Identifying and Analyzing Factors Influencing Urban Decline (Case Study: The Border City of Zabol)

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Abstract

Cities, as living entities, lose their cultural, social, economic, and physical vitality if urban decline persists, leading to increased risks of both natural and human-made hazards. Given the existential impacts and the role of this phenomenon in urban life degradation, instability, and threats to urban livability, addressing this issue becomes crucial. This study aims to identify and analyze the factors influencing urban decline. The research is mixed-method in nature and falls within the category of sequential-exploratory studies. Initially, qualitative data were collected, followed by quantitative data in the second phase, culminating in an integrated analysis of both. Due to the methodological integration, meta-synthesis was used in the first (qualitative) phase to develop a conceptual model of urban decline (explaining its components), while a survey method was employed in the second (quantitative) phase to explore the interrelationships among the components of decline in the border city of Zabol. Key components of the conceptual model include political factors, urban governance, environmental factors, economic factors, and socio-cultural factors. To operationalize the conceptual model and uncover causal relationships, a researcher-developed questionnaire aligned with the findings of the first phase was utilized. The statistical population consisted of managers and decision-makers in urban affairs as well as residents of Zabol. The sample size, determined using Cochran's formula with a 0.05 margin of error, was calculated to be 383 participants. The results support all identified components contributing to the phenomenon, with political issues identified as the most influential factor driving urban decline in Zabol.

Keywords: *Urban Decline, Border City, Urban Governance, Zabol.*

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1. Introduction

Urban growth is a global phenomenon in the contemporary era. With the rapid pace of urbanization and the physical expansion of cities, urban decline and decline have become some of the most extensive geographic processes, bringing various consequences to contemporary cities [1-4]. Urban decline leads to the functional and physical degradation of a city's socio-physical space, presenting significant challenges for current and future cities, such as demographic changes, population aging, urban shrinkage, informal economic growth, the inability to create jobs for all social groups, and a weak connection between economic growth and social development [5, 6].

One of the more common interpretations of urban decline emerged after World War II, focusing on issues like urban population reduction and rising unemployment due to the closure of factories in cities [7]. In this interpretation, a city experiencing decline is characterized as a place where people are less inclined to live and is considered unsuitable for significant business and industrial investments [8-10].

The experience of urban decline is not a new phenomenon. Although there are limited comparative studies and data on demographic trends, existing research indicates that one of the features of the past two decades has been the replacement of growth with decline [11]. Evidence of urban decline first gained attention in the United States in 1979. It was noted that between 1970 and 1973, metropolitan areas in the U.S. experienced slower growth compared to the country's overall growth rate, and this growth lagged significantly behind non-metropolitan areas [12].

In recent decades, specialized studies and research on the decline of central urban areas and their processes have been conducted domestically and internationally. Weaver and Bagchi-Sen (2013) examined the role of power and politics in addressing urban decline in the United States, concluding that political interventions (urban management) are essential to mitigating urban decline. Their findings suggest that spatial analysis, combined with urban geographic information, is effective in identifying areas in decline and helps urban managers and municipalities understand the situation while avoiding politicization [13].

Hosseini et al. (2017) investigated strategies for revitalizing declining neighborhoods. They identified citizen participation as the most effective strategy for preventing urban decline and reviving these areas. Their research evaluated the extent of community involvement in revitalization, revealing that the study population's participation capacities were below optimal levels in financial, intellectual, instrumental, and physical aspects, although residents exhibited a strong willingness to participate [14].

Aufseeser (2018) highlighted that many governments and authorities attribute urban decline to youth and adolescents, a claim this study refutes. While negative emotions have influenced youth and adolescents in some cases, such as during the revitalization of Lima, they have often played a positive role. The study emphasized the importance of understanding the needs of youth, street children, and adolescents for balanced and appropriate urban revitalization [15].

Soleimani et al. (2013) examined the socio-economic characteristics and changes among residents of central urban areas over the past decade. Their findings show that peripheral urban expansion and neglect of central urban areas have resulted in the displacement of native residents by impoverished social groups, leading to decline and decline in these areas. This situation aligns with theories of filtering and life cycles in analyzing the characteristics of urban central area decline, as exemplified in numerous cases [16].

Zanganeh et al. (2018) studied the spatial-physical dynamics of Rasht's central areas, concluding that avoidance of unfavorable conditions is a primary factor influencing household segregation and relocation. Moreover, their findings revealed that the political-economic structure governing Rasht, through shifts in investment cycles and prioritization of exchange value over use value in land and property, significantly affects the decline of central areas in terms of stagnation and the restructuring of activity spaces [3].

Given issues such as rapid urbanization, environmental concerns, economic crises, and more, there is a pressing need for planning that leads to livable cities free from decline and decline. Zabol, a peripheral city adjacent to Afghanistan, has consistently served as a primary destination for regional rural migrants and Afghan immigrants. Prolonged droughts in the Sistan region, the depletion of water and agricultural resources, the drying of Hamoun Lake, and the destruction of its reed beds have resulted in the unemployment and loss of livelihoods for pastoral and fishing communities along the lake's shores, particularly since 1999. This situation has led to excessive migration of rural and nomadic groups to Zabol, intensifying urban decline processes in the city. Additionally, rural-urban structures, poor sanitation, waste disposal in streets, lack of cooperation in urban

improvement, and discharge of surface water and sewage into alleys have caused numerous physical, spatial, and social challenges for urban management. Compounding these issues are the nonpayment of municipal fees, unauthorized construction by immigrants, and inadequate access to urban services and public infrastructure, accelerating urban decline in all its forms and necessitating a renewed focus on addressing and redefining urban decline in the context of border cities [17].

This study emphasizes the structure of urban decline, focusing on its causes, characteristics, and consequences. Despite the importance of the issue, comprehensive research on the nature of urban decline in border cities and its unique causes has yet to be conducted in academic investigations. Therefore, identifying the components of the conceptual model of urban decline and determining the impact of these components on the phenomenon are crucial objectives of this research.

The research questions are as follows:

- What are the key components of the conceptual model of urban decline in the border city of Zabol?
- How do these components lead to urban decline in Zabol?
- Which component is the most influential in creating urban decline in the border city of Zabol?

2. Methodology

This study adopts a mixed-methods approach. It is categorized as a sequential-exploratory study, as qualitative data are initially collected and analyzed, followed by the collection and analysis of quantitative data, with the final phase integrating both.

In accordance with the process of combining methods, the following sequential methods were employed:

- **Phase 1 (Qualitative)**: Meta-synthesis was used to develop a conceptual model of urban decline (explaining its components).
- **Phase 2 (Quantitative)**: A survey method was used to identify the interrelationships among urban decline components in the border city of Zabol.

Data collection in the qualitative phase involved a review of documents, perspectives, definitions, and analyses of previous research findings. In the quantitative phase, aimed at operationalizing the secondary conceptual model derived from the meta-synthesis, the study population included managers and decision-makers in urban affairs as well as residents of Zabol. Given the constraints of time, resources, and feasibility, a sampling method was applied to identify the study population. Cochran's formula was used to estimate the sample size with a 0.05 margin of error, yielding a sample size of 383 participants.

To ensure that the selected sample represented the population scientifically and maintained consistency in characteristics, spatial stratified random sampling was employed. This method followed a hierarchical organizational model based on the national administrative divisions.

3. Findings

Data analysis is a multi-stage process in which the data collected from the sample population are summarized, coded, categorized, and processed to enable various analyses and establish relationships among the data to test the hypotheses.

Initially, descriptive statistics derived from the questionnaire are presented, examining demographic variables such as gender and educational level for each indicator. Subsequently, regression analysis is used to assess the impact of each component on the emergence of urban decline.

What are the key components of the conceptual model of urban decline?

To address the first research question, the study began by reviewing the literature on the phenomenon of urban decline through a document-based process. The review primarily utilized document analysis, databases, and theses. Since the first phase of the study adopts a qualitative approach, meta-synthesis (meta-analysis) and conceptualization methods were used to develop an initial conceptual model of urban decline.

Conceptualization is a process in which the researcher refines the construct under investigation by providing conceptual and theoretical definitions. A conceptual definition is abstract and theoretical, referring to and citing other ideas and constructs. In qualitative research, the researcher shapes and refines new concepts emerging from the data. Through conceptualization and text analysis, the components of "urban governance," "culture and society," "political issues," "economic issues," and "environmental factors" were identified as the fundamental elements of urban decline. These were further explained and an operational model was presented in the second phase.

In the operational model, the components were divided into five categories, with the associated variables identified as follows:

- **Category 1: Political Factors**
  - Political issues related to neighboring countries
  - Lack of security
- **Category 2: Urban Governance**
  - Administrative bureaucracy
  - Government neglect of the private sector
  - Lack of private sector investment
- **Category 3: Environmental Factors**
  - Water scarcity
  - Presence of dust storms
  - Weaknesses and deficiencies in waste collection
  - Lack of surface water drainage systems
  - Widespread visual and environmental pollution
- **Category 4: Economic Factors**
  - Lack of suitable infrastructure and welfare in the region
  - Failure to strengthen the historical core (markets)
- **Category 5: Socio-Cultural Factors**
  - Raising citizen awareness
  - Low social capital
  - Migration of native and original residents
  - Replacement of new social groups lacking a sense of belonging to the region
  - Weakness in participation

Multivariate regression, a comprehensive method for analyzing many behavioral research data, is employed. Other analytical methods can be considered specific cases of multivariate regression. Notably, variance analysis (ANOVA) can be conceptualized and performed through regression analysis. Multivariate regression is recognized as a robust and refined extension of variance analysis. In summary, multivariate regression is a strong hypothesis-testing and inferential method that allows researchers to study complex internal relationships between independent variables and a dependent variable with relative precision.

Table 1. Impact of Components on Urban Decline

Component	Variable	Beta Coefficient (Priority Number)	B Coefficient (Equation Impact)
Urban Governance	Lack of attention to the private sector	0.306	0.247
	Administrative bureaucracy	0.302	0.211
	Lack of private sector investment	0.149	0.147
Environmental Issues	Water scarcity	0.504	0.839
	Presence of dust storms	0.164	0.239
	Deficiencies in waste collection	0.149	0.231
	Lack of surface water drainage systems	0.126	0.222
	Widespread visual and environmental pollution	0.101	0.123
Culture/Society	Weak participation	0.220	0.373
	Low social capital	0.215	0.317
	Migration of native residents	0.181	0.164
	Decline in citizen awareness	0.152	0.143
	Replacement of new social groups	0.131	0.121
	Lack of regional belonging	0.082	0.105
Political Issues	Political issues with neighboring countries	0.652	0.554
	Lack of security	0.196	0.145
Economic Issues	Lack of suitable infrastructure	0.289	0.312
	Weakness in historical core reinforcement	0.247	0.296

Urban decline = 1.215 + 0.147(Lack of private sector investment) + 0.211(Administrative bureaucracy) + 0.247(Lack of attention to the private sector).

Urban decline = 2.672 + 0.222(Lack of surface water drainage systems) + 0.239(Presence of dust storms) + 0.839(Water scarcity) + 0.231(Deficiencies in waste collection) + 0.123(Widespread visual and environmental pollution).

Urban decline = 2.748 + 0.317(Low social capital) + 0.373(Weak participation) + 0.164(Migration of native residents) + 0.105(Lack of regional belonging) + 0.143(Decline in citizen awareness) + 0.121(Replacement of new social groups).

Urban decline = 1.151 + 0.554(Political issues with neighboring countries) + 0.145(Lack of security).

Urban decline = 0.186 + 0.296(Weakness in historical core reinforcement) + 0.312(Lack of suitable infrastructure).

Using multivariate regression, the relationships between political, economic, urban governance, cultural/social, and environmental factors and urban decline were examined (Table 1).

Table 2. Ranking of Component Impact on Urban Decline

Variable	Beta Coefficient	Rank
Political Issues	0.330	1
Urban Governance	0.307	2
Economic Issues	0.255	3
Environmental Factors	0.149	4
Cultural/Social Factors	0.075	5

Urban decline = 1.29 + 0.171(Economic Issues) + 0.179(Urban Governance) + 0.192(Political Issues) + 0.038(Cultural Factors) + 0.113(Environmental Factors).

The regression equation indicates that for each unit increase in urban governance, the urban decline phenomenon increases by 17.1%. Similarly, a one-unit increase in political issues corresponds to a 19.2% rise in urban decline, while a one-unit increase in cultural factors contributes 3.8%, and environmental factors contribute 11.3% to urban decline (Table 2).

How do the components contribute to urban decline in Zabol?

To investigate the relationships and extent to which the identified components contribute to the emergence of urban decline, multivariate regression analysis was employed. The regression results generated equations indicating the influence of variables. Urban decline was considered the dependent variable, while the identified components—urban governance, culture/society, environmental factors, political issues, and economic issues—were treated as independent variables.

The correlations and impacts of each component were first assessed. According to the findings, government neglect of the private sector, administrative bureaucracy, and lack of private sector investment had respective impacts of 24.7%, 21.1%, and 14.7% on the emergence of urban decline.

After examining the relationships of variables contributing to urban decline, the key components were analyzed collectively. The findings indicate that political issues, urban governance, economic issues, environmental factors, and socio-cultural factors account for 19.2%, 17.9%, 17.1%, 11.3%, and 3.8% of the phenomenon, respectively.

What is the most influential component in creating urban decline in the border city of Zabol?

In the second phase of quantitative analysis, multivariate regression and beta coefficients were used to examine and confirm the causal relationships in the conceptual model of urban decline in the border city and to prioritize the components. The results confirmed the correlations and significant relationships among the sub-criteria.

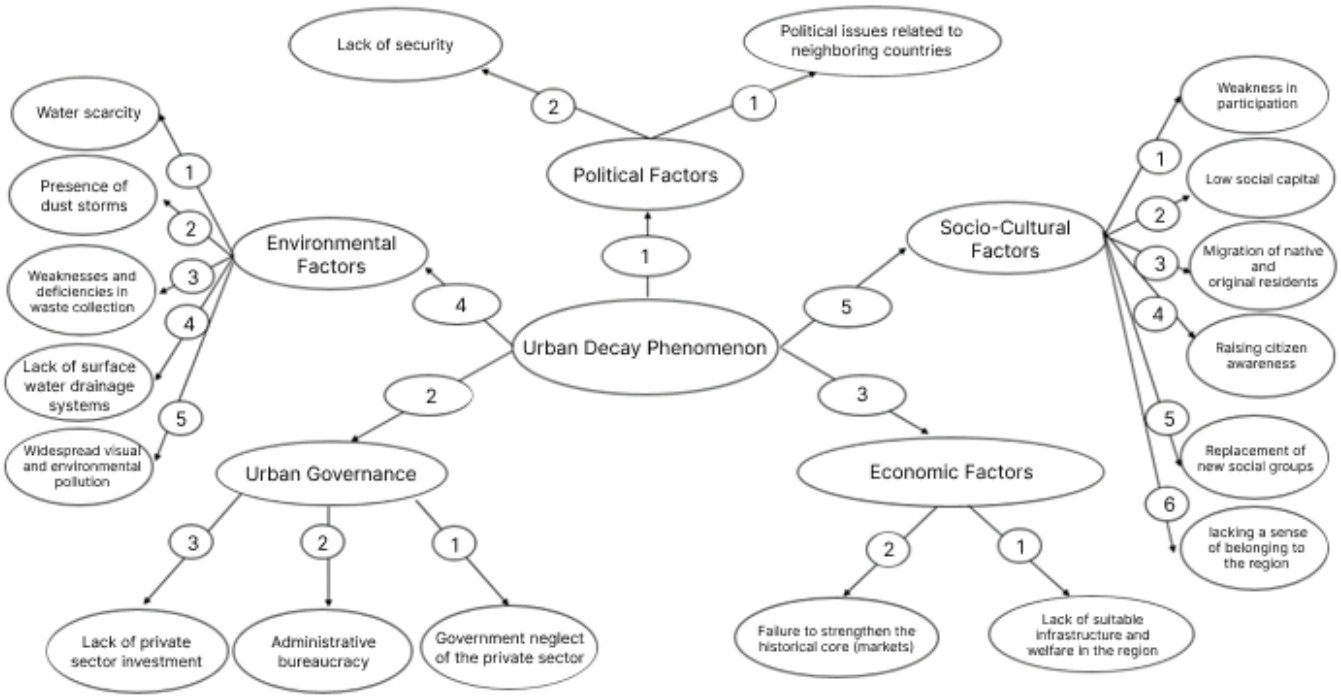

Figure 1. Ranking of Components

4. Discussion and Conclusion

A comparative review of border areas, especially the border city of Zabol, with the central regions of the country reveals several significant factors, including the geographical isolation of border regions, their distance from industrial-economic hubs, and underdevelopment in various social, economic, political, and cultural dimensions. These regions, due to their exposure to diverse external environments, possess unique characteristics. Vulnerability and various threats in these areas underscore the importance of border regions in planning, development, and territorial organization processes. Neglecting these regions can lead to significant challenges, including demographic instability in border cities.

Since border regions are far from central areas and face persistent threats of marginalization and deprivation, attention to the development and security of these regions, alongside efforts to improve the welfare and economic income of border residents through legitimate economic activities supported by government investment, can positively impact the security functions of borders. Moreover, increased legitimate economic activities and government investment in border regions, contingent on reducing stark economic disparities, can be beneficial. Government support for investments in small-scale and value-added industries in border areas, activating tourism potential, and establishing border markets and trade fairs can enhance legal border interactions and improve border functionality.

On the other hand, social customs among residents play a significant role in resolving issues across various aspects of life and are highly effective in addressing problems. Considering social interactions, educating residents, familiarizing them with urban culture and citizenship, and utilizing the social potential of influential individuals by organizing their roles within non-governmental organizations can act as mediators. These efforts can facilitate relationships between service institutions representing governance and the people, contributing to problem resolution and empowering residents.

Respecting residents' mental values and acknowledging their past, measures such as forming local management units for localized action (a bottom-up approach) are crucial for preventing urban decline. Urban planners and designers, by recognizing traditional-local institutions, have strengthened collective wisdom among residents, incorporating human dignity into planning. Simultaneously, design considerations for optimal use of natural potential (design-context harmony) and principled design tailored to local conditions have been positively evaluated for fostering a sense of

legibility and attachment to the area. Urban managers and planners must give due attention to these aspects in their physical planning efforts.

This study aimed to develop a framework for policy-making on urban decline. Accordingly, its recommendations and suggestions are as follows:

1. Conduct further studies and research on urban decline and establish principles and indicators for addressing it. These principles and indicators must align with the local and regional conditions of each area.
2. Enhance urban decline studies: As shown in the research background, studies on this topic have been conducted in recent years in various cities and regions. While these studies are still in the initial stages of gaining prominence in urban planning discussions within the country, it is essential to advance and transform these studies from merely identifying the current situation to understanding the factors and processes that create and influence urban decline. Focusing on these factors will significantly contribute to eliminating negative elements and enhancing positive impactful processes.
3. Organize annual and monthly conferences focused on urban decline in targeted areas to promote public awareness.
4. Collaborate with academic institutions to create platforms for cooperation, enabling the exploration of capacities and factors influencing urban decline in target areas.
5. Leverage the latest global methodologies in urban development to improve infrastructure.
6. Mandate all governmental agencies and institutions to incorporate urban decline approaches into their plans for target areas. This includes applying its principles and components in urban development contracts as part of localized and thematic plans.

Authors' Contributions

Authors equally contributed to this article.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

All procedures performed in this study were under the ethical standards.

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