Adaptation of New Concept in Growth Management for Iranian Cities

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Abstract

Cities are now recognized as being one of the major challenges in the transition towards a sustainable world. They are both a subject and an object of sustainable development. Cities are also often considered an appropriate place for testing the concept of sustainable development, or even a catalyst for sustainable development. In this paper, a review on smart growth concept has been conducted; also, explicit techniques that could be adopted by rapidly growing Iranian cities are recognized. Witnesses who have observed during the last decades of Islamic revolution reforms as well as worrisome population increase on account of continual rural-urban migration and natural growth. Acceptation of these techniques will guarantee sustainable urban development. It can be said that the main argument of this paper is that in order to have progress in urban areas to perform efficiently and sustainably, a more progressive and thoughtful approach is required. Present tendency of urban growth does not reflect a friendly environment. It englobes traffic problems, air pollution and destruction of agricultural land. However, this problem has been addressed by embracing smart growth principles has been observed. A framework of urban management, which also depicts realistic implications, has been presented in this paper. The necessity for Iranian cities to take on smart growth is discussed in part two. Part three describes where some lessons from smart growth principles have been applied to the rapidly growing Iranian cities. The last part consists of the summary and conclusion.

Key words:
Smart growth; Urban growth; Iranian cities

1. Introduction

Smart Growth concept introduced in the mid-1990s and became an exhortation of the day. The term used first in the foreword of solving sprawl in Maryland state plan under Governor Parris (LEVY 2008). Smart growth strategies implemented by regional and local governments but in some case, state and provincial support is required. Developers have stake in some design features of smart growth. This paper aims at presenting lessons from smart growth concept that will be useful for rapidly growing Iranian cities and to generate discussions on

modern urban planning approaches for the cities, although in a different environment and might be difficult to implements as conceived, smart growth concepts offer many lessons that can be modified for Iranian cities.

1.1 What is Smart Growth?

According to American Planning Association (APA 2002), 'smart growth is the planning, design, development and revitalization of cities, towns, suburbs and rural areas in order to create and promote social equity, a sense of place and community, and to preserve natural as well as cultural resources'. It also called growth management; smart growth serves the economy, the community and the environment. It planning and design approach use a range of policies and programs to support sustainable and qualitative growth and provides solution to impacts of dispersed development on the environmental economic and social fabric (Filion 2003). It is introduced to distinguish compact patterns of development that do not represent the downbeat characteristics of sprawl, the term 'smart growth' has been widely adopted. It is residential and transportation concept that concentrates growth in the center of a city to avoid urban sprawl and ensure compacted, transit-oriented, walkable, bicycle-friendly land use. It offers mixed land use development with a range of housing choices neighborhood schools, less motorized streets. Smart growth connected to the perfect concept of a new town planning concept and new urbanism (Basudeb 2010). Smart growth aimed at achieving a unique sense of community and place to increase and diversity mode of transportation, employment as well as housing need. It advocates the preservation and promotion of natural and cultural resources in order to promote public health and enjoy equitable distribution of costs and benefits of development. Figure 1 shows the simple conceptual model of smart growth (Basudeb 2010).

Figure 1. Simple conceptual model of smart growth

1.2 Comparisons between Smart Growth and Conventional Development

Sprawl refers to inadequate accessibility to essential facilities and services such as housing, jobs, and public service (Bullard 2007). Some of the negative impacts of sprawl include; social problems, shortage and indiscriminate housing provision, gross unemployment, nature of the available job, fiscal impacts, , political unrest, transport associated problems, pollution and environmental quality problems (Freilich 1999). Recognition that smart growth can somehow help solve problems of sprawl (LEVY 2008).

2. Urbanization and Challenges in Iran

Since the early twentieth century, most cities in Iran have experienced dramatic increase in structure, which transformed the city area into divers sub areas due to intra-regional spatial differentiation. The traditional dichotomous urban structure of the city and the suburbs are not well suited for intra-regional analyses and policy implications. Based on the population growth rate and the current urbanization trend, it projected that the population will be 130 million (Habbibi 2002). With new development, cities especially big once, changed rapidly. These changes are rapidly extending the boundaries with unbalanced figures. Indeed these kinds of developments led to the problem of non-suitable proportion between land uses and
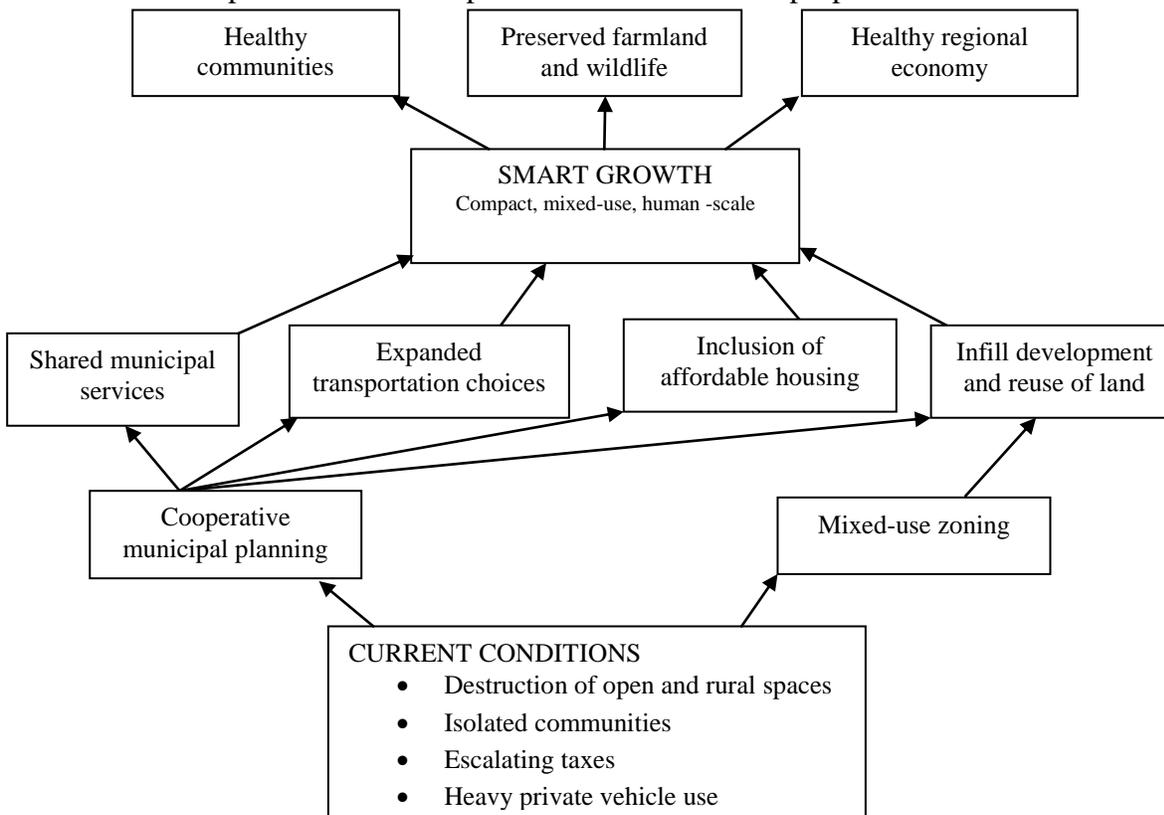
good per capita. (Mashhadizadeh 1996) observed that recent reform in social and economic condition in Iran influenced growth, urban physical development, developing the services section, concentrating of industrial sections in cities made absorb a lot of immigrant from

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rural area and small cities to big cities. The population distribution in Iran is showing in Fig. 2, (SCI 2006).

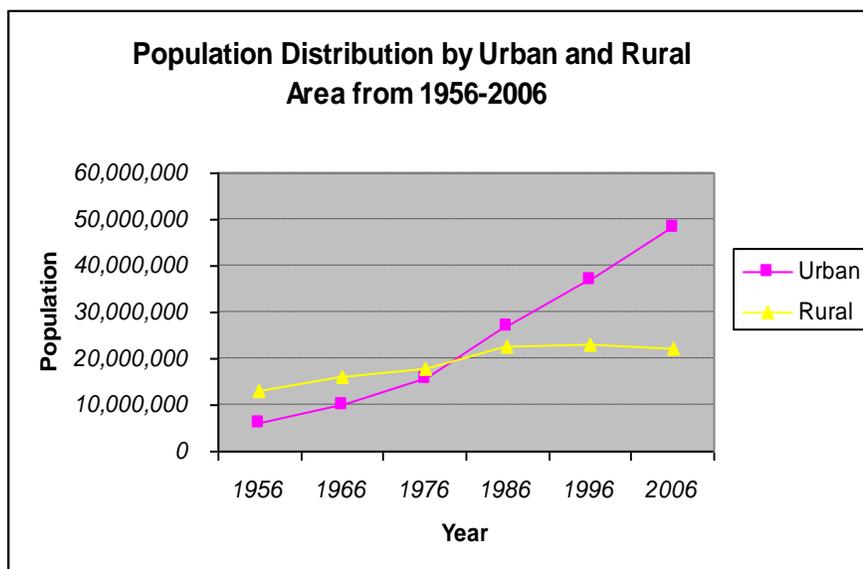**Population Distribution by Urban and Rural Area from 1956-2006**

Figure 2. Population distribution by urban and rural area

(Izady 2003) observed that there are three important factors related to growth of Iranian city. These are
• Natural population growth
• Migration from rural areas to cities
• Transformation of settlements from rural to urban state
He also pointed out that the most significant challenges for Iranian cities are:
• Indiscriminate expansion of metropolitan area
• Persistent migration to urban areas
• Poor distribution of population on land
• Informal settlement, land scarcity, expensive housing, traffic related problems and pollution

The majorities of unbalancing in metropolitan areas in Iran have different dimensions, which included conflict between capacity of natural environment and the percentage of population. For instance, unbalancing between functions of the center cities with whole of the regions or unbalancing in locations of metropolitan areas when compared with the whole urban networks in the regions, unbalancing between rural and urbanization systems in metropolitan areas and finally mixed of urban elements that are incompatible with each other as well as conflicts between urban texture and inner city structure (Saidnia 2003). The population and housing results from 2006, (SCI 2003) shows that near 2/3 of total population live in urban area and the trend for the next decade shows continuous increase. It also indicates that much of population

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concentrated in few metropolises. Percentage 27 of the immigrants from 1996 to 2006 has been absorbed by six metropolitan areas. In 1976, one city has more than one million people. The rate of urbanization between 1986 and 1996 was 54.3 and the number of cities that have more than one million people increased to four. The majority of population in 1996 concentrated in five big cities namely; Tehran, Mashhad, Esfahan, Tabriz and Shiraz. According to last surveys in Iran, there are six metropolitan areas with population more than one million people each. This shows increase in number of the cities and population concentration around metropolitan areas will in future. Table 1 shows the rate of urbanization in Iran within the 50 years (Fani 2006).

TABLE I.   RATE OF URBANIZATION IN IRAN WITHIN THE 50 YEARS

Number of cities more than one million population	Rate of urbanization	Number city	census
1: Tehran	31.4	199	1956
1: Tehran	38	272	1966
1: Tehran	47	373	1976
4 :Tehran, Mashhad, Tabriz, Esfahan	54.3	496	1986
5: Tehran, Mashhad, Esfahan, Tabriz ,shiraz	61.3	612	1996
6: Tehran, Mashhad, Esfahan, Tabriz, Shiraz, Karaj	68.5	1012	2006

2.1 Inconsistency of Big Cities Physical Structure in Iran

Inconsistency and jumbling are the factors In Iranian urban areas that prevented the metropolitan area from standard values. Incompatible land uses, strange perspective and poor landscape put them in condition that looks like mushroom cities. Rapidly urban development without planning in term of interconnectivity is another issue. Lack of balance in many fields put them in crisis. Unsustainable structure of the big cities in Iran relates to false policies, false planning in the development of the metropolitan areas, inappropriate regulation, lack of hierarchy for distribution of population in various level of the country and lack of hierarchy in terms of urban planning as a whole. Rapid growth of metropolitan areas in last few decades generated many issues and problems in managing them to urban planners, Hence it should considered that rapid urban physical structure let to spread of informal settlement around these areas.

2.2 Rapid Urbanization and Informal Settlement in Iran

One of the most important issues in economic and social terms in Iran is lack of development of a spatial planning system whose symptom is the irregular expansion of urban settlements. In the geographical space, especially metropolitan areas have proven these characteristics. The centralization of economical and service facilities and welfare prosperity, the increase of immigrants and the lack of economical power of rural immigrants have caused informal settlement. Many of the environmental, social, economic problems have caused instability in the urban system (Taleshi 2009). In Iran after the arrival and establishment of dependent

capitalism, centralized people were first formed in Tehran and a few other cities, which brought a rise in educationalists. Trade, economic and service activities also thrived in big cities, which resulted, in the immigration to the absorbent poles this was followed by a saturation of employment in the cities, caused by the growing number of immigrants creating a phenomenon of informal settlement, especially 1941. . After the occurrence of major changes in the decades following 1961(agrarian reform) the informal settlements growth became more intense. . After the 1978 revolution followed periods of aftermaths of the Revolution, war phenomenon, economic issues and problems caused by war and drought, besides previous factors, have intensified the problem of informal settlement (Neuwirth 2004). The enlargement of spontaneous settlements in Iran over the recent decades has been alarming. It is estimated that currently about one eighth of the total urban population of the country"" "about 5 million people" " lives in informal colonies, and this proportion is expected to double in the decennium should the current state of affairs continue. About three fourths of these colonies are located on the fringes of the 10 largest cities of the country (UDRO 2002). Expansion on the fringes of Iranian capital and about 40% of the population have increased in the Iranian capital metropolitan region during the past two decades belonged s to the informal colonies that have been formed Tehran (UPARC 1998). Studying the informal settlements in ten different cities in Iran, (Rafiei and Athari 1995) it was concluded that two main processes have caused the formation of informal settlements in the country. The first one being the planning process, which did not heed any attention to the needs and financial capabilities of the majority of urban residents, i.e. the low-income group; while the second consisted of no articulation between urban and regional planning.

2.3 Environmental Damage in Iran

Air pollution remains one of the most crucial environmental issues facing Iran, especially its capital city, Tehran. The major cause of air pollution in Tehran is the exhaust coming from 2.4 million motor vehicles. Most of these vehicles are over 20 years old, with poor fuel efficiency and no catalytic converters, which are mostly domestically produced. The problem is due to topographical conditions (mountains to the north and east) and climatological factors (sunshine, frequent temperature inversions) that entrap pollutants over the city. Tehran's high altitude also makes fuel combustion less efficient. The index of air pollution, Pollutant Standard Index (PSI) 24, reported 282 ''unhealthy'' days in 2000. On January 2, 2005, the pollution index pointed to 168 close near to ''very unhealthy'' levels. Precautionary measures had to be taken with schools being closed and children, the elderly and the sick were advised to stay indoors (APT 2002). By comparison, on the same day, PSI in New York was 52 and in Bangkok 57. Other six-mega cities in Iran are similar to Tehran. (Atash 2007), in his paper after reviewing and evaluating the implementation of the 10-years master plan to control air pollution in Tehran argues that, so far, the full implementation of many of the strategies of the master plan has lagged behind and a gap has emerged between the plan and its practice. Moreover, other cities in Iran like Ahvaz, Arak, Tabriz, Mashhad, Shiraz, and Esfahan are considered air polluted.

3. Some Smart Growth Lessons for Rapidly Growing Iranian Cities

3.1 Comprehensive Physical Planning

A comprehensive urban development strategy is a significant element of the smart growth principles that could and should to adopt. The urban planning policies are outdated. These policies are required to update. The link between land-use planning and the contemporary government policies on national economic development should improved. There is lack of conscious planning in certain aspects of land uses such transportation and urban growth has led the city to expand outward at the expense of other land uses. There is need to have comprehensive plan that will guide the development of each structure in Iran. This will promote decency place the development in an organized manner. It will also prevent indiscriminate development and spread of squatter settlements.

3.2 Preserving Farmland, Open Space, and Areas of Environmental and Recreational Value

There is the need for policy makers to increase their efforts to preserve open space, agricultural fields, and areas of special interest by acquisition of rights, land ownership and transfer of development rights making provisions for compensation. These have done in other countries. Iran needs to duplicate from them in order to achieve the maximum degree of compatibility, convenience, health and economic advantages.

3.3 Promoting Infill Development

The policy makers in Iran should discourage outward development by encouraging infill development. This can do by improving the existing facilities and replacing buildings with more densely populated ones. Brownfield required redeveloping. Excessive open space with low-density plot should convert to building. Vertical development should be encouraged. Building height regulations that prevent relatively high-rise development should adjust.

4 CONCLUSION

From the reviewed literatures, it has informed that smart growth provides means by which towns can integrate more dense structures as an alternative to unadventurous land consumptive development. It also reveals that compact building design implies that towns be designed in a way that enables open space to be more preserved. Buildings will be constructing in a way that will provide efficient use of land and resources. Iranian cities should not left out from the new design of compacted development, which is required to support wider transportation choices in order to provide cost savings for localities. It has recognized that to reduce air pollution and congestion by encouraging mass transit system, the minimum levels of density are required to make public transit networks practicable. It has also discovered that on a per-unit basis, it is cheaper to provide and maintain utilities and services such as electricity, water, sewerage, telecommunication services in more compact communities than in dispersed settlements.

References:

APA (2002). "American Planning Association, "Planning for smart growth."

5thSASTech 2011, Khavaran Higher-education Institute, Mashhad, Iran. May 12-14.

APT (2002). Action plan for transportation air pollution in Tehran an recent achievements. Department of the Environment, General Secretary, Executive Committee on Reduction of Air Pollution in Tehran, Tehran Province Environmental Directorate.

Atash, F. (2007). "The deterioration of urban environments in developing countries: Mitigating the air pollution crisis in Tehran, Iran." Cities 24(6): 399-409.

Basudeb, B. (2010). "Towards sustainable development and smart growth,".

Bullard, R. (2007). Growing smarter: achieving livable communities, environmental justice, and regional equity.

Fani, Z. (2006). "Cities and urbanization in Iran after the Islamic revolution,." Cities 23(6): 407-411.

Filion, P. (2003). ""Toward smart growth? The difficult implementation of alternatives to urban dispersion," " Canadian Journal of Urban Research: 47-70.

Freilich, R. (1999). "From sprawl to smart growth: successful legal, planning, and environmental systems," Chicago, American Bar Association.

Habbibi, K. (2002). Physical and spatial development of Sanandaj city with GIS,.

Izady, H. (2003). Iranian urbanization issues physical construction of the city conference.

LEVY, J. (2008). Contemporary urban planning," 8th edit. Upper Saddle River, NJ. UK, Person Education.prenticehall.

Mashhadizadeh, N. (1996). An analysis of urban planning characteristics in Iran.

Neuwirth, R. (2004). Shadow Cities: A Billion 2. Department of Housing, 2000. National Housing Squatters, A New Urban World, Routledge, London.

Rafiei, M. and K. Athari (1995). Informal Settlements in Iran; A Survey of Causes and Solutions. UPARC.

Saidnia, A. (2003). The structure of unsustainable metropolitan Tehran.

SCI (2003). Statistical Center of Iran, Population Data, SCI Publication.

SCI (2006). Statistical Center of Iran, Population Data, SCI Publication.

Taleshi, M. (2009). "Informal Settlements and Sustainable Urban Development Case Study: Metropolis of Mashhad in Northeastern of Iran." Cities.

UDRO (2002). <u>Urban Development and Rehabilitation Organization (2002). National Strategies for Enabling and Regularizing Informal Settlements, Tehran</u>.

UPARC (1998). "Urban Planning and Architecture Research Center of Iran (1998). Tehran Metropolitan Plan, A Survey of Problems and Proposed Solutions for the Metropolitan Management, Tehran."