THE ROLE OF URBAN PLANNING IN ACHIEVING SUSTAINABLE URBAN DEVELOPMENT

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Abstract: The Sustainable development strategies' focus is on five dimensions: economic sustainability, social sustainability, ecological sustainability, sustainable spatial development, and cultural continuity. Thus, sustainable housing is one of the fundamental pillars of sustainable development, and sustainable urban development can be discussed in this context. The target of sustainable urban development process is to achieve the status of "sustainability" in urban communities and also to create or to strengthen the sustainability's characteristics of economic, social, cultural and environmental city.

This essay tries first to have a brief review on the history of sustainable development. Then, it continues to find out how to promote that concept and why it is necessary to be focused through different definitions.

To understand the principles and pillars of sustainable development, based on the current worlds' environmental, economic, social and political realities, concepts, words and condition of the Earth Summit, the Rio Declaration and the Works Program of 21 and the different experts and researchers' views are used. Then by reviewing the principles and concepts of sustainable development (in general), a primary concept of sustainable urban development (in particular) is achieved. Finally, some general suggestions are made on the sustainable urban development, urban planning and the importance of providing realization conditions of the urban sustainable development.

What is important here is to emphasis on Physical – space considerations which are under focus in this research too. And the most important points which should be considered as a Physical consideration in sustainable settlement is also mentioned in this paper. By comparing what should be done with what is today common in urban development planning, and according to above-mentioned comments and topics, it can be concluded that to achieve the urban sustainability, It is necessary to make some structural reforms and to create some deep and fundamental changes in all levels of society, especially in the three levels of: 'government and management', 'technology' and 'life methods'

Keywords: Sustainable Development – Urban Sustainable Development - Urban planning-development Strategies

I. INTRODUCTION

After the Industrial Revolution, urban development and trend to urbanism and then, evolution of various theories of economic development resulted in appearance of global cities and mega cities around the world. Now, urbanization trend has been so increased that it is going finally to make the earth as an urban world. But, over years, the negative effects of urban lifestyles have made some major problems for the environment and human beings. This is why the sustainable development has been put in the agenda of many institutions, organizations and governments. Recent studies on the field of sustainable development patterns and how to achieve to this type of development have tried to introduce its features, and how to implement its concept. But issues related to urban sustainable development have been rarely taken under consideration. So, the main aim of this paper is to clarify the fundamental dimension of sustainable development, that is urban sustainable development, and the using method of urban planning tools for achieving it, as well.

II. Materials And Methods

Sustainable Development Strategies

Development sustainable strategies can be focused on a few basic principles which can be named: the five dimensions of sustainable development. (1) Economic stability which can be defined as outcome of better allocation and efficient management of resources and continuous flow of private and governmental investment. (2) Social sustainability which means: creating development process, that its continuance is depended on another growth. Here the goal is creating human civilization with a fair distribution of assets and earnings to reduce the gap between the rich and the poor. (3) Ecological sustainability, which could be strengthened by using the following levers: (a) Limiting the consumption of all kinds of fuel and its sources which are exhaustible; (b) Reducing the extent of wastes, pollutions and recycling the sources; (c) Promoting economical use of the sources; (d)Trying to find technologies which can reduce wastes; (e) Determining the appropriate laws and legal system. [1]

(4) The sustainable spatial development, whose aim is to achieve a more balanced rural- urban institution and a better distribution of land from a human settlement view which has a focus on the following points: (a) Decreasing the radical focus in the suburb areas; (b) Avoiding damage of vulnerable ecosystem as to the migration process and the uncontrolled wandering; (c) Promoting new methods of agriculture and forestry among small farmers; (d) Discovering and exploiting the environmental potential for a centralized industry with the new technology and with special focus on biomass industries and their roles in creation of a non-agricultural employment; (e) Establishing a network of natural grazed to maintain biodiversity. (5) The cultural continuity which includes finding endogenous roots of renewal patterns, and farming systems and the processes that can create some changes in the cultural continuity.

Urban Sustainable Development Concept

There is an ambiguity in the meaning of the sustainability which leads to a vague in the concept of urban sustainable development. Although so much research has been done, but it is still not enough. City is a complex system and when its size is bigger, the result of development would be unpredictable.

“A city or an urban area has a certain capacity threshold which after it, the degradation of environmental quality happens. The scope or territory that an area should be matched with the development can be measured by an environmental impact.”[3]

“The European Communities Commission Guide (1992) and the national level guide (Doe, 1993) has considerably noted the need of developing and using the environmental issues tools as a basis for drafting the development plans. The environmental capacity assessment tool is one of the aforementioned tools which has shown that to assist the development strategies, it is a good start.”

Considering the limited potential and power of ecological context of cities, urban sustainable development would be possible if it is based on the local and environmental characteristics in the same format and observing the fundamental principles of sustainable development.

A European international institution on urban environment experts also have a similar opinion, and emphasize that there should be a reference model to sustainable development based on environmental, areal, economic and social characteristics, for each city. [3]

This Institute has started to draft the urban sustainability standards for the European Environmental Agency. These indicators are calculated through three basic dimensions: (a) The flow of sources (raw material, goods, foods, energy, water) and pollution thereof; (b) The user patterns, traffic, transportation and its effect on “landscape”; (c) The quality of urban environment (air, water, safety, housing, green spaces).

The above-mentioned experts calculated different indicators based on various aspects for European cities. Finally they introduced the European sustainability indicators which could be used as a tool to assess the sustainability progress. This sustainability criterion was obtained from combination of various parameters and indicators, among which some come as follows:

Sanitary and healthy environment, access to green spaces, efficiency in use of the resource, using the renewable energies instead of the nonrenewable energies, green economy, life giving, the number of organizations and group of people to the total population, social justice, welfare and satisfaction of urban life quality.

It is worth mentioning that, these standards and their similar criteria can be balanced with a relation to places and cities and can be used as a measurement tool by the sustainable urban planners.

III. METHODOLOGY

This paper discusses the principles and concepts of sustainable development (in general) and based on that, the primary concept of sustainable urban development is obtained (in particular). Then, considering the results of mentioned matters, we suggest some general points with regard to sustainable urban development and the magnificence of urban planning role to the urban sustainable development. The research method of this paper is descriptive and analyzing.

IV. RESULTS AND DISCUSSION

General Considerations in the Sustainable Urban Development Planning

Economic Considerations

(1) Identifying and defining the technology, cases and non-sustainable products and avoiding their production and consumption in the future; (2) Encouraging decentralization of industries; (3) Encouraging urban small industries and self-employment; (4) Preventing the uncontrolled migrations; (5) Changing patterns of production, distribution and consumption of materials; (6) Providing the growth and development of the urban economy; (7) Providing the needed goods (as much as possible) in city to reduce the spatial distance and to reduce the energy consumption; (8) Reducing per capita costs of urban services to improve the economic efficiency of city administration.

Cultural and Social Considerations

(1) Based on human being and the relevant needs, (2) To deal with the explosion of urban population and reducing the population growth rate to almost zero; (3) Considering the identity and specific cultural characteristics of each city, and preserving and strengthening positive values of local culture; (4) Reducing the poverty and class differences; (5) Changing the behavior to change the patterns of uncontrolled consumption of sources; (6) Mobilization of woman, children and the youth to participate in education and promoting of environmental culture; (7) Fair and balanced distribution of facilities in urban areas.

Physical Principles and Considerations

(1) Accurate locating, optimal design and planning for new towns; (2) Surrounding the city with the productive ecosystems or those are able to absorb and degrade human waste and sewage; (3) Encouraging the local empirical knowledge, innovation and creativity in the field of construction, (4) Regular distribution of cities in space based on a hierarchy and according to the capacity of ecological context of each city (Land Spatial Planning); (5) Considering the specific situation of the urban environment as a main factor in the development planning; (6) Building designing based on energy saving; (7) Using the integrated system of public transportation; (8) Producing the building materials with minimal destruction and damage to the environment; (9) Determining standards of urban design and planning to reduce air, noise and visual pollution; (10) Planning and design of biological useful spaces to a better performance; (11) Providing lighting, water supply and public facilities with minimum costs (in terms of consumption of natural and financial sources). (12) Distributing balanced spaces of public facilities in urban areas; (13) Recycling and reusing of the unused and destruction spaces;(14) Revision of building codes and standards regarding consumption of construction materials, (15) Careful attention to the mixed use and using of multipurpose spaces; (16) Compressing cities fabric to reduce distances and saving in energy consumption; (17) Increasing density based on precise study of amount, identification and definition of the density distribution in urban space; (18) Taking into consideration the importance of walking passages and spaces; (19) Creating suitable ways for bicycle traffic and encouraging its use; (20) Doing detailed study to define and introduce the “urban sustainability indicators” as tools to assess the necessary amount of movement to “the sustainability” in the process of urban development.

Environmental Considerations

(1) Linear flow of materials (data)as the input to the urban system which should gain to a wheel flow system (recycled material – reuse); (2) Serious and careful study and evaluation of environmental impacts of urban development projects; (3) Defining environmental thresholds and bearing capacity of the environment; (4) The information of environmental systems should be collected and compiled and controlling parameters should be defined; (5) Reduction of air, noise, garbage and sewage pollution; (6) Making the urban environment healthy and hygienic; (7) City Immunization to prevent accident and to minimize damages. [7]

Management, Decision Making and Practical Methods

(1) Reforming the methods of urban planning and current studies; (2) Participation of urban institutions, scientists, designers and planners with different groups of people in open debates; (3) The experts and decision makers should teach the concept of "sustainability" to the people in all age groups, to be able to adopt the urban sustainable development projects; (4) Extensive use of public information to promote and encourage public participation and to

promote community awareness and knowledge; (5) Using the computerized advanced technology to analyze the data, evaluation and presentation of solutions; (6) Strategies of urban development should not be selected and applied by governors and should be designed and completed by people and professionals; (7) Exchanging information of sustainable development between communities and cooperating in comparative studies.

IV. CONCLUSIONS

Urban Planning has an important role to form framework of urban sustainable development. The goal of sustainable urban development process is to achive the status of "Sustainability" in urban communities. In other words, the goal is to create or strengthen the sustainability's characteristics in economic, social, cultural and environmental life of city. Because of extraordinary complexity relation between the natural and artificial environment and human activities, predicting of development phenomena is very difficult. It also rejects the predetermined and inflexible models. It is essential in urban planning to make the urban goals compatible with developed and flexible methods. To a better consistency between this science and new issues, a different form of methods, strategies, techniques and tools should be used.

In the long term, strategies of sustainable urban development should assist the continuance of system of biodiversity (ecosystems) of city and suburbs through the active protection and sustainable utilization of natural sources. This can provide the enough assurance to promote a better quality of the people's and future generations' life. By comparing what should be done with what is today common in urban development planning, and according to above-mentioned comments and topics, it can be concluded that to achieve the urban sustainability, It is necessary to make some structural reforms and to create some deep and fundamental changes in all levels of society, especially in the three levels of: 'government and management', 'technology' and 'life methods'.

REFERENCES

[1] World conservation Union, (1991). U.n. Environment program and world wide fund for Nature.
[2] Coupland. A. (ed), (1997) , Reclaiming the City, E & Epson.
[3] Maclaren, V.W., (1996) , Urban Sustainability Reporting , JAPA, Vol 62, Spring. p. 185.
[4] Haughton, G.& Hunter, c. (1994), Sustainable cities, London, Regional Association.
[5] Blowers, A. (ed) (1993), Planning for a Sustainable environment . ,London. , p. 6-7.
[6] Nature & Resources,(1996) , Vol. 32, NO. 2. , p. 9
[7] Beer, A. (1993), Landscape planning and Environmental sustainability , T.P.R., Vol. 64, NO. 4.
[8] Jenks M. Burton E. & Williams k. (eds), (1996), The Compact city. A Sustainable Urban Form, Chapman & Hall, , p. 216.

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