

Urban Design as an Approach to Achieve Sustainable Green Urbanization

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□ **Abstract:**

Reaching sustainable urban societies has become a global goal that all countries strive to achieve as they are healthy societies and have a positive impact on their inhabitants, and in light of this, a set of goals that sustainable development seeks to achieve have recently been identified, and cities are also subject to sustainable urban design for a number of issues (urban, environmental, economic and social). According to a sustainable future vision, the orientation towards the concept of sustainability, which in turn represents a global requirement, is necessary to reach a socially, urban and environmentally sound environment that fits all housing categories in society, and the research dealt with the concept of sustainability and its main pillars with sustainable urban planning to reach the goals of sustainable development and the features of a sustainable urban community. Taking into account the concept of sustainable urban communities and their characteristics and addressing the principles and criteria of green design to achieve sustainable urbanization with different elements in terms of site selection and urban fabric and rationalization of water consumption with sewage treatment and the use of renewable energy resources with the use of environmentally friendly materials, the possibility of waste disposal and recycling and environmental quality For the void The urban community, then studying the sustainability of green urban communities globally according to the proposed principles with an introduction to the analysis of the urban, economic and social dimensions, then a global case study of an urban community that has won environmental awards and evaluated by the accreditation and evaluation organizations for sustainability in the city of Calgary in Canada by applying the principles and standards of sustainable urban design in it. To meet humanitarian needs and achieve self-sufficiency, to be safe and resilient, and to achieve sustainable future societies.

□ **Keywords:**

Sustainable green design/ sustainable development/ sustainable urban societies/ human needs

The Introduction

Achieving sustainability has become one of the main pillars that must be looked at and tried to achieve when working to improve the lives of individuals within their urban communities, and increased international attention directed towards the need for sustainable development to reach a sustainable future, and there are many studies recently that have studied the concepts of sustainability and its goals as well as studying The relationship between the various aspects of the urban environment and between sustainability and ways to achieve it, because sustainability is not just a principle that is applied, but an integrated system that includes all aspects of life in the urban environment. This research will address the most important concepts of sustainable urban planning according to the following axes:

The first axis is the concept of sustainability and sustainable development, the basic principles of sustainable development and sustainable urban planning.

The second axis is the definition of sustainable communities, their characteristics, and the dimensions of sustainable closed urban communities in Canada.

The third axis is a global analytical study of a closed sustainable urban community in Calgary, Canada.

Results :

The research reached to ensure the problematic of the research and the achievement of the objectives, through the sequence and integration between the stages of the previous study, through which some results and recommendations were reached that lead to the application of the principles and criteria of sustainable urban design for green urban communities, among which we mention the following:

- 1- The successful integration between planning, urban design, future development, and the method of managing urban communities, so that each aspect applies sustainability and choosing and designing the appropriate urban site leads to achieving sustainable urban design.
- 2- Green urban design for urban communities depends on achieving integration with the surrounding environment in a way that achieves an integrated environmental system, and employing it to achieve the highest design and economic efficiency.
- 3- The sustainable urban design is one of the most important modern design methods and methods that represent a reference theory to achieve urban balance and evoke environmental and economic challenges, reduce operating and maintenance costs, and provide a safe urban environment.
- 4- Sustainable urban design depends on development projects and plans that are prepared for the present and the future based on urban, social and economic studies to achieve urban sustainability.
- 5- A design approach to coordinating the site that relies in its planning and design on the principles and concepts of sustainable design as an entrance to development or to improve the environmental analysis of the current situation of one of the residential communities to achieve distinguished sustainable urban communities that meet the standards of security and safety.
- 6- Sustainable urban design respects the environment, identity, heritage and culture, and combines traditional and innovative construction technology, which reduces the demand for

energy needs, and the interactive participation of the population leads to an increase in awareness to achieve security and belonging.

7- Applying the principles and criteria of sustainable urban design and their application to systems for evaluating green-sustainable architecture globally on the scale of the residential neighborhood in particular, then the neighborhood, and then the residential community in general, which produces an integrated urban community that achieves economic abundance, social justice and a good healthy environment.

8- Sustainable future societies achieve equality and social justice, rely on environmental principles to conserve new and renewable energy, use modern water-saving systems and technologies, preserve infrastructure, benefit from wastewater and rainwater treatment, recycle materials, use natural resources, and separate waste in an environmentally-protective manner. Recycle them, design green spaces, and use environmentally friendly plants and local fruit trees that consume little water to achieve environmental quality for urban spaces (green areas).

Recommendations:

1- Taking into account the basic principles and concepts of the concept of sustainability through applying the principles of sustainable urban design and studying the environmental, social and economic aspects within closed communities and their role in the success or failure of the project in achieving the standards of sustainable green design.

2- The work of scientific studies and research is taken into account to root and apply the thought of sustainability in urban societies, to exchange global experiences in the field of sustainable urban design to achieve urban sustainability, while studying the obstacles that prevent implementation in accordance with the environmental and natural factors that distinguish the Egyptian society.

3- The need to implement the concept of sustainable urban design through the state providing basic facilities for the areas of future urban extensions with the imposition of building and planning conditions and laws through which it is possible to preserve the shape of the urban fabric while benefiting from the capabilities of investors and the private sector in providing distinct urban communities.

4- The directions that achieve sustainable urban development should be based on positive employment and stimulation of scientific research for the applications of using renewable energy sources and water efficiency with waste water treatment, waste management and recycling to improve the quality of the external environment and achieve self-sufficiency, and identify priority actions.

5- The commitment of architects, city planners, civil society, and policy makers to increase the dissemination of the concept of sustainable urban design as a field and framework as an integrated research system on the basis of international organizations for sustainability.

6- Forming a special apparatus or a separate department in one of the bodies concerned with designing future societies to support projects of environmental, cultural and social awareness of sustainable urban design at all levels (the urban designer, the urban user, the responsible authorities) in order to achieve a balance between natural resources and the main life needs of the population.

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