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## **Strategic assessment for managing the requirements of sustainable urban development for cities, a case study of the city of Boussaada**

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**Abstract.** Strategic assessment is an important tool and means for achieving sustainable urban development, as it is a scientific approach used to crystallize the developmental priorities and goals of cities, and to identify programs and projects capable of achieving these goals within a certain period of time, in line with the current and future aspirations of the population, taking into account the available resources and potential obstacles. The practical framework of the research included a review of the requirements of sustainable urban development, which contains a set of proposals for it, through the application of its evaluation in a strategic evaluation method, based on a developed reference tool proposed by the researcher and with it. Multiple scopes, which makes it possible to understand the performance of the city and determine the conditions for its sustainable urban development, and also identifies weaknesses, strengths and imbalances in the way cities behave in their application of the requirements of sustainable urban development. This tool or specification was designed by the researcher and incorporated the Delphi method In the selection of criteria, the second method is Gap analysis Which was applied to the city of Boussaada, and the results were as follows, the actual matching percentage of the recipe was 4.46%, Which indicates the existence of a non-conformity gap of 95.54%, which indicates the existence of a clear and large gap for the city of Boussaada, which is very limited, divided according to the four sections of the standard, and accordingly, after diagnosis and examination, it achieved a conformity rate of 8%, with a record size of the gap 92%, As for management and vision, it achieved a matching percentage of 7%, and accordingly, the size of the gap reached 93%, and the tools and means achieved a matching percentage of 2%, and the size of the gap was 98%. While the actions and procedures recorded a matching rate of 1%, accompanied by a gap of 99%, all this indicates that the city of Boussaada It suffers from shortcomings in its management methodology for the requirements of sustainable urban development according to the stages of preparing its plans for this, as many factors that have important effects on the sustainability of the plan in the medium and long term are neglected, and therefore it is closer to a traditional development plan that is unable to accommodate the rapid changes it is going through and the challenges it faces, which constitutes a major challenge in achieving sustainable urban development.

**Keywords.** Strategic assessment, Administration and requirements, Sustainable Urban Development, Boussaada City

## 1. Introduction

Years, the world has witnessed a growing interest in sustainable urban development, which is the process of finding a balance between environmental, economic and social requirements, and this balance is applied at the local or urban (city) level. Rasoolimanesh (2011), Devoting a lot of efforts to improving their performance in cities, and raising sustainable awareness with the aim of integrating environmental considerations with social, economic and urban issues in the development sectors. Hojer & other (2011), At the same time, decisions related to sustainable urban development remained the subject of endless questions, not only because they did not put in place appropriate legal mechanisms or sound implementation tools, or did not search for solutions to the problems of critical cities, but mainly because they did not respond efficiently to the new challenges that impede access to urban development sustainable, It did not achieve the expected results towards the quality of life in cities, its improvement and its integration with the requirements of sustainable urban development. Caird et al (2016).

This has led to an increased interest in raising sustainable awareness among decision makers. Aliakbar & Rossella (2017), And the emergence of a growing interest in assessments of the sustainability of city policies, as systems of strategic urban planning have evolved over the past decades, through a framework coupled with a set of indicators. Rotmansa & Vellingab (2000), Therefore, in order to assess sustainability in the development process, the requirements of sustainable urban development must be compared with the main features of the urban development process.

A strategic assessment to determine the expected environmental, social and economic impacts in the city has begun to emerge. Kirk & Robert (2001), Where there was a need to strengthen it, especially in the decision-making process to a level beyond the project, which led to the emergence of the concept of strategic assessment, which helps decision-makers to reach a better understanding of how environmental, social and economic considerations fit into their strategic decisions, and also enhances the interaction between planners, officials and the local community in achieving sustainable urban development requirements. Diamantini & Zanon (2000) for cities and municipalities. UN-habitat (2009), Especially the methods that make the participation of decision-makers and stakeholders and new tools that enable them to respond appropriately to the future visions and aspirations of the city's population. Malkina (2002) and their needs and current reality in urban areas, and to achieve this requires action at the national, regional and local levels represented by cities. Bickel (2003), this vision is translated into a set of programs and policies through action strategies that contribute to the integration of sustainable urban development in an integrated manner at the higher levels of decision-making. Cities Alliance (2007), with the aim of evaluating the effects of the proposed development policies and plans, and programmes, providing the most sustainable alternatives, implementing appropriate mitigation methods and procedures and providing appropriate recommendations to decision makers.

The strategic evaluation aims to ensure that the proposed policy, plan or program for development is consistent with other strategic decisions, and ensures the participation of the population and civil society organizations in the strategic decision-making process, as all these decisions consist of general objectives (visions) and detailed information (actions, activities, procedures, and implementation plans, policies, programs and projects (necessary) to implement these objectives. UN-Habitat (2009).

The strategic assessment of the requirements of sustainable urban development must be in response to global changes and trends affecting cities, especially in developing countries,

especially Algerian cities. Rotmansa et al (2000), with an analysis of the necessary actions that the city should take to properly manage its sustainable urban development.

The importance of strategic assessment stems from the need to diagnose the current state of society's resources, and the extent of interdependence and consistency between them, in order to facilitate the process of drawing strategic policies in order to respond to the requirements of sustainable urban development. Yim et al (2015), Planning is important in the process of awareness-raising, reform, and reduction of waste in human and natural resources, the paramount importance lies in achieving integration between the efforts made through various institutions and bodies to achieve sustainable urban development in an integrated manner. Darshini (2010), there is a great role for experts and planners to look into the future and monitor the possibilities of failure or success in the long term, to ensure our future and the future of future generations.

On this basis, the researcher designed a checklist based on the criteria of sustainable urban development requirements in order to strategically assess the actual reality of managing the requirements of sustainable urban development for the city of Boussada, by analyzing the gap and diagnosing its causes...) by applying the system, In order to translate the answers to the requirements of the checklists into a quantitative expression to obtain greater accuracy in analyzing the data contained therein, the assessment checklist was divided into four sections, whose successive analysis determines the general performance of the city in managing its sustainable urban development requirements:

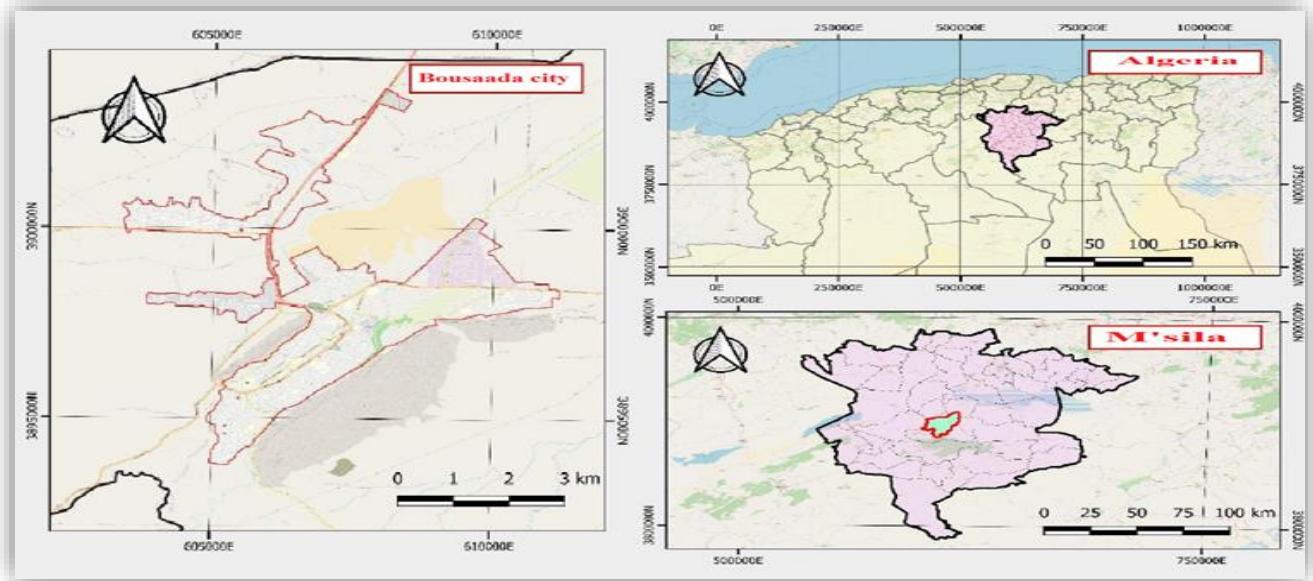
- **Diagnostics and Examination Section:** It is the determination of whether the city meets the basic criteria that make it possible to obtain documented stock necessary for any effective management of the problem.
- **Management and Vision Section:** It is an assessment of the effort made by the city to enhance its management of sustainable urban development over time.
- **Tools and Means Section:** It is an analysis of whether the city uses the necessary and available tools, in order to ensure the implementation of sustainable urban development.
- **Measures and Procedures Section:** studies the city's performance in terms of implementing, promoting and valuing sustainable urban development.

## 2. Materials and methods

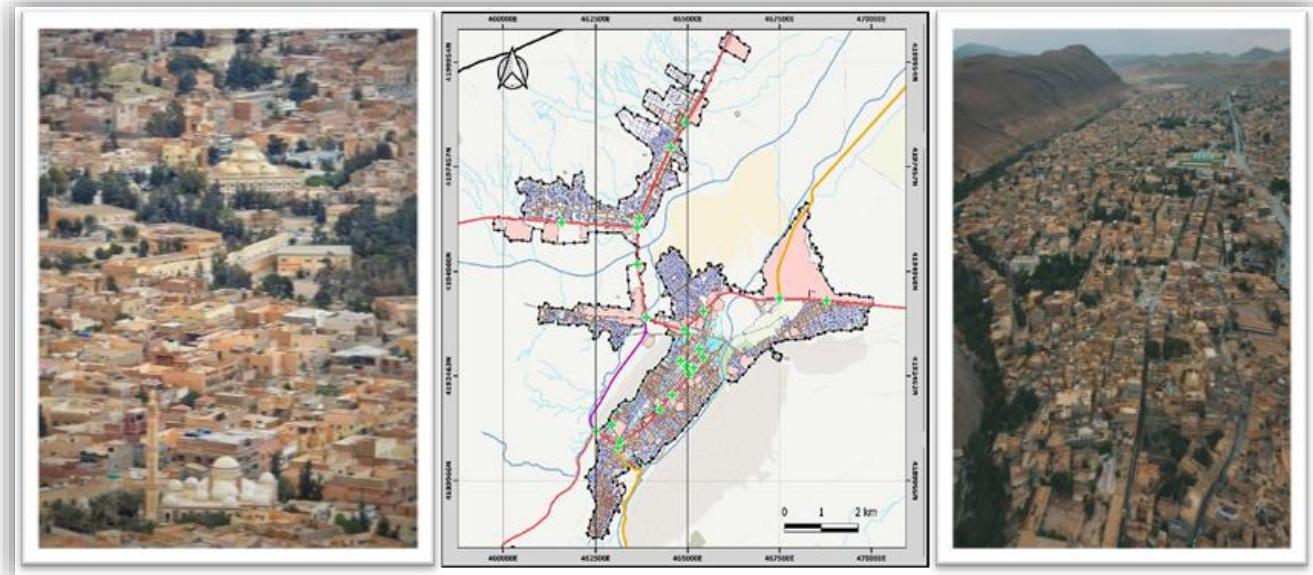
### 2.1 Presentation of the study area

The city of Boussaada is located on the Tellien Atlas and south of Chott El Hodna and covers an area of 256 km<sup>2</sup>, limited to the north by the municipalities of Ouled Sidi Brahim, Maarif and El Haouamed and to the south by Oultame, Temsa and ELHamel.

Boussaada has two large oueds : Oued Maitre and Oued Boussaada. The waters which drain these two oueds flow into the sebkha basin to the south of the chott, it is notably surrounded by a strip of palm groves on the east side and dunes on the north side. So we can say that, the territory of Boussaada is well determined by natural elements. Nacib (1986).



**Figure N° 01:** The location of the city of Boussaada



**Figure N° 02:** Boussaada city

## 2.2 Methodology

The study relied on the case study approach, as it is the approach that is characterized by a detailed and accurate description of the relevant information, as well as the multiplicity of its features in terms of its ability to combine more than one research method at the same time. Starman (2013), Which is represented by observations, personal interviews, the use of

checklists and direct comments and inquiries for the purpose of obtaining the required data and information required by the study in order to reach the desired goals. Roger et al (2009), The study methodology is divided into two phases:

• **Phases 1:** for the nature of this forward-looking and future study, which aims to strategically assess the requirements of sustainable urban development, and analyze the necessary actions that the city must take to properly manage its strategies, through interrogation and analysis, used by the user in interpreting and explaining the criteria and their weight for a clear justification For all the characteristics of sustainable urban development.

It was necessary to use a methodology suitable for this type of studies, which is the **Delphi method**, as it is one of the best methods in future studies. Hallowell & Gambatese (2010), Where it is implemented from several survey rounds as shown in (Figure N° 03) on a group of experts, in building this tool, which consists of technical and scientific criteria that must be followed in preparing the strategic assessment of the requirements, Sustainable urban development.

• **Phases 2:** After the completion of the (Phases 1), which is to build a tool for strategic evaluation through the approved questionnaire, in this (Phases 2), a case study method was adopted (**Gap Analysis Checklist**), Which is the most appropriate approach to study the reality of sustainable urban development in cities, in order to reach what this research aims to achieve, Through this approach, the collected data and information are summarized, diagnosed and analyzed for the purpose of describing the research variables as they depend on the field experience of the research site. Skivington et al (2021), And then assess the current reality through the checklist to analyze the gap of the sustainable urban development strategy in the city of Boussaada, depending on the answers of experts, field observations and official documents (Figure N° 03), And accordingly, conclusions can be determined and recommendations and proposed solutions are more realistically developed.



Figure N° 03: Study phases

### 2.3 Materials

Given the nature of the study, the method used, and the time and possibilities available, the researcher found that the most appropriate tool is the questionnaire. Accordingly, the researcher designed a questionnaire for a number of closed questions that were built from the theoretical framework of the research and previous studies. Ganassali (2008), As well as modern systems for evaluating sustainable urban development, especially the international standard such as ISO 37120, ISO 14001, IND, LEED..... etc, And from what the researcher saw on the ground of the work, in addition to an open question that experts are asked to answer, To select the experts, the researcher relied on the intentional sample according to a set of criteria that were previously defined. The sample consists of 27 experts divided into two parts:

- Academics are professors with a PhD. And more in a specialty.
- Professionals who are by virtue of the nature of their work and their scientific and functional experience in the field of study, and the years of experience in general should not be less than 15 years.

When the questionnaire was presented to the experts and prepared by the researcher, the questionnaire contained a set of primary questions related to the requirements of sustainable urban development. Then the questionnaires were collected from the participating experts and were analyzed, summarized and categorized by the researcher, Then a questionnaire was formulated for the second cycle with feeding from the first round and then sent to the experts in the second round to solicit their opinions, then it was collected and reformulated after taking into account the observations, additions and comments of the experts, The third round questionnaire was then drafted and sent to the experts and settled on insights that had an experts approval rating of 75% or above. It contained 132 questions divided into 4 main requirements, including 12 axes according to 46 branches of the requirements of the proposed specifications, each according to statistical treatments using the (SPSS) program.

After completing the questionnaire, which is a checklist (Recipe) based on the requirements of sustainable urban development in order to analyze the gap, determine its size and diagnose its causes, The relative weights of each item of the requirements scale were determined to assess the extent to which the respective city (city of the pillow) met the application of the system, using a seven degrees scale to measure the extent of actual conformity, Where it ranges between application and total documentation (with a weight of six degrees) and non-application and documentation (with a weight of zero), which are shown in the following table, and using the arithmetic median and ratios, in order to translate them into a quantitative expression to obtain greater accuracy in analyzing the data contained therein.

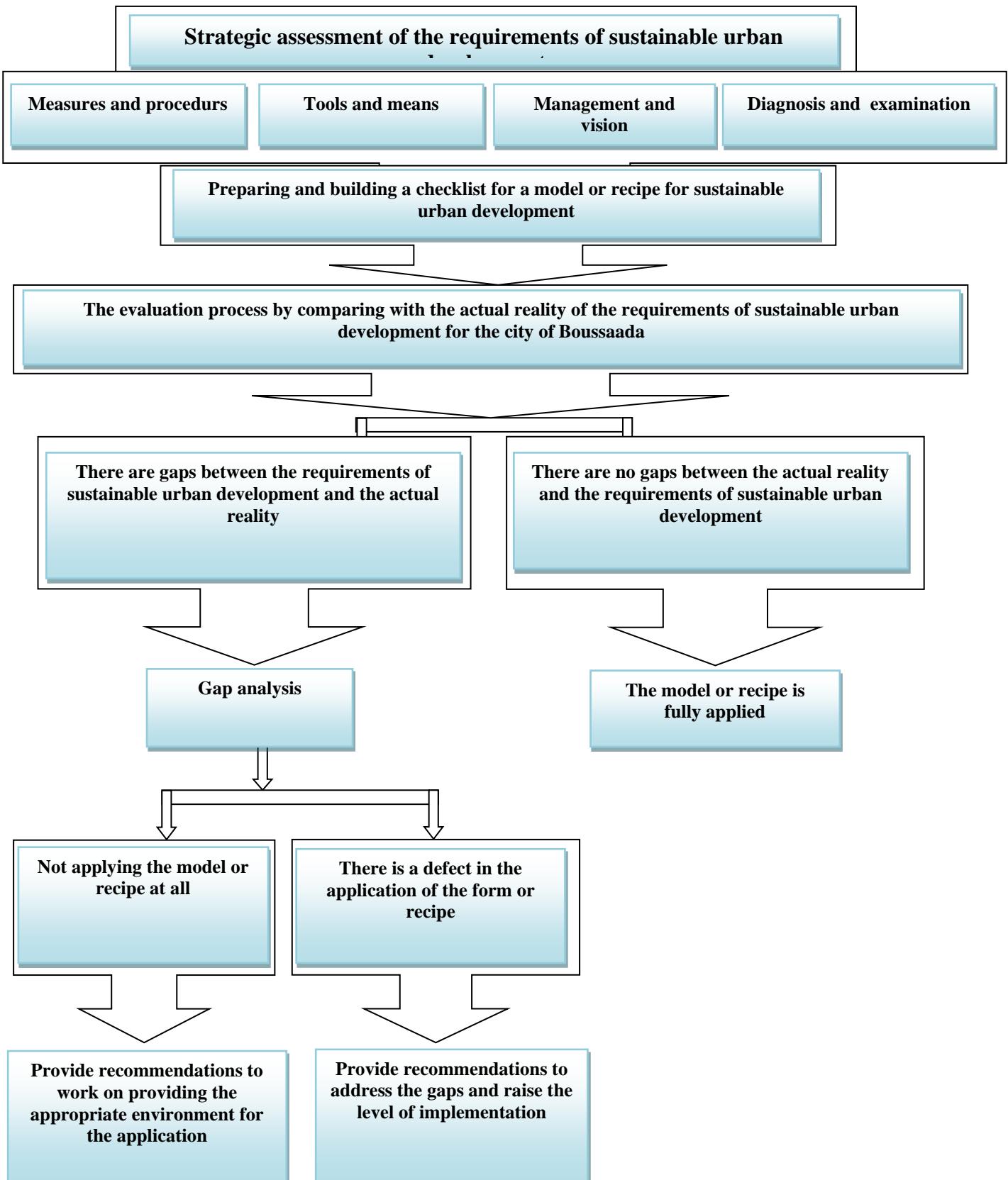
**Table (01):** Determine the degree of conformity and determine the size of the Gap (Source:

Paragraph weight (degree)	Paragraph Scale	N
6	<b>Fully implemented and fully documented</b>	1
5	<b>Fully implemented and partially documented</b>	2
4	<b>Completely applied and undocumented</b>	3
3	<b>Partially applied and fully documented</b>	4
2	<b>Partially Applied and Partially Documented</b>	5
1	<b>Partially implemented and undocumented</b>	6
0	<b>Not applicable and undocumented</b>	7

author)

This assessment tool is used to analyze the necessary actions that the city must take to properly manage the requirements of sustainable urban development, as it is an interrogation and analysis tool used by the user in interpreting and explaining the criteria and their weighting. Guillaume et al (2011), for a clear justification for all the characteristics of the tool, the following is a presentation the components of the tool, which are its objectives and structure:

- **Objectives:** The assessment tool is an Excel spreadsheet that forms an analysis network using weighted criteria, in a clear and educational manner that constitutes the requirements of sustainable urban development, as it aims to:
  - Assessing the level of effort made by officials regarding the implementation of sustainable urban development. This assessment amounts to an assessment of whether the city in question meets the definition of sustainable urban development.
  - Make users aware of the systemic and cross-sectoral approach that this section should form for strategic assessment.
  - The tool allows the city to identify the strengths and weaknesses in its management of the requirements of sustainable urban development and thus allow it to identify the required paths.



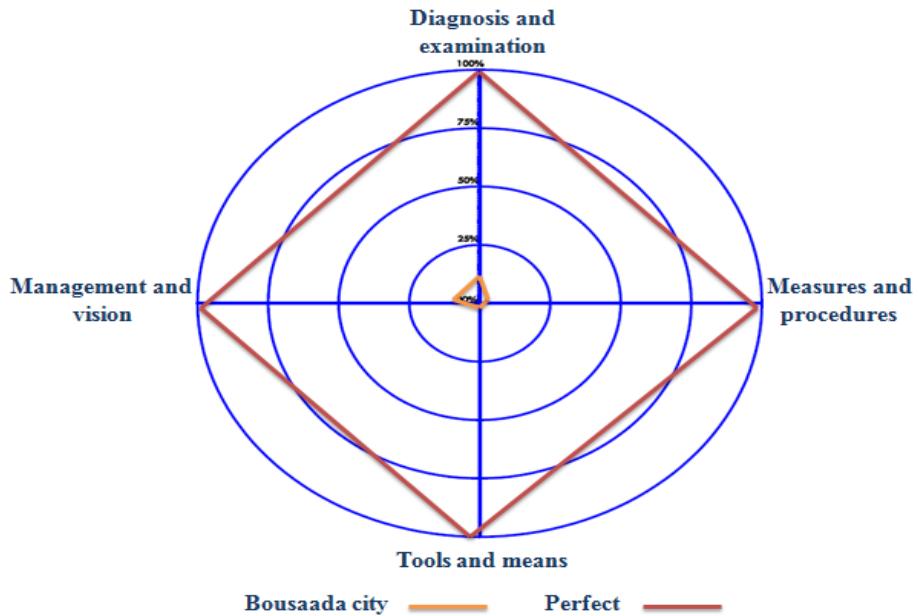
**Figure N° 04:** Study scheme

### 3. Results and discussion

In order to reach the size of the gap at the level of the four departments first and at the general level of the city of Posada in the field of assessment and analysis of the necessary actions that the city must take to properly manage the requirements of sustainability of urban development, The proposed **checklist** was used to analyze the **gap**, and that the percentage of the extent of conformity, which depends on the amount of the weighted arithmetic mean that we obtain (represented by the numerator) for the fact that (the denominator) is the highest degree on the scale It is a fixed amount that is acceptable (partially applied, fully documented) that is by a weighted arithmetic mean (3) and at its lowest level when it is (50%), where the size of the gap is (50%), which is the degree of departure from the ideal state represented With a matching extent of (100%), which corresponds to a weighted arithmetic mean of (6), The more the gap decreases due to the improvement processes, the better it is and the closer it is to the case, fully documented, fully applied, and in the same way we perform the calculations for the other variables. As for the results, they are shown in the following table:

**Table (02):** Summary of the results of the checklist for study variables (Source: author)

Gap size		Percentage of application		Account broker	Requirement name	N
92 %	0.92	8 %	0.08	0.46	Diagnosis and examination	01
93 %	0.93	7 %	0.07	0.42	Management and vision	02
98 %	0.98	2 %	0.02	0.11	Tools and means	03
99 %	0.99	1 %	0.01	0.08	Measures and actions	04
24				Assumed total sum of application and full documentation		
22.93				The amount of the gap in the application and documentation of the total requirements		
4.46 %				Percentage of total actual results to total assumed results		
95.54 %				The percentage of the gap in the application and documentation of the recipe		



**Figure N° 05:** Radar results of the checklist for study variables

After reviewing the results of the actual evaluation of the requirements of the specification (sustainable urban development), which represents the evaluation results obtained from the checklist, and as shown in the figure (the radar graph) that the small tetrahedral shapes with different angles and sharpness represent a defect in the city of Boussada, and therefore Represents a weak project from all four sections or requirements, in terms of the overall rate, the overall percentage, the extent to which the level of application and the actual documentation of specification requirements for a sustainable urban system. The development requirements of Boussada can be deduced from the previous table, the ratio of the total actual results to the total assumed results was estimated at 4.46%, which indicates the existence of a clear and large non-

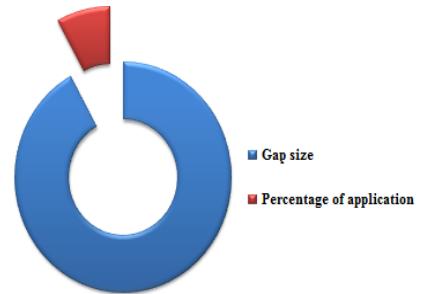
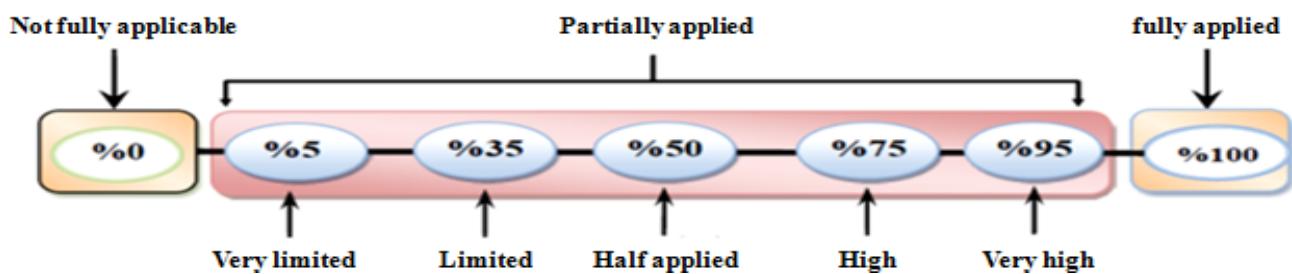


Figure 07. Gap size for diagnosis and examination



conformance gap estimated at 95.54%, which is very limited according to the proposed linear scale (Figure N° 06) where this was divided into:

**Figure N° 06:** A scale that shows the degree of application of the recipe in terms of the degree of comprehensiveness

- **Diagnosis and examination:** It indicates that the city meets the basic criteria that make it possible to obtain a documented stock that is necessary for any effective management of

sustainable urban development, and therefore after diagnosis and examination it achieved an average (0.46) out of (6) scores and a matching percentage (0.08), which indicates the existence of a gap mismatch of (0.92), This indicates the existence of a clear and large gap despite some measures at the city level, which are partially applied in any way, as the city does not contain a database of all maps, plans and documents related to the requirements of sustainable urban development from its principles, dimensions, indicators and even the tools necessary to apply them.

- **Management and vision:** It is the effort made by the city to enhance its management of the requirements of sustainable urban development over time. The management and vision dimension achieved an average of (0.42) degrees out of (6) degrees and a matching percentage of (0.07), which indicates the existence of a non-conformity gap of

(0.93), This indicates the existence of a clear and large gap, represented by the failure to formulate its strategic and main plan according to a sustainable vision, with the failure to specify the actors (stakeholders), goals, measures, consultations and partnerships that the city pursues in promoting the requirements of sustainable urban development, and this has affected its management in ensuring and implementing Good for the requirements of sustainable urban development in the city of Boussaada.

- **Tools and Means:** Refers to the city's use of the necessary and available tools and means, in order to ensure the application of the requirements of sustainable urban development, as the tools and means achieved an average of (0.11) degrees out of (6) degrees and a matching percentage of (0.02), which indicates the existence of a non-conformity gap by (0.98), which indicates the existence of a clear and large gap, by recording the absence of the necessary tools to implement the requirements of sustainable urban development in the city of Boussada, which are (regulations, restrictions, requirements, decisions, control, precautions ....).

- **Measures and Procedures:** This concept refers to the city's performance in terms of applying, promoting and valuing sustainable urban development requirements, as this dimension achieved an average of (0.08) degrees out of (6) degrees and a matching percentage of (0.01), which indicates the existence of a non-conformity gap of (0.99), which leads to a large gap, which was the result of the absence of continuous intervention procedures represented in (periodic review, development, improvement of legal, legislative and financial frameworks, awareness and sensitization, participatory approach, use of modern technologies ...).

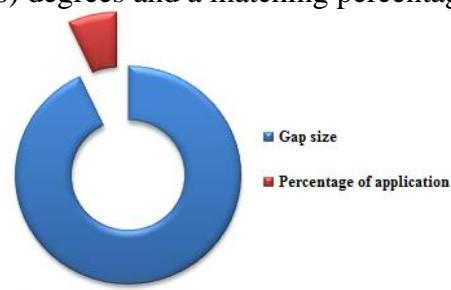


Figure 08. Gap size for management and vision

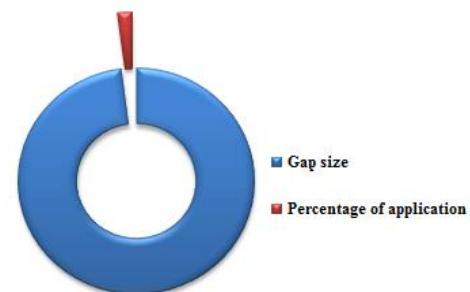


Figure 09. Gap size for tools and means

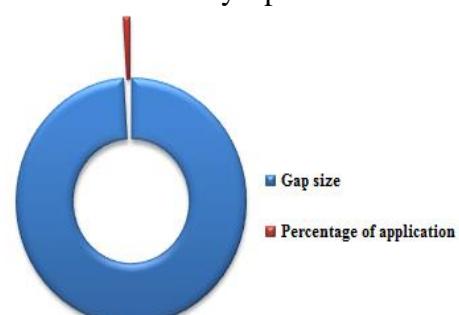


Figure10 . The size of the gap for measures and procedures

## Conclusion

The strategic assessment is an important tool and means to achieve the requirements of sustainable urban development in cities, as it is a scientific approach used to crystallize the priorities and development goals for them, and activate the planning decision-making process and guidelines for preparing and managing sustainable urban development plans for cities. In order to facilitate the process of drawing strategic policies for it, by analyzing complex problems and challenges, taking into account all the effects of all important factors in the process of planning sustainable urban development in the city, which should be included in the forecasting process or the process of preparing development models for the purpose of producing accurate and clear results. It has to find appropriate solutions and appropriate options in planning sustainable urban development for this city.

When applying the strategic assessment of the requirements of sustainable urban development for the city of Bussaada, the research concluded that there is no clear strategy in managing the requirements of sustainable urban development for it when preparing its own plans, and therefore it is possible to summarize the negatives or problems that led to the unsustainability of the urban development plan in the city of Boussaada. The results of the research in the evaluation process were as follows:

- Weak planning and administrative efficiency due to weak human capacities in local administrations that are able to plan and manage sustainable urban development at the local level with the lack of technological infrastructure in it, which leads to the lack of linkage between sustainable urban development at the national and local levels and poor implementation efficiency.
- The absence of a political orientation or incentive policies to implement sustainable urban development, which increases the spread of traditional and unsustainable methods.
- Inadequate urban planning of the city with the requirements of sustainable urban development, where the city planning lacks environmental, social and economic considerations specific to those areas.
- The weak participation of the private sector and civil society in the implementation of sustainable urban development, which leads to development that is not commensurate with their needs.
- The lack of sufficient funding to implement sustainable urban development, which leads to the aggravation of the environmental and social conditions in those areas with the continued low level of the quality of the urban environment in them.
- Weak legislation and executive mechanisms to oblige the public and private sectors to meet the technical specifications for sustainable urban development, the weakness of the penalties that obligate the public and private sectors to the specifications of sustainable urban development leads to both sectors ignoring these standards in order to achieve higher profitability.

## Recommendations

The list of proposed recommendations includes a number of points that mainly try to overcome the main problems and challenges facing the application of the requirements of sustainable urban development for Algerian cities, and perhaps the most important of these points are the following:

❖ **At the strategic level:**

- Work in each city to build a long-term community project that is integrated with the requirements of sustainable urban development, and is supported by an economic, urban and environmental vision based on the qualifications and specifics of the city.
- Formulating and implementing a national strategic vision that allows for the re-integration of sustainable urban development requirements into urban plans and cities for logistical competitiveness.

❖ **On the procedural level:**

- Develop policies, tools and financial mechanisms to finance development at the local level to match the incomes of cities with their growing needs in implementing sustainable urban development.
- Develop an action plan to implement the requirements of sustainable urban development for each city, with the development of an effective monitoring and warning system.
- Adopting mechanisms of participatory consultation and consultation, and creating clear institutional mechanisms/entities in drawing up general policies and plans, making decisions, and actively engaging local parties in the process of implementing sustainable urban development.

❖ **At the level of follow-up measures:**

- Improving laws, legislation and regulations for sustainable urban development for decentralized urban strategic plans and coordination at the city level and various projects.
- The need to strengthen scientific research by creating a national center for efficiency and technological innovation in line with the challenges of sustainable urban development.
- Simplifying the procedures and enhancing the capabilities of local actors and enabling them to have the largest role in managing sustainable urban development.
- Develop a management system that enables the integration of sustainable urban development requirements, guided by the guiding principles of sustainable standards for cities.

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