

Urban Transformation: Opportunities for Land Use Change in Urban Fabric Redevelopment

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ABSTRACT

With the arrival of modernity in Iran, the concept of the "city" as we understand it today was born, undergoing significant transformations that have continued to evolve over time. These transformations in the physical structure of the city have created multifaceted challenges in three primary dimensions: housing, urban facilities, and transportation. This research, adopting a thematic approach to these challenges and aiming to provide valuable insights for social policymakers and urban planners, employs a descriptive-analytical method. It leverages existing data from documentary resources to explore opportunities for land use change in the process of redeveloping urban fabrics. The study delves deeply into the role of urban transformation in enhancing the quality of life and improving the efficiency of urban spaces. By investigating urban fabrics as crucial components in the redevelopment process, the research analyzes the various factors influencing land use change. Through detailed case studies, the article identifies existing opportunities for the improvement and modification of land uses within urban fabrics, offering practical solutions for optimizing these processes. The ultimate goal of this study is to propose comprehensive strategies for the optimal utilization of urban resources, thereby significantly enhancing the quality of life in urban environments. This study aims to provide a thorough understanding of the dynamics at play in urban redevelopment and to offer actionable recommendations for policymakers and urban planners to create more livable, efficient, and sustainable urban spaces.

Introduction

Urban transformation has emerged as one of the most significant issues in the development and management of cities in the twenty-first century. In this current era, many cities face multiple crises, including environmental instabilities, infrastructure problems, and population pressures, highlighting the necessity for redevelopment and transformation within urban fabrics. One of the key tools in this process is land use change, which refers to the adaptation and revision of various urban land uses. These changes can optimize land resource use, enhance the quality of life for residents, and contribute to sustainable development. However, the process of land use change is accompanied by numerous challenges, including economic issues such as high redevelopment costs, social concerns arising from resident displacement and conflicting interests, and environmental problems related to the degradation and reassessment of natural resource usage. Nonetheless, these challenges also present a golden opportunity to create modern and efficient urban environments. Careful planning and innovation in land use change can lead to improved quality of life, enhanced urban aesthetics, and sustainable economic development. With increasing population and rapid social, economic, and environmental changes, the redevelopment of urban fabrics has become a fundamental challenge in urban management (Hölscher & Frantzeskaki, 2021). In this context, land use change has gained particular importance as an effective tool for improving urban space quality and responding to the evolving needs of the community (McCormick et al., 2013). Land use change can mean transforming ineffective spaces into new and useful uses, such as converting old industrial lands into residential or commercial spaces, creating parks and public areas in dilapidated neighborhoods, or even changing agricultural lands into residential projects. These changes not only help optimize the use of existing resources but can also lead to the revitalization of neglected areas, the creation of suitable public spaces, and increased social interactions. In today's world, cities face numerous challenges, including air pollution, traffic congestion, lack of green spaces, and social inequalities. Land use change can act as an effective solution to address these problems. For example, creating green spaces in densely populated areas can reduce air pollution and improve the quality of life for residents (Nieuwenhuijsen, 2021). Additionally, revitalizing deteriorated urban areas and creating mixed-use spaces can enhance social interactions and strengthen community belonging. However, land use change also comes with its own set of challenges. These challenges include local residents' resistance, concerns about environmental impacts, and the need for coordination among various stakeholders (Leal Filho et al., 2019). Therefore, understanding the opportunities and challenges associated with land use change can contribute to the sustainable and balanced development of urban fabrics. Moreover, several studies have demonstrated that access to urban spaces in city parks increases the property values around these parks. Tajima (2003) also confirms the value of open urban spaces created by the Boston project on the surrounding neighborhoods (Tajima, 2003). These studies use hedonic pricing methods to assess price changes in properties in these areas. However, urban open spaces can influence not only the property values but also the character and functionality of these areas. The goal of this study is to offer solutions for the optimal utilization of available resources and to enhance quality of life in cities. This paper will comprehensively examine the challenges and opportunities related to land use change in the process of urban fabric redevelopment to gain a better understanding of this topic and to provide effective solutions for seizing these opportunities and overcoming challenges.

1. Research Background

In recent decades, various cities have sought to create large urban spaces in their city centers, such as the large space in Boston and the High Line in New York. The goal of these spaces is not only to provide open space in the city but also to regenerate the surrounding areas of these projects (Bender, 2007). On the other hand, urban environments that have been improved through the use of open spaces can lead to spatial regeneration. The definition of spatial regeneration has been discussed since the 1980s. This concept varies from its limited focus on mid-income individuals purchasing homes in poor neighborhoods for personal use to the much broader idea of "spatial production for better use," as presented by Hekorth. Generally speaking, the definition of spatial regeneration has developed from at least three perspectives. First, it has evolved from its limited roots in London and New York and now encompasses urban processes worldwide (Basiago, 1996). Furthermore, the nature of spatial regeneration and the regenerated areas has shifted from a primary emphasis on young middle-income couples renovating lower-tier neighborhoods to include various influencing factors. The initial concepts regarding spatial regeneration focused more on residents in the middle-income bracket (Shaker et al., 2014). Additionally, commercial companies have been one of the factors in spatial regeneration in studies conducted in Amsterdam and Rotterdam. Similar trends have also been observed in San Francisco and New York on the East Side. However, one factor that may not be listed but can significantly impact spatial regeneration is industrial factors. On the other side of the equation, those whose neighborhoods have been regenerated are essentially considered low-income individuals, who are, in fact, working-class families (Shaw & Hagemans,

2015). As claims of spatial regeneration suggest, commercial activities can be influenced by the displacement of high-profit companies. Also, at least since the early 1980s, industrial companies have been affected by displacement, as living in affordable housing was one of the needs of that time (Ryan-Collins, 2021). Third, although the primary agents of spatial regeneration were originally homes created based on market incentives (which are known as rent gaps), local governments, through deindustrialization and reinforcing spatial regeneration, countered the decline of urban fabrics (Taucher et al., 2020). Following a withdrawal from indirect interventions in the 1980s, governments at all levels (in the United States) have been more active in these areas, as entrepreneurial cities now strive to improve declining public funding rates by increasing property taxes. In the spatial regeneration process that took shape during the 1990s in Britain, government interventions aimed at updating neighborhoods were conscious, active, and deliberate activities, and they even became a source of pride for these governments (Zhu, 2022). Ultimately, as many authors have claimed, spatial regeneration has taken on a meaning similar to urban regeneration. If we use the broad definition provided by Hekorth, it is clear that at the center of these concepts, the two processes are essentially identical. Both seek to create a space that is attractive, beautiful, and effective for better uses. Both processes also involve the displacement of current residents (Persello, 2023). Therefore, we present a perspective aligned with Clark in 1992, illustrating the supply and demand debates regarding the causes of spatial regeneration, along with complementary and indistinguishable concepts, both of which reflect very important aspects of a phenomenon. While both urban regeneration and spatial regeneration present a phenomenon, the former focuses more on the losers, while the latter pays more attention to the winners. The name that each individual uses for this similar phenomenon arises from considering a specific aspect of interests, but Malatos believes that researchers examining urban development outside of Anglo-American contexts should not view spatial regeneration as causes of changes but should pay attention to "processes similar to regeneration" that originate in specific local institutions and economic conditions. Unlike Malatos, the authors argue that this contextualization regarding concepts of spatial regeneration allows us to compare the contextual states of urban regeneration and evaluate the role of processes similar to regeneration within them (Vuckovic et al., 2018).

2. Research Methodology

This paper employs a descriptive-analytical research method to investigate opportunities for land use change in the redevelopment of urban fabrics. The research steps are as follows:

- **Documentary and Review Study:** Initially, the existing literature is reviewed, and previous studies are examined to analyze the key concepts related to urban transformation and land use change. The sources will include scientific articles, reports from urban organizations, and documentation related to urban fabric redevelopment projects.
- **Case Study:** Several successful urban fabric redevelopment projects are selected and analyzed as case studies, aiming to identify effective models and approaches in land use change. This phase includes interviews with experts and analyses of project documents. Based on these analyses, conclusions and practical recommendations will be provided for optimizing land use change processes in urban fabric redevelopment. These recommendations will include management models and execution strategies to improve redevelopment processes.

3. Land Use Change in Urban Fabric Redevelopment

Land use change is critically important in the redevelopment of urban fabrics. These changes can help improve quality of life, increase space efficiency, and contribute to sustainable urban growth (Okumus & Terzi, 2021). Some key aspects of the importance of land use change include:

Table 1: Land Use Change in Urban Fabric Redevelopment

Space Optimization	Changing land use can lead to the most efficient use of urban spaces and facilitate their better exploitation
Economic Strengthening	Land use change can attract new investments and create job opportunities, contributing to the economic development of neighborhoods
Infrastructure Improvement	Land use change allows for the upgrading and improvement of urban infrastructure, such as transportation and public services
Environmental Quality Enhancement	Land use change can promote the creation of green spaces and improve environmental quality, which is important for the well-being of urban residents
Sustainable Development	Land use change can contribute to sustainable urban development, meeting present needs without compromising future needs

Ultimately, land use change in urban fabric redevelopment requires careful planning and consideration of the opinions and needs of the local community to effectively contribute to quality of life improvements and sustainable growth.

4. Opportunities and Challenges of Land Use Change

4.1 Economic and Social Opportunities

- Increase in Property Value

Changing land use from industrial to residential or commercial can help increase the value of properties and real estate. This can lead to greater revenue for owners and developers (Ma et al., 2018).

- Attracting Investment

The revitalization of urban fabrics and land use change can attract investors and developers. Successful projects can help draw in further investments in the future, and the redevelopment and development of urban areas can create new job opportunities in various sectors such as construction, services, and commerce (Savini & Aalbers, 2016).

- Infrastructure Development

Land use change projects can include improvements to infrastructure, such as transportation networks, water and sewage systems, and green spaces, which contribute to enhancing quality of life and economic efficiency.

4.2 Environmental and Social Opportunities

Land use change in urban fabrics can create numerous opportunities in environmental and social domains. Below are some of these opportunities (Ma et al., 2018):

- Environmental Opportunities

Changing land use from industrial to green spaces can help reduce air pollution and improve the quality of life for residents. Creating parks and gardens in urban areas can promote biodiversity and enhance environmental conditions (Bilgili & Gökyer, 2012). Additionally, land use change can involve designing stormwater management systems, reducing flooding, and preserving water resources. Moving towards green spaces and utilizing high-reflectivity materials can mitigate urban heat island effects and guide land use change toward sustainable development, which involves optimizing resource use and minimizing negative impacts on the environment.






- Social Opportunities


Land use change can contribute to the creation of social and cultural spaces that strengthen social connections and local cohesion. By changing land use, public services such as schools, health centers, and cultural institutions can be brought closer to underserved areas (Díaz et al., 2018). Moreover, land use change can generate new job opportunities in various fields, such as services, commerce, and tourism. Establishing public and cultural spaces can enhance local identity and help preserve the region's culture and history. Suitable public spaces and adequate lighting can contribute to increased feelings of safety within the community. These opportunities can help improve the quality of life in urban fabrics and create a sustainable and dynamic environment.

5. Case Study

The examination and analysis of successful examples of land use change in urban fabrics are presented in Table

Table 2: Analysis of Successful Case Studies of Land Use Change in Urban Areas

Area Name	Purpose of Land Use Change	Images
<p>Finchley Area in London, England</p>	<p>Changing industrial land to residential and commercial spaces has helped create new neighborhoods and boost the economy.</p>	 <p>Image 1: Finchley Area</p>
<p>Phoenix Neighborhood in Arizona, USA</p>	<p>Changing from industrial to residential and commercial neighborhoods with a focus on public spaces and sustainable infrastructure.</p>	 <p>Image 2: Phoenix Neighborhood</p>
<p>Lavelle Neighborhood in Barcelona, Spain</p>	<p>Transforming industrial areas into residential and commercial spaces along with improving urban infrastructure and creating public spaces.</p>	 <p>Image 3: Lavelle Neighborhood</p>
<p>Old Dutch Area in the Netherlands</p>	<p>Revitalizing old urban fabrics and converting them into modern neighborhoods by combining residential and commercial spaces.</p>	 <p>Image 4: Old Dutch Area</p>
<p>Granville Neighborhood in Vancouver, Canada</p>	<p>Describing an old area that has transformed into a vibrant cultural and commercial district. Changes include the restoration of historic buildings and converting them into commercial and cultural spaces, preserving historical identity.</p>	 <p>Image 5: Granville Neighborhood</p>

<p>The Bronx in New York, USA</p>	<p>Describing an area that has become one of the growing and developing regions. Changes involve transforming neglected industrial lands into residential complexes, parks, and commercial centers, with a focus on sustainable development.</p>	 <p>Image 6: The Bronx</p>
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6. Examining Challenges and Opportunities

Land use change in urban fabrics can create numerous opportunities in environmental and social domains. Below are some of these opportunities:

6.1 Environmental Opportunities

- Improvement of Air Quality

Changing land use from industrial to green spaces can help reduce air pollution and improve the quality of life for residents.

- Increase in Green Spaces and Water Management

Creating parks and gardens in urban areas can enhance biodiversity and improve environmental conditions. Land use change can include designing stormwater management systems that help reduce flooding and conserve water resources.

- Reduction of Urban Heat Island Effects and Sustainable Development

By shifting land use towards green spaces and utilizing high-reflectivity materials, urban heat island effects can be reduced. Land use change can also guide development towards sustainability, which includes the optimal use of resources and minimizing negative impacts on the environment.

6.2 Social Opportunities

- Strengthening Local Community and Increasing Access to Services

Land use change can contribute to the creation of social and cultural spaces that enhance social connections and local cohesion. By changing land use, public services such as schools, health centers, and cultural institutions can be brought closer to underserved areas.

- Job Creation

Land use change can generate new job opportunities in various fields, such as services, commerce, and tourism.

- Development of Local Identity

By creating public and cultural spaces, local identity can be strengthened, contributing to the preservation of the region's culture and history.

- Increased Social Safety

Public spaces and adequate lighting can help enhance feelings of safety within the community.

These opportunities can contribute to improving the quality of life in urban fabrics and creating a sustainable and dynamic environment.

7. Conclusion

Urban redevelopment and improvement of urban fabrics represent a process from the viewpoint of inseparability, differing only in how stakeholders in these programs are valued. One perspective sees success in increased profits from higher land uses, while the other views it as a threat to vulnerable and weak land uses. In this context, although the case of Seoul is contextually different from Anglo-American conditions, as the processes of fabric improvement are primarily defined in a way that the concepts of fabric improvement hold little application in analyzing socio-spatial changes, a broader definition can be used. This broader definition leverages abstract concepts from specific historical contexts, such as deindustrialization, and demonstrates a foundational effort for economic growth, which shapes the processes of redevelopment, improvement, and

changes in land use. These new definitions particularly focus on public discussions related to ethical and ideological questions, which, in a way, prioritize the utility of some users over others.

Thus, it can be stated that urban transformation and land use change in the redevelopment of urban fabrics present a suitable opportunity to improve quality of life, enhance resource efficiency, and create new spaces. By employing innovative approaches in urban planning, existing issues in old fabrics can be addressed while simultaneously fostering economic and social sustainability. Furthermore, attention to community participation and the application of successful experiences from other cities can facilitate better implementation of these changes and the realization of long-term urban development goals. Ultimately, a combination of precise planning, intelligent management, and attention to community needs can enhance urban space quality and improve living conditions in urban fabrics.

In conclusion, it can be acknowledged that urban transformation through land use change in urban fabric redevelopment can significantly contribute to the advancement and sustainable development of cities. This process addresses key challenges such as the lack of green spaces, transportation issues, and declining quality of life in deteriorated areas, through the promotion of diverse land uses and optimization of existing spaces. The opportunities arising from land use change, particularly in old and deteriorated areas, can lead to improvements in the social and economic structures of cities. These changes may include the renovation of buildings, the creation of new public spaces, and the enhancement of infrastructure, all of which help increase resident satisfaction and attract investors. However, the success of this process requires meticulous planning and coordination among various institutions, as well as attention to the needs and opinions of local residents. Active citizen participation and leveraging successful experiences from other cities can facilitate the effective implementation of these changes and the achievement of sustainable urban development goals. Overall, urban transformation and land use change are not only opportunities for the physical reconstruction of old fabrics but also pathways to creating more efficient and user-friendly urban environments that can lead to improved quality of life and enhanced urban sustainability.

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