THE 18TH EDITION OF THE INTERNATIONAL CONFERENCE
EUROPEAN INTEGRATION
REALITIES AND PERSPECTIVES

Sustainable Urban Development Policies and Practices in Albanian. A Comparative Study with Developing Countries

Fabjola Dorri[1], Besa Shahini[2]

Abstract: Sustainable urban development is a critical aspect of ensuring long-term economic, social, and environmental well-being in cities around the world. Albania is a developing country that faces numerous challenges in achieving sustainable urban development due to rapid urbanization, inadequate infrastructure, and limited financial resources. This paper provides a comparative study of sustainable urban development policies and practices in Albania with other developing countries. The study analyzes the existing policies and practices in Albania and identifies the strengths and weaknesses of these policies in achieving sustainable urban development. The paper also compares the policies and practices of Albania with other developing countries. The analysis highlights the similarities and differences in policy frameworks, implementation strategies, and outcomes. A great effort will be conducted to compare the urban development based on the indicators of the urban development. The findings of the study suggest that Albania has made some progress in implementing sustainable urban development policies and practices, such as promoting energy efficiency and green spaces. However, significant challenges remain in areas such as affordable housing, waste management, sustainable transportation and urban planning. The comparative analysis also indicates that Albania can learn from the experiences of other developing countries and adopt best practices that are tailored to its local context. In conclusion, this paper emphasizes the importance of sustainable urban development in Albania and other developing countries. It highlights the need for policymakers to develop comprehensive and integrated policies that address the economic, social, and environmental dimensions of sustainability. The study also provides recommendations for improving sustainable urban development policies and practices in Albania and other developing countries.

Keywords: Sustainable urban development; developing countries; policies and practices

1. Introduction

Urbanization and urban modernisation are achieved by long-term, stable, and continuous economic expansion as well as structural optimization in a particular time and place. It focuses on promoting the urban economy and the harmonious growth of urban society and the environment, and it involves economic, social, and environmental issues (Tanguay, 2010). As a result, while sustainable urban development stresses the process of urban growth, urban sustainability concentrates on the circumstances and status of urban development.

Urban sustainability research also contributes significantly to sustainable urban development, aiding in the improvement of policymakers' conceptualizations of urban sustainability and supplying them with

[1] PhD in progress, Faculty of Economy, University of Tirana, Albania, Address: Place "Mother Tereza" Tirana, Albania, Corresponding author: bejajfabjola@gmail.com.
[2] Professor, PhD, Faculty of Economy, University of Tirana, Albania, Address: Place "Mother Tereza" Tirana, Albania, E-mail: besashahini@feut.edu.al.

a variety of evaluation index systems to evaluate the advantages and disadvantages of city growth (Tang, & Zhu, 2019). Urban sustainability research generally employs qualitative and quantitative analyses

Urban sustainability research generally employs qualitative and quantitative analyses (Huang, 2015). The processes, patterns, and future orientations of urban development are the main topics of the qualitative investigation (Bibri & Krogstie, 2017). Numerous statistical techniques are frequently used in quantitative studies to gather empirical data on the degree of sustainable urban development.

In general, the concept of "urban planning for developing countries" aims to help develop cities that are sustainable, safe and responsive to the environment and the local community. This requires holistic and appropriate approaches to the challenges of climate change, population growth and societal change

Due to the rising urbanization, achieving sustainable urban development has become a global concern and a key goal for urban planners and managers. 17 Sustainable Development Goals (SDGs) are included in the 2030 Agenda for Sustainable Development of the United Nations, and Goal 11 is to "Make cities inclusive, safe, resilient, and sustainable." Around $1.3 trillion worth of financial resources have been set aside for sustainable development (World Investment Report, 2020). According to projections, the world's population will continue to move into cities over the ensuing ten years, rising by between 56.2 and 60.4% by the year 2030 (World Cities Report, 2020). However, unchecked urban growth presents several difficulties.

Comparing Albania with Romania, Serbia, Bulgaria and Turkey offers the opportunity to examine regional dynamics, economic factors, policy frameworks, urban challenges and best practices in sustainable urban development. This comparative analysis aims to provide valuable insights and recommendations for Albania's efforts to improve its sustainable urban development policies and practices.

Table 1. Description of Selected Countries

Country	Region	Population (millions)	Land Area (sq.km)	Source
Albania	Eastern Europe	2.84	28,775.49	World Bank
Romania	Eastern Europe	19.29	237,112.83	World Bank
Turkey	Eastern Europe	84.34	781,814.25	World Bank
Bulgaria	Eastern Europe	6.93	112,055.66	World Bank
Serbia	Eastern Europe	6.91	77,600.64	World Bank

Source: World Bank

2. Literature Review

2.1. Urban Sustainability: Economic, Social and Environmental Indicators

The 17 Sustainable Development Goals and 169 goals set out by the United Nations strike a balance between the economic, social, and environmental dimensions of sustainable development.

The environmental dimension of urban sustainability focuses on minimizing the negative impacts of urbanization on the natural environment and promoting ecological resilience. This involves strategies such as efficient resource use, waste management, green infrastructure, and mitigating climate change (Purvis, 2022).

The social dimension of urban sustainability emphasizes the well-being, equity, and quality of life of urban residents. It focuses on inclusive governance, community engagement, social justice, affordable housing, access to healthcare, education, and cultural opportunities (Pineo, 2022).

The economic dimension of urban sustainability emphasizes the development of vibrant, resilient, and inclusive urban economies. It involves strategies such as promoting local businesses, fostering innovation and entrepreneurship, creating job opportunities, and ensuring economic stability and prosperity for all residents (Zhang, 2018).

The integration of these dimensions requires a holistic and interdisciplinary approach. It involves policy frameworks, urban planning strategies, governance mechanisms, and stakeholder engagement. Integrated approaches, such as sustainable urban development plans, green building practices and renewable energy initiatives, are commonly pursued to address the interdependencies among economic, social, and environmental aspects (World Economic Forum, 2020).

3. Methedology

In the methodology of this research, we first want to explain the principles we followed in the selection of the system of indicators for the evaluation of sustainable urban development in developing countries (Pirra, 2021). We have followed 4 principles as follows:

1. The indicators chosen for this study are based on widely recognized frameworks, such as the Sustainable Development Goals (SDGs).

2. The indicators selected should be quantitative and the data should be accessed from reputable sources.

3. Indicators should be independent of each other to avoid overlap and autocorrelation. This criterion emphasizes the importance of selecting indicators that provide specific and complementary information. To ensure independence, correlation analysis was performed to identify and remove closely related indicators. This step ensures that the selected indicators capture unique aspects of sustainable urban development.

4. The system of indicators should be suitable to support the computational analysis of the performance of sustainable urbanization. This criterion emphasizes the practical usability of the indicator system.

Table 2. Candidate Indicators for the Evaluation of Sustainable Urban Development

Dimensions of Sustainability	Indicators	Unit	Code	Source
Economic Dimension	GDP per capita	$	EC1	World Bank
	Total import& Export per capita	$	EC2	World Bank
	Employment	annual %	EC3	World Bank
	Inflation Rate	annual %	EC4	World Bank
	Gross savings	% of GDP	EC5	World Bank
Social Dimension	Improved water source	% of population with access	SO1	World Bank
	Life expectancy at birth	total years	SO2	World Bank
	Internet users	per 100 population	SO3	World Bank
	Telephones with fixed lines	per 100 population	SO4	World Bank
	Subscribers to mobile cellular telephones	per 100 population	SO5	World Bank
	Population growth	annual %	SO6	World Bank
Environmental Dimension	CO2 emissions	Kt	EN1	World Bank
	Consumption of ozone-depleting CFCs in ODP	metric tons	EN6	World Bank

	Marine protected areas	% of territorial waters	EN3	World Bank
	Electric power consumption	kwh per capita	EN4	World Bank
	Forest area	% of land area	EN2	World Bank

Source: United Nations

3.1. Correlaton Evaluation

To assess the independence of indicators, correlation analysis is conducted using the Spearman correlation method (Dewan, 2009). The Spearman correlation is a statistical technique that measures the strength and direction of the relationship between two variables.

In the analysis, two indicators are considered highly correlated if the absolute value of their correlation coefficient, denoted as |r|, is greater than 0.8 (Schwarz, 2010).

This threshold indicates a strong relationship between the variables.

This threshold indicates a strong relationship between the variables. When such a strong correlation is identified, since both indicators capture similar aspects of sustainable urban development, it is suggested that only one of them be studied.

Table 3. The Selected Indicators the Evaluation of Sustainable Urban Development

Dimensions of Sustainability	**Indicators**	**Unit**	**Code**	**Source**
Economic Dimension	GDP per capita	$	EC1	World Bank
	Gross savings	% of GDP	EC2	World Bank
	Employment	annual %	EC3	World Bank
Social Dimension	Improved water source	% of population with access	SO1	World Bank
	Life expectancy at birth	total years	SO2	World Bank
	Population growth	%	SO3	World Bank
Environmental Dimension	CO2 emissions	Kt	EN1	World Bank
	Forest area	% of land area	EN2	World Bank
	Electric power consumption	kwh per capita	EN3	World Bank

Source: Author's calculations

3.2. Weighing Indicators

The aim is to assign weights to indicators, which serve as a quantitative representation of their importance or significance. These weights provide a means to prioritize indicators and guide the assessment of sustainable urban development.

There are several approaches available for determining the weighting values of indicators, including methods such as Analytic Hierarchy Process , AHP (Zhao, 2016), Delphi (Chun, 2014), and the Entropy method (Wang, 2015). In this study, the Entropy method has been chosen for its effectiveness in establishing weights between indicators. This method is particularly valued for its ability to assign weights objectively, without being influenced by subjective opinions or biases. These factors contribute to a robust and reliable weighting approach for the evaluation of sustainable urban development.

We have studied 5 developing countries: Albania, Romania, Bulgaria, Serbia and Turkey and for the 9 selected indicators we have received data from the World Bank for the period 2001-2021 and we have used four techniques (Wang, 2015) as below:

3.3. Data Normalization

Normalization is a process used to standardize and compare different indicators that may have varying dimensions and magnitudes. It allows for fair and meaningful comparisons across diverse indicators by bringing them to a common scale.

One common normalization technique is called min-max normalization. It involves subtracting the minimum value of an indicator from each data point and then dividing it by the difference between the maximum and minimum values. The formula for min-max normalization is as follows:

$$Normalized\ Value = \frac{Indicator\ Value - Minimum\ Value}{Maximum\ Value - Minimum\ Value}$$

By applying this formula to each indicator, we can convert their values to a common scale. This allows us to compare and analyze them more meaningfully, regardless of their original dimensions and magnitudes. The normalized values will provide a relative measure of each indicator's performance within the given evaluation period.

Based on the above we can write formula for positive and negative indicators such as carbon dioxide emissions:X_{ij}

$Xij = \frac{X_{ij} - \min(X_j)}{\max(X_j) - \min(X_j)}$ Formula for positive indicators (1) Source: (Wang, 2015)

$Xij = \frac{\max(X_i) - X_{ij}}{\max(X_j) - \min(j)}$ Formula for negative indicators (2) Source: (Wang, 2015)

3.4. Standardized values of indicators

Standardized values of indicators refer to a transformation process that aims to bring different indicators onto a common scale or distribution. This standardization allows for meaningful comparisons and analysis across different indicators.

$Pij = \frac{X_{ij}}{\sum_{j=1}^{n} X_{ij}}$ (3) Source: (Gorgij, 2017)

Where: P_{ij}- represents the standardized value of indicator j in year i.

3.5. Entropy Calculation for Indicators

The entropy value quantifies the degree of randomness, diversity, or unpredictability present in the distribution of values within an indicator or a set of indicators.

The calculation of entropy involves assessing the probability distribution of the values within the indicators.

$E_i = \frac{\sum_{j=1}^{m} P_{ij} \times \ln P_{ij}}{\ln n}$ (4) Source: (Dong, 2018)

where:

Ei: Represents the entropy value for indicator i.

n: Refers to the total number of indicators being assessed.

m: Represents the total number of years in the assessment period.

3.6. The Determination of Weighting Values

Determining the weighting values for indicators is a process used to assign relative importance or significance to different indicators within a system or assessment. These weighting values reflect the contribution or impact of each indicator towards a specific goal, objective, or evaluation criteria. The weight of the indicator is calculated with the formula:

$\text{Wj} = \frac{1-E_i}{\sum_{i=1}^{n}(1-E_i)}$ (5) Source: (Wang, 2015)

Table 4. Weighting Values for the Selected Indicators

Indicator(Eco)	Weight %	Indicator(Soc)	Weight %	Indicator(Env)	Weight %
EC1	8.145	SO1	4.178	EN1	5.041
EC2	5.743	SO2	6.452	EN2	4.973
EC3	5.943	SO3	5.362	EN3	5.742

Source: Author's calculations

3.7. Evaluation of Urbanization's Sustainable Performance

The next phase in this study is to compare the performance of sustainable urbanization between the five selcted countries based on the given model:

Urban Sustainability= $\sum(Economy, Environment\ and\ Social)\ Sustainability$

$SU = SU_{Env} + SU_{Eco} + SU_{Soc}$ (6)

where:

$SU_{Env} = \sum_{j(Env)}^{n_{Env}} W_{j(Env)} \times X_{ij(Env)} \times j(Env)$ (7)

$SU_{Eco} = \sum_{j(Eco)}^{n_{Eco}} W_{j(Eco)} \times X_{ij(Eco)} \times j(Eco)$ *(8)*

$SU_{Soc} = \sum_{j(Soc)}^{n_{Soc}} W_{j(Soc)} \times X_{ij(Soc)} \times j(Soc)$ *(9)*

3.8. The Results of the Analysis

For each country, additional calculations are made using equations (7)–(10) to ascertain the status of sustainable urbanization, environmental and economic sustainability, and social sustainability, respectively. The table below provides the findings of the analysis.

Table 5. Sustainable Performance of Urbanization for the 5 Selected Countries

Country Name	SU_{Env}	SU_{Eco}	SU_{Soc}	SU	RANK
Albania	0.2901	0.1475	0.2782	0.7158	**4**
Romania	0.3128	0.1776	0.2432	0.7336	**2**
Turkey	0.2613	0.1635	0.2674	0.6922	**5**
Bulgaria	0.2967	0.1645	0.2789	0.7401	**1**
Serbia	0.2844	0.1627	0.278	0.7251	**3**

Source: Author's Calculations

4. Discussions

Referring to the SU (rank) column in Table 5, the selected countries are ranked according to their overall performance in the implementation of sustainable urbanization, Bulgaria is in first place, followed by Romania, Serbia, Albania and finally Turkey.

However, this ranking will be different if the three sustainability dimensions are considered separately. For example, in the environmental dimension, the ranking consists of: In the first place is Romania and the countries from Bulgaria, Albania, Serbia and finally Turkey. It's interesting to note that among all developing countries, Romania is the one that has the best environmental sustainability. It appears that effective and long-term measures have been employed in Romania.

The analysis's findings show that during the urbanization process, strong coordination between the economic, social, and environmental dimensions results in superior sustainability performance. Some nations show up in the lower ranks as a result of their singular emphasis and neglect of the interplay between the three dimensions. For instance, Romania is considered one of the greatest countries for environmental sustainability, but it is not ranked well for social urban sustainability.

5. Conclusions and Recommendations

This paper estimate the sustainable progress of urbanization in five selected developing countries during the last decade. To improve sustainability performance during the urbanization process, it is crucial to pursue a development that is balanced between economic, environmental, and social components.

It has been discovered that many persistently underperforming nations are only concerned in one dimension and neglect the others. Turkey is a good example because its urbanization is typically driven by the economy and pays little attention to environmental preservation. Sharing best practices for sustainable urbanization between nations is crucial, too. I recognize knowledge and management abilities in the process of urbanization in developing nations.

Based on the urban sustainability index, Albania should prioritize efforts to enhance environmental sustainability, foster economic growth, and strengthen social cohesion. By implementing targeted measures in these areas, Albania can improve its overall urban sustainability performance and strive for comparable levels with Romania, Bulgaria, and Serbia.

References

*** Pineo Helen. *Towards healthy urbanism: inclusive, equitable and sustainable (THRIVES) – an urban design and planning framework from theory to praxis*. https://doi.org/10.1080/23748834.2020.1769527.

Bibri, Simon & Krogstie, John (2017). Bibri, Simon Elias; Krogstie, John. (2017) The Core Enabling Technologies of Big Data Analytics and Context-Aware Computing for Smart Sustainable Cities: A Review and Synthesis. *Big Data*. 4. 10.1186/s40537-017-0091-6.

Chung, E.-S.; Won, K.; Kim, Y. & Lee, H. (2014). Water resource vulnerability characteristics by district's population size in a changing climate using subjective and objective weights. *Sustainability*, 6, pp. 6141–6157.

Dewan, A.M. & Yamaguchi, Y. (2009). Land use and land cover change in Greater Dhaka, Bangladesh: Using remote sensing to promote sustainable urbanization. *Appl. Geogr*, 29, pp. 390–401.

Dong, G. H.; Shen, J. Q.; Jia, Y. Z. & Sun, F. H. (2018). Comprehensive evaluation of water resource security: case study from Luoyang City, China. *Water*, vol. 10, p. 19.

Gorgij, A. D.; Kisi, O.; Moghaddam, A. A. & Taghipour, A. (2017). Groundwater quality ranking for drinking purposes, using the entropy method and the spatial autocorrelation index. *Environmental Earth Sciences*, vol. 76, p. 9.

Huang, L.; Wu, J. & Yan, L. (2015). Defining and measuring urban sustainability: a review of indicators. *Landscape Ecol* 30, pp. 1175–1193. https://doi.org/10.1007/s10980-015-0208-2.

Pira, M. (2021). A novel taxonomy of smart sustainable city indicators. *Humanit Soc Sci Commun* 8, p. 197. https://doi.org/10.1057/s41599-021-00879-7.

Purvis, B.; Mao,Y. & Robinson, D. (2022). A multi-scale integrated assessment model to support urban sustainability. *Sustain Sci* 17, pp. 151–169. https://doi.org/10.1007/s11625-021-01080-0.

Schwarz, N. (2010). Urban form revisited—Selecting indicators for characterising European cities. *Landsc. Urban Plan*, 96, pp. 29–47.

Tang, J.; Zhu, H.L.; Liu, Z.; Jia, F.; Zheng, X.X. Urban Sustainability Evaluation under the Modified TOPSIS Based on Grey Relational Analysis. Int. J. Environ. Res. Public. Health 2019, 16, 256.

Tanguay, Georges; Rajaonson, Juste; Lefebvre, Jean-François & Lanoie, Paul. (2009). Measuring the Sustainability of Cities: A Survey-Based Analysis of the Use of Local Indicators. *SSRN Electronic Journal*. 10.2139/ssrn.1336649.

Wang, S.; Fang, C.; Wang, Y.; Huang, Y. & Ma, H. Quantifying the relationship between urban development intensity and carbon dioxide emissions using a panel data analysis. *Ecol. Indic*, 49.

Xiaoling, Zhang & Huan, Li (2018). *Urban resilience and urban sustainability: What we know and what do not know?* https://doi.org/10.1016/j.cities.2017.08.009.

Zhao, H.; Li, N. (2016). Performance Evaluation for Sustainability of Strong Smart Grid by Using Stochastic AHP and Fuzzy TOPSIS Methods. *Sustainability*, 8, p. 129.

https://unctad.org/publication/world-investment-report-2020.

https://unhabitat.org/world-cities-report-2020-the-value-of-sustainable-urbanization.

https://www.weforum.org/events/world-economic-forum-annual-meeting-2020.