

The Urban form and Sustainable Development

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Abstract

Existing patterns of urban development and human activity has led to the disorder environmental regulation and remnants of the human species and the sustainability of life on Earth is faced with serious threats. In this search we believe that Executive and theoretical aspects for achieve sustainable development Would be practical in the compact city form. However, it is undeniable, the notice to reality and that adapting to country local conditions. Many features a compact city is relate with quality of life in cities like availability of urban services and facilities, clean environment, less noise and air pollution, pedestrian travel, reduce the cost of fossil fuels, reduced use of private vehicles, public transportation, such as the bus, train, metro and thus promote social interaction can be facilitated in order to attain city sustainable development.

Keywords: Compact city, Urban Dispersal, Sustainable Development, Sustainable City, Mix Use.

Introduction:

The search for the ideal city From distant centuries were one of the major concerns of many philosophers, social reformers, architects and urban planners that is the kind of town also have the technological advantages and as healthy life offer in the city based on the ideas of social justice. The issue of sustainable urban form comes mainly from Brazil and the Rio conference in 1992 that led to the formulation and approval of Agenda 21 Executive plan to achieve sustainable development in the twenty one century and for international organizations, national governments and local nongovernmental organizations. In this

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resolution was put forward ideas about the role of cities form in instability that later were presented and published in 1992-6 years in the form of discussions and papers. opinions differ about the city form caused by a different perspective to municipal infrastructure, environmental exploitation and development trend the city. (Commonwealth of Australia, 1992:12 ; Breheny, 1995: 71; Jenks et al, 1996: 90; de Roo and Miller, 2000: 4; Bruegmann, 2006: 45).

From this point of view proposed the two theory about sustainable development and city form. One theory to explain the idea that compact city with mixed land use and the use of public transport systems makes efficient distribution activities in the city will optimize the use of urban infrastructure (EUEG, 2004: 11). Urban development policies are in many cities to compact urban development such as Amsterdam (as pioneering compact urban development), Hamburg and Copenhagen(Sheurer, 2007: 67) that have been successful in reducing energy consumption and pollution, the development of walking and public transport and increased of social interaction and vitality. In this idea the goal is to develop a way of life which Fulfilling the needs of people with public transport from shopping, education and entertainment from Neighborhood and the city (Llewelyn Davies, 2003: 7).

In contrast was introduced urban dispersal that theorists have support of the cities in America, Australia and Canada and supporters are of the capitalists and industrialists the automotive and consumer industries. This Group believes that can be achieved to sustainable urban form with separate land use, open and green space increase. In this idea has emphasized the use of private transport. The extensive and rapid development of city in suburbs in addition to eliminates valuable lands and increases transportation problems, have Costs and other negative impacts on the lives of individuals. In developing countries are often living in the outskirts of the meaning of life on the margins of urban society as well. Usually the private sector abuse of government weak control and supervision and the use of cheap land and informal settlements deals to collect profits and investment. One of the most important problems of marginal sector is infrastructure poor which makes the city or metropolitan to provide them the infrastructure. Construction on the distance of the city and leaving a vacant land between them is very profitable for private builders. In this way increases the value of vacant land in the distance and it goes to pocket more profits. Informal settlements fills the intervals. Construction forms in this Sections is different: or have been revealed as low-quality and Low height housing or are high-density construction which have been limited due to the topography of the land.

In any case there isnot in the extensive form the city infrastructure, transportation and services needed to develop. The few wealthy people who are on the margins to build their golden cages but they are forced to endure long distances. But for the poor and lower classes, there is not much choice. They had to accept social isolation, unfavorable environment conditions, high pollution, inefficient transport and high crime rates. The sprawling city will the following consequences(Williams and et al, 2000: 22):

- Increase public spending due to the transport infrastructure;
- Increase the private costs of buying a car;
- Develop an individualized lifestyle;
- destruction of agricultural lands and open spaces around the city;
- Increased use of fossil fuels;
- the development of sound and air pollution.

Presenting of the problem:

Cities are main place of human activity and the largest consumer of human, making human and natural resources. Therefore stability achieve is crucial in the cities. Now the cities as the most important man-made environments, despite minimal space have occupied of the Earth; are Concentrated development areas, the densest areas of human use of the land and expression of human needs the spaces most compact. At the same time considered urban centers in terms of the notion of sustainable development the parts most critical of the planet is also. So the urban are main centers of achieved or not sustainable development goals .

Since the beginning of the twenty-first century, many cities are involved in the world with as issues; air , noise and environment pollution, traffic congestion and overcrowding, lack of services and infrastructure for the transportation sector,lack of financial resources and many other problems that have faced sustainable development of cities with challenges. Seems to achieve sustainable development of the most important challenges facing planners and city managers to achieve sustainable cities. Despite the clarity and similarity of problems in many cities in the world but still does not exist a common paradigm in sustainable urban form.

Factors such as size, shape, density and compactness of the cities contributes in sustainable development. Accumulation or distribution processes including land use, mixing performance, organization and classification of architecture tissue and open and green space are effective in achieving to sustainable form of development . In this context compact city with mixed land use in the neighborhood does the viable city(Jenks and et al, 1996: 8).

Research Methodology:

With respect to the components the study, the nature and aims of the research, governing this descriptive-analytic approach. The basic assumption was that the relationship between urban form and travel patterns of access and social interactions and that urban forms with different densities and different uses show a different behavior in relation to energy savings and also quality of life. Research hypothesis is that the achievement of sustainable development will be practical in the form of a compact city.

The relationship between compact city and sustainable development:

Recently, much attention has been paid to the relationship between the city form and its stability and it is believed that the physical form of the city in much affect its stability. urban traffic is one of the important elements and affecting in stability of the city. Despite the clarity and similarity of problems in many cities in the world but still have not achieved a common paradigm to solve these problems. Of course sustainable development is not only related to environmental issues; Achieve economic dynamism, social justice and environmental balance,is including other important aspects of this issue.

1. The physical dimensions and sustainable development:

The main emphasis in the idea of the city compact is urban development on a Short building with average density. Consistent with this notion is not including single villa or apartment houses but mainly it what is in this idea as a pattern, examples of European cities that are put building maximum 5-4 classes on both sides the street. Then height of more than this value is keeps away us the from the idea of the compact city.



Photo 1: Example of correct model of compact city that residential blocks of three and four-storey of city streets on both sides to create a continuous appearance.



Photo 2: A sample of modeling incorrect compact city with a very high density.

in main axes of the city, in the ground floors of these buildings are usually utilities and commercial establishment. Then basis of planning in the city is mixed use that easy access and the need to travel long distances reduce by personal vehicle. Parts of city built along the street of the city make walls, as can be seen continuous views of a height of 5-4 floors. Integrated transport system one of important factors is in the idea of the compact city that linked as rational bus terminals within the urban, suburban, subway stations, subway, shopping and leisure centers. urban implementation System that placed of shopping centers in nodes can facilitate citizens' access to services(Jenks and et al, 1996: 31).

2. The social dimension and sustainable development:

Mix use in compact city strengthen its social dimension. Population density in 5-4 floors high is reasonable and socially allows a family can interact with the surrounding environment and from window monitored their children in the backyard or front playing . In idea of the compact city people can be more presence in urban spaces and streets with the creation of mixed uses and the expansion of pedestrian and public transport and increases communications and meetings. Create mixed uses and access through the equipped implementation axes for citizens attempts to raise positive social interactions and meeting face to face of citizens and

seeks by defining some of the commercial, administrative, service, entertainment and more in central nodes to increase the vitality in urban spaces (Masnavi, 2003).



Photo 3: use mixing in compact city increase social interactions and livability in town.

London City is an example of an integrated urban development in community centers where residents can use the facilities of the main streets and participate in metropolitan scale in activities that occur in the city center (regardless of what part of town they live). Residents used in each neighborhood of the local facilities on the main street (regardless of class or race to which they belong) and ensure that all parts of the city are located in right distance from the main transport facilities and urban services. This equally access can be important role in the expansion of social justice in the field of development. precisely is this level of coordinated development that is felt today in most fragmented and scattered urban areas its deficiency. Also in idea of compact city great emphasis on preserving and promoting diversity and social interaction.

3. The economic dimension and sustainable development

The attention paid to the relationship between the compact city and the energy consumption return to research that two researchers named Newman and Kenworthy performed on a number of world major cities about measure the consumption of fossil fuels and the use of private vehicles. were plotted fuel consumption curve diagram of the cities studied that USA and Australian cities were high consumed but European cities on the other side of the spectrum were low consumed (Kenworthy, J. R. and et al, 1999: 15). This pattern in addition to reducing the distances traveled by encouraging implementation and public transport cause saving energy consumption. Compact city that properly is handled knowledge of urban design and its parts are interrelated, flexible structure that are relevant to the whole components. the purpose of this communication is segmentation visible from public spaces that not only connect different parts of the neighborhood and the neighborhoods but also linking together people in homes, schools, workplaces and social institutions.

Another important aspect of economic stability of the compact city is reduce costs of providing services, facilities and infrastructure related to urban transport due to reduce the distance. Problem that should be economic policy in developing countries must be considered is the process of change in the approach to the use of private cars in favor of public transport-

it is common in the Northern countries- but this while entered personal car however too late to developing countries but it spread rapidly.

4. The environmental dimension and sustainable development:

New ideas that arise for solve urban problems different methods have been used and adapted to the nature in thought and action(Committee on Environmental Systems of Japan Society of Civil Engineering, 1998: 15-36).

In sprawl city form transferred pressure from the urban extensive to municipality and government. They have to supply the network infrastructure of transport and other services for residents of border areas of the city and continues non-stop this cycle of displacement and uncontrolled spread the city Leading to the depletion of resources and going beyond the environmental capacity.

But the compact pattern of urban by encouraging travel pedestrian and public transport such as buses, trams, subway and to minimize the use of private cars will save energy and thus reduce air pollution and the environment.

Table 1:

The amount of carbon dioxide released in grams In square kilometer in the Netherlands based on the type means of transportation

Bus	Subway	Train	Cars
159	100	201	71

Source: The Dutch railway, 1995

In addition to method of deployment city of compact to prevent degradation agriculture and natural land . In fact in the form city of compact emphasis on urban centers growing and recycling land and also avoiding the development and spread of city in the margin.

Native sustainable model:

It seems to use compact city model all aspects of it should be understood and in our country is not Native. It is said to be in sides world a model of good respond it does not mean that the model at this way is also responsive and appropriate. The internal researchers should be a lot of research on the acceptability and practical use in cities and if carried out it adapt with the specific conditions of economic, social and environmental Iranian cities. Almost Tehran urban management During the the last few decades by selling dense imposes burden Far from the city environmental range and with the the idea of the compact city to justify their actions without thought. The main reason for rejected is the mismatch of time between the two approaches; Because now city policies at Europe's advocating of compact city (European Union Expert Group on the Urban Environment, 2004: 53). Less than two decades mentioned idea has been proposed as a practical proposal. In many metropolises of Iran most of urban services are concentrated in the city center or in a specific rows and there is no mixed use in many regions and neighborhoodsand and carried many daily trips of citizens to work or to access services by private vehicles over long distances, while this is against the ideals expressed in the compact city. sometimes in the Iranian cities there are single spaces that at some times in various gatherings Remind magnificent collective memory. However, due to is not relation to various land uses has not the continuing vitality(Such as photo 4).



Photo 4: Azadi Square reminiscent of gatherings and various events

In the beginning should be do extensive studies on the development of cities and urban areas order to determine what city or urban area (For example, in metropolitan Tehran) are more successful than others in terms of sustainability criteria. Whether successful urban area there are in terms of stability? Do can be found successful cities in the iran country ? Through these studies should lead to the conclusion that what features has caused to cities achieve such successful and positive aspects.

The next stages should be the criteria for sustainability of cities be extracted from the local view and based on achieved model the city local sustainable , as planners and designers can to determine the rules and principles of consolidation, the mixing of uses in the surface and the Their spatial distribution. Such as is whether major shopping are concentrated in neighborhoods or as are in the distribution line and so on. It should be noted that the characteristics of urban construction in Iran different European countries and this sought discreet and more obsessed for using idea the compact city. Of course some public spaces in iranian cities with mixed use properties and having a link with the various elements the city(religious, economic and social) has been continuing livability features(as in Figure 5).

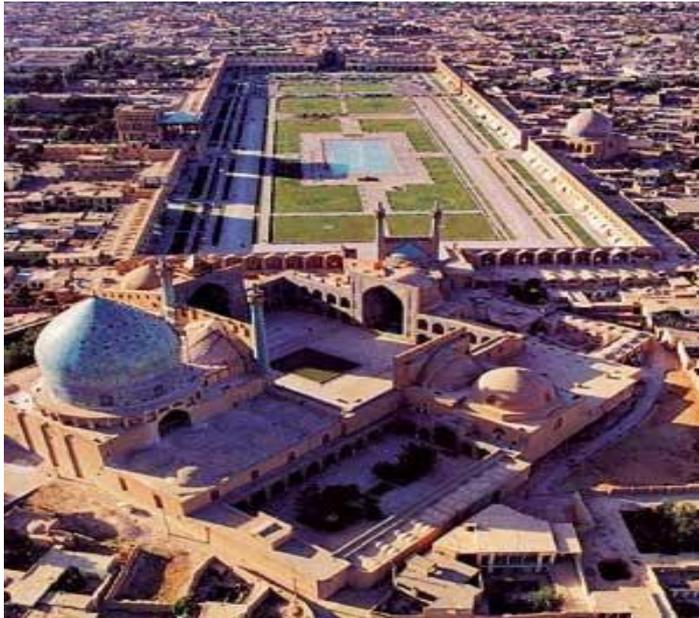


Photo 5: Imam Square (Naghsh-e Jahan) in point of link the different elements of city

Due to the fact that public participation in the planning, design and management of urban has been entered and important factor and criteria so should local norms entered their planning processes and they are asked the views of residents about the place preferences. It should be noted that some deficiencies are observed in the compact city model. Compact city are lacking of green spaces and urban parks and open space. As well as have shortcomings in terms private space and confidentiality and proprietary of life. These shortcomings must be considered in terms charm when compact city comparison with low-density areas.

Conclusion:

Cities are as the main cause of environmental degradation and destruction of the resources that gone the potential its environmental and even beyond the immediate environment. At the same time cities are the driving force of the economy and much of its population lives in developing countries. Cities may be difficult, but are not necessarily difficult. Cities Problems caused by the failure of the government method within cities that causes cities performance is inefficient, and not because of the location and characteristics of cities. only per hectare density is not indicative of the quality of the city. Location plays an important role to create flexible policies for density. There are certain areas that priority should be given to increasing the density of space. Urban centers and transport are both attractive higher densities of population and have more land use diversity. The lack of empirical data in existing levels and available compression techniques and the lack of sufficient clarity about the most appropriate them measurement criteria and evaluate indication of the difficulty of assessing the policies of concentration in developing countries.

In the late twentieth century due to the diversity of ecological and energy crises and the variety of social, physical and economic problems is examined search for determining sustainable urban form. compact urban structure reflects the complex reality of daily life in many cities is successful which can be honest in the case of cities radial, linear and organic along communication paths are formed. These models are that have resisted in front spread of cities and too much expanding.

It seems the idea of compact urban form can be essentially a good idea; also idea as well theory behind it, which is is recommended compact and mixed forms of urban development.

But use of this idea lies risks in Iran that such it can be point to misplaced imitate and reflection used in country. Such an interpretation of external ideas usually do not deepen, because does not do much research about them. Also because it is not native and for this country have not been made after a while failed to be the result is All rejection of the idea and the overthrowing its foundation in the early periods. So it is essential that the principles and the ideas and concepts that are taken As reflection not used.

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