

Green based urban development (GBD) and Management Policies The case: East Azerbaijan Province of Iran

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Abstract

Urban growth in Islamic republic of Iran in recent decades has had significant economic, social and environmental effects. Surrounding of cities in Iran by agricultural and farm lands caused that urban growth has become an important issue. Since urban growth occupies more than 500 hectare of agricultural and open lands every year urban sprawl not only damage environment but also increase ecological, social, economic and planning problems. Public intervention through regulatory was measured the like approved by Iranian high council of urban planning only slows down or post ponds the process rather than solving the problems. In this paper, historical analysis method using urban planning high council and urban plans approvals was used. Different policies including the policy of urban growth boundaries, direction of urban expanding into non-agricultural lands, Construction of new towns, urban densification were discussed in this paper. The main purpose is to evaluate the advantage and disadvantages of adopted policies and bring forward some recommendations to make an appropriate policy.

Keywords: Agricultural land, Urban development, Land policy, Urban regulations.

INTRODUCTION

The population concentration enlarges the possibility to meet by chance and provides convenient infrastructure, which is the charm of city. However, during the past hundred years, the city has gradually been out of control due to the excessive urban development and the disorder of the spatial structure. On the other hand, urban residents' requirements on environmental quality become higher and higher owing to the social and economic development and the progress of the material and spiritual civilization.

Rapid change of agricultural lands to the residential, industrial and other uses and Consequently its impact on environment has always been an important issue for planners and policy makers. Due to geographical characteristics of Iran this is of great importance, since only 11 percent of Iranian territory is occupied by agricultural lands 7.5 percent by forests, these figures for world are 31 and 36 percent consequently [11].

As urban agglomerations are located in the center of fertile agricultural, forest or farm lands and are being expanded nearly by the rate of 4.7 percent per year. However existing trend must be changed and appropriated policies to decrease population expansion, direct urban growth, and conserve agricultural and farm lands must be adopted.

Green and Farmland Protection Strategies and Urban Development

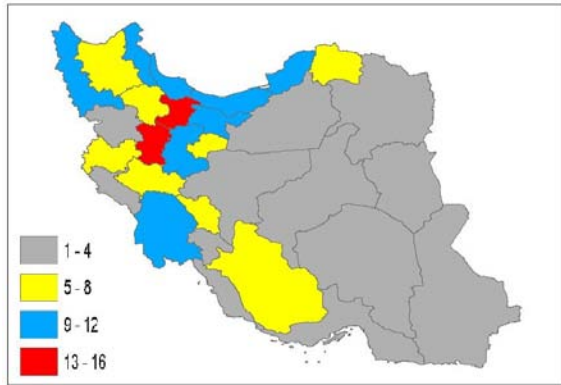
For the purpose of coordinating urban growth with natural environment different policies were adopted at urban and regional levels, the followings are the most important:

Regional level (intra city policies)

Green belts

Those are built around the cities to protect green spaces and control urban growth. The aims of this policy are:

- protection of green and agricultural lands
- control on unplanned growth of cities
- protection of air pollution
- economic utilization of living environment [6].



Map 1. Distribution of farmlands in Iran



Map 2. Green belt of Parsabad city in northwest Iran

Green wedge

Sectored green spaces from city centers towards urban periphery are designed to control urban growth at the same time protecting green areas. This concept is more suitable for sector planned cities. Moscow is a good example of this model.

Concentrated Decentralization

In this policy unicentred cities are changed into multi Nucleus, concentrating activities on sub-centers and agricultural areas among these centers are protected.

Transit Oriented Development

In this concept attempts are made to limit motor traffic movements in the city and encourage pedestrian's. Densification and mixed zoning helps to realize this concept because of decreasing the need for long distance traveling [4].

Therefore concentrated urban agglomerations are formed saving green lands [3].

Inter city green space protection

Various procedures are used to save green lands from becoming urban or industrial at this city level. The following are most common forms:

Increasing Economic efficiency

To protect agricultural areas their usage must be economic. so attempts are made to allocate peripheral areas of a city for particular food production. This gives rise to self dependency and employment opportunities. According to Choguill (1995) men power supply, availability of open

land is additional reasons in-developing countries. Some believe that ecological benefits, fishing and tourism might also increase economic benefits [2].

This policy widely was used in South Africa countries and small islands of Pacific Ocean [15].

Transferable Development Rights

Urban growth towards agricultural areas are forbidden at the same time rights are given to authorities to add urban territory based on needs in none or less beneficial green areas [8].

Cultural Zoning

In this sense city areas are zoned in clusterial forms. Buildings take the form of towers and open spaces in between are left green [10]

Tax Exemptions

To encourage owners to use their lands for farming facilities like tax exemption are provided.

Farmland Protection Policies in Iran

Agricultural land protection policies and programs in Iran can be summarized as follows:

Urban Growth Management Policies

In accordance with rapid rate of population and physical growth of urban areas expansion and physical growth of urban areas especially after the 1979s Revolution various policies were employed to stop or slow down the exploitation of agricultural land. These policies were included:

Urban Land Preparation Policy (Site and Services)

One of the most widely adopted policy after, the revolution basically in search of solution for housing problem was land preparation policy introduced in 1982.

According to reference [9] Urban Land Nationalization Law (ULNL), the ownership of all unused lands (Mavat) was nationalized [9].

One of the main considerations of this law was to prevent changes in the agricultural land. In the approval of this law was to be converted into urban uses. According to this law, from 1982 to 1986 over 583/1 ha land are owned by the government and 61.3 ha were distributed to needy population [12]. This policy although in terms of providing cheap land for housing was very successful, but allocation to low income groups to build one or two story buildings largely led to low density development of urban areas.

New Towns Policy

This policy though started before the revolution but developed after to overcome the demands rise by population expansion. Since 1987 preparation and implementation of 12 New Towns initiated. The purposes behind this policy were the same as everywhere [7].

Among these protection of agricultural and green lands were remarkable.

Densification

The problem of availability of public and cheap land for housing and other needs in recent years has forced policy makers to instate of horizon policy makers to think for horizontal development and high rise construction rather than vertical. The policy of (Pak) saving (Pasandaz), mass construction (Anbhsazi) and small size (Kocheksazi) is the main policy encouraging development to take the

form of high rise if they want to enjoy public facilities and grants. This policy again by densification of construction tries to protect urban environment and green lands.

Nonagricultural Development

Directing development to take place in nonagricultural areas is another strategy adopted in the last decades. According to reference [9] protection of agricultural land law expansion of existing cities and location of new urban settlements should take place or directed to nonagricultural or garden lands. Changing land_ use from agricultural use to other categories must be minimized this law was strictly enforced especially since 1989 which according Urban Planning High Councils approval changing agricultural land into uses are prohibited [14].

Zoning Regulations and Conservation of Green Lands

Urban land-use regulations particularly high density residential zonings are enforced to protect urban green lands.

Based on a law called Farm and Garden Land Subdivision law was passed in 1983, the minimum floor area for subdivision was 2000 sqm and the maximum plot ratio 10 percent. This law was revised in 1987 extending the minimum floor area into 1 ha and building area into 250 sqm.

The following criterions were taking into consideration in defining garden area's density level, Minimum plot area (economically sufficient for production), and Minimum number of population (in terms of providing public service and urban utilities).

According to these criteria 35-40 person per hectore adopted as a proper density level [14].

Protection of Urban Trees

Based on a law was passed in 1973 in order to protect urban green spaces, cutting trees for any reason with out municipality permission in urban areas and department of agriculture out side the urban region, was prohibited.

Also in 1980 act for same purpose the municipalities were asked to provide identification card for every tree.

Both of these two acts did not work very well because of little control and courage. Table 1 shows the percentage of plat area was used buildings during 1989 to 2002 in Iran.

Recently the owners of gardens are allowed to use 30 percent of their land for other uses than agriculture (Based on agreement) and allocate other 70% for public to use as green spaces.

This role is welcomed by owners because agricultural or garden lands are not economical if they are privately handled.

This policy in the cities of Ormieh, Tabriz and Shiraz proved to be proper way to protect urban environment. The enforcement of strict laws in this term in national and regional levels have caused that, land use change to urban and industrial uses to be minimized .

Generally speaking these regulations though useful to some extent, but rather insufficient to stop land speculation.

Problems also rise such as price increase due to limited supply and pressure on owners because of agricultural use being not economic [8].

Table 1. the percentage of plot areas were used for buildings during (1989 to 2002)

City	Population	Area	Density
Tabriz	1067751	13241	81
Maraghe	110660	927	119
Marand	82000	1140	71
Ahar	73506	1058	71
Mianeh	78226	1106	69.5
Sarab	39788	722	55
Bonab	67000	1010	66
Azarshahr	33427	646	51
Ajabshir	25407	482	52
Hadishahr	26394	616	42

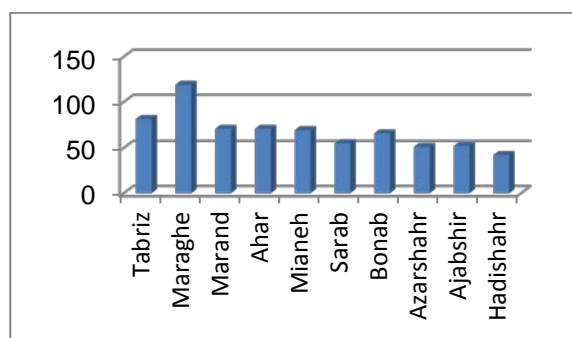


Figure1. Comparing the gross density with residential density in cities of Iran.

Gardens and Farmlands Inside the Urban Boundary

Table 2 shows that grosses density level in almost all cities is very low.

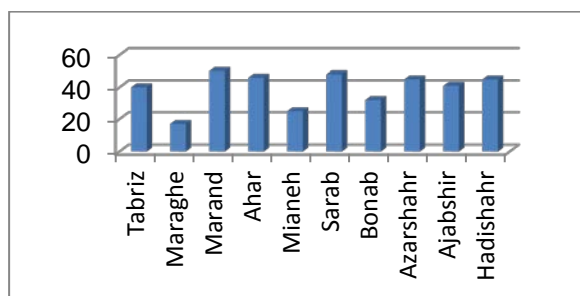
This has given rise to the cost of utility service transportation and so on. Comparing the gross density level with net residential density shows considerable differences (figure 1).

An evaluation of land use patterns in urban areas show an availability of considerable amount of agricultural and garden lands. For instance in the city of Shiraz when the comprehensive plan of the city was prepared 15% of the city area was gardens 14% farm lands and 21% non used. [12].

The tables (1 and 2) show that the use of agricultural land is high for small and medium sized cities. Survey of these tables in recently 10 years shows the absence of appropriate strategies. Among the responsible factors particularly in the recent years the implementation of land preparation policy could be blamed because of little attention to site location which worse affected green lands. Another main factor was the weakness of land supply and providing infrastructure in proper locations, which led to green lands to be speculated.

Table 2. Population Density in Some Selected Cities in east azarbaijan.

City	Density	Gardens	other	total
Tabriz	81	17	23	40
Maraghe	119	12	5	17
Marand	71	36	14	50
Ahar	71	15	31	46
Mianeh	69.5	11	14	25
Sarab	55	37	11	48
Bonab	66	13	19	32
Azarshahr	51	29	16	45
Ajabshir	52	34	7	41
Hadishahr	42	31	14	45

**Figure 2.** Population Density in Some Selected Cities in east

CONCLUSION

Green lands apart from its importance have proved to be a useful measure to control urban growth and development in last century. Adopting this strategy in Iran particularly with emphasis to densification in the last decade led to the following conclusions.

1. Physical condition of the country (limited supply of water, soil, etc.) require wider attention to the issue of green lauds (though the experiences of other countries to be used carefully.

2. Garden lands have different aspects including ecologic, economic and recreational dimensions. These dimension are rather important than physical aspect. Though, the issue can not be solved only with physical considerations.

3. Protection of green land in the absence of complementary policies like tax exemption and so on can not work properly.

4. In the light of sustainable development different strategies in urban areas including safe city ecological city and compact city were followed. In all these strategies saving green land, plays the major role. Therefore further attention must be paid to these areas especially in fast growing urban areas.

5. Different policies in any city must be adopted taking in to account its special characteristics. It was found that multi Nuclei concept with sectored green space around, proves to be appropriate in Iranian cities.

Finally it needs to be pointed out that green lands as a limited national wealth not only belongs to every individual of our society but also for the next generation. Though, in search of sustainable future it has to be properly utilized.

REFERENCES

- [1] Arseh Consultation."The Tabriz Master plan, the Ministry of Housing and Urban Development," Tehran, 1987.
- [2] K. Bahram soltani. "Issues and Methods of Urban planning (environment)," The ministry of Housing and Urban development, Tehran ,1992.
- [3] R. Banai."The new urbanism assessment of the core commercial areas," Planning and design , Vol 2 , 1998.
- [4] R. Burgess." The Compact city debate: Aglobal perspective. compact cities," Spon press,London, 2000.
- [5] C. Choguill."Urban Agriculture and Cities in the Developing World," Habitat International. Vol 19, No 2, 1995.
- [6] B. Edwards."Sustainable Architecture 2Th," Architecture press , Oxford , 1999.
- [7] M .Ghemami,"Relationship Between City and Region of Tehran," Municipality's Magazine, 2001.
- [8] R. Ghorbani,"The Evaluation of Urmeyh Master Plan," Urban planning Studies Center, Interior Ministry, Tehran, 1995.
- [9] G.R. Hojati."Completed collection of legislations and regulations of Municipals and Islamic Consultation,"khange-Danesh, Tehran, 2000.
- [10] B.K. Kahng."A Mass-Transit Oriented Compact Urban-Module-networked metropolis" the International workshop on New Approaches to Land Management for sustainable Urban Regions." Korea ,2002.
- [11] H. Majnoonian."Discussion about Parks, Green Space and Recreation Places," Parks and Green Space Organization of Tehran city, Tehran ,1995.
- [12] M. Motamedi."Urban land and its function in Urban Development process," Urban Planning Study Centre,Tehran, 2001.
- [13] M. Rafei."Density in Iranian cities,"the city quarterly publication ,Mahtap Press,Tehran , No 18,2001.
- [14] Sharmand Consultation."the Master plan of Yazd city," the Ministry of Housing and Urban Development, Tehran, 1984.
- [15] R Thaman."Urban Food Gardening in the Pacific Islands," Habitat International, Vol 19, NO 2, 1995.