

Algerian cities facing challenges and prospects of sustainable development: reality and aspirations

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The topic of sustainable development has become extremely important in the agendas of countries at different levels and stages of progress. Almost every development plan emphasizes the need to consider environmental protection and natural resources by conducting prior studies on the potential impact on the present and future of regions. This is particularly evident in urban areas, as cities have become increasingly exploited by humans, with the urban population and urbanization rates growing annually. This has led to the concept of seeking sustainable cities that ensure a decent standard of living for people and safeguard the future generations without harming the environment and its components. This study aims to identify the strengths and weaknesses regarding the reality and challenges of sustainable development in Algerian cities, which face numerous difficulties and obstacles at all levels, hindering the desired urban quality of life for its citizens. The study highlights ten fundamental weaknesses related to the public policy pursued by local authorities, which have contributed to the deterioration of the urban environment in most Algerian cities, posing an imminent threat to the general living framework. It emphasizes the urgent need to adopt a clear policy based on restoring the present and protecting the future to preserve the rights of future generations. The study relied on the descriptive analytical approach through field observation as well as interviews with various actors in the field of sustainable development in various Algerian cities, with a focus on the components of local civil society. The study concludes that it is necessary to adopt a long-term development plans that involve all stakeholders, including the civil society, universities, research centers, and various media to meet present requirements without compromising the needs of future generations

Keywords: Sustainable development, urban development, Algerian cities, urban environment.

INTRODUCTION

The urbanization, especially in developing and Arab countries, has been influenced by modern Western trends in planning and architecture in the 20th

century. This has led to the formation of unsustainable modern environments due to the lack of harmony between urban goals and the existing natural reality. The contemporary technological advancement and dynamics of urban growth have resulted in disregarding environmental and human factors in the planning of new urban settlements (Kouach, Z., Ouakkli, K., 2019). It is expected that this gap will continue to expand in the planning of future cities, referred to as "comprehensive smart cities."

Today, cities are the primary producers and consumers of industrial goods, consuming three-quarters of the world's energy and causing at least three-quarters of the earth's pollution. Hence, many voices have emphasized the importance of achieving urban sustainability (Imad, A., 2007). Economists like Kenneth Boulding have stressed that we must start thinking of our planet as a spaceship with finite resources, allowing only solar energy that sustains life. This solar energy produces wind, rain, and renewable energy that can be consumed without polluting the environment (Benghodban, F., 2015).

Urban economist Herbert Girardet has pointed out that consumption in cities reduces the effectiveness of resource reuse. Therefore, it is essential to promote resource management in our city planning through material recycling, waste reduction, conservation of depleted energies, transition to renewable energies, and minimizing negative environmental impacts (Abdelkarim, B., Samir, Y., 2018).

Achieving sustainable urban management requires a comprehensive and monitored urban planning approach. Cities are complex and changing molds of human activities and environmental influences. Planning for sustainable cities necessitates a deep understanding of the relationship between people, services, transportation policies, and energy products. Sustainable urban planning depends on motivating and involving the population (Hajla, A., 2016).

The concept of sustainable cities means that cities need to meet cultural, political, environmental, social, economic, and physical objectives. They are dynamic and complex organizations that respond to various changes

Several negative phenomena such as visual pollution, the proliferation of informal housing areas, as well as violations related to construction and urban development have spread in Algerian cities. All of them have had a negative impact on the urban environment, especially in major cities. This has hindered urban growth and impeded the implementation of many facilities and development projects, contributing to a significant distortion of the urban landscape. In light of this deteriorating situation and the state's desire to address this complex reality, it has set numerous regulatory laws aiming at improving the urban environment. These are primarily vested in :

- Law No. 01-19 dated 12/12/2001 concerning waste management, monitoring, and disposal,
- Law No. 01-20 dated 12/12/2001 concerning regional development and sustainable development,

- Law No. 03-10 dated 19/07/2003 concerning environmental protection within the framework of sustainable development. All of these laws, among others, have materialized as a tangible translation of various international agreements signed by Algeria, similar to the agenda of the 21st century.
- In light of the above, it is necessary to rise the following questions:
 - 1- What is the reality of sustainable development in Algerian cities?
 - 2- What are the challenges and difficulties facing its achievement?

TOOLS AND METHODOLOGY

In order to achieve the research objectives, we relied on the descriptive-analytical method. This approach involves the crystallization and formulation of the fundamental concepts related to variables of the research, based on numerous previous studies to establish a foundation for the complete study. We also interviewed various actors and experts in the field of environment and urban planning, including architects, private consulting firms, and government technicians responsible for monitoring local development programs. We directly addressed them with questions about the obstacles they encountered while carrying out their tasks within the framework of implementing Law 03-10 related to environmental protection in the context of sustainable development. Additionally, we relied on various findings from numerous field studies that encompassed several major Algerian cities such as the coastal city of Skikda, the inland city of Constantine, and the border city of Tebessa. This study serves as a general and comprehensive summary of various observations and results obtained.

1. Concepts related to the study

1-1 The concept of development: The concept of development is one of the most complex global concepts, and its importance is highlighted in its multidimensionality, interconnection with many other concepts such as planning, production, and progress. This term can be defined as "a deliberate process of changing specific conditions from one stage to a better one" (Latrach, Z., 2008). Development is also defined as "a set of radical changes in a specific society; with the aim of enabling that society to continuously evolve at a rate that ensures increasing improvement in the quality of life for all its individuals (meaning an increase in the community's capacity to meet the basic and increasing needs of its members in a way that ensures increasing satisfaction of those needs)" (Charfioui, F., Hamoudi, K., 2015).

1-2 The concept of sustainable development: The World Bank also defined it as: "development that focuses on achieving continuous and connected equality, ensuring the availability of the same current opportunities for future generations,

by ensuring the stability of comprehensive capital or continuous increase over time" (I.T.U., 2016). The economist Robert Slow defined it in 1991 as: " a development that does not compromise the production capacity of future generations and leaving it in the same state inherited by the current generation" (Al-Ghamidi A., 2009). Sustainable development has three fundamental dimensions (Ammar A., 2008) as follows:

1-2-1 Economic dimension: It means the continuity and achievement of economic well-being for the longest possible period by providing its components in the best quality through optimal and rational utilization of the region's resources to achieve the highest productivity both quantitatively and qualitatively (Douglas M., 2000).

1-2-2- Environmental Dimension: Focuses on respecting environmental boundaries, where each ecosystem has certain limits that cannot be exceeded by consumption, depletion, population growth, pollution, poor production patterns, water depletion, and green spaces such as forests, etc (Marzouki O., Kashrood S., 2019).

1-2-3- Social Dimension: Focuses on humans as the essence of development and its ultimate goal by addressing social justice, poverty alleviation, providing social services, and ensuring development through citizen involvement in what is known as participatory approach (Al-khouli O., 1999).

1-3- Concept of Sustainable Urban Development: Sustainable urban development aims to enhance the environment, provide basic housing, work, community services, communication elements, and urban infrastructure networks within specific spatial constraints and social, cultural, and limited resource value controls without conflicting with or depleting the natural environment. The importance and significance of urban development stem from its high interest within a society experiencing a significant urbanization rate. Its importance also lies in being the main driver of many other economic activities and industries related to construction and urbanization. The goals of urban development include two integrated core axes that cannot be separated (Abd Alkhaliq A., 1993):

1-3-1- Enhancing quality of life, which includes various aspects such as providing suitable housing, environment, health, education, work, income, security, and care for people with special needs.

1-3-2- Civil society participation in this enhancement, involving people in enhancing their quality of life. It also includes several aspects such as broadening the participation base (organizations, structures), and the efficiency of participation organizing mechanisms (laws, systems, media).

To achieve sustainability in the urban field, planning policies that focus on the following can be adopted (Boulmaiz, H., 2019):

1- Reducing urban sprawl through greening, reducing congestion within cities, increasing the attractiveness of homes in cities, and increasing density in the suburbs and small towns.

2- Reducing distances to increase local production to meet local needs (a self-sufficient city), local employment for local skills, and reducing the distance between home and work (reducing urban sprawl), following a mixed development policy and increasing housing in major employment centers and increasing development in small towns to reduce reliance on large cities, in addition to creating balanced new communities.

3- Striving to create attractive and economical public transportation by increasing the focus on mixed-use development in public transportation centers and intersections, balancing land use and public transportation to achieve a more balanced flow, and creating dedicated public transportation routes.

4- Reducing road traffic by reducing new development demand for travel, reshaping urban areas to reduce travel in private transportation, regulating reliance on cars outside cities and replacing them with collective public transportation, regulating parking in workplaces, reducing parking spaces, and providing more pedestrian areas.

2. Priorities and inputs related to sustainable urban development in Algeria

2-1- Priorities of Algerian cities:

- Good local governance.
- Safety of property and people.
- Creating job opportunities, reducing poverty, and obtaining decent housing.
- Providing a healthy environment and reducing pollution.
- Safe access to drinking water and energy at reasonable and transparent prices.
- Preserving the urban, architectural, and local cultural identity and valuing them.

2-2- The sustainable development vision for Algerian cities:

The priorities and conclusions derived from the multi-dimensional and multi-actor diagnosis indicate that the vision related to sustainable urban development in Algeria is based on the following axes (Bachainia S., 2004):

- Attraction and belonging to local culture through the interest of citizens and other interested parties such as investors in the place and the sense of urban and architectural identity.
- Conservation and improvement of the environment, including improving environmental performance, reducing greenhouse gas emissions, protecting and restoring biodiversity and related ecological services. The latter includes protecting ecological systems, biodiversity of animal and plant resources, genetic diversity, and reducing health risks.

- Adaptation to climate change and/or mitigation of its effects, readiness for economic shocks and disruptions, and social evolution.
- Responsible use of resources, whether related to consumption or distribution, improving land management, reducing material costs, reusing and recycling, and respecting the scarcity of resources in all its forms.
- Social cohesion through integration, inclusivity, dialogue with various components of civil society without boundaries or exclusion, reducing disparities and imbalances, and creating social mobility.
- Achieving prosperity and justice in access to opportunities for creativity, education, happiness, a healthy environment, and enhancing human capital, providing suitable conditions for achieving quality of life, and ensuring security and trust among different city stakeholders.

3. Algeria's Efforts in Advancing Sustainable Urban Development

Algeria, like other countries, has recognized the importance of balancing environmental protection duties with development requirements through wise resource management. To achieve this goal, it has implemented measures and policies aimed at improving citizens' living, economic, social, and health conditions. However, these efforts have faced obstacles and constraints, preventing the desired goal from being achieved. These include, but are not limited to, the following:

3-1- Desertification Issue: Desertification is a major problem affecting the future of agriculture in Algeria, with many agricultural lands being particularly exposed to this risk, especially those on the outskirts of cities (Kouira I., 2001).

3-2- Urban Expansion Problem: Cities are expanding at the expense of agricultural lands, consuming large areas and leading to the loss of forest lands due to fires and parasitic diseases. This has significantly reduced per capita agricultural lands, alongside inadequate investment in agricultural reclamation (Boulmaiz, H., Djebnour B., 2020).

3-3- Environmental Pollution: Environmental pollution in Algeria has worsened significantly due to the increased population growth, placing immense pressure on available environmental resources. This has resulted in challenges in housing, healthcare, energy, water, and other essential services. The population in Algeria has quintupled more between 1962 and 2002 from 6 million to over 30.6 million people, with an annual growth rate exceeding 0.3%. It reached approximately 42 million by 2020 (Djebnour B., Boulmaiz H., 2020).

3-4- Air Pollution: Cars, especially old ones, are the most significant environmental pollutant in major cities. In Algeria, there is a high percentage of cars that should be banned from use. Additionally, there is a huge volume of medical waste being improperly and unhealthily burned to reduce costs and evade taxes, estimated at around 124,000 tons annually, including 22 tons of highly

hazardous putrefied waste and 29,000 tons of toxic waste (Djebnoute B., Boulmaiz H., 2021).

3-5- Water Pollution: Environmental scientists worldwide agree that the third millennium is the "golden age" for clean drinking water due to the anticipated shortage compared to the increasing global demand. One of the most important factors of water pollution is the inadequacy of sewage services and waste disposal, as well as the untreated disposal of industrial waste. A recent study by the National Agency for Water Resources in Algeria revealed that 40% of consumed water is of good quality, 45% is of mediocre quality, and 15% is of poor quality. To address water scarcity issue in the capital and some of the major coastal cities of Algeria, the government has resorted to building desalination plants at high financial costs, in addition to excessive exploitation of groundwater at the expense of future generations (Djebnoute B., Boulmaiz H., Messaoud I., 2021).

4. Key Tools for Sustainable Urban Development in Algeria

4-1- Local Development and Planning Tools: These include short and medium-term urban documents aimed at organizing the space, such as land use plans (POS) and urban development plans (PDAU), which integrate the ecological dimension into development activities.

4-2- National and Local Environmental Plans: Local environmental plans serve as an initial field experience for public participation in local ecological dialogue with more freedom and significant quantitative and qualitative results. Their ecological objectives are considered more formal measures than fundamental development tools (Djebnoute B., Boulmaiz H., 2020).

4-3-The Blue Plan (Urban Water Cycle): It encompasses all activities related to the urban water cycle, from protecting drinking water and treating wastewater and rainwater to revaluing rivers and urban waterways.

4-4- The Green Plan (Nature, Landscapes, and Green Spaces): this includes all activities that affect nature in the city, starting from enhancing semi-urban reserves to promoting the improvement of private gardens, as well as greening industrial areas and creating a green fabric through tree-lined streets and various public gardens (Boulmaiz H., Guerfia S., 2022).

4-5- Urban Mobility Plan: this aimed at ensuring a highly efficient living framework. It favors a complete shift from multi-form mobility (car travel, walking) to a new plan for car traffic that prohibits central penetration, promoting peripheral or cross-city travel. Suburban parking facilities facilitate exchanges with trams and small buses, as well as two-wheeled transit routes.

4-6- National Urban Transport Plan and Local Urban Transport Plans: this includes addressing the impact of transport on urban environment, businesses, residences, vegetation, and public health. It also emphasizes the announcement of

clean, moderate, and quiet transportation methods, such as the success of gas-powered cars since 1994. Finally, it addresses also the local environmental plan proposes goals, methods of implementation, and tools for local communities, including a general diagnosis and a coordinated national program with technical and financial assistance from the ministry (Boulmaiz H., Djebnour B., 2021).

4-7- Basic Hazard Control Plans (Relief Plan): this is intended to control and minimize losses in the cases of hazards and disasters.

5. Sustainable urban development prospects in Algeria

As part of the program aimed at supporting growth and regional development, the government has allocated financial resources to support sustainable development through the implementation of many projects related to the protection and enhancement of natural resources. The focus has been put on the following projects: coastal area protection, biodiversity protection, environmental studies and regional development across the country; water supply projects including desalination and interconnection of dams; urban environment improvement through the provision of green spaces; elimination of black spots, household waste recycling and construction of technical landfill centers (CET) (Boulmaiz H., Djebnour B., 2022).

In addition to these, there are ongoing projects such as the diagnosis of polluted units for relocation, the establishment of an air monitoring system across major cities such as Algiers, Oran, Constantine, Annaba, and Ouargla, the creation of the "Douya" natural reserve that extends over an area of more than 200 hectares between Algiers and the new city of Sidi Abd Allah, the development of a beach development plan as part of the Mediterranean Action Plan (PAM) aimed at the protection and rational and sustainable use of beach resources in the Algiers region, and the registration of 26 sites for internationally important wetlands under the Ramsar Convention in the Oubira, El Assafir, Melah, and Tonga basins in the state of El Tarf. (Djebnour B., Boulmaiz H., 2022)

Sustainable development projects have also been initiated in seven regions, including the cedar forests in Khenchela, the Tiout palm groves in El Bayadh, the sunflower forests in Djelfa, the Wadi El Touil area in Tiaret, and the Tin Hanan area in Tamanrasset.

6. Outcome And Discussion

6-1 The Reality of Sustainable Urban Development in Algeria:

By examining the current situation of the urban environment in the Algerian cities, especially the major ones, it has been found that the different lifestyles do not meet the required level as they are far from sustainable practices. In the field of urban development, various urban planning tools have failed to address the

problems of expansion and rapid migration. This necessitated the search for new effective tools, leading to the emergence of the Urban Development and Planning Master Plan (PDAU) and the Land Use Plan (POS) which yielded some solutions. Nevertheless, the urban environment has suffered significantly due to planning, organizational, and implementation errors, prompting local and higher authorities to reassess and continually seek more efficient urban development tools that is supported by legal, financial, managerial, and regulatory mechanisms to control various urban operations.

Algeria is currently working in coordination with countries, governments, specialized international organizations, the private sector, civil society, economic and social actors, and political partners to reach initiatives, decisions, and field work that elevate the environment to an acceptable level. This ensures the rights of the population and other living beings to live in a suitable, healthy environment that is free from psychological discomfort and hazards. This can only be achieved by making the environment an economic sector through the valorization of natural resources, focusing on human resources, enhancing their capabilities through training and awareness, and also by protecting and promoting the cultural aspect, making it a tourist attraction source and investing in it.

The focus has been on sectoral developmental and urban programs that is in line with foundational infrastructure such as the east-west highway, the construction of dams and national stockyards, and transportation networks like the metro. There has also been an emphasis on the highlands and the southern regions to create a regional balance regarding the distribution of wealth and development between the north and the south, aiming to reduce migration towards coastal cities. Efforts have been made to implement the development project in the highlands and the southern regions, which has started to bear fruits.

Additionally, local programs have been initiated to encourage rural settlement by developing basic infrastructure such as road paving, connecting isolated areas, and providing essential services.

In urban areas, there has been a doubling of focus on urban transportation, completion of green spaces, housing programs, and attention to old neighborhoods to protect and improve the living conditions. Attention has also been given to regularizing informal and incomplete buildings through a law that sets out the rules for conformity and completion. Waste management, particularly urban solid waste collection, transportation, and disposal in a healthy manner, as well as sewage disposal, has been a significant concern. Various efforts have been mobilized to change community behaviors towards the environment, aiming to protect and preserve it for the present and future generations. Today, the environment sector is a global priority by both local elected officials and higher authorities, as it has become a profitable sector in advanced countries, attracting investment from both public and private institutions.

6-2- Diagnosing the current situation of the Algerian city in the light of sustainable development field:

Through our study of the reality of many Algerian cities such as the coastal city of Skikda, the inland city of Constantine, and the border city of Tébessa, and applying various principles and rules of sustainable urban development, we have been able to record the following observations and conclusions:

6-2-1- The Algerian city is far from a societal project shared and owned by the population to a sufficient extent:

The urban project of the city did not receive the status it deserves within various government policies, and it is certain that this issue constitutes a national concern. However, it still does not measure up to the scale of the structural problems of the city and its weight on various demographic, economic, and social levels. Sustainable cities should embody a societal project that encompasses social, political, economic, cultural, educational, and local dimensions. We cannot aspire to achieve sustainable urban development without being able to benefit from the contributions and experiences of all political, economic, and social actors. It is necessary to remember that urban development requires an inclusive approach and the mobilization of all urban actors.

6-2-2- The governance system does not meet the requirements of sustainable urban development, especially for large cities:

The city governance system is characterized by a lack of coordination among various stakeholders, including public authorities, elected institutions, administrative bodies, and representatives of civil society. Within this framework, the manifestations of interference arising from the dispersion and hesitation between the levels of governance and management at the regional level, on the one hand, and between the state and the elected authorities on the other hand, seem evident. This leads to the creation of conflicts and obstacles that negatively impact the speed and effectiveness of the decision-making process, which in turn affects negatively the reality and the future of the city. Additionally, the principles related to administrative freedom and delegation of management authority have not yet been fully realized in practice. Furthermore, the non-centralized administration has not achieved the desired success, as it has been limited to delegating signatures instead of taking strong initiatives to transfer powers from the center to the local communities, primarily represented in the governorate and municipality. Sustainable urban development necessarily requires the adoption of genuine decentralization, accompanied or even preceded by the expansion of non-centralized administration as a prerequisite for good governance and city management.

6-2-3- Civil society faces difficulties in participating in and evaluating development programs with local authorities:

Representative democracy in Algeria is characterized by limited governance in urban areas, unless it is strengthened and accompanied by participatory democracy. Civil society organizations should make efforts to expand their scope of interest to not be limited to thematic or sectoral concerns, and to open up to issues such as establishing sustainable cities, spatial reorganization, urban integration, social cohesion, and many other issues related to city policies. In addition, the procedures related to preparing environmental impact studies for investment projects and urban planning documents also stipulate consultation with residents and local associations. However, it is noted that this field suffers from the lack of standardization of dialogue methods and the presentation of opinions and proposals, as well as the weak capacities of local associations in working within project networks and in analyzing and monitoring them in accordance with the adopted legislation and regulations.

6-2-4- The Algerian city struggles to provide its inhabitants with a sense of well-being and social integration:

The well-being of the population depends on creating an urban environment that ensures social integration, solidarity, security, health, cleanliness, and development. These aspects are of utmost importance in establishing an integrated and attractive city. However, the city is generally the result of a series of fragmented developments designed outside of a comprehensive vision that prioritizes social cohesion and well-being. In reality, the criteria adopted in social housing construction processes do not allow for any social integration or well-being. The excessive housing density per hectare, reduction of building heights, narrowing of pathways and public spaces not only affect the cost of the product, but also raise questions about urban quality of life. This leniency contributes to the growth of discrimination, exclusion, and social risks in residential complexes that do not provide adequate housing conditions. The city has increasingly become a stage for the tragedies and risks of the modern era. Therefore, it is necessary to reduce the fragmentation of the city and minimize urban segregation by distributing urban functions, public facilities, public spaces, and identity landmarks across all neighborhoods and sectors within the city, in order to give the population a sense of dignity and the right to live in a city that befits them.

6-2-5- Weakness in sustainable development culture and lack of education on urban values:

Striving to build a sustainable city is actually striving to build an integrated community that gives a vital role to culture in building the urban development project. A city that wants to succeed in achieving its progress must necessarily rely on valuing culture and urban values. Usually, special attention is not given to evaluating the reflections of culture on sustainable development. Efforts to ensure social integration, fair growth, and reduce the effects of climate change will not succeed unless the cultural aspects of community life are taken into account. There are undoubtedly multiple models for integrating sustainability culture into

urban public policy. In this regard, sustainable city covenants, such as those in Aalborg, Leipzig, and Quito, are rich documents on this subject. However, this concern is absent in the preparation of land preparation and development designs, as well as in community action programs. The city, the environment, and other cultural and social values still remain secondary issues in educational programs. A competitive and sustainable urban field should be entrenched in the student's mind as in the lessons he receives. Developing taste, awareness, and urban sensibility in the child is part of his upbringing. Therefore, we see it necessary to update the entire educational system and adopt a new governance style for public schools. However, we must intensify the training and awareness units directed to the elected officials, administration, and residents, in order to instill sustainable development values and urban values in their souls.

6-2-6- The Algerian city's lack of innovation, research, and development:

A city that does not encourage building an information society, does not clearly utilize the potential of new technologies, and does not facilitate access to information and communication technologies is a stagnant city. Without promoting a culture of entrepreneurship, without promoting excellence professions, and without ensuring the conditions for implementing research and development projects, we cannot aspire to building a competitive and sustainable city. The challenge lies in ensuring broad engagement of all actors in social and cultural changes towards a culture of initiative, entrepreneurship, and innovation. In this regard, it is necessary to create a suitable climate for business, innovation, and initiative and to involve all circles and actors in the field of local development in the service of a sustainable city. The national context does not respond to the requirements of the economy based on creativity, innovation, and knowledge. Economic activity is no longer limited to agriculture, industry, or services, but increasingly relies on knowledge, which threatens production, information, and knowledge and creates fierce competition. Algerian cities are called upon to create a climate that liberates the potential in the fields of research, innovation, development, and creativity. Cities that aspire to be sustainable and future cities should enhance their focus on centers of innovation, research, and excellence by integrating dimensions related to sustainable development in their objectives, programs, and intervention areas.

6-2-7- Lack of visionary and rational utilization of the urban space's potential:

Without exception, the urban fabric of our cities is exposed to demographic inflation, not only due to the needs of the economic sector, but also because the city should develop based on a multi-functional economic base related to industrial, scientific, knowledge, and service areas, among others, contributing to the creation of abundant job opportunities. Many Algerian cities lack the necessary economic facilities and infrastructure, as well as innovation, making them lacking in attractiveness. Economic activities often lack proper planning and

adequate adaptation. There are significant shortcomings in all cities regarding issues related to mobility and connectivity within the city, as well as the interrelationships between the city and its surrounding areas, its urban network, and its international economic links, all of which are crucial factors for its development and future. Algerian cities exhibit many aspects of wasted energy in terms of wealth creation and employment. They do not take advantage of the possibility of recycling solid waste, as only a small percentage of household waste is disposed of in controlled landfills and recycled. In addition, the pressure on natural resources and ecosystems has resulted in significant deterioration costs that have burdened the public treasury. The transition towards a circular and green economy is still slow, with the use of renewable energy in cities remaining low.

6-2-8- Ineffectiveness of managing real estate, human, and financial resources in the city

Algerian cities still suffer from weak control and rational management of their real estate, which continues to cause an increase in public treasury expenses in the absence of a visionary approach in managing urban and semi-urban lands. It is necessary to mobilize urban real estate in order to implement various development projects and infrastructure. There is a trend towards opening state lands for urban development, sometimes at the expense of agricultural lands, or within non-homogeneous areas (slopes, rocky areas), leading to additional costs associated with urban expansion and the additional expenses required for infrastructure and urban mobility. Algerian cities do not have sufficient means and authorities to secure their financing. Their current resources remain insufficient and are not optimally utilized. Local budgets are modest and heavily rely on financial resources provided or managed by the state. Poor urban governance can lead to additional financial burdens. For example, if a municipality decides to open a street for development without respecting the legal standards, it may face financial burdens resulting from its condemnation. Everything has a cost that the city and the state must bear. It is certain that the lack of investment in culture and education, or the failure to facilitate access to financing for renewable energy projects and energy efficiency, affects the city's effectiveness, urban values, and funding for measures related to mitigating social and economic impacts. Legal shortcomings, favoritism, failure to enforce the law, neglect of popular participation (participatory approach), and the lack of recreational and open spaces within the city, among other deficiencies, directly or indirectly burden public budgets.

6-2-9- Lack of a clear vision for our cities regarding improving their efficiency and independence in the field of renewable energies:

Cities can rely on the energy efficiency of buildings as a fundamental challenge, given the increasing urban expansion. However, they do not fully benefit from the energy renewal program for public buildings, which are considered to have high energy consumption. Energy consumption can be

rationalized primarily in public lighting, the industrial sector, logistics services, household waste and similar waste, liquid sanitation, and public urban transport. The city has a duty to contribute to the implementation of a specific national contribution in the field of mitigating negative impacts through national strategies and programs. The recorded shortfall also lies in the lack of mobilization of political, economic, and social actors, especially in terms of disseminating energy efficiency-related technologies and knowledge, as well as deficiencies related to standards, tools, and training programs. Collective mobilization is the only way to change behaviors in order to adopt better consumption patterns, replace high-energy-consuming equipment, and make energy efficiency a lever for economic performance. Local actors' capabilities in terms of experience and in the fields of management and finance do not meet the requirements of the energy transition, so the city's support should be embodied through supporting local governance, innovating to create job opportunities and adapt to climate change, obtaining information, and supporting the implementation of investment projects in technologies that enable energy consumption control in buildings and community infrastructures, among others. The city in Algeria does not fully benefit from the development of new information and communication technologies to reduce energy consumption through the adoption of smart management of electrical networks via Smart Grids. Digital preparation and management are two levers for the development and repositioning of cities, which require the state, local authorities, and specialized actors to establish a digital system, not only to reduce the digital divide but also to promote startups and digital growth companies.

6-2-10- The inability of Algerian cities to resist the risks of climate change:

Managing crises and natural disasters should be a focal point in urban planning and reconstruction policies, as Algerian cities are exposed to a whirlwind of changing and diverse risks such as floods, forest fires, and others. Sustainable Algerian cities should adopt a comprehensive approach to risk prevention, especially natural risks. They should consider risk mapping in planning and development processes. It is essential to carefully assess the urban expansion of cities at risk and to develop maps of the capacity for urban development to guide the permissible construction areas and infrastructure, especially in terms of transportation planning. Urban sustainability also requires valuing risk-related knowledge. Therefore, it is the responsibility of the state and local authorities to establish a risk culture, enhance communication, and further integrate the "risk" dimension into public policies. Collaborative efforts among stakeholders are a prerequisite for the success of any collective action. Hence, the involvement of civil society, the private sector, and the scientific community in developing risk prevention plans and implementing necessary measures to enhance cities' adaptive capacity is crucial.

CONCLUSION AND RECOMMENDATIONS

Through research, it has become clear that the concept of sustainable development has gained wide international acceptance and adoption since the mid-1980s. However, the world has not yet succeeded in taking real and serious steps towards genuine sustainability, reconciling the contradictions between development and the environment resulting from the dominant development model since the mid-20th century. This situation makes humanity face a future fraught with risks and uncertainties. It is therefore noted that the desired transition towards sustainability does not seem possible without a fundamental and radical change at the level of the prevailing cognitive model, moving away from the values of dominance and human-centered exploitation, towards the crystallization of a new cognitive model characterized by inclusivity, not centered around humans, and viewing the world as an interconnected whole, rather than a scattered collection of parts. Through this, efforts towards sustainable development and environmental conservation can be effectively integrated for the common good of the current and future generations. Although Algeria is considered one of the leading countries in adopting concepts related to sustainable environmental development, it generally suffers from:

- Weak environmental culture among officials and citizens alike.
- The concept of environmental impact assessment is linked to some projects classified as having serious outputs on the environment, such as extractive activities and fuels, while many other activities related to sensitive environmental resources such as forests, fisheries, dams, water, other energy sources, and urban expansion have not received sufficient legislative attention.
- Weak legislative foundation in general, which is essential for adopting and embodying sound environmental concepts and applications.
- Weak oversight in Algeria, which has not contributed to achieving positive environmental or sustainable developmental results.
- Fragility of the role of civil society components and their weak contribution to decision-making related to various aspects of national and local development alike.
- Absence of environmental culture among citizens and even many governmental institutions.
- Weak role of media in its various forms - visual, auditory, and written - in contributing to environmental conservation.
- There is a lack of rigorous scientific studies on the environment in general and urban environment in particular, due to a significant and systematic marginalization of the role of universities and scientific research centers in leading the comprehensive development of the country.

According to the study outcomes, we can make the following recommendations:

1- Valuing the various natural and human components of Algerian cities and striving for their rational exploitation, and preventing the emergence of social and economic fragility factors.

2- Improving the urban framework and making its elements appropriate and harmonious with modern technological development to be at a high level of service efficiency and technical quality in a way that responds to citizens' aspirations through the generalization of digitization and the use of artificial intelligence.

3- Combating various forms of urban violations such as the spread of chaotic neighborhoods, informal enclosures, chaotic trade, random dumping of waste and other forms of urbanization.

4- Adopting effective policies to improve and develop the urban framework of Algerian cities and restore consideration to urban areas of historical value.

5- Preparing public spaces in a way that ensures the continuity of the city and ensures that it performs all its functions in the best possible way.

6- Adopting a participatory approach that ensures true representation of the population within the city's management bodies, with the involvement of actors in the field of local development, especially scientific bodies such as the university.

7- Focusing on human development, promoting citizenship values and respecting public space which contributes to improving the urban environment and achieving the principles of sustainable urban development.

REFERENCES

- Abd Alkhaliq, Abd Allah. 1993. "Sustainable Development and the Relationship between Environment and Development". *The Arab Future*. 15(167).
- Abd Elkarim Belbel, Samir, Younes. 2018. "The Phenomenon of Marginal Urban Areas in Algerian Cities." *Journal of Humanities*. 5.
- Al-Ghamidi, Abd Allah Ben Djamaane. 2009. "Sustainable Development between the Right to Exploit Natural Resources and Responsibility for Environmental Protection". King Saud University. Saudi Arabia. 1-29.
- Al-khouli, Oussama. 1999. "The Concept of Sustainable Development, cited in the Journal of Environment and Development". issued by the Center for Studies and Consultations of Public Administration. 9.
- Ammar, Ammari. 2008. "The Problem of Sustainable Development and Its Dimensions". The Third International Scientific Conference. Sustainable Development and the Efficiency of the Use of Available Resources. Faculty of Economic Sciences and Management in collaboration with the Partnership and Investment Laboratory in Small and Medium Enterprises in the Euro-Maghreb Space. Setif Days. 13-11.
- Bachainia, Saad. 2004. "From Comprehensive Development to Sustainable Development". *Journal of Social and Human Sciences*. 9. Batna University. Algeria.
- Benghodban, Fouad. 2015. "Urban Quality of Life: Diagnosing Evaluation Indicators in Urban Agglomerations". Al-Manhajia Publishing and Distribution. Amman. Jordan.

- Boulmaiz, Houcine. 2019. "Dynamics of Informal Housing: Characteristics, Treatment Methods, and its Relationship to the Size and Function of the City – Skikda and El Harrouch as Models - Northeast Algeria". Doctoral Thesis in Urban Planning. Badji Mokhtar University. Annaba. Algeria.
- Boulmaiz, Houcine, Djebnoune, Brahim. 2020. "Informal Housing and Its Settlement within the Framework of Law 08-15 in Tébessa City: Reality and Challenges after a Decade of Implementation". *International Journal of Innovation and Applied Studies (IJIAS)*. 30(4).892-902.
- Boulmaiz, Houcine, Djebnoune, Brahim. 2021. "The impact of the corona pandemic on the quality of urban life in the city of Tébessa". *The Algerian Journal of Engineering Architecture and Urbanism (AJEAU)*. 5 (6).
- Boulmaiz, Houcine, Guerfia Saadek. 2022. "Settlement of Informal Settlements in the city of Tébessa within the framework of Law 08-15: Reality and Challenges after a decade of implementation". *Algerian Journal of Human Security*. 1(07). 18-41.
- Boulmaiz, Houcine, Djebnoune, Brahim. 2022. "Informal housing and its impact on urban growth in small inland cities: the case of Hammamet city in Tébessa as a model". In the research book of the second symposium on small and medium-sized cities: What future within the framework of urbanization and globalization?, Book ISBN: 978-9931-9744-0-6, pp. 487-506. Larbi Ben Mhidi University; Oum El Bouaghi. Algeria.
- Charfioui, Fatima, Hamoudi, Karima. 2015. "Sustainable Urban Development in Algeria from 2001 to 2015: Study of the Ecological Neighborhoods Model". Master's Thesis in Political Science. Mouloud Mammeri University. Tizi Ouzou.
- Djebnoune, Brahim, Boulmaiz, Houcine. 2020. "Conducted a study on visual pollution in major Algerian cities, using the city of Tébessa as a model". *The Algerian Journal of Engineering Architecture and Urbanism (AJEAU)*. 4(2),55-68.
- Djebnoune, Brahim, Boulmaiz, Houcine. 2020. "Urban Transport Network Analysis in Major Algerian Cities Using Geographic Information System: The Case of Tébessa City - Far Northeast". *International Journal of Innovation and Applied Studies (IJIAS)*. 29 (4).1374-1386.
- Djebnoune, Brahim, Boulmaiz, Houcine. 2021. "Inequalities in the environmental quality of the neighborhoods of an Algerian border town (case of Tébessa extreme east of Algeria). *Acta Geographica Silesiana*. 15/2(42). INoZ UŚ. Sosnowiec. 5–17.
- Djebnoune, Brahim, Boulmaiz, Houcine, Messaoud Iness. 2021. "Explore the phenomenon of urban nights or early sleeping cities, focusing on the case of the city of Tébessa, a major border city in the far east of Algeria". *The Algerian Journal of Engineering Architecture and Urbanism (AJEAU)*. 5(6).
- Djebnoune, Brahim, Boulmaiz, Houcine. 2022. "Urban nights where cities sleep early (case study of Tébessa city, the extreme east of Algeria)". *Acta Geographica Silesiana*. 16/2(46). INoZ UŚ. Sosnowiec.21-31.
- Douglas, Moschit. 2000. "Principles of Sustainable Development". International House for Cultural Investments. Egypt.
- Guira, Ismail. 2001. "Marginal Urban Dimensions in the Contemporary Algerian City". Research Center for Social and Cultural Anthropology. Oran.
- Hajla, Adjela. 2016. "Urban Planning and Sustainable Development in the City of Tébessa". Doctoral Thesis in Spatial Planning. Mentouri University. Constantine. Algeria.
- Imad, Athmane Mostafa Mohamed. 2007. "The Information City: The Suitable Urban Reality for Green and Environmentally Sustainable Cities". Arab Organization for Urban Development. Arab Institute for Urban Development. Conference on Environmental Challenges and Their Impact on Urban Development of Cities and Regions. Faculty of Engineering. Al-Azhar University.

- Kouach, Zahia., Ouakkli, Kalthoum. 2019. "Experiences and Applications of Smart Cities in the Arab Region - The United Arab Emirates and Smart Dubai". *Journal of Economy and Environment*. 2(2). 08-27.
- Latrach, Zahbia. 2008. "Sustainable Development and Utilization Efficiency of Available Resources". Publications of the Laboratory for Partnership and Investment in Small and Medium Enterprises in the Euro-Maghreb Space. Dar Al-Huda for Printing, Publishing and Distribution. Ain M'lila. Algeria.
- Marzougui, Omar., Kachroud Chahinez. 2019. "Environmental Security and Sustainable Development: Strategic Integration". *Algerian Journal of Security and Development*. 8(15). 31-43.
- The International Telecommunication Union (I.T.U.). 2016. Union News. "Building Sustainable Smart Cities of Tomorrow". Issue 2.