P-ISSN: 1996-983X
E-ISSN: 2960-1908

مجلة المخطط والتنمية

Journal of planner and development

Vol 30 Issue 1 2025/4/7

Urban Strategic Planning issues in light of rapid growth and Fast Urbanization in Lebanon

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Abstract

Governance in emerging cities struggles in meeting people's expectations and requirements. Most international reports highlight the problem of service provision, guarantee and long-term sustainability. As cities and towns grow swiftly and irrevocably, they encounter resource and capacity constraints in managing the urbanization process. The experiences and strategic urban development plans in Lebanon have failed to meet the needs of people in the short and long term, which has prevented it from keeping pace with international developments and strategic planning approaches that are in line with the aspirations of any country .

It has become necessary to identify obstacles to strategic planning that prevent significant progress in key areas. In addition to focusing on how to improve performance in order to get the desired results. This paper will discuss these complexities that contribute to the development of a comprehensive and participatory plan that effectively contributes to the management of urban growth and population expansion and securing the requirements of a decent sustainable living.

Keywords: Governance – Urban Sprawl – Urbanization – Infrastructure – Urban Strategic planning

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Journal of planner and development

P-ISSN: 1996-983X

E-ISSN: 2960-1908

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مشاكل التخطيط الاستراتيجي الحضري في ظل النمو السريع والتوسع الحضري المتسارع في لبنان

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مستخلص

تكافح الحوكمة في المدن الناشئة في تلبية توقعات الناس ومتطلباتهم. تسلط معظم التقارير الدولية الضوء على مشكلة تقديم الخدمات وضمانها و استمراريتها على المدى البعيد. مع توسع المدن والبلدات بسرعة وبشكل لا رجعة فيه ، فإنها تواجه قيودا على الموارد والقدرات في إدارة عملية التحضُّر. لقد فشلت تجارب وخطط التنمية الحضرية الاستراتيجية في لبنان في تلبية احتياجات الناس على المدى القصير والطويل، مما منعها من مواكبة التطورات الدولية ومناهج التخطيط الاستراتيجي التي تتماشى مع تطلعات أي دولة.

وحيث أصبح من الضروري تحديد عقبات التخطيط الاستراتيجي التي تحول دون إحراز تقدم كبير في المجالات الرئيسية. بالإضافة إلى التركيز على كيفية تحسين الأداء من أجل الحصول على النتائج المرجوة. ستناقش هذه الورقة في هذه التعقيدات حيث تساهم في تطوير خطة شاملة و تشاركية تساهم بشكل فعال في إدارة النمو الحضري و التمدد السكاني و تأمين مستلزمات العيش الكريم المستدام .

الكلمات المفتاحية : الحوكمة – التمدد السكاني – التحضر – البنى التحتية – التخطيط الحضري الإستراتيجي.

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E-ISSN: 2960-1908

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1. Introduction

Governance in developing cities are struggling to achieve people's aspirations and needs. Most of international reports such as "World Economic Forum" (Schwab; 2017) shows the dilemma in providing and ensuring services. These reports discuss the indicators and criteria of competitiveness of countries through the assessment and monitoring of their performance .

As cities and towns expand swiftly and permanently, they encounter resource and capacity restrictions in managing the urbanization process. Strategic planning is a management strategy that helps a company identify its direction and how it will get there. Urban strategic planning establishes the path of growth for a city or urban region based on its present profile and SWOT analysis. (UN Habitat; 2007) in addition to other tools .

The experiences and plans of strategic urban development in Lebanon have failed to address the needs of people on the short and long terms, so that they have not been able to keep pace with international developments and approaches to strategic planning that are in the level of aspirations desired by any nation .

It is clear that Lebanon is facing serious and critical issues concerning the life quality of its residents, which was, unfold through lack of services, poor infrastructure, corruption, inefficient government bureaucracy, poor work ethics, and poor public health insurance. The performance indicator of successive governments since the "Taef" agreement in 1989 was not competitive (UN Habitat; 2013 .(After 32 years of cease-fire, Lebanon does not ensure the minimum services and needs of a decent living for its residents. This can be

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E-ISSN: 2960-1908

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referred to many reasons, such as political rivalry, lack of government integrity, corruption, and many other reasons, but it is obvious that Lebanon is going into debate concerning the strategic planning policies. From here, we can describe the tragic situation of the different main sectors and we can observe the extent of the apparent failure to create an integrated strategic plan that deals with these challenges in order to improve its conditions (Awada; 2011).

From this point of view, it was necessary to identify obstacles at the level of strategic planning, which prevented any remarkable achievement at the level of the main sectors. In addition to that, it is necessary to light on the right performance to be able to reach the desired results. However, this article will examine these intricacies; emphasize the necessity of an all-encompassing and cooperative strategy for urban development.

1. 1The importance of Strategic Urban Planning

Strategic urban planning is essential for assisting cities in adapting to rapidly changing circumstances, managing change, and enhancing public welfare. The procedure is dynamic and has to adapt to the evolving circumstances inside the city. Before reaching the final set of conclusions, the process inevitably goes back and forth several times (UN Habitat; 2013). Urban strategic planning provides answers to issues like :

What locations require certain types of growth?

- How can the current economic basis be protected and expanded?
- How can life quality be enhanced and maintained?

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The process of spatial planning and the many levels of spatial plans that are suggested are not substituted by urban strategic planning. Through a process of consultation, all stakeholders identify the strategic priorities that will influence development. These priorities are then prioritized via the strategic planning process.

The intricate and never-ending process of urban transformation is reflected in urban strategic planning (Wolfram; 2016). When effectively and sequentially integrated, the following characteristics identify an effective and broad strategic planning process (Ibid)

•It looks toward the future, trying to predict how things could change in five or 10 years. Its goal is to determine how the city should evolve in light of this anticipated future.

•It is adaptable and focused on the big picture. It aligns the city with its surroundings, establishes a framework and direction to give the city with the intended future, and sets a context for reaching goals.

•Through data analysis of the city, its potential, and its internal and external environments, it creates a framework for competitive advantage. This enables cities to react to changing opportunities, problems, trends, and events while maintaining the framework of their vision and purpose, which were established throughout the strategic planning process.

•It is an idea-driven, qualitative procedure. In order to provide the city a clear vision and purpose, it incorporates "soft" data—experiences, instincts, and ideas—that are not necessarily backed up by numbers. It also involves stakeholders in the continuing interactions.

•Because it is a dynamic, ongoing process of self-analysis, it helps a city pay close attention.

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Urban strategic planning has the capacity to tackle both specific concerns and a wide range of issues. This approach emphasizes collaboration among organizations, as well as at the local and regional levels. By doing so, it has the ability to mobilize resources and effectively coordinate activities on a large scale. (CUI; 2001:)

•Urban strategic planning primarily involves a fluid and evolving process;

•Citizen involvement plays a crucial role in the urban strategic planning process to ensure its efficacy;

•The key to achieving success in urban strategic planning lies in the effective implementation of the plans.

Urban Strategic Planning diverges from traditional urban planning methods like master plans or comprehensive development plans in several aspects. It is characterized by its dynamic nature, inclusivity, and focus on implementation (Ibid).

1.2 Data analysis

New ways in which are getting accessible for analyzing our social systems. These allow the planning of revised policies to boost the behavior of the systems at the intervals that we have a tendency to live. Several of the ideas mentioned here are treated more fully in (Forrester, 1969); which shows the city as an interacting system of industry, housing, and people .

In his work, Newman (2006) provides a valuable overview of the distinctions and similarities between qualitative and quantitative approaches to

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E-ISSN: 2960-1908

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data analysis. Newman (2006) asserts that qualitative and quantitative evaluations share four commonalities. Each kind involves:

•Inference - Using logic to extend a largely proof-based conclusion;

•A public approach or methodology - disclosing their research design in some manner;

•Comparison is a fundamental approach that involves the identification of similarities and differences among patterns or factors.; and

•Driven by the desire to evade mistakes, inaccurate deductions, and deceptive inferences.

The key evaluation questions must be decided before decisions are made, gathered and analyzed. In order to keep control over programme or policy, it is inevitable to appoint an influence evaluation that is responsible of changes at the levels of the continuation, termination, replication, or scaling up the programme of policy .

Once the objective of the assessment become clear, evaluation questions at high level should be agreed, preferably with input of stakeholders, sometimes the key evaluation questions will have already been prescribed by an evaluation system or a previously developed evaluation framework (Peersman;2014 .(

In each project, the value of the data is reflected in the solution. It is evident that Lebanon's government employs the data-hide approach, until the law no. 28/2017 and 233/2021 were issued by the Lebanese parliament, which has an impact on the state's performance across several sectors. A hurdle to bottom-up

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partnerships is the absence of public legislation requiring open access to information, which leaves the public without data. For urban strategic planning to be successful, both public and private initiatives are required. This problem is only one of several that are impeding the advancement and expansion of governmental services .

2. Urban Policies (Best Practice)

The increase in population concentration and growth in low and middle-income countries is becoming more pronounced in the 21st century, offering both opportunities and posing significant challenges (UN Habitat; 2014). The rapid urbanization on a large scale has the potential to yield considerable advantages for economic advancement, societal development, and efficient utilization of natural resources.

Nevertheless, the rapid expansion of cities accompanied by densely populated areas can potentially subject nations to increased vulnerabilities in terms of social upheaval and environmental deterioration. Regardless of the scenario, it is undeniable that the trajectory and nature of urban development in the coming decades will significantly affect the welfare and life prospects of billions of people (Collier, P. et. al ; 2014.(

It will also have an impact on the movement of people across borders and global stability, while also influencing the ability of the world's ecosystems to withstand the challenges posed by climate change and the growing scarcity of resources (Ibid).

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The challenges and opportunities presented in urban areas are highly dependent on the specific context, thus requiring tailored responses. The pace of urbanization, the driving forces behind it, the level of resources available for investment in urban development, and the strength of institutional capacities all play crucial roles in shaping the urban landscape

A uniform National Urban policy model with consistent results and a one-size-fits-all strategy that can be duplicated across various locations does not exist. However, there exist crucial guidelines that can be adhered to.

The high-level lessons emerging are as follows (UN Habitat; 2014:(

1. Governments should prioritize their awareness of the challenges and advantages brought about by rapid urban expansion. These issues cannot be effectively dealt with through isolated policy-making. It is crucial to garner active support from various levels of government in order to establish a synchronized approach to urban planning and management. The notion that well-operating urban areas can unlock a nation's development potential holds more weight than the argument that urban policies solely aim to alleviate poverty and fulfill basic needs.

2. The process of implementation necessitates a continuous technical endeavor to establish the necessary legal frameworks, competent institutions, and financial mechanisms for the creation of more efficient, habitable, and adaptable urban areas. Collaboration with local communities, private investors, and other stakeholders is essential for the public sector to

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enhance its capacities in this regard. It is imperative to recognize that the construction of successful cities cannot solely rely on governmental efforts.

3. Successful implementation necessitates the close cooperation of various levels of government, coupled with the decentralization of relevant duties and resources to empower municipal bodies to address local circumstances and accomplish tasks, bolstered by assistance from the central government and in partnership with other interested parties. The engagement of urban centers is vital in attaining numerous overarching policy objectives

4. It is imperative to oversee the peripheral expansion of cities to encourage more compact and inclusive urban development, which would result in shorter commutes and less harm to neighboring agricultural land, freshwater sources, and other ecosystems (Ibid).

5. Urban consolidation calls for proactive endeavors to boost the quantity and quality of land and property development within urban cores and transport corridors. This approach involves the intensified utilization of strategically located vacant land and the enhancement of urban infrastructure. Moreover, it is often linked with the promotion of mixed-use development and the reduction of land-use segregation.

6. Urbanization can be better managed by proactively preparing the land and infrastructure in advance, rather than dealing with the social disruptions and financial burdens associated with repairing, redeveloping, or relocating informal settlements after they have already been established. It is more

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efficient and economical to anticipate the needs of urban growth and make necessary provisions beforehand. Additionally, it is advisable to formally acknowledge and enhance existing informal settlements whenever feasible, as this approach promotes inclusivity and recognizes the contributions of these communities.

7. In order to effectively tackle urban issues, it is imperative to adopt a broader perspective that encompasses metropolitan regions within urban policy. This approach should emphasize the importance of establishing stronger connections between cities, towns, and rural areas. By leveraging the distinctive strengths of these areas and fostering mutually beneficial interactions, national prosperity and inclusive growth can be fostered (Ibid) .

3. Defining the problem

Lebanon, a country rich in culture and history, is facing a serious problem in its metropolitan areas. However, approximately 90% of the population lives in highly urbanized areas, Lebanese cities face a maze-like variety of strategic planning challenges. This article examines these intricacies, emphasizing the necessity of an all-encompassing and cooperative strategy for urban development.

The legacy of uncontrolled sprawl is among the most urgent issues. Instead of a vision for sustainable development, urban expansion is now determined by infrastructural routes due to the lack of strong planning frameworks. The development of coherent communities with a strong sense of place is hampered by this disjointed approach. As a result, resources are allocated inefficiently, and vital

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services like green areas and public transit are unable to keep up with population increase.

Urban planning is further hampered by the political and economic unrest in Lebanon. A major concern is the prolonged Syrian refugee crisis, which has resulted in over 1.5 million refugees burdening already overburdened municipal services. When political tensions and societal discontent are combined with a feeble legislative framework, efficient planning is rendered ineffective. The absence of a well-defined and steady legislative framework deters long-term infrastructure investment and public-private partnerships, which have the potential to be crucial in reviving metropolitan regions.

It is primarily the responsibility of towns, who are sometimes underprepared, to handle these issues. A fragmented approach results from the absence of a central framework, making it difficult for municipalities to meet the needs of an expanding urban population. Overburdened with providing services, municipalities struggle to handle essential issues such as trash management, public space creation, and infrastructure development because they lack the necessary financial and human resources. This lowers the general standard of living in Lebanese cities in addition to impeding economic output.

The lack of a strong public transit system is another important factor. Chronic traffic congestion and air pollution are caused by the reliance on private automobiles, which is driven by the absence of well-organized public alternatives. This affects not just the environment and the general health of the populace, but also economic output. On the other hand, a well-designed public transportation

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system may provide an answer, encouraging social inclusion and economic development by linking locals to employment, education, and other necessities. How therefore can Lebanon make its way through this complex maze of urban planning problems?

4. Key Urban Issues :

Lebanon has witnessed a rapid and uncontrolled increase in urbanization and sprawl. Due to the lack of effective planning policies, city areas are expanding into larger territories, leading to a rise in urban disparities. The majority of new constructions are concentrated in the coastal zone, where a significant portion of the Lebanese population resides, contributing to the unregulated urban expansion (UN Habitat; 2016). Unfortunately, these new developments have not been accompanied by improvements in infrastructure.

Despite the presence of prosperous high-end districts in cities, notably in the capital Beirut, the urban disparity and inequality have deepened over time. Beirut had 24 slums or impoverished neighborhoods even before the recent crisis, housing 20% of the population (Fawaz et al., 2003). UN-Habitat reported that around half of Lebanon's urban population lived in 'slums' in 2001 (UN-Habitat, 2010).

To some extent, the planning systems are capable of taking into account strategies to lessen the urban gap. The capacity of the growing urban population to be absorbed is hampered by the absence of cross-sectoral master plans and local planning. Over the course of the civil war, the deficiency of the service systems

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has grown, and they have not been properly corrected since. A disjointed system of planning and service delivery makes this worse.

Consequently, even though 66% of the population has access to sewerage networks, only 8% of wastewater is treated, and half of the water is wasted within the networks. Additionally, the country experiences a mere 6-8 hours of average daily power supply. Lebanon, with the second-highest person-to-car ratio globally, suffers from insufficient services, poor urban planning, and an overreliance on private transportation, all of which negatively impact the environment and the overall health of urban residents. The political situation in Syria and the sharp increase in population have made this worse.

Lebanon is currently facing a significant knowledge gap in the field of urban planning, particularly when it comes to addressing the issue of traffic congestion in its major cities, particularly those along the coast. According to Jichi M. et al (2019), approximately 88% of the country's total population resides in these coastal cities. The Council for Development and Reconstruction has estimated that around 500 thousand cars enter Beirut alone on a daily basis, and this number is expected to rise. It is worth noting that Lebanon currently has 1.8 million cars, with an annual increase of 40 thousand cars, as reported by International Information (2018). In light of these challenges, it is crucial to explore alternative approaches to tackling congestion. Drawing upon the experiences of developed countries could provide valuable insights for Lebanon. However, it is essential to consider the potential social, economic, and environmental impacts of such plans in the long term .

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Additionally, it is important to assess the benefits, requirements, risks, opportunities, strengths, and weaknesses associated with these strategies. Any effective plan must prioritize economic flexibility and sustainability, as the expansion of cities has resulted in non-scientific practices and an unstructured approach to planning.

The inability of local authorities such as municipalities to be along with the innovation strategies that have been adopted elsewhere in the world due to the lack of funds in the first place, in addition to the beaurocracy and limited development influence and power and insure concessions and BOT contracts which is politically not allowed.

1 .4 The lack of vision

There is no doubt that budgets have always been without a clear vision. Back in the nineties of the last century, and to date, no rescue plan has emerged to address the real crises that the country is still suffering from. Sustainable growth that promotes the health sector and long-term economic development, including investments in infrastructure, education and innovation, has not been worked on .

The needs of the people should come first in the budget. This includes setting aside funds for necessities such as environmental preservation, social security, and healthcare. Excessive debt should be avoided and the budget should be balanced. This protects against future financial difficulties and guarantees long-term financial security .

The budgeting procedure need to be transparent and accessible. The public should be aware of how their taxes are being used, and the government should be

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held responsible for the decisions it makes on expenditure. The goal of the budget should be to allocate funds equally to all societal group. This lessens inequality and advances social fairness.

4.2 Infrastructure provision

The Lebanese government's reconstruction agenda in the 1990s placed a strong emphasis on restoring infrastructure. This initiative aimed to not only improve the living conditions of the population but also stimulate economic growth, recognizing the crucial role of functional infrastructure in achieving these objectives. To support this endeavor, the government received substantial financial aid from various international organizations.

Research conducted by the Council for Development and Reconstruction (CDR) between 1992 and 2010 highlighted the significance placed on transportation, power, waste management, drinking water, and sewage systems by the state. The findings, as illustrated in Table 1, revealed a substantial investment in these sectors; however, the inefficiencies and disorderliness in their operations were glaring. This discrepancy between the considerable financial resources allocated to these services and their suboptimal performance raises critical questions about the effectiveness of expenditure and the quality of management, thereby casting doubt on the governance practices at the national and urban levels.

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Table 1. Public Investment in Lebanon, 1992 2010.

Sectors	Total Investment ($ millions)	Foreign Funding ($ millions)	Foreign Funding as Percentage of Total	Sectoral Share of Total Investment (%)
Physical Infrastructure				
Electricity	1455.17	1266.89	87	14
Telecommunications and Post	798.49	33.26	4	8
Transport	2625	995	38	25
Social Infrastructure				
Education	1077	499	46	10
Public Health	310.23	214.36	69	3
Environment & Urbanism	83.15	58.69	71	1
Social & Economic Affairs	104.52	41.81	40	1
Essential Services				
Water Supply	815.12	590.51	72	8
Sewage Treatment	650.16	382.22	59	6
Solid Waste	1558.45	33.58	2	15
Productive and Other Sectors				
Agriculture & Irrigation	114.68	87.03	76	1
Sovereign Services	161.45	10.49	6	2
Other Sectors	594.3	213.67	36	6
Overall Total	**10348**	**4427**	**43**	**100**

Source: Council for Development and Reconstruction, Progress Report 2011, http://www.cdr.gov.lb/eng/progress_reports/pr102011/index.asp.

The partial elucidation of the issue lies in the funding sources allocated for reconstruction efforts and the distinct political and financial prerequisites mandated by the financing entities. In the initial years of the 1990s, the Lebanese government had minimal debt and favorable opportunities for borrowing at low

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costs. Governments of 90's garnered political support from Arab nations, contributing to the financial landscape. Additionally, an international consensus was reached to assist Lebanon and present Arab states with advantageous economic possibilities (Nahas, 2006).

Arab donors have made substantial investments, particularly in the electrical industry. However, by the late 1990s, the country found itself struggling with an escalating debt that proved to be unmanageable in an economic climate that was not as robust as anticipated. During the administrations (1998-2000) and (2000-2004), the reliance shifted towards multilateral and European financing sources. These new financiers extended loans with the condition of implementing structural changes, especially in the public water and energy sectors (Ibid).

4.3 Drinking Water and Sewage

The inadequate drinking water supply in Beirut, a nation with some of the most rich water resources in the Middle East, is an example of how public sector dysfunction continues to exist even after two decades of reconstruction. The quality of drinking water in Beirut is very bad, despite the fact that some refer to the tall mountains around the city as the Eastern Mediterranean water tower (Verdeil; 2018 .)

Through a mix of commercial reduction and geographical reconfiguration, the industry has seen major institutional transformation. The government's first strategy was inspired by neoliberalism and aimed to incorporate the private sector. However, it eventually adopted a more moderate approach. The nation's water

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industry has challenges in managing its resources due to political and sectarian conflicts, as well as uneven regional growth.

Table 2. Percentage of Households Connected to and Using Selected Service Networks in Beirut and Environs in 2007

	Beirut	Southern Suburbs	Mount Lebanon	All of Lebanon
Connection to the public drinking water system	87	66	82.9	77.4
Consumption of drinking water mains	39.9	1.3	48.3	45.9
Use of a well	62.5	43.1	9.5	18.2
Purchase fromwater tankers	21.6	53	86.8	55.8
Connection to the public electricity grid	100	97.3	94.5	97.8
Use of a private network (shared generator)	56.3	34.9	77.7	61.5
Connection to thesewage system	99.6	96.8	64.2	65.7

Source: Republic of Lebanon, Central Administration of Statistics, Ministry of Social Affairs, Households Survey, 2007.

The water provision in Beirut is notably inadequate, in terms of both quantity and quality, as demonstrated by the household survey carried out by The Central Administration of Statistics (2007) in Table 2 and the World Bank's 2008 Social Impact Analysis (SIA).

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The percentage of households connected to water mains ranges, depending on the source, between 87 and 96 %, compared to around 80 % for Mount Lebanon, although the percentage is lower in Beirut's southern suburbs. Several factors explain this disparity within Beirut's metropolitan area. In the informal neighborhoods that form a significant proportion of Beirut's southern suburbs, residents must possess a building permit or complete a regularization process in order to connect their households to the public network.

Although relevant data is lacking, it is evident that these restrictions keep many homes off the public network, forcing their occupants to find alternative ways to get their supplies (Verdeil; 2018). A second factor that appears to be responsible for the low number of connected houses in Beirut proper is willful non-connection. Ten percent of households nationally, according to the World Bank's SIA study, decide not to utilize the public network. This decision was attributed by the poll to a mistrust of the public system and a preference for alternative sources.

When supplies cannot keep up with demand, residents must look for alternate sources, such as direct pumping from reservoirs, tanker deliveries, and private wells, especially during the summer .

In Beirut and several of its suburbs, the growth of high-rise buildings is aggravating issues with water pressure and encouraging the construction of private, independent water access systems, which are frequently illegal wells.

The majority of households believe that the quality of the water main is unsatisfactory. Just 1.3% of Southern Suburbanites consume water from the

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mains, according to the 2007 ACS poll; however, this number may be a reflection of the study's circumstances, as it was carried out in the months after the 2006 conflict. Higher percentages are seen in the SIA survey (World Bank; 2009): 62% of Beirut and 56% of Mount Lebanon inhabitants said they drank water from the mains. The others purchase spring, tanker, or bottled water for cooking and drinking. Consequently, the amount of money households spend on water amounts to 3 to 5 % of their total expenses. Half to two thirds of this sum is spent by locals on alternate water sources.

In terms of business, the water management corporation for Mount Lebanon and Beirut could be doing worse. Unlike businesses servicing other regions, its earnings cover operations and maintenance, and over 80% of its invoices are paid (World Bank; 2010). However, the system is far from ideal for a number of reasons. First off, people' demands are not being met by the company's production and distribution of water, especially during the summer. Second, according to some estimates, network losses range from 30 to 40 %. The amount paid differs depending on the district. Between 5 and 20 % of connections are made illegally, meaning they are not approved by the water utility. The distribution and billing system's requirement for lump-sum payment for an expected volume—typically one cubic meter per day—is another problem.

4.4 Electricity: The fundamental dilemma

The biggest blow to post-civil war rehabilitation has been the shortage of energy. Neoliberal aspirations were restrained during the electrical crisis, and political clientelism and sectarianism have always been explicitly represented in

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disputes. I outline the crisis's manifestation in brief before delving into the reform process's intricacies (Verdeil; 2018.(Table 2 indicates that the issue with the electrical crisis is not one of grid access, even though certain unofficial communities are still disconnected or have temporary connections (Ibid). It is primarily a shortage crisis. The situation unfolded over two stages. During the first era, which lasted from 1991 to 2006, the nation was recovering. The supply was twenty-two hours a day on average in 2004. In the second, in the wake of the conflict in 2006, the lack of new capacity and the inability to modernize existing facilities has resulted in a drop in the supply of power. The Ministry of Energy calculated in 2010 that there was a supply gap of more than one-third, with the utilities providing 1500 megawatts to fulfill a demand of 23,000–24,000 megawatts (Bassil; 2010.)

The situation become worse by the sector's financial shortfall. A planned switch to natural gas would have saved several hundred million dollars annually, but geopolitical issues—first between Egypt and Israel, then between Syria and Lebanon—prevented it from happening. Since 1994, when a barrel of oil cost $20, the state utility has not raised the price of energy, resulting in extremely low revenues. Lastly, "theft" and "technical loss" (about 20% of distributed energy is not paid) are still widespread.

Even if it is less common than it was at the conclusion of the civil war, theft and non-payment are nevertheless major issues that have grown since 2006. The treasury compensates Électricité du Liban (EDL) for its yearly losses, which range from 1.5 to 2 billion dollars. According to official estimates, EDL's deficit

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accounts for roughly one-third of Lebanon's current debt, which stands at sixty billion dollars, or 200 percent of GDP (Verdeil; 2011.(

There is a strong regional and geographical component to the electrical issue. Forty-four percent of Lebanon's energy users lived in metropolitan Beirut in 2004; that number rises to sixty-six percent when Mount Lebanon users are included. Residents of the Beirut metropolitan area consumed 45 percent of Lebanon's total power in 2000; including Mount Lebanon, that percentage rose to 65 percent.47 Capacity disparities in the distribution networks further worsen the rationing system's strong geographic differentiation

Capacity disparities in the distribution networks further worsen the rationing system's strong geographic differentiation. The municipality of Beirut was supplied in an excessively big amount. Between 1996 and 2006, there were essentially no frequent power outages Three hours of downtime per day are now reported by the official supply data, indicating a little worsening of the problem since 2006. In contrast, the suburbs never had access to energy for twenty-four hours a day, albeit between 2004–06, there were three to four hours of power outages per day, which marked a substantial improvement in supply (Al-Akhbar; 2012).

Although the government's approaches to resolving this situation have changed over time, they have often lacked a single, distinct set of goals (Hasbani; 2011). I have categorized my examination of these policies into three areas: financial concerns, privatization, and distribution, due to the intricacy of the proposed reforms over the years.

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4.5 Transportation

The transport sector in Lebanon is widely regarded as one of the least sustainable in the Middle East region. This is primarily due to the presence of weak governance structures and regulatory frameworks, the absence of a modern and dependable public transport system, and a prevailing car-centric culture that favors large, outdated vehicles known for their harmful emissions (UN-Habitat, 2021). As a result of these factors, numerous challenges have arisen, leading to a range of negative impacts. These include a poorly planned urban transport infrastructure, persistent traffic congestion throughout the day, and the subsequent environmental, health, and financial burdens that accompany such issues. In essence, Lebanon's transport system has deteriorated into an unreliable network of congested roads, leaving citizens with limited options for mobility. This has further encroached upon urban space, restricting the freedom to walk or cycle and diminishing the overall quality of life in Lebanese cities (ibid.(

An opportunity emerged in 2019 through a loan from the World Bank with a budget of up to 295 million US dollars as part of a comprehensive transportation plan for the city of Greater Beirut as the first stage (World Bank ; 2021). It was approved in the Lebanese parliament under the number 135, but it was not exploited by the Lebanese state. After years of lack of progress in the project, the World Bank considered that the performance was not according to the schedule that was worked on and considered that the project was unsatisfactory, and the bank decided to close the loan. The Lebanese state did not take advantage of this opportunity, which would have changed a lot in the lives of Lebanese.

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In most cases, the limited implemented projects were primarily political, sectarian, or regional favors and did not fall within a comprehensive and clear plan to lead the country to safety .Roads are the responsibility of two entities in Lebanon: the Ministry of Public Works and Transport, in addition to the Council for Development and Reconstruction, both being public administrations. Their authorities and influence differ, as the Council for Development and Reconstruction was established to alleviate administrative bureaucracy and expedite project implementation, usually managing external loans. The Ministry of Public Works and Transport is responsible for the locally funded portion of the state treasury, in addition to railways, airports, and ports

4.6 Roads

In the latest study conducted by the Ministry of Public Works and Transport (National agency news – NNA; 2022), there are approximately 6,700 kilometers linear of main roads. The Minister Hamie (Ibid) explained that these roads have not been maintained since 2018, making most of them a public safety hazard. According to the World Bank data, official website (data.worldbank.org) the number of fatalities per 100,000 inhabitants is 19 in 2019 which is a significant number. The lack of maintenance has multiplied the cost of rehabilitating these roads several times over. According to minister Hamie (National agency news – NNA; 2022), these roads annually require $120 million for regular maintenance if they were in a ready state, without even addressing the rehabilitation works, which exceed $450 million, figures that are currently nonexistent .

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Since the mid-1990s, Lebanon's transportation and infrastructure sectors have not seen substantial developments or improvements. The lack of development in these sectors has left the country with a number of issues, notably in terms of handling urbanization and population expansion.

Infrastructure development began in the late twentieth century, but it has not kept up with the significant urbanization and population growth that has occurred since then. This misalignment between infrastructure development and population increase has resulted in a slew of problems, including congestion, declining road conditions, and insufficient public transit.

Lebanon's coastal cities have seen substantial population increase, with almost 90% of the country's population currently residing in them. This concentration of people has put enormous demand on infrastructure, resulting in overloaded roadways, inadequate public services, and overburdened utilities. Furthermore, the flood of about two million Syrian refugees has put further strain on Lebanon's infrastructure and resources. The abrupt growth in population has worsened existing issues, emphasizing the critical need for comprehensive planning and development efforts.

Despite growing urbanization and population increase, there has been little strategic planning for infrastructure development in the short, medium, and long term. The lack of unified plans designed to meet present and future demands has hampered Lebanon's capacity to properly manage urbanization and assure long-term development.

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In 2017, the World Bank signed a loan agreement with the Lebanese government for “Road and employment Project”, valued at $200 million. This loan aimed to rehabilitate approximately 550 kilometers of main roads, excluding international routes connecting governorates. Undoubtedly, the loan provided much-needed support amidst the state's challenging circumstances .

However, it is crucial to note that the lack of maintenance on highways has posed a significant crisis for many Lebanese citizens. These roads now pose a serious threat to public safety, given the high volume of daily traffic, with most cars and hundreds of thousands of individuals traversing them regularly. This issue stems largely from political quotas, which have historically hindered the implementation of strategic plans within the country.

4.7 Railways

Transport has a crucial role in boosting economic activity by improving trade competitiveness and market access. Kenneth Small and Erik Verhoef's book (Small eh al; 2007) "The Economics of Urban Transportation" emphasizes the importance of transportation in driving economic activity. This phrase primarily refers to the exchange of intermediate and final commodities and services, administrative duties, financial capacity, knowledge, and technology among private and governmental partners. Today's economic activity relies heavily on the transportation of people, products, and ideas .

Experts in urban development consider transportation as a distinct issue from other issues in poor nations, such as health and education, which may be severely impacted by economic growth. Enrique Penalosa's sourcebook on Sustainable Transport highlights the negative impact of economic development on transportation issues (Penalosa; 2005).

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Transport has two paradoxical impacts on the economy. With globalization, transportation networks are more important for commerce and economic competitiveness, as well as improving living standards. Positive consequences can result in increased population and economic growth. Combining this with an unsustainable transportation sector can lead to an exponential growth in demand for energy, CO2 emissions, and other externalities, resulting in significant social costs.

In fast-paced small open developing countries like Lebanon, increasing household real income leads to residential suburbanization, resulting in a significant reliance on private cars for transportation. This trend of increasing vehicle reliance has various negative implications, including those related to traffic flow and air pollution .

In this nation, no comprehensive research has been conducted on the role of the transportation sector as a (de)catalyst of economic development/growth. The extant research is mostly focused on spatial/geopolitical analysis, with little emphasis on economics. Xavier Bernier (2010) identified transportation as a critical factor in his analysis of Lebanon's networks. The conclusion is based on geographical analysis and the historical significance of geopolitics in shaping the existing transportation networks in Lebanon through open-closed cycles.

Since the last train journey in 1995, Lebanon and the Lebanese have been waiting for the reactivation of the railways, with their daily transportation problems, in the absence of a public transport plan, and the absence of a serious political decision to embark on this task .

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The Lebanese people have become moaning about the difficulty of transportation and mobility, especially in the current circumstances and after the revolution of October 17, 2019, as banks seized their savings, making life more difficult.

The deterioration of the national currency exchange rate was one of the immediate problems that greatly affected public sector employees, as employees will no longer be able to reach their workplaces due to the high cost of transportation. A lack of a long-term vision for transportation has resulted in a severe and pervasive breakdown in the regularity with which institutions operate.

For now, after all that the Lebanese citizen are exposed to, and despite the difficult circumstances that he still suffers from, no radical solution has been made, despite the existence of many studies conducted by the Lebanese Ministry of Public Works and transport, which did not take its executive course.

5In terms of urban strategic planning, Lebanon is at a crossroads where difficulties meet possibilities, influencing the trajectory of its cities and communities. As we move from diagnosing serious concerns to investigating their practical repercussions, it becomes clear that the implications are far-reaching and varied.

At the core of Lebanon's urban landscape is a basic quandary stemming from a lack of coherent vision. This lack of a comprehensive long-term plan has ramifications across several areas, from infrastructure provision to environmental sustainability, sustaining a cycle of haphazard decision-making and fragmented development projects.

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One of the most visible symptoms of this disconnected approach is in the supply of infrastructure. Essential services, such as water and sewage management, suffer as a result of insufficient investment, bureaucratic inefficiencies, and a lack of proactive planning. As a result, metropolitan regions face concerns such as water scarcity, sanitation challenges, and environmental deterioration, all of which have an influence on inhabitants' health and welfare

Parallel to these infrastructural issues lies the threat of electricity shortages, a constant reminder of Lebanon's perilous energy situation. The inability to solve this basic challenge is due to political favoritism, institutional corruption, and a lack of concerted attempts to update the electricity grid, which perpetuates reliance on unsustainable solutions and stifles economic progress.

Furthermore, transportation appears as a battleground where the shortcomings of urban planning collide with the needs of a continuously changing population. Congested highways, limited public transportation, and a scarcity of sustainable mobility alternatives highlight the importance of comprehensive transportation solutions that promote accessibility, efficiency, and environmental stewardship.

Despite these problems, Lebanon's roadways and railroads function as arteries that link and confine its metropolitan areas. Decades of neglect, along with geopolitical conflicts and financing restrictions, have left these key facilities dormant, impeding connection, economic integration, and regional development goals.

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As we engage on a quest to unearth the causes of these urban strategic planning quandaries, it is critical to acknowledge their linked nature and the need for comprehensive, forward-thinking solutions. Through empirical study and critical reflection, for that reason, efforts should shed light on the concrete effects of these difficulties on Lebanon's urban fabric, setting the framework for informed strategies and transformational interventions that prioritize sustainability, resilience, and equitable development.

6: Recommendations

As a result, it is vital to identify solutions based on numerous fundamental principles that must be addressed in a strategic and practical framework that satisfies the required needs and has a clear vision for the short, medium, and long term:

1. Administrative Decentralization :

•Empowering Local Authorities: empowering municipalities and regional authorities to make actions on urban planning, infrastructure development, and service supply within their domains.

•Providing technical and financial support to local urban planning agencies to improve their capacity for urban planning, data gathering, and policy implementation.

•Encouraging community engagement through decentralized government mechanisms like neighborhood councils and forums.

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•Establishing transparency and accountability procedures at the local level to make decisions that benefit the community and address local needs.

2. Integrated Urban Planning:

•Establishing an observatory to collect, evaluate, and share data on urban trends such as population growth, land use changes, infrastructure development, and environmental consequences. This observatory will help with strategic planning initiatives.

•The Ministry of Planning should spearhead efforts to coordinate urban planning initiatives among government agencies and local governments, ensuring coherence and alignment with national development objectives.

3 . Strengthening Regulatory Frameworks

•Utilizing the urban observatory to monitor compliance and identify loopholes in legislation. The observatory's data will help guide regulatory revisions.

•Submitting regulatory modifications to relevant government authorities, overseen by the Ministry of Planning.

4. .Investment in Infrastructure :

•Prioritizing infrastructure improvements based on urban observatory data and population growth. This assures focused and successful investment .

•Coordinating infrastructure projects with appropriate government departments, guided by the Ministry of Planning .

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5. Encouraging Compact Urban Development

•Using the urban observatory to evaluate the efficacy of programs and tracking progress towards goals like decreasing sprawl and encouraging mixed-use zones. Data-driven judgments will influence compact development initiatives.

•Collaborating with urban planning authorities and the Ministry of Planning to create policies and incentives that promote compact urban growth.

6. Community Engagement and Participation:

•Utilizing the urban observatory to solicit feedback from citizens and stakeholders on urban planning goals and preferences. This ensures the community's participation in decision-making processes.

•Collaborating with local urban planning bodies and the Ministry of Planning to assist community participation procedures.

7. Preserving Green Spaces and Natural locations :

•Using urban observatory data to identify ecologically significant locations and prioritize conservation efforts. Scientific information will guide conservation initiatives.

•Collaborating with environmental agencies to create policies and plans to preserve green spaces and natural ecosystems in urban areas, following Ministry of Planning guidelines.

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8. Capacity Building and Institutional Strengthening:

•The urban observatory can support training programs and knowledge-sharing efforts to increase the ability of urban planners and government officials. This promotes educated decision-making.

•Developing institutional frameworks and facilitate the formation of specialist urban planning departments within key government agencies under the Ministry of Planning.

9. Regional collaboration

•Using the urban observatory to share data and best practices with adjacent municipalities and regional authorities. Sharing data makes collaborative planning easier.

•Supporting coordinated urban planning efforts at the regional level by facilitating collaborative initiatives and providing technical help through the Ministry of Planning.

10. Incentive Mechanisms

•Analyzing data from the urban observatory to determine the effect of incentive systems on urban development results. An evidence-based study will inform changes to incentive programs.

•The Ministry of Planning will evaluate the performance of incentive programs and provide suggestions for changes or improvements based on evidence-based analysis.

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11. Regular reviews and adaptations

•Creating a monitoring and evaluation structure, aided by the urban observatory, to frequently analyze and assess the execution of urban development plans and policies. Continuous monitoring enables adaptive planning.

•Leading efforts to change urban planning strategies based on monitoring and evaluation results, ensuring that plans are responsive to changing urban problems and opportunities through the Ministry of Planning.

7.Conclusion

In conclusion, tackling the challenges of urban growth necessitates a diversified strategy based on fundamental principles. The guidelines presented here give a strategic and practical framework for addressing the Required Needs while cultivating a clear vision for the short, medium, and long term.

Administrative decentralization emerges as a critical component, allowing local governments to make more informed decisions about urban planning, infrastructure development, and service delivery within their authority. Decentralization guarantees that choices reflect local needs and preferences by strengthening community involvement and accountability processes.

The development of an observatory facilitates integrated urban planning, which acts as another cornerstone. This unified platform for data collecting and analysis allows government agencies and local governments to coordinate their activities, creating coherence and alignment with national development goals.

Strengthening regulatory frameworks is critical for ensuring compliance and addressing emerging urban concerns. Using data from the urban observatory,

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regulation changes may be customized to close loopholes and encourage sustainable urban growth.

Investment in infrastructure, led by data-driven insights, ensures that resources are efficiently deployed to meet the changing requirements of urban populations. Infrastructure development may serve as a stimulus for equitable and sustainable urban growth by prioritizing projects based on population growth and coordinating efforts across relevant government ministries.

Compact urban development is encouraged because of its ability to reduce sprawl and enhance effective land use. Compact development becomes a realistic path to long-term urban sustainability by collaborating with urban planning authorities and implementing supporting policies and incentives.

Community involvement and participation are stressed as critical components of inclusive decision-making processes. By using the urban observatory to seek feedback from residents and stakeholders, urban planning projects may become more responsive to local preferences and goals.

The preservation of green areas and natural ecosystems is emphasized as critical to preserving urban biodiversity and ecological balance. Policies and strategies to protect these critical resources may be developed by identifying ecologically significant places using data and collaborating with environmental organizations.

Capacity building and institutional strengthening are emphasized as necessary for effective urban government. Governments may enable urban planners and officials to make informed decisions by investing in training

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programs and knowledge-sharing initiatives, while institutional frameworks guarantee that urban development efforts are sustainable in the long run.

Regional collaboration emerges as a critical tool for solving multifaceted urban concerns. By utilizing the urban observatory to share data and best practices, coordinated planning activities at the regional level may be facilitated, promoting synergies and improving resource efficiency.

Incentive strategies are critical in achieving desirable urban development results. Governments may adjust policies to encourage sustainable development practices and accomplish larger social goals by analyzing incentive schemes based on data.

Regular assessments and changes are required to ensure the responsiveness and efficacy of urban development policies. By developing monitoring and assessment processes based on data from the urban observatory, governments may tailor plans and policies to address new urban challenges and possibilities, assuring a dynamic and resilient urban future.

In essence, the suggestions establish a complete path for negotiating the difficulties of urban growth, directing policymakers and stakeholders to a future of inclusive, sustainable, and resilient cities. By accepting these ideas and executing targeted actions, governments may fulfill urbanization's full potential as a driver of economic growth, social fairness, and environmental sustainability

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