes collected for each main theme were re-examined to provide a clear definition of the semantic and content boundaries of each theme. These definitions were based on two sources: first, the definitions and interpretations of theorists and relevant scholarly literature; second, the patterns and meanings derived from the data of this study. Additionally, sub-themes were assessed for semantic consistency with the main theme, and their mutual relationships with each other were examined. The result of this stage was a set of precise, evidence-based definitions for both main and sub-themes that aid a clearer and more systematic understanding of the study's findings. Next, each theme will be introduced and defined in detail.

Economic-market factors

This theme refers to the macroeconomic structure and housing market developments that reduce households' ability to afford living in Tehran and, consequently, push them toward peripheral areas. The data show that in recent years the gap between income and the cost of living has significantly increased, and the economic pressure on households, especially renters, has intensified. One expert says, "there has been no economic growth for nearly a decade," and another emphasizes, "about 50 percent of renters' poverty rate." The housing affordability crisis, driven by an unprecedented surge in land prices, rising rents, and the shortage of units affordable to households, plays a decisive role in this trend. As one participant states: "the excessive rise in housing prices and rents in the city center has effectively made it unaffordable for worker households and even the middle class to stay in central areas."

Alongside these pressures, some households, seeking to optimize their assets, sell property in Tehran and purchase a cheaper unit on the outskirts and use the difference to invest in other needs or activities: "property owners in Tehran have more stable conditions... they may sell their property and buy a house on the periphery at a lower price and spend the remaining money on something else." On the other hand, economic incentives for relocating work activities are evident as well; lower rents or purchase costs for commercial and industrial units in peripheral areas facilitate the establishment of workshops and small economies in these neighborhoods: "setting up micro-economies on the outskirts of Tehran as rents or workshop purchase prices are lower while still having close access to Tehran." Overall, the economic pressures, the housing affordability crisis, and new opportunities on the periphery form the core logic of migration from the center to the outskirts of Tehran.

Institutional-policy factors

This theme analyzes the role of policymaking, government decisions, and legal frameworks in shaping and intensifying center-to-periphery migration in Tehran. The findings suggest that rather than containing migration, urban governance structures have often reinforced it. Based on the interviews, one of the principal reasons is the lack of a cohesive housing policy in Tehran. As one expert noted: "We do not have housing policy in its global sense, and there is an institutional vacuum in housing policy." This gap has meant that the need for affordable housing within the city has not been seriously addressed. Policies aimed at aiding low-income groups have, in practice, exacerbated migration to the periphery. Plans such as Mehr Housing in new and peripheral cities, by offering financial facilities and cheap land, have structurally accelerated migration to these areas. In this section, a summary of one expert's remarks regarding Mehr Housing and new towns is presented: "the centrality of Tehran and the rural-to-city migration trend began in the 1960s (the 1340s SH), and in the 1970s (the 1350s SH), policymakers recognized the necessity of defining new settlements on the outskirts of Tehran. Accordingly, complexes such as Koyi Kalad, Farhadabad, Gisha, and Ninth of Aban were established, and after the Islamic Revolution, this approach continued under the policy of creating new towns. Simultaneously, with the ideas about the rapid growth of the population and increasing urbanization, policies such as population control, the creation of new towns, and land preparation around the cities were proposed,

which ultimately led to the formation of new towns like Parand, Pardis, and Hashtgerd around Tehran."

Although these towns were designed with a limited projected population, in the 2000s, the policy was linked with the Mehr Housing plan, resulting in a large-scale population load beyond their infrastructure capacities (the 1380s SH). The implementation problems of the plan, the inability of lower-income groups to afford housing costs, and the entry of groups outside the target population caused these projects, instead of achieving a reverse migration, to effectively facilitate the continuation and even intensification of migration to Tehran. In the 2010s (the 1390s SH) and with the sharp rise in housing prices in Tehran, a part of this trend changed, and low-income tenants were compelled to reside in peripheral towns, and the pattern of daily commuting between these towns and Tehran expanded (the 1390s SH).

Over the past decades, policies to reduce density in Tehran and restrictions on horizontal and vertical growth in the center, along with the lack of appropriate policymaking to increase accessibility and inclusivity of housing, have led to the inefficiency of financial supports and housing facilities in central areas. Housing revitalization policies in Tehran have been less attractive to private developers and investors compared with building housing on the city's periphery. The increase in density in worn-out fabric has been applied only to parcels that could be aggregated and densified. Other parcels, where about 70 percent of housing prices are tied to land, yield little profit for private builders. In contrast, the periphery of Tehran offers greater opportunities for aggregation and densification and lower land prices, which have increased profitability and the attractiveness of building housing on the city's outskirts. Policies such as providing loans, credit, and rental housing in the center have had limited and insufficient impact and have failed to meet the needs of middle- and low-income groups.

Furthermore, urban development control policies implemented to prevent the unchecked expansion of Tehran have led to widespread peripheralization. The containment belt and strict restrictions on vertical and horizontal development are among the reasons for rising housing prices in central Tehran. This sharp price gap between the center and the periphery has pushed those who cannot afford to buy or rent within the official city limits toward the outskirts, where land and housing are cheaper and, in some cases, acquisition occurs through illegal means. In addition to macro-

level policymaking, weak supervision and enforcement of laws also play a key role in migration. As one expert noted: "There has been no strict law to prevent the expansion of Tehran's surrounding towns." This supervisory weakness has allowed laws and plans, such as rural development plans, to be easily circumvented, and the city's legal boundary to continually expand. This trend not only fuels peripheralization but also leads to the destruction of orchards and the conversion of agricultural land surrounding Tehran.

Built–infrastructural factors

This theme emphasizes the role of the city's physical characteristics and connectivity infrastructure in shaping migration. The development of metro lines, highways, and other transportation routes has facilitated commuting between the periphery and the center. It has made residing in peripheral areas more feasible: "Another reason for expanding metro lines is that it has improved commuting conditions compared to the past and made relative access possible." A clear example of this is the city of Parand, which, in addition to lower housing prices, has its appeal heightened by the presence of a metro line: "Some people's money reaches Khavaran as well as Parand. They go to Parand and buy a bigger home there." Additionally, the rise in private car ownership and the expansion of online transportation services have reduced dependence on the center and diminished the impact of geographic distance on housing decisions.

Environmental factors

This theme focuses on the environmental and ecological pressures of living in Tehran. Air pollution and other environmental pollutants are among the most important triggers for leaving the city: "There are environmental pollutants, including air pollution in Tehran, which negatively affect the quality of urban life." The high density and crowding of the population, decreasing per capita space, destruction of orchards, and reduction of green spaces have reduced the livability of the city and increased the preference for living in less dense and greener environments. Although environmental factors are not the main drivers of migration by themselves, when combined with economic and social pressures, they act as amplifiers, especially for groups sensitive to environmental quality (such as older people or families with young children). It is also worth noting that in recent years, some peripheral towns around Tehran have also faced air pollution problems, which underscores the importance of environmental quality

in migration decisions.

Social–cultural factors

For a portion of migrants, identity and physical belonging are important factors in migration. One expert notes that some individuals who previously lived in Pardis and had moved to Tehran for jobs or better opportunities currently prefer returning to their homeland in Pardis due to rising living costs in the capital. This return is not only motivated by economic factors but also reflects the emotional and identitarian ties of people with their native land. In addition, changes in lifestyle and life stage are decisive factors. Given the downward trend in population growth and the increasing elderly population, retirees who do not worry about employment tend to choose living in the periphery or outside Tehran for reasons of tranquility and better quality of life. Another aspect of this trend is welfare-driven relocation; a group of affluent categories, instead of moving entirely out of the capital, move to more desirable suburbs such as Osshan, Fasham, Lavasan, and parts of Pardis to benefit from a calmer environment while maintaining a substantial distance from the center.

On the other hand, psychosocial pressures arising from crowding, noise, and stress of life in Tehran's megacity provide a strong motive to leave the city center. In this regard, interviewees referred to "increased stress of living in Tehran" and "unfavorable psychological conditions of the megacity." Ultimately, what ties these factors together is the perception of a decline in the quality of life in the city center; that is, many migrants feel that continuing to reside in Tehran's core does not align with a desirable standard of living, and the peripheries are seen as more suitable environments for achieving tranquility and welfare.

5.6. Stage six: final writing and analysis

Migration from the center of Tehran to peripheral areas in recent years has become one of the prevalent population relocation patterns; a pattern that, more than being driven by voluntary preferences or informed choices to improve quality of life, reflects accumulated economic, institutional, and physical pressures that limit the ability of a significant portion of the city's population to continue residing in central areas. The research findings indicate that more than a decade of economic stagnation, a continuous rise in inflation, and the widening gap between income and cost of living, especially in the housing sector, have been the main catalyst for these relocations; in such a way that the unprecedented surge in land prices and

rents in the center of Tehran, together with a shortage of housing units affordable to household budgets, effectively eliminated the affordability of housing for middle- and lower-income groups, particularly tenants who constitute a substantial portion of the urban population. In these conditions, migration to the periphery emerges not as a desirable choice but as an unavoidable strategy to reduce housing costs and manage daily livelihoods, and even for some property owners, selling housing in Tehran and purchasing a cheaper unit on the outskirts, with the aim of freeing up capital for other needs or economic activities, has become a rational decision.

These economic pressures have been intensified within a framework of imprudent policymaking and institutional gaps; in a way that Tehran has lacked a cohesive and targeted housing policy in recent decades, and existing interventions have largely been fragmented and reactive. Plans such as Mehr Housing and the development of new towns, which were designed to meet the housing needs of low-income groups and to control Tehran's population growth, did not reduce the pressure on the city center due to their peripheral location and population pressures exceeding infrastructure capacities. Rather, they accelerated peripheral migration and expanded the pattern of dormitory settlements and daily commuting between the periphery and Tehran. At the same time, policies controlling urban expansion, including restrictions on horizontal and vertical growth and the closure of the development belt, without anticipating compensatory mechanisms to provide affordable housing in the center, have led to increased land prices and widened the price gap between the center and the periphery. This gap, along with higher profitability of construction in peripheral areas due to lower land prices and the potential for parcel consolidation, has directed private investment toward the margins and, coupled with weak oversight of urban boundaries, has facilitated the expansion of both formal and informal settlements.

Meanwhile, infrastructural and structural changes have played a facilitating role in sustaining this trend. The expansion of metro lines, highways, and the relative improvement of connectivity, along with increased ownership of private cars and the expansion

of online transportation services, have somewhat neutralized the spatial distance between the center and the periphery and made daily commuting more tolerable for residents of peripheral areas. Thus, for many households living in the periphery, despite the geographical distance, it has become functionally and economically more feasible than remaining in the costly center of Tehran.

Alongside these structural factors, the decline in livability in the city center has also acted as an amplifying factor. The high population density, heavy traffic, air pollution, reduced green space, and psychological pressures of life in a megacity have increased the perception of dissatisfaction with living in Tehran and, especially for groups such as older people, households with young children, or people entering new stages of life, have intensified the motivation to leave the center. Additionally, identity ties and territorial belonging have led some individuals, particularly those who previously resided in peripheral towns, to prefer returning to their birthplace or more familiar environments, and to define their migration not solely on economic grounds but within the framework of social and emotional networks.

Nevertheless, the findings show that migration from the center to the periphery is not limited to middle- and lower-income groups and, in some cases, occurs selectively among more affluent strata as well; a group that has moved to more desirable outskirts around Tehran in order to achieve a quieter environment, higher quality of life, and lower density, without completely severing their ties with the city center. This diversity of motives indicates that migration to the periphery encompasses a spectrum from survival strategies to lifestyle choices. Overall, migration from Tehran's center to peripheral areas can be seen as the simultaneous result of economic pressures, the inefficiency of housing policies and urban planning, and spatial-physical transformations and a decline in urban living quality; a process that, more than signaling a rise in residential choice, reflects the inadequacy of urban structures to provide minimum living conditions in the heart of the metropolis and, if it continues, will deepen spatial inequality, increase daily commuting, place additional pressure on infrastructure, and disrupt the social and spatial balance of the capital.

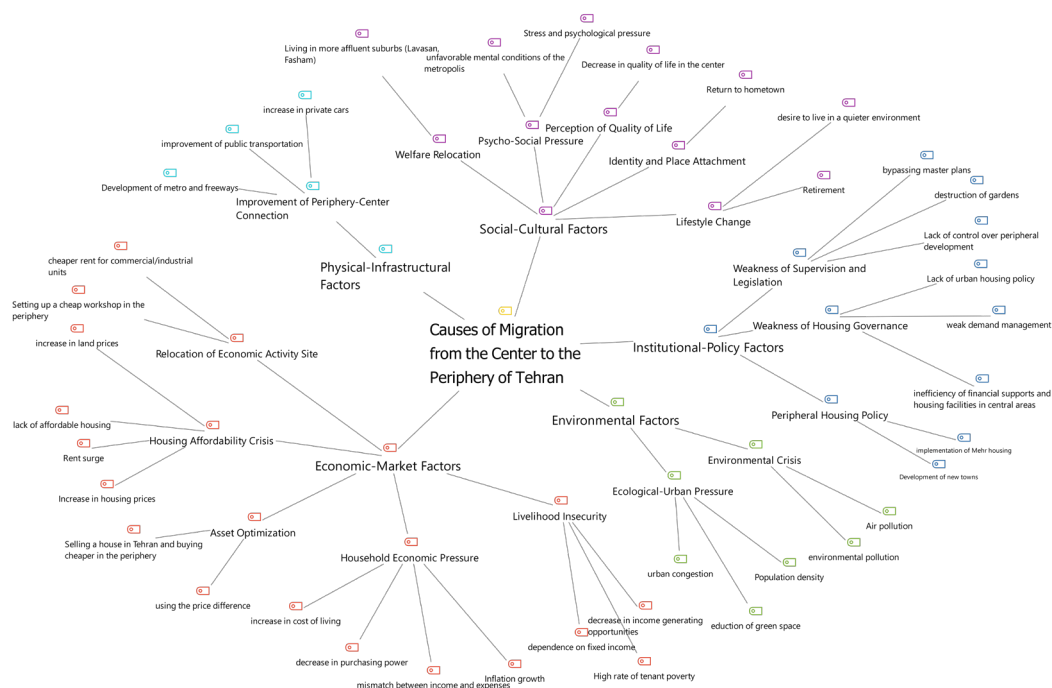


Figure 3. Causes of migration from the center to the periphery of Tehran

5.7. Credibility of the research

To increase the credibility of this qualitative research and ensure the accuracy and precision of the results of the thematic analysis of the causes of migration from the center to the periphery of Tehran, several measures were taken. First, to ensure the accuracy of coding and theme extraction, the researcher fully documented the analysis process, and all stages of coding and data analysis were reported transparently. Subsequently, to assess the plausibility of the themes and the coherence of the analyses, peer review was employed. Several experts in geography and urban planning independently reviewed the data analysis report and provided their feedback. This feedback was applied to refine and revise the themes and classifications.

In addition, to ensure the accuracy of data interpretation, member checking was employed; a summary of findings and themes was shared with several interviewees to confirm the correctness of the interpretations and their alignment with their actual experiences. Their feedback was incorporated into the final revisions of the analyses. Furthermore, all coding and theme extraction steps were conducted with scrutiny and repeated review to maintain internal consistency of the analyses. Thus, the combination of meticulous documentation of research steps, expert review, and member validation has significantly contributed to the credibility and dependability of the findings of this study.

6. Conclusions and recommendations

This study, with the aim of investigating the causes of migration from the center to the periphery of Tehran, has concluded that this population movement is more a reflection of accumulated economic, institutional, and physical pressures than a voluntary preference or an informed choice to improve quality of life. The research findings indicate that the main and causal driver of this process is more than a decade of economic stagnation and an unprecedented surge in housing prices and rents in the city center, which has effectively eroded the affordability of housing for middle- and lower-income groups. In fact, migration to the periphery is not a desirable choice but a necessary strategy for managing livelihoods and household survival in the face of inflation. Even for some property owners, leaving the center is seen as freeing up capital to meet other living costs. This situation reveals the inadequacy of urban structures to provide minimum living conditions in the heart of the metropolis. If it continues, it will deepen spatial inequality and disrupt the social balance of the capital.

In comparison with previous research, this study shows that, unlike many past studies which focused solely on a single dimension, such as highway development or government policies like Mehr Housing, the phenomenon of migration from the center to the periphery in Tehran is the product of the complex intersection of several factors. Although this

study aligns with previous results regarding the role of facilitative infrastructure for transportation, such as the metro and highways, it goes beyond them by emphasizing that without a severe price gap and a gap in affordable housing policies, the infrastructures alone would not have led to this volume of displacement. It also shows that, contrary to some perceptions that migration to the periphery is limited to lower-income groups, this process is selectively observed among more affluent strata as well, with the motive of attaining peace and lower density; this diversity of motives provides a more comprehensive view of the backgrounds in the existing literature. This trend, besides the expansion of informal settlements, has exerted additional pressure on transportation and public service infrastructures in peripheral areas and disrupted the spatial and social balance of the capital. To manage this trend and restore balance, a set of coordinated and equitable measures is essential:

- Providing affordable housing in both the central and peripheral fabric of Tehran through urban regeneration of worn-out neighborhoods, preventing land and housing speculation, and supporting people's housing cooperatives.
- Limiting unjust policies such as selling density and unchecked urban expansion that mainly benefit specific groups and impose high social and environmental costs.
- Expanding affordable, safe, and widespread public transportation instead of relying solely on private cars, so that commuting between the center and periphery is equally possible for all citizens.
- Decentralizing employment and services by creating sustainable job opportunities and evenly distributing educational, medical, and welfare facilities at the metropolitan and surrounding city level, so as to reduce heavy dependence on the center.
- Increasing per capita public services and green space in both the center and periphery as a means to improve quality of life and reduce the incentives for forced migration.
- Paying attention to the social and psychological dimensions of urban life through reducing density, improving the environment, and creating public spaces for interaction and social cohesion.
- Since migration is a function of a set of diverse factors (employment, education, family, social, and housing), national policies must be formulated as a coherent and integrated package, and planning should be based on a precise assessment of current and future

social, economic, political, and environmental conditions.

- Development of a comprehensive, affordable housing program for central Tehran.
- Construction of rental housing by the government or under full government supervision of the private sector in all implementation stages for low-income groups should be considered a priority. Entrusting this task to the private sector through rents, based on previous experiences, does not lead to the main goal of housing the vulnerable, because after obtaining rents and increasing land values, the private sector will not fulfill its obligations to House these groups.
- Urban development policies must be grounded in realities and public preferences; otherwise, car-oriented and unplanned developments will prevail and degrade the quality of urban design.
- Decentralization policies away from Tehran should focus not on price increases and restrictions in the capital, but on empowering and attracting other parts of the country (especially rural areas and counties). This decentralization should not only involve providing housing opportunities but also creating appropriate educational and employment opportunities (such as supporting home-based businesses and economic decentralization).

Ultimately, migration cannot be viewed merely as a threat. Rather, this process is an opportunity to rethink Tehran's development pattern and move toward a just, livable, and sustainable city. Only by integrating housing, transportation, employment, and environmental policies within a coherent framework can the migration path be managed in such a way that, instead of expanding inequality, it elevates the quality of life for all social groups. As a suggestion for future research, the center-to-periphery migration process could be studied with a focus on simultaneously analyzing economic, social, spatial, and institutional factors. The impact of housing and transportation policies on these relocations could be examined, and the psychological, social, and quality-of-life dimensions of peripheral residents could be considered to explain the motivations and consequences of migration more precisely. Additionally, comparative studies with the experiences of similar global metropolises could provide practical solutions and comprehensive policies to reduce spatial inequality, achieve a balanced distribution of the population, and enhance the sustainability of the Tehran metropolitan region.

Authors' Contributions

This article is derived from the master's thesis of the first author under the supervision of the second author and with the consultation of the third author. (first author: 50%, second author: 25%, third author: 25%)

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Conflict of Interest

The authors have disclosed no conflicts of interest.

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