Investigation Of Open Green Recreation Spaces' In Urban Environment With The Context Of Healthy City Planning: Case Of Turkey

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Abstract

The importance of the open-green spaces, the indicator of civilization and standard of urban life has been gradually increasing in recent years. In this context, Turkey has been living through this fast urbanization process by significant changes of its social, economical, ecological and cultural structure from 1950s until today. The fast urbanization in Turkey, has especially brought some important changes in social and cultural life of the urban and increased the needs of recreation and green areas. The aim of this study is to analyze urban open spaces planning process and applications in Turkey from the point of view of healthy city planning. For this reason firstly we tried to analyze legal and practice dimensions of green-open urban spaces in Turkey. As the average amount of the active open-green spaces are less than 10 square meters per capita of the healthy cities in Turkey, the planned areas such as playgrounds and gardens for kids, urban parks of Turkey cities in the terms of quality and quantity are inadequate to meet the recreational needs of the inhabitants. It will be possible that city has a healthy, green and modern urban by means of a process to be put into designing, planning and management by taking into consideration the ecological, scientifically, and technical criteria for raising the quality and quantity of the open-green spaces of the urban.

Keywords: Urban Environment, Healthy City Planning, Open-Green Space, Turkey

Introduction

A city is not merely made from houses, workplaces, public buildings, roads and squares. Environmental factors are important and essential components for livable, sustainable and healthy urban centers. Parks, gardens, green areas, as well as clean air and water and an environment that adds a value to the life are among the indispensable factors to have healthy and happy lives for the individuals living in urban centers. Green areas do not

only make the environment more beautiful places, but also clean air and decrease the temperature and thereby affect the urban climate positively. They increase humidity and thereby prevent drought. It decreases noise and contributes an aesthetic value to the urban center. It plays an important role on the physical, mental and psychological health of the individuals living in urban centers. (Aksoy, 2004).

The increase in population as the result of industrialization and urbanization, the increase in the number of buildings bring with themselves detrimental environmental factors and lead to the gradual extinction of open green areas. Concentration of the pressures on the nature, endangerment of ecological balance, in parallel with industrialization, rapid growth of population and uncontrolled urban development, have increased the concerns on protecting natural values day by day (Ergönül et al,2012). It is important to emphasize and signify the environment, health of the citizens and life quality in general. Health is one of the main components of sustainable development and a healthy urban planning seeks for improve the quality of the built environment and the life quality of the urban inhabitants. Having set its hands on green area problem, Turkey's one of the most important problems, most of municipality of Turkey has made many project. Some big and small parks were built in various parts of the cities (Denizli Municipality, 96). As a result of green area work, the amount of green areas in the cities every year. This study is organized within the frame of World Health Organization (WHO) about the projects of healthy cities. The objective of the research is to determine the existing conditions of the open green areas in Turkey and to compare it with the standards that are determined in line with the healthy city planning principles of Healthy Cities Project.

Open Green Area Availability within Municipal Boundaries of Turkey

World Health Organization (WHO) describes the Healthy Cities Project as a means to apply the local level application of the "*Health for Everyone*" principles. This movement which is brought forward in order to show the new approaches to the public health by application method has for the first time started in 11 selected cities of Europe in 1986 and in a short period it was spread to several other cities in many countries and thereby has become a global movement. Main objectives of the movement which was started as "Health for everyone" were as shown below:

- To create an environment where the citizens shall be happy to live by share the experience on the urban center in order to produce healthy, clean, safe residential places.
- By starting from equality basis, to develop projects without discriminating between religion, language, race, culture, class, though differences in order to produce equal and qualified environments. In Turkey

"Turkey Union of Healthy Cities" national network is established parallel to said project. The union currently has 60 members as of 2016 of which 16 are Metropolitan Municipality, 8 Provincial Municipalities and 36 District Municipalities.

In these cities investigations are carried out in order to attain health urban conditions, and an urban health profile is tried to be produced. In the research, these cities are taken as sample in determining the open green areas in these 60 cities mentioned above.

As the open green areas are beneficial in local, national and global scale they are significant in national and international scales. Therefore it is important to do legal arrangements about green areas, to determine the standards and the urban plans should be done according to them. The open green areas standard is generally expressed or defined as the size of the square meters of green areas per person. That is to say it is calculated by dividing the surface area of the areas which lodge green texture on the general population of the urban center. However, this expression is a quantitative approach.

The open-green areas are also important as for the equipment which they donate, their functionality and aesthetic properties. In determining the norms of the open-green areas, the social, cultural, economic factors and the concentration of their utilization by people play important roles in addition to their physical environmental properties of the city, (including climate, topography and location of the urban center). It is essential that the open-green areas, in addition to adequacy as for qualitative and quantitative measures, and to the proximity of residential areas in order to enable ease of access to the regions where they offer service (quarter, vicinity and etc) (Gül and Küçük, 2001).

World Health Organization, states that the green area per person within the city should be at least 9 m² and that 10 to 15 m² shall be an ideal criteria for this. When the green area per person in the developed is approximately 20 m² in the average, it varies between 1-9 m² in Turkey (Doğu, Kesim and Sivrikaya, 2002). In Turkey the norm of green areas per person is proposed as 4 m² (woods, meadow, lake and play grounds) by the urban arrangement plans by the Construction Details Code numberedfor the first time 2290 between years 1933 – 1956). However this provision was cancelled by the Public Construction Code which was enforced in plans were attempted to be carried out by own efforts and initiatives of the planner.

The active green areas are determined in the Public Construction plannumbered 3194 which is currently in force that is accepted and enforced at the date of 03.05.1985 to be as 7 m² per inhabitant in the within the borders of the Municipalities and its adjacent areas and as 14 m² per inhabitant in the regions that are located outsidethe borders of the

Municipalities and its adjacent areas. When applications are considered, the urban land use types, appears to be very inadequate by excluding the houses. It appears that between 1970-1990 40% of the urban land is allocated to houses 6.8% to industry, 8.8% to roads and plazas, 2.2% to trade and commerce and 1.1% to green areas (Tekinbaş, 1995). In our day, these percentages have further become worsened and the urban centers have been transformed to the lands that are predominantly dominated only with houses with restricted areas that are allocated to transportation, trade, recreation and other areas that are open to public.

According to the new regulation of the Public Construction Code numbered 3194 issued at the date of 1999 numbered 23804 the active green areas per person in the municipalities (total surface of the parks, kindergartens and play grounds) is determined as 10 m² irrespective of the actual number of population leaving in these municipal areas. The active green area rate in the planning which are located at outside the borders of the municipal and adjacent areas shall be determined as 14 m² per inhabitant. It is provided in said regulation that in determining the size of the open-green area, as the time needed for access increases, the surface are of the active-green areas as defined in hectares should also increase and its equipment, furnishing and devices should become further complicated. In this regulation no descriptive provision is referred about the distribution, planning and application of the green areas.

In the second annex of the Spatial Plans Construction Regulation dated 14/June/2014 and numbered 29030 in addition to the Education and Health Facility Areas, Social and Cultural Facility Areas, Worshipping Places, Technical Infrastructure (by excluding roads and parking lots) the Social and Open Green Areas are determined as (10 m² / person)

Table 1: The sizes of Social and Open Green Areas according to the Spatial Plans Construction Regulation numbered 29030 in different population groups (m² / person)

INFRASTRUCTURE AREAS	**0-75.000**	**75.001-150.000**	**150.001-500.000**	**501.000+**
Kids park Park Botanic Park Zoo Promenade Recreation	10.00	10.00	10.00	10.00

When this is compared with the regulation numbered 23804, it appears that a social and open green area of 10 m² per person is determined and a more detailed arrangement is made about the distribution of the green areas in this regulation.

Method

According to the Healthy Cities project that is prepared by the World Health Organization (WHO) which comprised to the theoretical basis of our research there are altogether 53 indicators which can be used in preparation of the city health profiles. Those that are related with open green areas are specified in Table 2.

Table 2: Healthy City Indicators about the Open Green Areas for WHO.

Indicator No.	Title	Definition	Calculation Method and Measurement Unit	Measurement Frequency as proposed by WHO
C9	Surface area of the green areas within the urban center	Gives an idea about the green areas	Total surface area of the green areas in the city / Total surface area of the City (%)	Annual
C10	Green Areas that are open to public	Green areas that are open to public per person	Dimension of the green areas that are open to public (m^2)	Annual

The open green areas are measured according the periods are shown in the table and the size of the open green areas of a city and open green area size per person is computed from said calculation (Barton and Tsorou, 2000). These indicators give a general idea about the cities and they indicate the health criteria of the urban centers enabling us to do comparisons among the cities. The local administrations that want to be a member of the Healthy Cities Union in Turkey are benefited from these indicators in order to draw a layout of their urban health profile.

It appears that the cities in Turkey are found to have shortcomings or inadequacies as for the availability of sufficient open green areas during the literature survey regarding the health indicators. The Urban Health Indicators of Turkey research has potential to yield significant contributions to the investigations of the local administrations in order to produce high living standards in Turkey which is produced by the Union of Health Cities in 2013 that is planned to repeat in every 5 years is accepted to be the most comprehensive study ever made on this subject.

Health data belonging to 81 cities are collected in the maps that are prepared in line with the data collected from the institutions and organizations in Turkey scale and the health of the cities are tried to be specified in maps that are indicated as for the 91 different indicators. However, it is understood that no data was available about the surface areas of the green areas which are specified as C9, and the green areas that are open to public which is specified as C10. This research study is

carried out in order to meet the gap in this shortcoming and the condition of these two indicators in Turkey are investigated and it is attempted to contribute data to the literature on this matter. The "Green Area Information in Urban Environment Form" which is composed of 5 open-end questions is prepared in order to supply data on this matter. Meetings are held by the municipalities and the form is filled by sending fax and e-mail transmissions to their authorized units. The data obtained are analyzed and evaluated accordingly.

Results

The open-green area sizes are calculated as m² per person at the levels of metropolitan, provincial and district municipalities. In this calculation it is assumed that the open-green areas are distributed within the urban texture homogenously. In doing so, during obtaining the data, 55 out of the 60 municipalities which are members of the Union of the Healthy Cities of Turkey are accessed. However data could be obtained only from 18 of them. Two municipalities stated that they did not have any data at their hands and the other municipalities simply did not return back at all. The surface coverage of the Green Areas that is located within C9 City and the green area coverage that are open to public having C10 indicator are shown in the Table 3 below:

Table 3: Urban Surface coverage of the Green Areas within the Cities and Green area that are open to public per person (m²) in Turkey

MUNICIPALITIES	Surface Area in km²	Size of the green areas that are open to public (m²)	Total surface coverage of the green areas within the city / total surface area of the city (%) (C9)	Green area that are open to public per person (m²) (C10)
METROPOLITAN MUNICIPALITY				
Burdur Metropolitan Municipality	6887	1675682.64	0.02	9.99
Denizli Metropolitan Municipality	11861	6400000	0.05	6.54
Ordu Metropolitan Municipality	5952	352000	0.01	0.49
PROVINCIAL MUNICIPALITY				
Isparta Municipality	8913	1686097	0.02	4.03
Yalova Municipality	847	505752	0.06	2.23
Kırşehir Municipality	6570	294094	0.00	2.19
COUNTY MUNICIPALITY				
Avanos Municipality / Nevşehir	1045	1184630	0.11	34.97
Mudanya Municipality / Bursa	346	2660000	0.77	33.09
Gölcük Municipality / Kocaeli	226	2450000	1.08	16.42
Amasra Municipality / Bartın	115	193143,27	0.17	12.56
Altınova Municipality / Yalova	847	239267	0.03	9.83
Bandırma Municipality / Balıkesir	690	603733	0.09	4.22
Toroslar Municipality / Mersin	1072.45	1000000	0.09	3.60
Karşıyaka Municipality / İzmir	102.4	1134803	1.11	3.48

Mezitli Municipality / Mersin	416.5	349352	0.08	2.12
Çankaya Municipality / Ankara	1157	1100000	0.10	1.20
Osmangazi Municipality / Bursa	1703.7	768372	0.05	1.03
Abana Municipality / Kastamonu	33	4000	0.01	0.96

It is observed in Table 3 that only Amasra, Avanos, Gölcük and Mudanya municipalities satisfied the criteria that is specified in the Regulation and Healthy City criteria of the World Health Organization as for the minimum rating of open-green area requirement per person and the other municipalities have remained severely lower than said criteria. Some municipalities where the ratings indicate as if they have green area rating higher than the standards including the Amasra, Avanos, Gölcük and Mudanya municipalities, it is observed that this appeared to be higher due to the existence of passive green areas (including forests, meadows, nurseries and etc.) When the are evaluated as for the existence of active green areas and , then it can be said that the condition in these municipalities appears to be similar with that of the others.

Figure 1. Green areas within the Burdur city (web1)

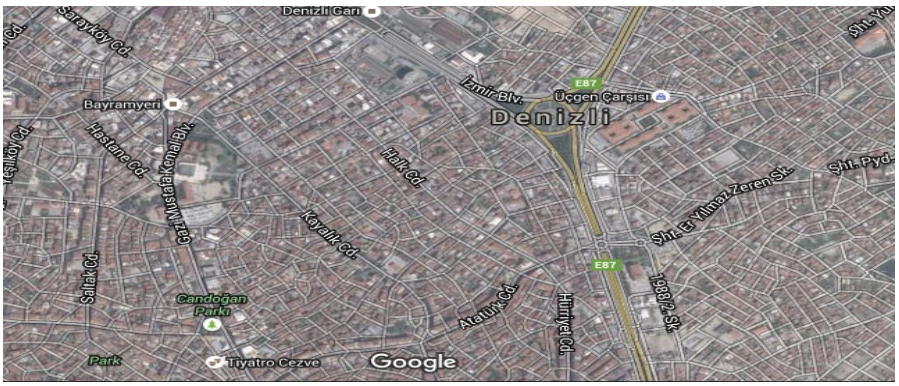

Figure 2. Green areas within the Denizli city (web 2)

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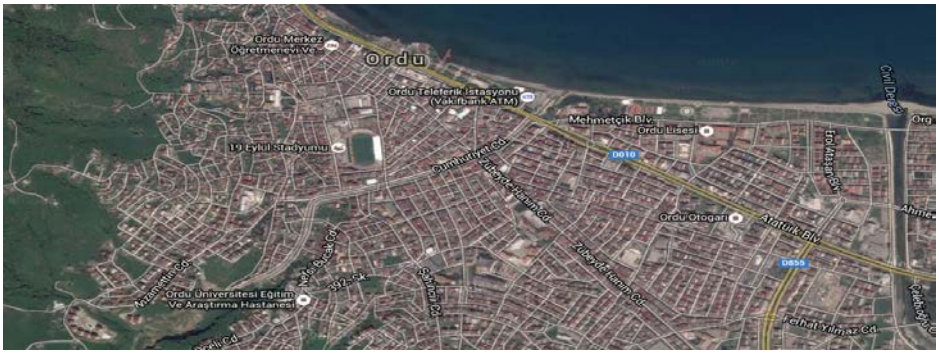

Figure 3. Green areas within the Ordu city (web 3)

Figure 1,2 and 3 shows that the amount of urban green spaces (parks, public gardens, play lots, and playgrounds), which is currently total surface coverage of the green areas within the city / total surface area of the city (%) , is decreasing fast (according to the constitutions and regulations for physical development and planning in Turkey, the amount of urban green spaces per capita is 10 m²)(Altunkasa and Uslu, 2004). According to the data obtained after having interviewed with the municipal posts, the reasons under the failure or disability to acquire adequate active green area ratings as requested can be outlined as below:

"The majority of the areas that are shown as active green area in the public construction plans are under the property of persons, that the local administrations do not have sufficient financial power to pay their expropriation costs, some of the areas that are shown as green areas are constructed by temporary buildings and occupations, however these areas are still shown as green areas in the application public construction plans, that no area have already left within the borders of the municipalities apart from houses and workplaces."

Conclusion

The research results indicate that the minimum open-green area standard requirements criteria as shown neither in the World Health Organization – Healthy City Project nor in the Spatial Plans Construction Regulation numbered 29030 could be met among the member cities of the Healthy Cities Union.

In order to do healthy urban planning, it is essential that the existing conditions should be determined by taking the primarily the health urban indicators as the bases. It is observed that the municipalities that are interviewed had authority confusion between the municipal units about the green areas and other similar issues, that the Directorate of Parks and

Gardens which is specified to be the unit concerned did not have objective and scientific data. According to the Code dated 2012 and numbered 6360, administrative changes were enforced and the municipalities of 13 provinces were transformed into metropolitan municipalities and 26 new districts were established. It is observed in the research that after this new administrative organization an authority confusion and insufficient information have emerged about the green areas and parks in these municipalities. Already there is a confusion on determining which green areas shall be served by metropolitan municipalities and which ones shall be served by district municipalities. Therefore, not data cannot be obtained.

It is considered that this study in which rough values are indicated is guiding, directing or instructive for the decision-makers and administrators. In order to show the developments throughout years as scientifically and objectively, it is proposed that databases concerning the urban health should be developed first in local scales and then in Turkey scale, to prepare the public construction plans and action plans according to these data and the green area rates per person should be increased not only in plans but in real conditions as well.

Acknowledgments

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