

## 66The Urban Sustainability and Sustainable urban development : Composite Paradigms in the Field of Urban Geography

الاستدامة الحضرية: براديجم مركب في حقل الجغرافية الحضرية

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### Abstract:

The Urban sustainability is conceived as a new emerging societal and urban paradigm, to be understood as a living object in permanent evolution, an admittedly difficult journey, and not as the culmination of an idealized city. Creating or renovating a neighborhood or a sustainable city today requires new methods in order to deal with the challenges of traditional cities: pollution, degradation of the quality of life, insecurity, waste of resources and time... Sustainable urban development constitutes one of the major means of implementing urban sustainability, within urban planning policies but also other territorial political tools for sustainability such as Agenda 21 and the Territorial Climate and Energy Plan.

**Keywords:** Durability; Sustainable development; Urban development; The sustainable city; ecological footprint.

### ملخص:

يُنظر إلى الاستدامة الحضرية على أنها نموذج براديجمي سوسيوحضري ناشئ، ليطم فهمه على أنه كائن حي في تطور دائم، ورحلة صعبة معترف بها، وليس على أنها ذروة مدينة مثالية افلاطونية. يتطلب إنشاء أو تجديد حي أو مدينة مستدامة أو طرفاً جديدة للتعامل مع تحديات المدن التقليدية: التلوث، وتدهور نوعية الحياة، وانعدام الأمن، وإهدار الموارد والوقت ... تشكل التنمية الحضرية المستدامة واحدة من الوسائل الرئيسية لتنفيذ الاستدامة الحضرية، ضمن سياسات التخطيط الحضري وكذلك الأدوات السياسية الإقليمية والدولية الأخرى للاستدامة مثل جدول أعمال القرن 21 وخطة المناخ والطاقة العالمية. الكلمات الرئيسية: الاستدامة؛ تنمية مستدامة؛ التنمية الحضرية؛ المدينة المستدامة، بصمة إيكولوجية.

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## 1. INTRODUCTION

For about thirty years, diversity has formed a benchmark for urban public policies to combat segregation and relegation (residential separation from the workplace, residential specialization that means that certain social groups are predominant in certain neighborhoods, a phenomenon of marginalization and exclusion).

Analyzes in terms of "segregation-mixity" have experienced a real revival, the highlighting of socio-spatial inequalities constituting an opportunity to reformulate a proactive political discourse and to reaffirm an egalitarian ideal.

In the context of the fight against segregation, diversity is considered as the goal to be achieved. As a result, a new consensus emerged and then imposed itself in the world of city sciences and town planning: it is the mixture of functions, activities, populations in the same space and favoring transparency, which creates urban quality and defines the comparative advantage of the city against other spatial configurations.

It is also the response proposed by the current of sustainable urban planning to mitigate the current effects of urban requalification policies.

Indeed, urban policy seeks diversity in a piece of town, district, housing and even in the population, this diversity, which planners call urban diversity, guarantees the attractiveness and sustainability of the city.

In the context of sustainable development and its ecological and social purposes, both functional and social diversity has become a standard for the regeneration of dense city districts, which are certainly gaining in density but above all in diversity in close geographical proximity. , an urban composition contributing to what is conveniently called the "sustainable compact city".

## 2. The problem studied and its questions:

The main objective of the orientations of sustainable urban development is to set up a qualitative, competitive, attractive and sustainable city capable of meeting the needs of its inhabitants as well as contributing to a real culture and urban identity.

- *What are the dimensions of the urban sustainability paradigm and its stakes?*

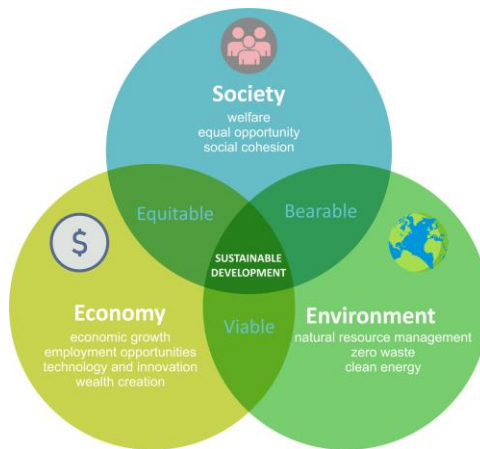
### 3. Sustainability and its key concepts:

#### 3.1 Sustainable development:

Sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet theirs”.

The sustainable development approach integrates three dimensions, which are:

- Economic: finding the right balance between profit and sustainable management of the environment.
- Social: meet the basic needs of populations by reducing social inequalities while respecting different cultures.
- Environmental: maintain the ecological balance over the long term by limiting our impact on the environment.

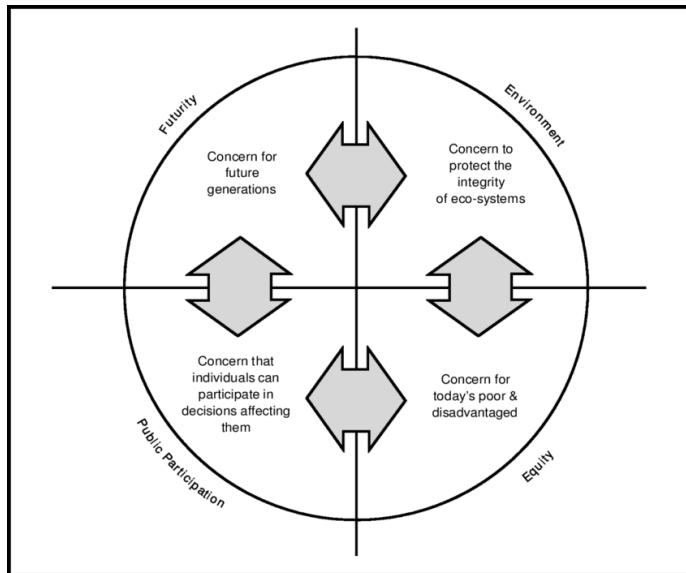


**Figure (1) :** *dimensions of sustainable development*

The target areas of sustainable development are translated according to models, whose concrete applications also involve the relationship of different principles, which are:

- ***The principle of solidarity*** towards future generations (transmission of sufficient energy, biotic, abiotic and cultural heritage), as well as towards present generations (reduction of North-South inequalities);
- ***A global and transversal approach:*** consider the studied system (a city or a territory for example) as a whole and take into account all

- the existing interactions, without being restricted to a specific aspect;
- ***The principle of participation and cooperation:*** the involvement of all stakeholders is necessary, it requires information from all, consultation of the greatest number and consultation;
  - ***The precautionary principle:*** the absence of absolute scientific certainty should not be used as a pretext for postponing the adoption of effective measures. It is also a question of ensuring as much as possible the reversibility of the choices;
  - ***The principle of responsibility:*** many global consequences are the cause of individual behavior and it is a question of transmitting this global responsibility to the local level.



**Figure (2) :** *the four principles of sustainable development.*

### ***3.2 Sustainable urban development:***

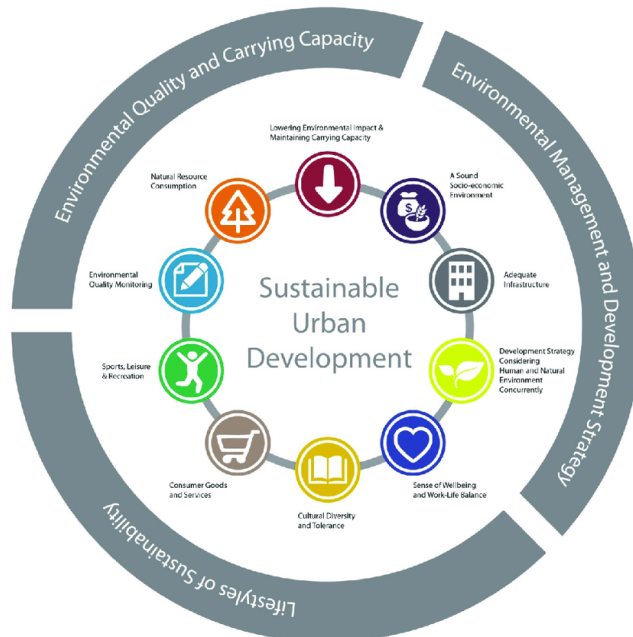
Sustainable urban development is "a process of synergistic integration and co-evolution between the major urban subsystems (economic, social, physical, environmental) that guarantees a non-decreasing level of well-being to the local population in the long term".

It is a systemic approach simultaneously implementing potentially contradictory elements between three spheres (economic, social and environmental) and having to reconcile three dimensions: long term versus

short term, global versus local, participation of the population.

The implementation of the principles of sustainable development refers to the major challenges that cities are now facing, which are:

- Uncontrolled urban sprawl which degrades the quality of the urban environment, peripheral natural sites and spaces, specializes territories, distances social groups from each other, creates new needs for motorized travel and can jeopardize the budgets of local authorities;
- Overconsumption of natural and rural spaces, degradation of landscapes, increased conflicts of use, wastage of natural resources (water, forests, etc.);
- The physical and social divide that is accentuated within cities and towns between degraded neighborhoods and others that have become financially inaccessible. Some territories are caught in a spiral of degradation; others live in “protected islands”. The model of the two-speed city, of the city acting as a sounding board for the most marked social inequalities, has gained ground.



**Figure (3) :** *sustainable urban development*

Sustainable urban development is based on five principles, which are:

- Densification;
- The enhancement of public spaces;
- The development of facilities and public spaces;
- Integration of transport policy and spatial planning;
- The arrangement of centralities and the promotion of diversity.



**Figure (4) :** *Compact city*

Many definitions have been proposed for the sustainable city. Researchers sometimes focus on one aspect, sometimes on one or more others:

The expression “sustainable city” designates a city or an urban unit that is based on respect for the environment, giving emphasis to the principles of sustainable development and urban ecology. It seeks to jointly take into account the social, economic, environmental and cultural issues in the field of development by facilitating modes of work and soft transport, by developing efficiency from the point of view of energy consumption and natural resources. This logic materializes in eco-cities or eco-districts seeking to reduce their ecological footprint by offsetting their impacts and tending to repay their "ecological debt".

A sustainable city is a city capable of maintaining itself over time while keeping its identity and its dynamism, capable also of offering a quality of

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life in all places in a social and functional mix, capable finally of reclaiming a political project from the search for an ecological and social balance vis-à-vis the territory and the planet.

A sustainable city is one in which people and economic activities continuously strive to improve their natural, built and cultural environment at the neighborhood and regional level, while working in a way that always upholds the goal of global sustainable development.



**Figure (5) :** *Conditions for the establishment of sustainable cities*

The sustainable city has many faces:

- **A just city**, where justice, food, shelter, education and hope are distributed equitably and where everyone participates in government;
- **A beautiful city**, where art, architecture and landscape ignite the imagination and move the spirit;
- **A creative city**, where open-mindedness and experimentation mobilize the full potential of its human resources and allow a rapid reaction to change;
- **An ecological city**, which minimizes its impact on the environment, where landscape and built form are balanced and where buildings

- and infrastructure are safe and efficient in their use of resources;
- **A friendly city**, where the public realm promotes a sense of community and mobility, and where information is exchanged both face-to-face and electronically;
  - **A compact and polycentric city**, which protects the countryside, brings together and integrates communities into neighborhoods and optimizes proximity;
  - **A diverse city**, where a wide range of intersecting activities create excitement, inspiration and vital public life.



Source: UN/DESA.

**Figure (6) : sustainable cities**

#### 4. Sustainable urban development:

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This policy takes its essence from sustainable development. The concept of sustainable development is defined as: “meeting the needs of the present without compromising the ability of future generations to meet their



own needs”.

This standard definition first appeared in 1987. In a nutshell, maintaining a healthy environment over time. As a result, sustainable urban development is a process that helps create the city of tomorrow. It is about building smart and pleasant neighborhoods to live in, quality housing to meet the needs of the people, while reducing the effects of pollution on the environment. This structuring involves the establishment of a sustainable, balanced, scalable, economical and intelligent city, in line with new uses and lifestyles.

Promoting of Urban Development	Shaping of Urban Form and Land Use	Appraisal of Current Development Patterns
<b>Development Methods</b> - New City Development - Housing Site Development - Urban Development - Housing Renewal - Other Development Methods	<b>The Compact City</b> - High Density - Mixed Land Use - Clear Urban Boundary - Public Transport - Self-Sufficiency	<b>Practical Criteria</b> - Feasibility - Acceptability <b>Residents' Preferences</b> - Housing Types - Open Space - Other Urban Functions - Community Activities
<b>Initiating of Large-scale Development Projects</b> - Policy Objectives - Initiators - Institutions - Resources	<b>Factors and Processes in Development</b> - Participants and their Incentives - Historical and Cultural Contexts - Institutional Capacities - Planning and Development System	<b>Principles of Sustainable Development</b> - Environmental Conservation - Economic Development - Social Equity - Quality of Life - Participatory Democracy



<b>Yong-in Case</b>	- Diverse public development projects after a period of disorderly development - Residential-oriented developments in the Capital area
<b>Se-jong Case</b>	- A politically initiated single new city development project - Multi-functional development in a non-Capital area

**Figure (7) : A template for downloading sustainable cities**

#### **4.1 Evolution of the concept of sustainable urban development:**

Cities have been recognized since the first United Nations Conference on the Environment in 1972 in Stockholm, as crucial players in the issue of sustainable development of territories.

Indeed, the issues and problems related to the mode of growth of cities draw attention to the scope of their activities (transportation, land use, waste management, infrastructure, etc.). The accelerated growth of suburbs on the outskirts of cities has considerably enlarged the size of developed territories, with the consequence of increasing encroachment on agricultural land and natural environments of interest. The associated phenomenon of monofunctional development (suburbs-dormitories, supermarkets, industrial areas) contributes to the erosion of city centers and local shops and to dependence on the automobile. The urban sprawl made possible thanks to the car generates traffic problems and constrains its use due to daily traffic jams from commuting. Natural environments are under unbearable pressure and urban heat islands affect the air quality of city dwellers. To address these issues, five years after the emergence of the concept of sustainable development with the definition from the Brundtland report.

The Rio Conference of 1992 gave birth to a framework for municipal participation:

local Agenda 21. This approach aims to support municipalities in the transition to practices that respond to social, environmental and economic issues. The Cities Summit or Habitat II of 1996 also reiterates the importance of local relay to involve actors at this level and promote ownership of the theme of sustainable development by civil society. Since then, progress in this regard has been made in a patchy manner. Municipalities are mobilizing and choosing to move towards improving their practices. Thus, in Europe as elsewhere, the first initiatives serve as pilot projects for new participants in the transition.

#### **4.2 The objectives of sustainable urban development:**

- *Develop governance and participatory democracy* (promote ownership of the project by each actor and guarantee the proper use of the future developed area and its integration into social and economic life);
- *Promote urban* (housing, shops, activities) and *social* (diversity of populations, generations, skills, etc.) diversity;
- *Preserve the natural heritage and promote biodiversity* (develop a development plan that respects and reinforces the existing natural

- frameworks);
- ***Respect and enhance the urban, architectural and landscape identity*** (take into account the existing landscape and urban frameworks, work on the limits between the site and its environment and within the developed area itself, enhance the architectural and cultural identity and strengthen the quality and functionality of public spaces);
  - ***Improve local water management*** (limit the sealing of surfaces and promote infiltration, slow down runoff and treat pollution, and save water resources, especially drinking water);
  - ***Take into account the risks to the health and safety of people***;
  - ***Favor a compact city by limiting urban sprawl.*** Urban planning plays an important role in this by proposing densification in areas with high accessibility;
  - ***Promote the local economy during the construction*** of the district (materials) then in its operation (shops and local services), and experiment with innovative technologies;
  - ***Create a lively and diversified city***, by creating jobs and stimulating new economic and commercial dynamics;
  - ***Mix the types of housing and the architectural*** forms of the buildings to integrate the operation into its urban environment, contribute to the diversification of the job offer and ensure the mix of activities, while preserving the heritage and industrial identity of the site.

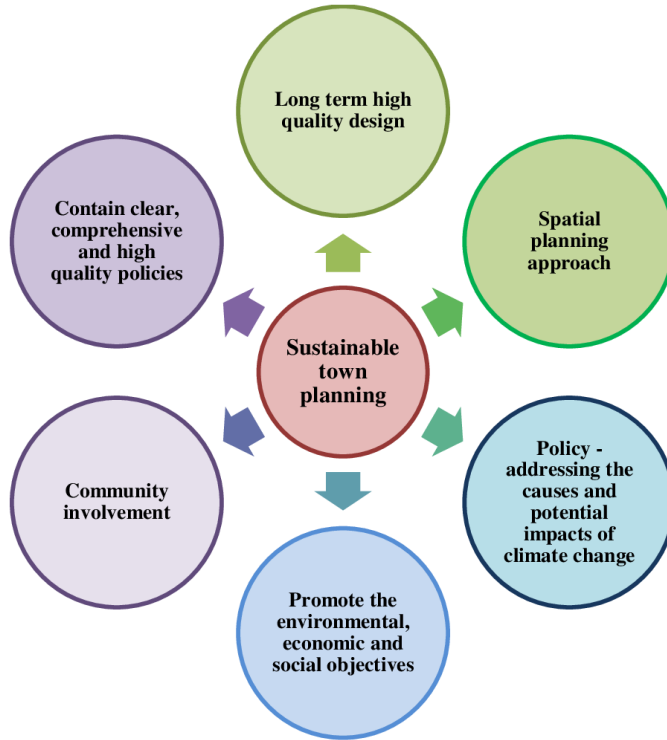


Figure (7) : *sustainable town planning*

#### 4.2 The different forms of sustainable urban development :

Multiple approaches, regulatory or voluntary, are implemented in a complementary manner in favor of sustainable urban development. These approaches aim to provide developers and communities with better readability and understanding of the requirements of sustainability. A set of 07 models was chosen:

##### **A-New Urbanism:**

The "New Urbanism", originating in California, promotes 10 principles to overcome the current planning problems of our cities. These can be applied to projects of all scales, whether for buildings, neighborhoods or entire municipalities. All aimed at promoting viable and healthy communities.

##### **B- Sustainable Development Charter :**

The Sustainable Development Charter is a proposal formulated by two French researchers. Based on more than 10 years of work on the question of the relationship between the city and sustainable development, the authors define the considerations to be integrated into the development of eco-

neighborhood or sustainable neighborhood projects in four areas, according to different scales.

**C-@sustainable development® :**

The @sustainable development® strategic approach is a registered trademark developed in 2008 by the Île-de-France Regional Equipment Department and the eight Public Development Establishments with a view to achieving structuring and convergence initiatives for the design of eco-districts. It proposes implementation stages as well as 10 lines of action at project level with their indicators. These principles are based on six key issues for sustainable development projects: greenhouse gas (GHG) emissions, biodiversity, economy, well-being, natural resources, nuisances and risks.

**D-HQETM – Development :**

The HQE-Aménagement (High Environmental Quality) approach is a reference framework for sustainable development operations developed in France by the HQE Association. It is a project management tool with three main objectives and 17 sub-themes. The approach promotes a long-term vision of integrated land use planning that promotes good governance. It is applicable to any scale of project, renovation or new development, urban or rural.

**E-Smart Growth :**

According to the Smart Growth strategy of the International Municipal Management Association (ICMA) and the United States Environmental Protection Agency (EPA), following the 10 principles for creating or maintaining existing neighborhoods makes them attractive, practical, safe and healthy. They promote social, civic and physical activities as well as the protection of the environment. All of this stimulates both the local economy and interactions in the community.

**5 Conclusion :**

Today, the thought of sustainable development is beginning to translate into reality through changes in practices. There are therefore many examples of actions or practices that may correspond to the definition of sustainable development. Planning a sustainable city requires the greatest

understanding of the principles of sustainable development. There will be no ecologically sustainable city as long as urban ecology, economics and sociology are not taken into account in its planning. To achieve this objective, it is necessary to respect the procedures for implementing sustainable urban development based essentially on a real urban mix.

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