

# Sustainable Urban Development, concepts, features, and indicators

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## Abstract

With the rise of concerns about the consequences of human activity and based on Brant Land report in 1980, Sustainable development paradigm was introduced. This approach in different aspects of economic, social, cultural and environmental has been extended; today in urban planning literature, it has a special place. In order to achieve the sustainable urban development, first concepts, theories and indicators must be identified and examined to be able to provide strategies for the sustainable development of cities. With regard to the challenges of today's cities in terms of urban problems, this paper aims to present concepts, features, and indicators of sustainable urban development, firstly to reduce urban problems, and secondly to move towards sustainable development based on the principles of our city by recognizing it and using it in urban areas.

**Keywords:** Sustainable Urban Development

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## 1- Introduction:

Sustainable development is one of the most comprehensive concepts in all time. Sustainable development goals run on all environmental levels, but the municipal level especially in less developed countries has attracted more attention, because of the continuous growth of population and economic activities (Poor Gholam, 2013: 1). Today, more than half of the world population lives in cities and on the one hand cities are considered as centers of social, economic, and environmental development (al et,Varol, 2010:1), on the other hand the cities are the most appropriate places where the problems of economic, social and environmental arise from them (Conelly, 2007:259). The main aspects of the development and achievements of both negative and positive mainly occur in cities. That is why policies based on the sustainable development in cities can be very effective in reducing the above issues. Understanding the concepts and indicators of sustainable development can serve as a model targeted to the cities to take steps by using it in sustainable urban development.

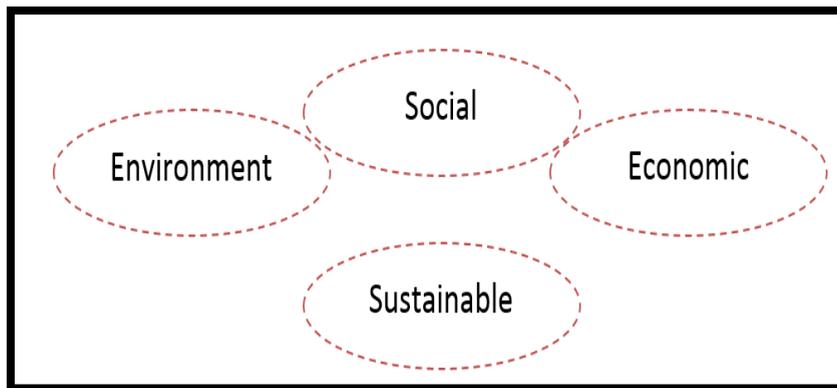
## **2- The Concepts:**

### **3-1-The development:**

"Development" can be the evolution of living standards and the achievement of ideal conditions in the field of economic, social and cultural which bring the realization of the concepts of freedom, justice, social mobility, human development and economic, social, and cultural growth. Also the development is considered as discovering methods to achieve evolutionary movement, and it makes the phenomenon of social, economic and cultural well-balanced and harmonious, as well it provides modern conditions for social, economic mobility and social justice achievement (SOCIAL JUSTICE) provides. (Zahedi Asl, 2002: 5).

### **3-2- The sustainable development:**

The concept of sustainable development refers to this undeniable fact that considerations of ecology can and should be used in economic activities. These considerations include the idea of creating a reasonable environment that the claim of development in order to improve the quality of all aspects of life is challenged by them (Radcliffe, 1994: 34).



The fields related to sustainable development ([www.isfahan.ir](http://www.isfahan.ir))

There are many definitions of sustainable development, some of which are

- The sustainable development means combining the economic, social and environmental objectives to maximize the present human well-being without damaging the ability of future generations to meet their needs (OECD, 2001:11).
- World Commission on Environment and Development, presented this term for the first time, it defined sustainable development as a development that needs of the present generation without causing difficulty in the ability of future generations to meet their needs;
- The first principle of the Rio Declaration suggests that human is the center of sustainable development and people deserve a healthy and productive life; (UN, 4: 2001)
- The United Nations in 1991 has defined the sustainable development as follows: the Sustainable development policy is a policy that the positive benefits resulting from the consumption of natural resources could be sustained for a foreseeable time in the future by a result of applying it (Laghayee, Mohammadzade, 1999:34)

### **3-3- The principles of the sustainable development:**

According to the definition and discussion presented, the foundation of sustainable development can be pointed as the following conditions and achieving the sustainable development requires paying attention to them:

- Putting aside the strength potential of human beings
- Ecosystem is much more important than the current perception and imagination;
- Justice and equality include the equality within a generation, equality within countries, gender equality, equality between countries, and equality between generations;
- The reconciling the development and sustainability which is the main philosophy for the sustainable development is the reconciliation between the development and the sustainable through adequate attention to all targets of systematic and holistic vision;
- Broad participation and consensus in decision-making is one of the prerequisites for the sustainable development, makes decisions legitimate and supports their implementation;
- Human centralization is a basic principle and it is consistent with the sustainability paradigm, its philosophy and the principle of participation and consensus;
- Comprehensive programs and sustainable development activities must include all the issues through the continued expansion and create a system of appropriate integration of all related activities, as well activities short-term to long term;
- Rational use of resources means using the renewables and observing the things in the consumption of non-renewable resources (www.umic.ir);

### **3- The concept of the sustainable urban development:**

Sustainability is now widely used in the global context in which human and natural systems be able to survive in the distant future (Bahreini, 2001:55), but the original concept of the sustainable development has been defined by Peter Hall: the today's shape of development that can ensure the future continuous development of cities and urban communities. (Hall, 1993,22)

Sustainable urban development theory is the result of environmental debate done about environmental issues and especially the urban environment was presented in the direction of “sustainable development theory” to support the environmental resources. Sustainable urban development is required to identify environmental limitations in order to human activities associated with cities and matching design techniques in these limitations. In this theory, resources for present and future maintenance issue are raised through the optimum use of land and convert wastes into renewable sources (Blowers, 1994).

A theory of sustainable urban development suggests topics such as the following;

Preventing from pollution of urban and regional environment, reducing of production capacity of the national, regional and local environment, supporting of recycling, lack of supporting the development of harmful and eliminating the gap between rich and poor

He cares about the ways achieving to these goals by planning them and believes that the government must have full support from the urban environment. The theory studies the city shape sustainability, sustainable pattern of settlements, the effective pattern of transportation in fuel consumption and city in the hierarchy of urban area, because accept the urban development just for the enjoyment of urbanites.

The idea of sustainable urban development is very broad aspects of studies in development (Scout, 2005, p: 89). Providing a clear definition in this respect is not simple, but trying done to be extracted the mean of sustainable urban development from functional studies of concepts, principles, and history. The idea of sustainable urban development is not only considered in relation to historical developments, but also in this regard the rational development of various sciences and the social knowledge are considered. Paying attention to the changes leads to increase the volume and quality of existing knowledge about the urban environment; including identification and removal of air pollution, greenhouse gases, and global climate change and so on. The progress is undertaken in the field of social sciences with the help of different research agendas on the sustainable development. It shows that the urban development debate has been under the influence concepts and different issues, and contrasted with the science such as the economic

policy and theoretical experimental knowledge, and sometimes shaped by the historical developments or shifted.

#### **4- The necessary features of the sustainable city:**

World Commission on Environment and Development, the following principles announces as the essential features of a sustainable city:

- Increasing the economic and social opportunities, so be enough for the population of urban residents;
- reducing the share of energy in urban growth;
- Optimal use of water, land and other resources required for such urban growth;
- minimizing the waste produced and maximizing the recycling of waste;
- Create enough power and performance management systems to achieve the objectives of economic, social and environmental;
- directing the technology used in the city towards sustainable development goals;
- Strengthening different areas of the city, in order to prevent or respond to threats and objectives with economic, social and environment as a result natural or human factors arises, as well as enhancing the flexibility in the face of unexpected disruptions in the city;

In this connection, the sustainable city is a city where improvements in social justice, diversity and high quality of life may be realized (Azizi, 2001:22).

Indicators that deserves to be examined in assessing the sustainability of cities include the following (Ghakholu and Hosseini 2006:175).

#### **6-The sustainable City Indicators by experts:**

The urban sustainability criteria are different at various levels and are not measurable in the same condition. Some of the topics under the investigation of the sustainable development are directly related to cities. These issues include:

- Sustainable development through land use planning;
- Reconstruction of the city;
- Sustainable Buildings;
- Urban shape and energy;
- Sustainable transportation;
- Urban shape and Pollution;
- Density role in achieving sustainability; (Azizi, 2007:35)

Lynch provides the seven functional points for the shape of appropriate city:

- The vitality

To what extent has the city shape included the vital functions, human biological needs and abilities, and most importantly how to survive life possible?

- The meaning

To what extent can the city be clearly perceived, can mentally be identified?; To what extent can its residents bring it to visualize in space and time?; To what extent does the mental structure associate with the values and concepts of society, the environment adaptation to the emotional, mental abilities and the cultural structures)?

- The proportionality:

To what extend does the shape and capacity of the spaces, pathways and equipment of a city match with the quantity and pattern of activities which people are involved in it for they are accustomed to it or will be involved?, The adequacy of substrates of behavior and adaptability to future activities.

- The accessibility:

How is the ability to access other people, activities, resources, services, information and places (Including the quantity and variety of elements that can be accessed)?

- The monitoring and having the authority power:

To what extent is using and having access to spaces and activities and making corrections and managing them done by those who use them or in which they live?

- The efficiency:

How much does it cost to build and maintain the city in different levels (how much does it cost the vitality, relevance, meaning and so on)?

- The justice:

How is the way of environmental distribution of profits and losses between individuals according to certain principles Such as need equality, intrinsic value, solvency, efforts, potential aid, power (how much is the share of each individual from each of the five primary factor)?

Lynch also believes the city is nice that to will promote cultural continuity, contribute to the survival and sustainability of people, increase the sense of connection in time and space, and provide individual growth and intensify it. An appropriate settlement is a place open, accessible, decentralized, diverse, adaptable and experience acceptability. And the flexibility and ability to quickly adapt are considered. The place is considered as a good environment that can provide health and wellbeing and survival of living organisms. It must have the safety, security and protection, have the environment organized visually and practically, and be free from pollution, noise and accidents and criminal. It should be a social environment guiding and in it people have embedded, found their friends, and born their children, so the city helps people have been part of the collection and gives them a sense of place and territory. Such city should have a good image and a good reputation and give their people a sense of confidence and strength and dignity. Even at the higher level it can give people the opportunity to "be creative", shape personal space and express themselves. Finally, a good city is the one with a well-designed, aesthetically be acceptable and in terms of physical be imaginable. In other words, it should be a place for having an appropriate culture and arts. If the city wants to sustain their vital functions for its residents, it should automatically have the organic self-control and self-prevention feature of each organism (Lynch, 1997).

Mofidi describe the objectives of sustainable development such as:

- Providing of basic needs;
- Improving the life for all classes;
- Maintaining and operating biological systems and achieving to future safer and more prosperous;
- Caring about the habitats of creatures (environment) and around canvas (inanimate objects);
- supplying the tools technologies and intellectual facilities and tools for the growth required; (Mofidi, 2007)

Then he or she argues principles of city sustainability as the following:

- Use of renewable sources in amounts that are less than what is refreshed;
- Optimization of the use of non-renewable resources;
- Paying attention to the amount of waste and pollution to the extent that are absorbed in the environment from the local to the global scale;
- Providing the basic needs of man and society and achieving a healthy environment (Mofidi, 2007);

### **7- Conclusion:**

Sustainable city can be the basis for achieving the goals of sustainability and welfare of citizens, restoration of civil rights, social justice and human development are associated by it.

It makes the improvement of environmental quality and optimal distribution of urban services and facilities possible to increase the social satisfaction. The sustainable urban development also aims to standardize design with the climate, reinforcement social foundations, protection and restoration of urban

environment; precede the quality of life in the city to the desired level to cover all economic and cultural measures. Having studied the concepts, objectives and indicators of the sustainable urban development, we conclude that the sustainable urban development as an important part of sustainable development is based on optimum use of natural resources. And urban development as part of national development policies proceeds in to achieve economic growth and social justice. Sustainable urban development is the one with the ethical framework. It fulfills the social welfare with using the natural, financial resources and social capital thus it provides the dynamics and social welfare in the process of the sustainable urban development.

Because this fact that the humanitarian, qualitative criteria are emphasized more than the other ones by the sustainable development, policy formulation should be done to improve urban quality of life in order to achieve a stable state located in the towns.

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