

URBAN REGENERATION AND REUSE OF URBAN SPACES. THE CASE OF METROPOLITAN TABRIZ, IRAN

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Abstract. The regeneration of historical and deteriorated areas of cities has been observed in the recent urban planning literature worldwide. Inefficiency is one of the main issues in deteriorated urban areas where the possibility of updating and spontaneous change has all but disappeared. Similar to many other countries, the current process of extension of the deteriorated urban area in Iran indicates that problems will be complicated, if we do not apply any precautionary measures, suitable policies, planning and action plans. In this regard, one solution has been the implementation of flagship developments. One of the main objectives of flagship developments is to achieve urban regeneration goals; an approach that is used as a comprehensive strategy for applying some positive changes in a place showing signs of decay. It takes into account the idea of quality improvement, with integrated goals of economic, social and physical topics. This study aims at investigating the necessity of regenerating the old and historical texture of Tabriz. This is a descriptive–analytical study where GIS software was used. Results indicate that Tabriz is the second city in Iran with a worn-out texture; more specifically, about 25% of its texture is worn out and approximately 500,000 inhabitants live there. There are also several important historical monuments found in such texture. Given that the texture is located near the northern fault line of Tabriz, any earthquake may cause serious economic and human loss. The final result of the SWOT analysis shows that the best strategy for Tabriz city is an aggressive one that would exploit the strengths and opportunities. Therefore, in order to reduce human and economic losses, the best approach would not be to build near the fault line, but to regenerate the old and worn-out texture of Tabriz city.

1. INTRODUCTION

Before the industrial revolution, cities did not go through many physical changes. After the industrial revolution, and due to the increase in population and economic, social and cultural changes and new technology, the texture of cities changed (Zangiabadi, 1990). Following rapid urbanization, especially in developing countries, the growth pattern of many cities was changed from a centralized pattern to a sprawl standard, and the sprawl growth pattern led to an increase in barren lands and the wearing out of the old texture of cities (Mohammadi *et al.*, 2012). Additionally, urban sprawl growth has caused environmental, economic and social challenges in developed and developing countries. In fact, since 1970, the world's large cities have been plagued by worn-out texture (Liu *et al.*, 2017). Urban regeneration and the reuse of urban space is a new strategy in urban development, a strategy which reduces the challenges of the sprawl growth pattern (Xie *et al.*, 2021; Perez *et al.*, 2018). Urban regeneration can effectively promote urban economic growth, improve the urban physical environment and protect cultural heritage (Forouhar & Hasankhani, 2018; Berta *et al.*, 2018; Zhang *et al.*, 2017). In fact, urban regeneration entails the reuse of urban spaces, and comprises the reconstruction of old residential buildings, land reutilization, commercial area renewal, redevelopment of brownfields, and social and cultural improvements (Wang *et al.*, 2021; Zhu *et al.*, 2020; Martin *et al.*, 2018; Mehana *et*

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al., 2019; Xie *et al.*, 2021). Urban land and land resources are a basic factor for production and socioeconomic activities in cities, and due to urban sprawl, urban land is constrained (Wu *et al.*, 2014;). Nowadays, the central areas of cities, especially in developing countries, are not desirable areas for habitation, so that the majority of the inhabitants of these areas make up the lower classes of societies. Therefore, to solve issues of the central areas of cities, urban planners and managers have turned their attention to sustainable planning using urban regeneration (Pourahmad, 2010). The goals of urban regeneration projects and the reusing of urban spaces being pursued by local governments, revolve around the following: to shrink the city and halt unnecessary urban sprawl, to attract investments, and reenergize urban economy, and to enhance the city's competitiveness, to redevelop or substantially upgrade a dilapidated area, to assign new functions and make the best possible use of urban land, and to assist in place branding and/or reshaping of the urban image (Robert, 2000; Cochrane, 1999; Pervic *et al.*, 2019; Neducin *et al.*, 2021). Between 1966 and 1990, the average growth of urban population was 4.4% and the average growth of urban area was 6.9%, the reason being the social, political and economic changes in Iran (Majedi, 2012; Pourmohammadi & Jam Kasra, 2011). In fact, in recent years, Iranian cities, especially large cities, have grown rapidly, which has created many issues. One of the main issues is worn-out texture. The old and worn-out texture has formed and developed as part of a lengthy process and today is surrounded by modern technology. Although this texture previously had a proper and hierarchal function, today, with the advancement of technology, the cities have been weakened in terms of structure and function. Urban planners believe that today's cities have no identity without old textures, and if the old and worn-out textures are not regenerated, we will see the death of the only witnesses of history of civilization (Habibi *et al.*, 2012). The existence of worn-out textures in cities, especially large cities, is a major challenge for urban planners and managers. The worn-out textures have caused economic, social, environmental, security and infrastructural problems in cities (Rasouli *et al.*, 2016; Bouchani, 2004). At present, more than 25% of the urban population in Iran lives in worn-out textures (Pourahmad *et al.*, 2017). Moreover, according to the estimation of the housing and urban development organization, there are 50,000 hectares of worn-out texture in 100 of the cities of Iran. The characteristics of the worn-out textures of Iranian cities include the following: physical worn-out, improper streets, improper passages, lack of green space, worn-out infrastructure, high vulnerability and low economic, social, environmental value. Actions taken to regenerate worn-out textures in Iranian cities consist of the restorative operation on the physical aspects of these textures. Urban regeneration included social revitalization, economic prosperity, environmental sustainability and physical reconstruction (Gadami *et al.*, 2020; Majedi, 2008). Metropolitan Tabriz, after Tehran, has the most worn-out texture in Iran. It is surrounded from the north and south by mountains, while the land in this city is limited for urban use. Tabriz is a historical city with a strategic position in Iran. It is an old city that has a lot of political and social value. It has 2,600 hectares of worn-out texture. In fact, about 25% of the city of Tabriz is made up of a worn-out texture. The issues such as the irregular expansion of the city, the lack of per-capita services used, the lack of hierarchy in road networks, the narrow streets and passages, the inconsistent uses, the poor quality of buildings and the lack of proper urban facilities and equipment are the main problems of the worn-out and old texture of the city of Tabriz. While Tabriz city centre has high capabilities due to its geographical centrality, the existence of a bazaar and adjacent commercial activities, historical and cultural identity and tourist attractions, the historical context and historical monuments of Tabriz city are located inside the worn-out texture of the city, as well as the many people who live in the worn-out texture area. The urban infrastructure in this sector is severely worn out. In fact, the worn-out texture has caused economic, social, infrastructure and environmental challenges, and has led to unsustainable development in this part of the city.

This research is the first to deal with the city of Tabriz. The current paper aims at putting forward the importance of urban regeneration and the reuse of urban spaces in the big cities of Iran,

including Tabriz and the fact that a large part of the city has worn-out texture and is inhabited by large populations. The city is located near the fault line; therefore, in order to preserve people and historical monuments and to resolve economic, social and environmental problems, and finally to achieve sustainable development, it is necessary to regenerate the worn-out texture in the city of Tabriz.

2. LITERATURE REVIEW

The term *urban regeneration* means revitalization, renewed life, modernization and regrowth (Christelle & Damidaviciute, 2016; Alpopi & Manole, 2013; Gadami *et al.*, 2020). Urban regeneration is a comprehensive action that seeks to solve urban problems and improve the economic, social, physical and environmental situation of the city (Robert, 2000; Korkmaz & Balaban, 2019). In fact, urban regeneration has a complex and multi-dimensional nature (Donnison, 1993; Korkmaz & Balaban, 2019). Today, the concept of urban regeneration has shifted from physical transformation to a comprehensive approach to economic, social, physical and environmental transformation (Guzey, 2009). The key attitude in regeneration is to improve the situation of the people and the city, alike (Safaeipour & Zarei, 2017). The sustainable urban regeneration approach is one of the newest universally accepted approaches in the face of worn-out urban textures (Vilaplana, 1998). This approach emphasizes the optimal use of urban potential to obviate new needs; it also prioritizes reviving the old texture and restoring social life and economic prosperity (Izadi, 2006). The regeneration of the old texture of cities is touched upon in the oeuvre of John Ruskin and Friedrich Engels. It took almost four decades – covering the era of the Athens Charter (1933) and Amsterdam Charter (1975) – for developed countries to intervene in the valuable historic sites in order to regenerate them. In 1868, Thomsen proposed to settle 10,000 workers' families in the dense fabric of downtown Glasco. High density was, he thought, necessary to revive commercial units and public spaces and restore the economic value of possessions. The plan appears to be one of the earliest manifestos of urban regeneration. Kamil (1843-1903) was looking to organize urban spaces and revive the old urban texture, proposing ways to decorate cities (Habibi & Maghsoodi, 2007). Karir (1922) thinks it necessary to conceive an interrelationship between the old and new spaces. He rejects the notion of separating urban functions. Lichfield highlights the necessity of a better appreciation of the erosion process and the agreement over the issues an individual tries to achieve. Working on how to encounter new solutions for old textures, Danison believes that one should emphasize the districts with interrelated, similar problems (Roberts, 2001). Lynch and Jacobs take a humanist approach to city building. According to them, in regenerating the city, planning should happen with the participation of people and following the advice of experts (Shamaei, 2006). Jacobs (1961) emphasizes the principle of human interactions, self-repair, and the people's participation in regenerating the city by drawing on the chronic problematic texture (Pakzad, 2007). In worn-out textures and historic sites, Alexander (1936) highlights the organic order and the population (Pourjaafar, 2009), believing in principles such as sustainable stability and acting in keeping with the economic, social, and environmental organization (Habibi and Maghsoodi, 2007). Palumbo *et al.*, in an article entitled "Strategies for an Urban Renewal in Rome: Massimina Co_Goal", conclude that this project relies on a combined top-down/bottom-up strategy. In fact, this project promotes a set of retrofitting actions for a defined number of private houses to be involved in a co-financed refurbishment program. Furthermore, the main goal of the project is to achieve sustainable development, economic prosperity and social revival (Palumbo *et al.*, 2017). Andrew and Jonas, in a paper entitled "Urban Management and Regeneration in the United States: State Intervention or Redevelopment at All Coast", conclude that urban regeneration in the United States is built around a narrowly economic model of redevelopment rather than around a socially inclusive or participatory 'new regionalist' model. Additionally, urban regeneration tools used in the US include special purpose districts, public-private partnerships, the tax-increment financing of redevelopment, revenue and general obligation bonds, and community activism

and engagement (Andrew and Jonas, 2009). Korkmaz & Balaban, in the research entitled “Sustainability of Urban Regeneration in Turkey: Assessing the Performance of the North Ankara Urban Regeneration Project”, conclude that, in recent years, urban regeneration in Turkish cities has gained momentum due to the increasing number of activities in private and public sectors. Additionally, this research shows that the project’s contribution to urban development sustainability has been minimal and thus, many efforts are required to improvement the sustainability performance of urban regeneration projects in Turkey (Korkmaz & Balaban, 2019). In the article entitled “Urban Regeneration in China: Policy, Development, and Issues”, Ye discusses China’s recent urban regeneration policies, including how residents are affected and how they protect their economic and social rights, the role of developers and governments, and the interaction between the main participants in a broad Chinese social, economic and political context. This research introduces the urban regeneration of Guangdong Province and examines how it intends to engage the government, developers, and communities in this urban regeneration (Ye, 2011). Consequently, over the nearly five decades when urban regeneration policies were pursued, their objectives have varied not only because of the varying nature of the problems associated with urban decline. The variation is also the result of different understandings of how multiple dimensions of regeneration relate to one another and how that relationship could be mobilized towards the desired aims of different ideological perspectives from successive governments and the varying balance of power of the potential beneficiaries and losers of regeneration policies. Across countries, different policy and institutional contexts have also shaped variations in urban regeneration policy objectives. Current regeneration practice accepts that interventions need to go beyond physical redevelopment, and while this remains an important component, the main objectives tend to refer to the stimulation of economic growth, together with the decrease in social inequality and the increase in community cohesion. More recently, environmental sustainability and climate change issues have gained considerable prominence as objectives of regeneration policy (Jones and Evans, 2013). Those objectives are still quite broad and admit several different conceptions as to the manner of attaining them. As the public sector in most countries no longer has the capability or the appetite for a large-scale direct intervention in the urban environment, achieving the economic goals of urban regeneration has come to largely depend on the performance of the property market. The stimulation of economic growth has often meant the provision of accommodation for businesses, or even just the employment-generating and economic multiplier potential of the development industry (Turok, 1992). In both cases, the success of the intervention relies on altering the dynamics of local property markets. New buildings in renovated surroundings with a buoyant property market can change investors’ perception of a locality and lead to more investment in the local economy. There is a well-explored connection between urban regeneration and city marketing, with physical changes in a locality (often through flagship developments) being used to boost the competitiveness of a location in attracting businesses, dwellers and investment (Evans, 2005). In many cases, the reintegration of a derelict area into the mainstream property market has been seen as a regeneration objective in itself. The objective of stimulating the economy has also translated into investment in urban infrastructure, especially as a way of increasing the competitiveness of urban regions (e.g., improvements in public transport networks), although much of the multiplier effect of this investment also tends to depend on the stimulation of property markets. However, since the 1990s, the principle that regeneration should not be circumscribed to physical redevelopment has gained wide acceptance in theory, if not always in practice (Imrie, Lees and Raco, 2009). However, although urban regeneration is often regarded as a comprehensive, holistic discipline, encompassing all the aspects described (physical, economic, social and environmental), in practice it is rarely, if ever, truly comprehensive. The complexity of the problems it tries to address, together with the nature of the government machinery available to implement the policies and the balance of interests associated with each objective means that most urban regeneration practices are steered towards either physical/environmental objectives, or economic growth and competitiveness, or social inclusion.

3. STUDY AREA

The city of Tabriz, one of the most ancient cities in Iran, is the capital of the East Azerbaijan Province. Tabriz city, located in the northwest of Iran, is in a mountainous area at an altitude of 1,350 meters at the junction of the Aji River and Quri River and is surrounded by mountains from the north to the south. This city with a population of 1,612,000 people in 2020 and an area of 237 km² is the fourth largest city in the country after Tehran, Mashhad and Isfahan. Like other populated cities in Iran, Tabriz city has experienced the phenomenon of rapid urban growth leading to the formation of urban sprawl growth, an increase in the area of the worn-out texture, informal and slum settlements in peripheral areas of the city. During recent years, due to high numbers of immigrants and a high population growth rate, Tabriz city has undergone an irregular and rapid growth and has experienced incredible population and spatial change. This city has a strategic position in Iran, acts as a connection point between Iran and Europe and has always been considered to be one of the major cultural, political and economic poles of Iran (Rahimi, 2016; Moosavi, 2011) (Fig. 1).

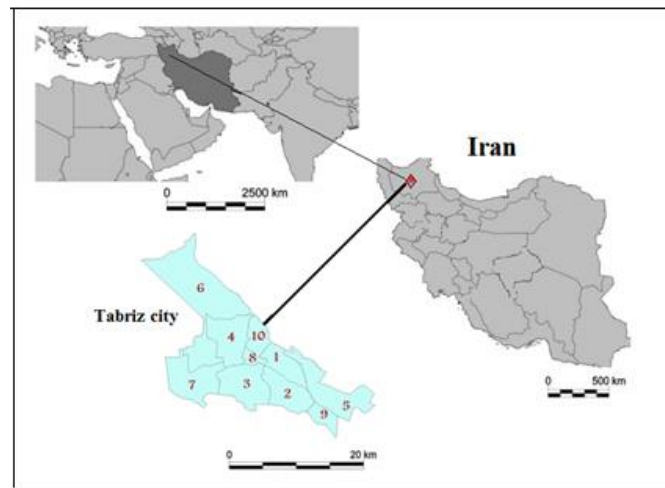


Fig. 1 – Location of the study area.

4. METHODOLOGY

This study is a practical one and the methods of investigation are both descriptive and analytical. The information and data are collected through the library method, referring to organizations, departments and field observations. The GIS software and SWOT method were used for data analysis. The SWOT matrix is one of the most suitable techniques for planning and analysing the strategy, so much so that today it is used as a new tool for performance analysis by strategy planners (Sarai & Shamshiri, 2013). The SWOT technique or matrix is sometimes called TOWS. It is a tool for recognizing existing threats and opportunities as external factors and recognizing its internal strengths and weaknesses in order to assess the situation and formulate a guiding strategy (Ebrahimzadeh & Aghasizadeh, 2009). The SWOT analysis aims to increase strengths and opportunities and reduce weaknesses and threats. In this technique, the organization can design and formulate strategies by identifying strengths, weaknesses, opportunities and threats. Based on this, strengths eliminate weakness and seize opportunities, or use them to deal with threats (Dincer, 2004). Finally, the SWOT technique defines what may help the organization achieve its objectives, and what obstacles must be overcome or minimized in order to reach the desired results (Fig. 2).

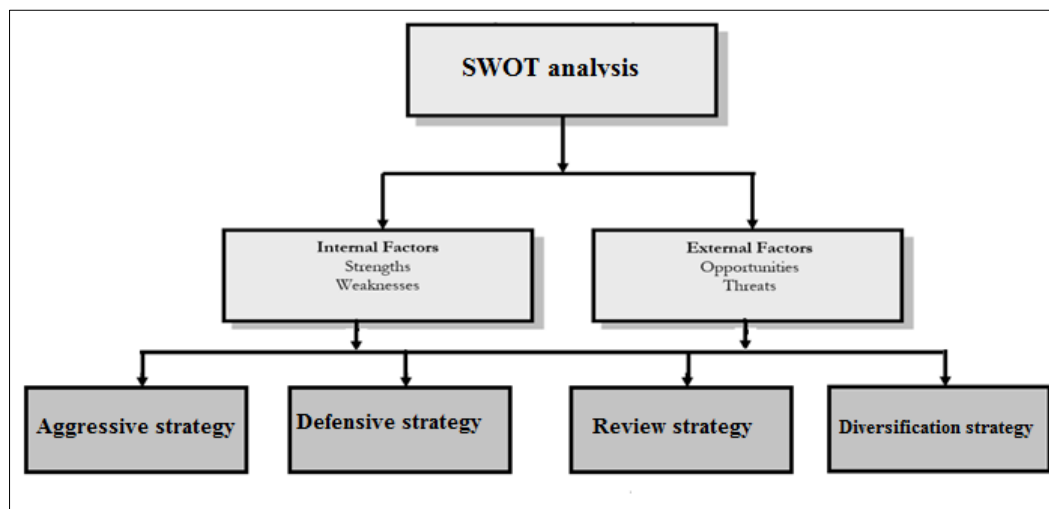


Fig. 2 – SWOT analysis.

5. RESULTS AND DISCUSSIONS

5.1. Territorial dynamics of the City of Tabriz

The fast growth of the metropolitan centres of Iran, as is the case of Tabriz in recent decades has transformed the urban organization and the system of neighbourhoods, exposing them to extensive physical expansion. Physical space is, therefore, devoted to a variety of urban functions. The city's population has grown 7.2 times in 76 years. The population grew from 213,542 in 1930 to 1,558,693 in 2016. That said, the growth rate of the population during the period was not consistent. The highest rate was registered between 1976-1986, amounting to almost 5 percent. This rate is attributed to a high birth rate and to waves of migration from the villages to the city in the first decades following the Islamic Revolution. Reasons contributing to the slow growth in recent years are, however, population control, the rise in literacy rate and economic conditions. At the beginning of the 1986-2006 period, the city of Tabriz had 31.56 percent of the whole population of East Azerbaijan but the share soared to 38.55 percent at the end of the period. The city settled almost 40 percent of the population of the province (Gorbani, 2012). An examination of the trajectory of the physical expansion of Tabriz indicates that it has experienced an increasing territorial dynamic from mid-1951 and especially from the 1960s, preceded by population growth and the expansion of economic activities. The area of the city grew from 1,770 in 1946 to 2,127 hectares in 1966, 4,580 in 1976 to 9,647 hectares in 1991, and from 10,257 in 1996 to above 13,000 in 2006. The population grew almost five times and the physical expansion almost twelve times between 1956 and 2006. A great part of the expansion pertains to the 1956-86 period, during which the physical structure of the city was on the brink of collapse due to the socio-political developments of society, overshadowing the natural setting of the city. The urban space has grown 2.4 times higher than the population. The worn-out textures, newly-built areas in the city – either built in a planned or unplanned way – which could not settle people include a sizable number of unoccupied lands. The factors contributing to the predicament of the city's structure include: The northern and southern margins of the city having a density of 400 persons per hectare, problematic land use (such as Tabriz Airport, the industrial areas to the west, military bases, and Tabriz University), farms, gardens, uncultivable lands within the remit of the city which have become part of the inner city, a negligence of the relative balance in land use under the urbanization model (Fig. 3).

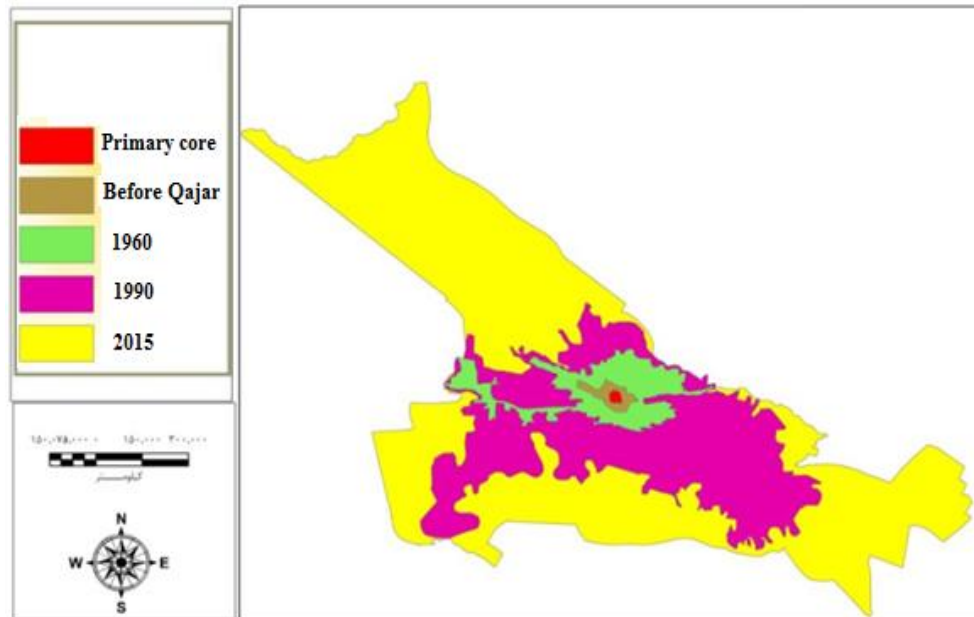


Fig. 3 – Periods of territorial dynamics in Tabriz.

The proportion between the population growth and the settling capacity of various districts is not, we might add, well-balanced. The quarters of the city in the eastern districts, such as Baghmisheh and Yaghchiyan, or Laleh and Taleqani in southwestern Tabriz can settle a higher number of people. In the case of the former, it is possible because of residential areas and being on the route to urban expansion, while for the latter it is due to having good lands prone to development, accessibility to the commercial centres, and having the appropriate communication infrastructure. The average settling, however, occurs in townships – Andisheh, Rajaei-Shahr, and Zafaraniyyeh – which are still going through the process. The same phenomenon occurs in marginal areas in the northern parts. The lowest growth rate belongs to the historical parts surrounding the Great Bazaar and agricultural-industrial districts to the city's western part. The regions where land is put up for construction are the ones that bear the brunt. All districts of Tabriz – save for districts 4 and 8, the central and historical ones, and district 5, which includes the marginal areas marked by a density of over 400 persons – have the space required for settling more people for at least 6 years. Given the population growth, even district 8 can settle the population for the next 64 years. Moreover, the whole city can settle a population for the next 21 years if this growth rate and area of residence are kept. There is no need, therefore, to sprawl-expand the city; instead, the internal development capacities of the city – i.e., uncultivable lands and a worn-out texture – can be used for infill development.

5.2. Criteria for identifying worn-out texture

The worn-out texture is a district of the city that, due to physical worn-out, facilities and infrastructure, together with unsuitable and narrow streets and passages, was vulnerable and had low spatial, environmental, economic and social value (Robert *et al.*, 1997). Worn-out textures cannot be regenerated by owners due to the poverty of residents and their owners, and investors have no incentive to invest in these textures. The desire to migrate increases among its inhabitants (Ebrahimzadeh & Maleki, 2012). Types of worn-out textures can be divided into the following: historically valuable, disorganized and problematic, inefficient, with/without cultural heritage, marginal rural areas located in the urban zone; therefore, worn-out textures can encompass marginal and rural areas at the outskirts

of cities (Babaei *et al.*, 2018). The criteria for identifying Worn-out textures comprise the following: 1) The age of the buildings: More than 80% of buildings are over 50 years old, or if they were built during the past 50 years, do not have a technical standard, nor a resilience to moderate earthquake; 2) Micro-residential blocks: In worn-out textures residential buildings are smaller, and their average area is less than 120 square meters; 3) Buildings materials: The materials of worn-out textures are more than brick, wood and iron, and do not have a standard structural system; 4) The number of storeys in each building: In worn-out textures most buildings are 1 to 2 storeys high; 5) The access status: worn-out textures have an irregular form and narrow streets and passages, so that most streets are less than 6 meters wide; 6) Economical: Low cost housing, low-income population and unemployment destroy the economic structure of the past; the high cost of renovating buildings and the inability to attract the population's participation; 7) Social: the large-size family, insecurity, high density population, non-indigenous residents, the high rate of illiteracy and the negative growth rate, as well as the exit of old residents from the worn-out texture, the migration of primary social strata from the old and worn-out texture, increasing of types of social violation (Samiei, Sayafzadeh, 2016; Jamal, 2007); 8) The status of services: worn-out textures have many problems in terms of public services and equipment, the improper distribution of municipal services, the division of texture lands into smaller sectors, the lack of infrastructure, such as parking, green spaces and the vulnerability during earthquakes; 9) Environmental: environmental pollution, caused by the amassment of commercial and employment centres, as well as the existence of terminals and storerooms, car traffic within the texture, the noise and air pollution, the reduced green space, the substandard buildings, the unsanitary conditions (garbage and sewage), and debris and demolition waste (Habibi *et al.*, 2007). All these cases together with pollution reduce the spatial value of the old and worn-out texture, and increase migration to these areas, while ultimately hindering the social, economic and territorial dynamics of the old and worn-out texture.

5.3. The worn-out texture of Tabriz city

In Iran, there are about 132,000 hectares of worn-out urban texture, and about 21 million people inhabiting these worn-out textures. The city of Tehran, together with its 3,270 hectares, has the most worn-out texture, that 18% of the population of Tehran resides in worn-out textures (the Municipality of Tehran, 2018). The worn-out texture of the city of Tabriz – 2,530 hectares – has occupied about 25% of the total area of Tabriz (The Municipality of Tabriz, 2019). The city of Tabriz has the most worn-out texture in Iran, after Tehran. The worn-out texture of Tabriz city includes four types of texture: historically valuable worn-out texture, middle worn-out texture, rural-urban worn-out texture, and marginal worn-out texture. Approximately 500,000 people live there. Two major population groups can be identified in the worn-out texture of Tabriz (Fig. 4).

The first group inhabits the worn-out texture of the central core of Tabriz and is originally from Tabriz. The second group mostly inhabits the unsuitable and worn-out texture on the outskirts of Tabriz and are immigrants that have migrated to Tabriz from the surrounding towns and villages over the past four decades and who have settled in small, non-standard buildings. The worn-out texture of Tabriz has many problems, such as micro-residential blocks, which in some cases are under 30 meters; the high density of the population inhabiting these areas has caused disturbances in the neighbourhoods and has impacted social relations in these areas; the lack or weakness of municipal services such as green spaces, a library, a clinic and a mosque, having reduced the social interactions of residents. Additionally, the lack of health services, urban facilities and infrastructure, coupled with the air and noise pollution, the increasing urban poverty, the increasing social anomalies and crime rate, the unplanned and illegal construction, and the instability of buildings have reduced the spatial, social and economic value of the worn-out texture of Tabriz city (Fig. 4).

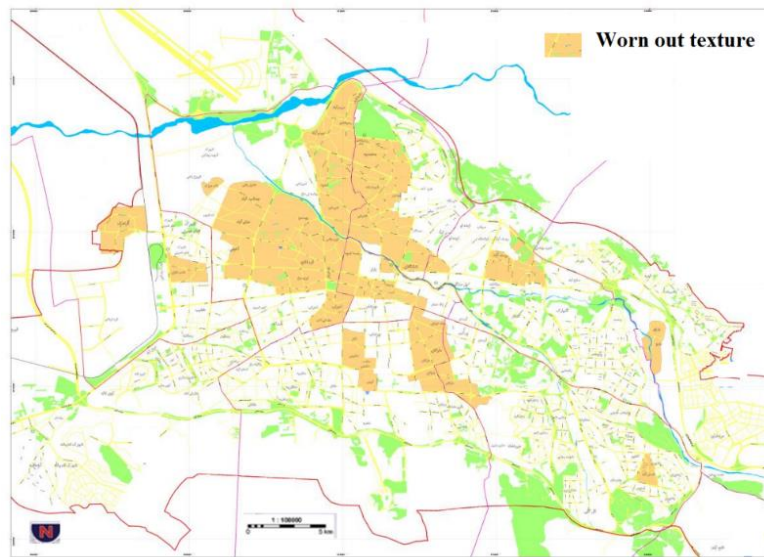


Fig. 4 – The worn-out texture of Tabriz city (source: Tabriz Municipality, 2019).

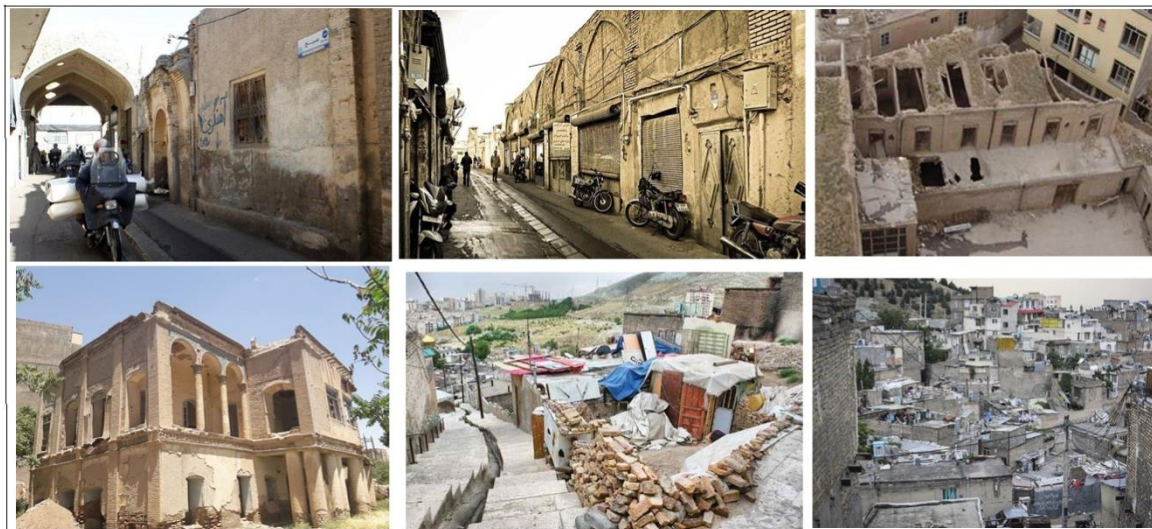


Fig. 5 – The worn-out texture of Tabriz.

The instability of buildings is a serious threat to the residents of the affected areas. In fact, the necessity of paying attention to the worn-out texture in the city of Tabriz is represented by the potential dangers posed by a natural crisis, especially earthquakes. Tabriz city is located a short distance from the famous fault to the north of Tabriz and, in some areas, it is completely expanded over the fault. Moreover, most of the worn-out texture, especially in the north of the city, is adjacent to the fault. According to the division of earthquake risk zones in Iran, the city of Tabriz is one of the high-risk areas. The impermeability and inadequacies of the road and access network, narrow roads, the delayed access to services and emergency vehicles, such as fire engines and ambulances, have led to inefficiency and disorder in most worn-out textures within the city limits. All these factors have rendered the city of Tabriz, especially its worn-out textures, vulnerable, since any earthquake may cause serious economic and human loss (Figs. 5, 6).

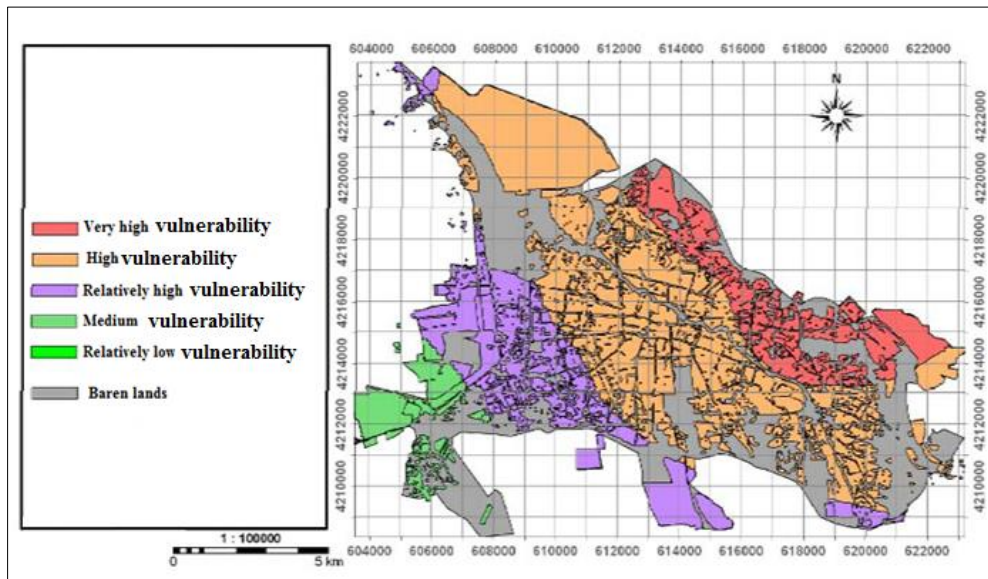


Fig. 6 – Earthquake vulnerability zoning in Tabriz city (source: Rostaei, 2011).

5.4. The necessity of regenerating the worn-out texture of Tabriz

The worn-out historical textures of Tabriz show the history, identity and culture of the city. These textures are very valuable in terms of architecture and urban planning. Regarding the importance and value of historical texture, the following can be mentioned:

- 1) Architectural values: the harmony between buildings and nature, the observance of climate when building, homogeneity in physical environment and inhabitants, the coordination of urban functions and the attention to aesthetics. The historical monuments of Tabriz are as follows: Alishah Arg or Arg of Tabriz, Rab'-e Rashidi, the Firefighting Tower, the Bazaar of Tabriz, Shams ol Emareh, the Constitution House of Tabriz, the Blue Mosque and the Tabriz mosques, in general (Fig. 7).
- 2) Cultural values: historical textures have an important role in connecting people to their cultural background. In fact, old textures are places of accumulation of memories, and play a special role in preserving cultural values. Therefore, the historical textures of cities are a good place to understand the different aspects of indigenous and local culture and how it affects different aspects of urban life.
- 3) Social values: the historical and old textures have, due to a previously existing social cohesion, the potential to strengthen social relations and increase social cohesion. The pattern and concept of the neighbourhood and the centre of the neighbourhood is a good opportunity to experience popular participation and strength solidarity between citizens (Alizadehganat & Mabhout, 2015).
- 4) Urban design values: these textures play an important role in recognizing the style and pattern of urban design in previous periods, while also having an important role in times of housing shortages. In addition to the fact that housing within historical textures is a sort of capital, it also saves in terms of urban facilities and infrastructures.
- 5) Economical values: in historical and old textures, there are monuments of cultural value called historical resources, symbols of past civilizations and urban life, as well as a sustainable economic resource, one of the major products of cultural economy.
- 6) The prevention of sprawl growth and the use of the infill development capacity, especially in barren lands and in the old and worn-out textures of Tabriz.

- 7) The high vulnerability of worn-out historical textures caused by the fault line north of Tabriz.
- 8) The importance and necessity of providing services in a natural and human crisis: the insufficiency in the design and construction of residential units with congestion zoning, the inefficiency of the road network, especially in the area around the bazaar, the severe shortage of urban facilities and equipment, such as fire brigades, emergency and rescue services, and relief centres.
- 9) Traffic issues: the lack of public and private parking, the interference between pedestrians and drivers, the lack of a road network hierarchy, the instant concentration of services used with urban and regional performance in these textures.
- 10) The disharmony of worn-out textures displaying new needs.
- 11) The regeneration of worn-out textures triggers the organization of land use and the elimination of incompatible or troublesome uses.
- 12) The residence of a high number of people within the worn-out textures of Tabriz and the prevention of population movement from worn-out textures to the suburbs of Tabriz city.
- 13) The regeneration of the worn-out texture enhances efficiency, social justice, security, health, comfort and environmental quality, and ultimately promotes community, economic and spatial values.



Fig. 7 – The historical texture of Tabriz and its historical and cultural monuments.

5.5. The evolution of intervention in the old and worn-out texture of Iranian cities

- 1) Before the Islamic Revolution of Iran in 1978, the extensive demolition and reconstruction process, which relied on the general governmental budget and neglected residents and owners, was the Government's main approach when dealing with the old textures, which led to the uncontrolled expansion of the city and the isolation of the old centres of the cities. This demolition and reconstruction showed the prevalence of the modernist approach dependant on western models at that time.
- 2) After the revolution and until the end of the war, improvement plans were the main policy in the historical old textures of Iranian cities during this period, and were implemented in the form of a government program related to public revenues with very limited participatory and a purely physical approach to environmental challenges. The economic conditions of the country prevented the extension of this policy to other cities, leading to it being implemented only in the cities of Isfahan, Yazd, Semnan, Shiraz and Gorgan.

- 3) Between 1989 and 1993, detailed plans for historic cities, especially those affected by the war, followed by the plan of cultural and historical axes were the Government's main plans in the early post-war years. According to these plans, the textures of urban centres, which had always been a separate part of the city, were regarded together with the structural comprehensiveness of the city. The prevailing policy during that time was improvement and reconstruction with the participation of the people. The lack of necessary infrastructure in the old textures, the lack of economic capacity and incentive policies, and the lack of capability and capacity in the municipalities, have all led to the non-realization of these programs.
- 4) Between 1993 and 1997, the integrated policy was the Government's main approach to improving and renovating urban textures, through the acquisition, clearance and integration of existing real estate assets within urban centres. These policies were implemented with an emphasis on the physical aspects and with the Government's intervention.
- 5) Between 1997 and 2009, the main goal was achieving a balanced and sustainable development by identifying and using the existing physical, economic and social capacities within the legal limits of cities, and balancing the population settlement while preventing the irregular expansion of cities. Moreover, in this period, the strategy of the infill development of cities was introduced to meet the challenges of the dysfunctional texture. In the meantime, regeneration projects were implemented with the participation of investors and the private sector (Izadi, 2006; Mirzakhani, 2021).
- 6) Between 2009 and 2013, the importance was acknowledged for the participation of urban renewal stakeholders, residents and owners for the success of urban regeneration and rehabilitation. In addition, the necessary conditions were provided for the presence of investors and the private sector as residents in the regeneration of the old texture.
- 7) Starting 2013 and up to present-day, at the beginning of this period, a review of the set of policies and actions for urban improvement and renovation was on the agenda. In fact, after reviewing previous actions, the urban regeneration policy was seen as the main approach and criterion of action in historical old textures. The urban regeneration approach is regarded as being able to serve as a framework for guiding urban planners in order to improve the quality of life and the viability of existing urban textures.

5.6. SWOT analysis

5.6.1. *The internal factor evaluation matrix*

Internal factors include weaknesses and strengths. In fact, for weaknesses and strengths, there are many factors defined. The internal factor evaluation matrix includes the following steps; the most important strengths and weaknesses are listed, these factors are weighted from 0 to 1, so that the sum is equal to 1. Then, each factor is assigned a score of 1 to 4, score 1 for factors which are too weak, score 2 for weak factors, score 3 for strong factors, and score 4 for too strong factors. To determine the final score, the weight of each factor is multiplied by its score. Finally, the sum of the final scores is calculated to determine the final score of the internal factors. In the internal factors evaluation matrix, if the final score is higher than 2.5 (average 1 and 4), it indicates that the strengths are superior to the weaknesses, and if it is less than 2.5, it indicates that the weaknesses are superior to the strengths (Tab. 1).

Table 1

The Strategic Internal Factors Evaluation Matrix

Strengths		Weight	Score	Weighted score
S1	The existence of the largest roofed bazaar in the world within the historical texture of Tabriz	0.065	4	0.26
S2	The existence of buildings with excellent architecture in the historical texture of Tabriz	0.051	2	0.102
S3	Historical monuments and cultural heritage such as: Shams al Emareh, Firefighting Tower, Rab'e Rashidi, Alishah Arg, the blue mosque and the municipality building	0.054	4	0.216
S4	Security and social-cultural solidarity	0.04	2	0.08
S5	Located in the centre of Tabriz city	0.045	3	0.135
S6	The proximity and access to the city's commercial services	0.025	2	0.05
S7	The easy access to public transport	0.041	3	0.123
S8	The location of services, commercial and production uses in the historical texture (mixed land use)	.040	2	0.08
S9	Low housing and rental prices	0.042	2	0.084
S10	The existence of urban spaces with their own identity	0.04	2	0.08
Weaknesses		Weight	Score	Weighted score
W1	In the historical texture of Tabriz, many buildings are worn out	0.090	4	0.36
W2	Th lack of public and private parking	0.051	3	0.153
W3	The inadequate and weak infrastructure	0.054	2	0.108
W4	The lack of a road network hierarchy, narrow streets and passages	0.051	3	0.153
W5	High population density in the old texture Tabriz city	0.026	3	0.78
W6	Low security especially at nights	0.015	2	0.03
W7	Air and noise pollution in old texture Tabriz city	0.050	3	0.15
W8	Weak services uses	0.051	3	0.153
W9	The lack of proper urban facilities and equipment	0.051	3	0.153
W10	The existence of abnormal visual landscapes	0.025	2	0.05
W11	The existence of incompatible uses in the old texture	0.036	2	0.072
W12	The high unemployment rate	0.061	3	0.183
Total internal factors		1		3.555

The strategic internal factors evaluation matrix shows that the total weight score of strengths is 1.21 and the total weight score of weaknesses is 2.345, which makes the total final weight score of internal factors 3.555.

5.6.2. The External Factor Evaluation Matrix

The External Factor Evaluation (EFE) matrix, a strategy tool, is used to examine a company's external environment and to identify the available opportunities and threats (David, 1999). External factors encompass opportunities and threats. Accordingly, all the stages are similar to the IFE matrix (Tab. 2).

Table 2

The Strategic Evaluation of External Factors Matrix

Opportunities		Weight	Score	Weighted score
O1	The high capacity for investment of old texture	0.081	3	0.243
O2	The existence of abandoned buildings to create the required uses	0.093	3	0.279
O3	The Government providing financial facilities to the residents of the old texture	0.085	4	0.34
O4	The decision of city managers to regenerate the old texture	0.074	3	0.222

Table 2 (continued)

O5	Increasing the people's tendency towards historical and cultural tourism	0.052	2	0.104
O6	The ability to turn the historical texture into an important tourist area	0.054	3	0.162
O7	Located on the silk road	0.061	3	0.183
O8	Increasing public transportation and walking in the old texture	0.053	3	0.159
Treats		Weight	Score	Weighted score
T1	Proximity to the north fault line of Tabriz	0.1	4	0.4
T2	The people's deficient knowledge regarding the values of historical texture	0.065	3	0.195
T3	The migration of residents from the old texture	0.061	2	0.122
T4	The damage to historical monuments by tourists	0.035	2	0.07
T5	The lack of public participation in the regeneration of the old texture	0.062	3	0.186
T6	The desire of low-income groups to inhabit the old texture	0.043	2	0.086
T7	The perpetuated separation of the old texture from the new texture	0.042	3	0.084
T8	The gradual demolition of local buildings	0.039	3	0.117
Total		1		2.952

The matrix of strategic external factors' evaluation shows a total weight score of opportunity of 1.692 and the total weight score of threats as 1.26, which makes the total final weight score of external factors 2.952.

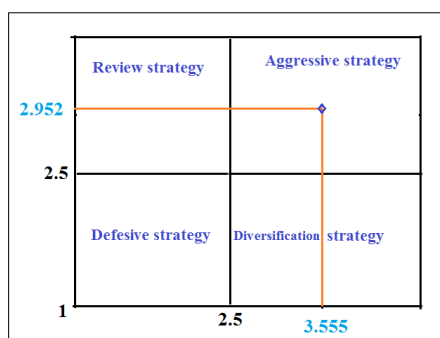


Fig. 8 – Diagram of SWOT analysis strategies.

The final result of the SWOT analysis shows that the best strategy for Tabriz city is an aggressive one, which utilizes the strengths and seeks to take advantage of opportunities. ST Strategies (diversification) use strengths to avoid threats. WO Strategies (review strategies) take advantage of opportunities to reduce weaknesses and WT Strategies (defensive strategies) reduce vulnerabilities and stay away from threats. Figure 7 shows that the best strategy for Tabriz city is an aggressive strategy that exploits strengths and opportunities (Fig. 8).

6. CONCLUSIONS

In recent decades, the rapid growth of cities in Iran has engendered many issues. Hence, these issues and problems have affected all aspects of the city and disrupted the lives of urban inhabitants. One of the major problems of Iranian cities is worn-out textures, the root cause of many other issues. In fact, worn-out textures are the result of excluding old and historical textures of cities from the urban planning process. Due to economic, social, physical and environmental issues, such as micro-buildings, abandoned buildings, unemployment, the lack of green spaces and infrastructure, the narrow

streets and passages, the lack of open spaces, air and noise pollution, low security, worn-out textures have caused unsustainable development in Iranian cities. These textures cover a large area of cities and comprise a large population. Worn-out textures have high capacities for infill development. Urban regeneration is a process that leads to the creation of a new urban space while preserving the main spatial features (physical and functional). Consequently, a new urban space is created that, while having fundamental similarities with the old urban space, and substantial and semantic differences. In other words, regeneration means creating a new spatial organization in accordance with the new conditions, that all are effective in creating new urban relations. In this approach, the preservation of cultural and historical monuments is very important. Sustainable development and social justice are important goals of urban regeneration. In fact, regeneration improves the social, economic and environmental conditions of the city. The old and historical texture of cities is an embodiment of civilization and the culture of societies. If these textures are not regenerated, they will become worn-out textures. The historical texture of Tabriz, despite the historical and cultural monuments and the potential for infill development, unfortunately faces problems such as population density, heavy traffic, incompatible uses and a lack of infrastructure and equipment. About 25% of the texture of Tabriz is worn-out and there are more people who reside in the worn-out textures. So, in addition to the physical structure, the cultural and historical identity of Tabriz is also destroyed. Furthermore, according to the northern fault line of Tabriz and the high density of population in the worn-out and old texture, in the event of a natural crisis (an earthquake) or human crises, serious economic and human loss may occur. Therefore, providing attention to the old and worn-out texture of the city of Tabriz and its regeneration will improve the quality of life for citizens, and increase the vitality of urban spaces, as well as reduce casualties of natural and human crises. Finally, using the SWOT analysis, we conclude that the best strategy for the regeneration of the worn-out texture in Tabriz is an aggressive strategy, that is, the use of strengths and opportunities to reduce weaknesses and threats. In general, according to the results of this research, the following recommendations may be put forward:

- 1) Using the participation of citizens in regenerating the worn-out texture of Tabriz.
- 2) Using demolished and abandoned spaces for service uses.
- 3) Constructing elements and symbols to revive urban identity and create suitable urban furniture that would render the environment pleasant.
- 4) Paying attention to the local architecture and design, and constructing buildings based on their capacity to adapt to the natural conditions of the region.
- 5) Creating open and green spaces for a sustainable environment in the worn-out texture of Tabriz.
- 6) Creating a road network hierarchy for convenient access.
- 7) Providing financial facilities to residents for housing reconstruction by the Government.
- 8) Encouraging private investors to invest in the worn-out texture.
- 9) Strengthening the sense of spatial belonging in the worn-out texture.
- 10) Creating service uses and their just distribution so as to obviate the needs of residents.

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