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## A description of the environmental status in sports sets and facilities of Tehran (Case study: Sports sets of Tehran municipality)

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### ABSTRACT

*Some standards must be considered for construction and operation of sports facilities such as environmental standards and sustainable developments. This study aims to present the environmental status in sport sets and facilities of Tehran. The research fieldwork and data collection methods are conducted according to cross-sectional method of survey. Population also includes all sport places, totally 81 ones in 22 districts under the supervision of Sport Organization of Municipality of Tehran. The statistical samples collected from 42 sport sets, taken after distributing check-lists and conducting interviews with the sport place managers are considered as total. The researcher has designed a check list containing 58 items to assess the environmental status. Information was analyzed by descriptive statistics and Friedman test. Results showed among the environmental variables, the use of heating and cooling equipments in accordance with environmental principles better status than those of other variables. Furthermore, sport sets located in districts 21, 18, 16 and 12 are of a higher standard compared to the other districts, and sport sets in district 20 and 5 were under the worst conditions. Consequently, the results illustrate the environmental status of sport places under the supervision of Sport Organization of Municipality of Tehran compared to the environmental standards was higher than average.*

**Key words:** Environmental status, Sports sets, Tehran Municipality, Sport facilities.

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### INTRODUCTION

Publication of the physical activity research's results in the media and academic journals aid to raise awareness about the role of exercise on health and well-shaped bodies are now paid more and more attention[1]. If this phenomenon is fully appreciated, it will prove to be as important as other socioeconomic issues such as education, industry, agriculture, nutrition, and health and will contribute to the advancement of goals [2]. Every day, the number of people participating in group exercising is added. For this reason, the society needs more sport places, objects and spaces to meet its needs in the field of sport, leisure, or educational exercise. Sport facility has been defined as construction, field and area which have units (such as stand, toilet, sink, shower, dressing room) suitable for performing specific practices of sport activities and branches for trainings and national events and international events, meeting the need of sportsperson and audience before sport activities[3]. In present global system, the development of sport facilities and its optimization are the purposes at active organizations particularly in physical training departments. It makes a kind of determining role at any sport organizations or federations as well[4]. To achieve these effectiveness, and since sport spaces are active parts of the human societies, some standards must be considered for construction and operation of sports facilities such as environmental standard and sustainable

developments[5,6]. Large scale anthropogenic activities to natural environment accelerate threats to the human beings [7]. The United Nation Environmental Program (UNEP) defines the environment (2008) as "...water, soil, air, and the biotic part of the earth." World Health Organization, International Standard Organization (ISO, 2002) defines green management as "a set of comprehensive, purposeful, ongoing studies and measures at different levels of an organization to improve and maintain its current state with the purpose of achieving goals like optimizing energy, water, paper, and supplies consumption to produce society's required goods and services [8]. Today society is facing unprecedented environmental changes and challenges such as changes in weather, ecology, health and the environment established, while the world had not experienced these challenges in the past[9]. To prevent this from occurring pressure on the natural environment requires an immediate solution methods that suggested today is stable and can be considered as an environmentally sustainable development. In this type of development must provide needs of the present generation without threatening future generations [10]. This sustainable approach requires some fundamental changes in the new industry and technologies. This converse is also true in the sports industry, sport facilities need to consider transforming for environmental sustainable [11]. One of the factors affecting the environment, is sport facilities and activities that are carried out in air and water pollution, reduction of the ozone layer, destruction of ecosystems, improper disposal of waste, pesticides, noise nuisance, traffic, changes climate, smoking, unhealthy air indoors, the noise generated by the athletes and indiscriminate use of energy resources are most important threats to ecological of exercise and sport facilities [12,13]. Today the environment is the third dimension of the Olympic Movement, alongside sport and culture, thus a prerequisite for any candidature to host the Olympic Games. Several studies have shown relationship between sport places and events with environment. The overall results of this investigation confirmed that the types of pollution of the sporting venues environment, sporting venues and urban parks were too much. Architecture and materials used in building and insulation are important in productivity and energy savings of sporting venues, and also is more environmentally damaging effects during holding big sports event like the Olympics Games [14,13,15,16,17,18,12]. Describing the environmental status of the sport places, while providing valuable information and findings, will open areas for further researches in this area. Accordingly, a set of environmental standards, perhaps, ought to be developed to be followed by the individuals related to the construction and operation of sport facilities.

## MATERIALS AND METHODS

The present research fieldwork and data collection method are conducted according to cross-sectional method of survey, population also includes all sport places, totally 81 ones in 22 districts, under the supervision of Sport Organization of Municipality of Tehran. The study sample covers all of the sport places. However, by the end, the researcher has been able to collect the check lists only from 42 sport places. In order to determine the variables used in the environmental check list (58 items), designed by the researcher based on domestic and international factors, experts and professors have validated the foresaid approach. The information obtained from environmental check list is encoded into the statistical software SPSS-16. Then, the variables via the nonparametric Friedman test and descriptive statistics are described.

## RESULTS AND DISCUSSION

This table indicates that there is difference in the average ratings of the 8 environmental status variable is statistically significant, because the probability of error or significant number is 0.045 that less than from the level of error 0.05. As a result, have been denied the null hypothesis that based on the same rating average among environmental variables. This means that there is no significant difference between the variables.

**Table1: Ranking of environmental variables status in the sport places by used Friedman test**

Environmental variables	Average Rating	Rank	Chi-square	df	Significant
Status light	4.27	6	5.44	7	0.045
Maintenance of Equipment	4.20	7			
Water status	4.41	5			
Heating and cooling mode	4.93	1			
Building Specifications	4.84	2			
Environmental management Proceedings	3.93	8			
Waste disposal	4.66	4			
Pollution	4.75	3			

Table 2 shows that differences in the average ranks of 22 regions of Tehran municipality is significant, because the probability of error or significant number is 0.000, which less than from the level of error 0.05. Consequently have been denied the null hypothesis that based on the same rating average among region. This means that there is no significant difference between the regions.

**Table2: Ranking of Sport places environmental status in the 22 districts of Tehran by use the Friedman test**

The 22 districts of Tehran	Average Rating	Rank	Chi-square	Degrees of freedom	Significant
Region 1	12.36	8	55.34	21	0.00
Region 2	8.43	20			
Region 3	9.43	17			
Region 4	14.57	6			
Region 5	7.64	21			
Region 6	10.0	14			
Region 7	8.57	18			
Region 8	14.61	5			
Region 9	12.0	9			
Region 10	9.50	16			
Region 11	11.86	10			
Region 12	14.71	4			
Region 13	9.93	15			
Region 14	8.50	19			
Region 15	10.86	11			
Region 16	17.29	1			
Region 17	13.50	7			
Region 18	14.86	3			
Region 19	10.79	12			
Region 20	5.50	22			
Region 21	17.21	2			
Region 22	10.70	13			

### CONCLUSION

The environmental status of sport places of under the supervision of sport organization of municipality of Tehran considered from 8 dimension (principles and standards of status light and electricity, maintenance of equipment, Water status, Heating and cooling mode, Building specifications, environmental management Proceedings, Waste disposal, Pollution). According to the environmental standards and the data's check list, the results illuminate that, in sport places of municipality of Tehran, environmental compliance and proper use of heating and cooling equipment can be more accurately and it is over the other aspects; after that, the rest are as the following: 2)Building specifications, 3)Pollution 4)Waste disposal, 5)Status light and electricity6) Maintenance of Equipment 7) Environmental management Proceedings. Moreover, sport sets located in districts 21, 18, 16 and 12 are of a higher standard compared to the other districts, and sport sets in district 20 and 5 were under the worst conditions. This may be due to variations areas (south and north), users (age, sex, education, culture, etc.), and building time of sport spaces. Based on mentioned results, and comparing them with environmental standards, consequently the results illustrate the environmental status of sport places under the supervision of Sport Organization of municipality of Tehran compared to the environmental standards was higher than average. This research is inconsistent with the investigations of Khadivi [2003], Bahmanpour[2004], Alizade [2005], Arjmandi [2008], Artuso [2008], Collins [2009], Bono [2010], Padash [2011], Khosravi [2012] and Beusker [2012]. The results of the present study suggest that managers and officials should have a detailed plan before the construction and operation of sport facilities, including sport analysis identification of environmental needs and expectations, proper site selection, demographic analysis, and educating environmental standards to their employees and users.

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