

## QUANTITATIVE AND QUALITATIVE ASSESSMENT OF SPORT PLACES, SPACES AND FACILITIES FROM SAFETY AND BIOENVIRONMENTAL POINT OF VIEW

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### Abstract

The purpose of current research is quantitative and qualitative assessment of athletic places, spaces and sports facilities in Dushanbe, Tajikistan from safety and bioenvironmental point of view; and presenting the results about shortages and problems of preservation and maintenance of these premises and equipment. For this purpose, data from three researcher-made questionnaires contains 100 variables (43 variables for evaluation of quantity and quality of places, spaces, and sports equipment in Dushanbe city in Tajikistan; 21 variables about health and safety conditions of buildings and equipment, and dedicated 36 variables to bioenvironmental conditions of the above mentioned places and equipment) were analyzed; and the study population consisted of the 19 sport place and spaces in terms of location, space, sports facilities of Ministry of youth, Sports and tourism of the Republic of Tajikistan. Due to the limited number of available subjects, all the statistical population has been considered as study sample. Required information was collected within 10 months period of study, then, analyzed using descriptive statistics. Face and content validity of the measurement instrument has been approved by faculties and sports scientists. Our findings show that:

1. In terms of quantity, sport spaces of Dushanbe was reported as 26.8 % weak, and 30% moderate, and also in terms of quality of places, spaces and sports equipment 34.8 % good, 26.1 % average.

2. In terms of safety and health condition, places, spaces and sports equipment mentioned above was about 39.1 % moderate and 21.7% good.

3. In terms of bioenvironmental conditions; sport places, spaces, and equipment was amounted to 69.6 % of good condition as well.

In summary, we can considered equipment shortages and financial constraint as the main problem of sports development in Dushanbe, Tajikistan; which caused redouble inattention to health and the safety of these places.

**Keywords:** *sporting places and spaces, sport equipment, Safety, bioenvironmental, Dushanbe (Tajikistan)*

### I. INTRODUCTION

Today, there are particular interest in the development and expansion of sports and physical education in human societies; and sports definitely has a special place among the people of Tajikistan. However, we can consider this position dynamics when we could provide the facilities needed to develop it. One of the most important requirements is development of sport places and spaces and athletic facilities. This paper has been written based on a research that has been done in this direction. And its try to use the available theoretical background and the practical realities in exploration of that idea.

Although physical education and sport is drawn serious interest in new established countries like Tajikistan, but somehow traditional form is followed nowadays. However, some changes have been made in this area so far. But there is a huge gap to achieve global standards. Sports facilities and venues are not an exception. And in terms of quantity and quality, there is a long way ahead of them in an effort to reach to usual and customary international standards (4). Since the proper sport, exercise, and training in the first step is depend on the suitable spaces and sports facilities, so in the scientific and professional sports point of view, it is necessary and very important that a safe training arena is available for practice, and standards or standardization of these spaces for users have been provided. Given the primary objective of physical education, which is to foster and strengthen the body and spirit; it's necessary to provide a standard safety and bioenvironmental variables and make sure that these standards are fully put in practice in the sports stadium and facilities; so that athletes continue his athletic progress without worrying about damage caused by physical buildings and spaces. For same reasons, quantitative and qualitative explanation of sports facilities and spaces available in Tajikistan is very useful for the chairs and directors of the country, especially those involved in sports related activities (1).

Nowadays, the environment and bioenvironmental issues as one of the key elements of sustainable growth and development, has earned a special place. Hence, this goal is depend on the compliance with the relevant requirements and propositions (2). The results of the research studies done on this topic indicates, lack

of participation of many students in athletic activities, sever parents disagreement with their children participation in sports, as well as wasting a lot of athletic pure talent among adolescence and youth; can be found in our country because of limited sport spaces, and more importantly, the lack of suitable and proper safety and bioenvironmental conditions, a fundamental problem with experts and practitioners in this country. Due to the special geographical conditions and lack of enough sports spaces required in Dushanbe, and also, presence of almost 46,000 male and female athletes of all ages (teens, young adults, adults), It can be said that one reason for the reluctance of many of those who didn't come to the gym and stadiums frequently, is lack of spaces and sports facilities needed. However, because of suitable climate and atmospheric condition, it have good bioenvironmental condition and also suitable proximities.

In this era, sports and physical exercise is one of the ways that people can use to overcome stress and tensions. People who exercise regularly are less likely to suffer a heart attack; are more rested and comfortable mind and heads; their heart rate is reduced when they rest; they feel less stress and tension, have high confidence and self-esteem; are more optimistic, are less likely to become depressed. It also have important impacts on public health and the environment health (5). However, given the state of the sport in Dushanbe and Tajikistan, and also our deep concerns, should not we attempt to solve this problem? There is credible reasons and evidence that participation in physical activity is an essential requirement; some of these reasons include: active lifestyles, developing our skills, enhance the environmental learning, increase self-confidence, and reduce health care costs. Quality and suitable sport space is one of the effective factors in the improvement of sports performance quality. One of the factors that contribute to the slow progress towards a championship is a shortage or lack of proper sports facilities. The number of athletes and ordinary people who enjoy and participate in sports activities is dependent on the quality and the quantity and variety of sports equipment. In the training and practice sessions, the presence of suitable sport space and sports equipment lead to better time usage and outcome. Providing expert and skillful human resources, suitable facilities and infrastructures are the main and important actions toward health and improvement of next generations. If there are suitable and standard facilities for physical activities, the people participation in sport and exercise will rise double time; and it's require a serious consideration.

## **II. RESEARCH OBJECTIVES:**

### *Main goal:*

The overall goal of this study was "assessment of the athletic places and spaces and sports equipment, in terms of quantity and quality and from a safety and bioenvironmental perspective".

### *Specific goals*

- 1 - Description of sport places, spaces and sports facilities in Dushanbe in terms of quantity.
- 2 - Description of sport places, spaces and sports facilities in Dushanbe in terms of quality.
- 3 - Description of sport places, spaces and sports facilities of Dushanbe from safety perspective.
- 4 - Description of sport places, spaces and sports facilities of Dushanbe from bioenvironmental perspective

## **III. LITERATURE REVIEW**

*National background:* Asadullah et al (2008) in an article entitled "describing and comparing safety management in physical education classes of Ahwaz middle schools", concluded that average safety equipment, sports equipment and first aid materials are weak and not consistent with the standards in the Ahwaz guidance schools (35).

Farsi and colleagues (2007) in a research on the safety condition of sport spaces of public universities in Tehran and providing appropriate solutions, found that safety level of sports spaces and facilities, platforms and spectators grandstand, and sports facilities hygiene was low in Tehran University. Also, the status of equipment, supplies, space and lines regarding to the safety and health component was better off with a mean of 79.2. Results shown that safety condition of sport spaces of the Tehran universities wasn't standard and suitable (36).

Based on a survey conducted by Athletic Union of America on the safety of halls and sporting venues in 2000, and they were studied 1024 playground and gym in 27 states of America, the following results were obtained:

- 80 % of playgrounds and sports halls haven't required standards.
- 75 % of injuries caused by inappropriate condition of playgrounds and halls.
- 38% of gym and sports grounds have dangerous equipment and devices.
- 31 % of the deceased in the play and sports venues, have been killed in collisions with hard ground.
- And 70 percent of them have died in non-standard and out of official control sport halls and venues.

Jabari (1385) in his study investigates the health and safety conditions of Mashhad department of education gyms. The main result is as follows: (1) Structural conditions of the walls, windows, ceilings and ...

were 61.64 percent consistent with the criterion and standards of the ministry of health, management and medical education. (2) The hygiene of sports facilities was 66.6% in agreement with available standards. (3) The overall condition of the facilities like fire systems, lighting, and air conditioning ... were 48% in agreement with standards of the ministry of health and medical education.

Razavi and colleagues (1387) have described in the translation of a book entitled administration of sport facilities and equipment that development of sport in each country requires effective planning, and careful attention to the effectiveness and standardization of spaces, places, and sports equipment.

Tondnevis (1375) suggest that the authorities of physical education university believe that deterrent factor in extracurricular activities and sports, 83.8% was due to lack of sports facilities, it is also claimed that the shortage of sport spaces is more severe in the department of education and schools.

Rezaei (1385) in his study entitled developing standards for school sport spaces in the west of country; Suggest that in most of the west of country cities, there are good bioenvironmental condition and excellent space and facilities for sports due to lower urbanization rate and lower industrialization, as well as many areas with good bioenvironmental and ecological conditions.

Bruner explained in the sports article conferences in America (2008) that the main reason of achieving many medals and sports achievements in European countries is the presence of standard construction, equipped spaces, facilities, and extensive sports facilities.

Wilson (1999) a member of America academy of sports medicine (ASCM) says: Standardizing the quantity and quality of facilities and sports equipment have direct relationship with sports progress of any country.

Kaufman (2007) argues that prior to the selection of elite and sport talents, we should build proper structures and equipping sports facilities. Because one of the main reasons for the failure of Olympic -level athletes in the most third world countries is the selection and training of elite athletes before they build and equip the required facilities and sports spaces.

Amendad, Argente (2004) inferred in their study that bioenvironmental conditions of sport buildings and spaces of London city is much more urgent and more important even in the safety and health and sport per capita.

#### IV. RESEARCH METHODOLOGY

This study measures the status quo, thus it is a descriptive study which conducted using library, objective observations, recorded data. This study examines the status of sport places and spaces in Dushanbe without any manipulation. It assesses the quantity and quality available condition and reports it. The study population included 19 sports place and spaces in the Dushanbe. Three questionnaires consisting 43 variables for quantitative and qualitative measurement, 21 variables related to safety assessment, 36 variables for measuring bioenvironmental data was distributed between research population, then data was collected. Collected data analyzed using descriptive statistics such as frequency tables and percentage.

All spaces, places, indoor and outdoor venues in Dushanbe, Tajikistan which include 19 sports building, system and complex.

Study sample is same as the target population, because the population is small. In this study, all the sport spaces, places, and various sports venues in the city Dushanbe were taken as the sample.

##### *Measuring instruments:*

The following questionnaires were used to collect data:

1 - 43 item questionnaire, containing information about the assessment and description of the quantity and quality indicators of sport facilities, equipment, and spaces

2 - 21 item questionnaire, containing information about the assessment and description of the health and safety indices of the sport premises, equipment, and spaces

3 - 36 item questionnaire, containing information about the places, equipment, and sports spaces in terms of bioenvironmental conditions

All questions was derived from technical information used in construction processes, as well as similar research studies.

##### *Face and construct validity and reliability of research tool:*

Variables related to study's title include qualitative and quantitative assessment, safety and bioenvironmental condition of sport venues and facilities were considered based on content validity, expert opinion in the school maintenance organization and physical education faculties. The intended variables for assessment and appraisal of sport space and facilities were used for construction and equip of sport spaces and facilities, as a current questionnaire, were judged by physical education experts for face validity and construct validity.

##### *The reliability of the measuring instrument:*

To calculate the reliability of the questionnaire, the Cronbach's alpha was used. Cronbach's alpha is one of the most common authentication method used for questionnaire reliability determination, which is formed based on internal consistency of questionnaire. In other words, if the questions are not positively correlated with each other, we do not expect to obtain same and similar results at repeated application of the questionnaire. To do this, all three questionnaires was evaluated in a pilot study and the validity and reliability was confirmed before the general analysis with SPSS software program. The result suggests that the quantitative reliability of these questionnaires is 88 %. Results showed that it is reliable in terms of quantity, in terms of bioenvironmental safety, in terms of quality, and indicates that the questionnaire have the necessary reliability.

## V. RESULTS

1- In terms of quantity, sports spaces with an emphasis on population and sport per capita, is reported 26.8 percent poor and 30 percent moderate. Also in terms of quality of places, spaces and sports facilities, 34.8% good, 26.1 % moderate. If appropriate facilities for various sports and sporting activities exist in a city, these facilities must be in accordance to its population. If the sports per capita reach about the standard range, it will yield much higher results, although occasionally there are intermediate facilities in the field, excellent results have been achieved. There is some evidence that participation in sports activities as necessary, some of these reasons is: active lifestyles, developing skills, enhancing the learning environment, increase confidence and reduce the cost of treatment. Sport environment is one of the key factors in the quality improvement of sports performance. Lack of sports facilities and lack of proper exercise are among the factors that led to slow progress. Quality, quantity and variety of available sport equipment is very important in determining enthusiasm and enjoyment of those who value training, recreation, and sports. If the sport places, spaces and equipment are available, we could see maximum performance and time effectiveness during exercise or training sessions. Sport and exercise spaces should be tailored based on precise planning and preparation, and enough and proper facilities are effectively implemented. In fact, the exercise program is effective when all interested individuals can use them in turn and identically (3).

2. In terms of safety and health, all sport places, spaces, and sports equipment was evaluated as above average at 39.1 percent and 21.7 percent fine. Proper physical exercise and sport practices require sport space and facilities in the first step after entrance of human resources in the sports arena.

Therefore, in the scientific point of view and health aspects of sports, safety of sport place is very essential and important for effective usage of these places. It is very important to consider the degree of safety and security of physical sport places and spaces (15). From the safety aspect, construction and preservation of sports areas for higher progress and successful attraction of sport fans and athletes at higher levels is very important, and proves that sporting stadium must have in line safety parameters during the activities and safe physical condition for preventing negative consequences, and ultimately create a safe place to work out and practice.

3- From the bioenvironmental conditions perspective, sport places, space, sports equipment, sports venues in Dushanbe are evaluated as good at a rate of 69.6%. Environment and bioenvironmental issues as one of the main topics related to sustainable development, have found a special place; so that development is depend on comply with the prerequisites and requirements associated with it, and this subject can be studied and analyzed in two point of view.

A) General point of view, B) Specific point of view

Bio-environment is complex and dynamic communities of animal, plant or other living organisms on earth where humans interact with them (2). Proper and suitable bioenvironmental condition must be provided for sports venues in form of the construction site, standards such as geographical condition, observing hygiene, avoid replacement and moving athletes, and security of other places adjacent to sport spaces; so that mental and physical health and safety of athletes would be provided as much as possible (11). As a result, the quality, quantity, variety of sports equipment is very important in determining the amount of joy and participation of athlete and sport fans in the training, entertainment and practice programs. The availability of sport places and equipment lead to maximum performance and time effectiveness during exercise or training sessions at schools. Trained manpower, facilities and infrastructures are the main background for development of future generations. Growing number of athletes and heroes from all levels double the importance of providing proper and standard sport infrastructures for physical activities (3).

## VI. CONCLUSIONS

1- *The quantity of sport places and facilities in Dushanbe:* the quantity of sporting places, spaces and sports facilities in the city (number, amount, per capita sports space) was reported as weak with 26% and moderate with 30% frequency; on the other hand, this facilities and equipment have been reported between low to moderate. These figures indicate the neglect and lack of investment in the sports section of the city, which

experience 45 % of the population growth in 8 years period. In this regard, there is a high correlation between the results of the present study and Rezaei (2006). In previous years, because corporate executives were not in suitable posts and lack of sufficient knowledge of the directors about enough sport per capita, there was a little construction and preservation efforts in the sport domain.

2 - *The quality of sport venues and sports equipment in Dushanbe*: In terms of quality, sport venue and spaces and fitness equipment in Dushanbe have been reported good with the statistical average of 34.8 % and moderate with 26.1 percent. Shabani () believe that Players and elite athletes needs high quality tools and facilities. Due to the level and extent of existing skills and also with the view that much of the equipment used in the sports are consuming and also, about 60 % of the space and sports facilities as well as building are new in this city, so the obtained values are statistically reliable.

3- *Safety condition of sport places, spaces and sports equipment in the City*: The compliance with required safety standards was inferred as moderate with 39.1 percent and 21.7% good and same amount of excellence as well. Therefore, according to experts and scholars of sport science and physical education such as Kelvin Williams ( ), Khajavi and colleagues (1385) have stated that the level of sport advancement in any society largely depends on the degree of health and safety of tools, equipment and sport venues. It can be concluded that the degree of safety and health in sporting places, spaces and equipment of Dushanbe high schools were moderate to high and reliable.

4 - *Bioenvironmental conditions of sport space and equipment in the capital of Tajikistan*: From bioenvironmental perspective, sporting places, spaces and sports facilities in this study has been reported 69.6 % of good condition. Thus, according to Smith Scholar (2008) researches whom argued that the bioenvironmental conditions is useful in attracting, participation and activities of athletes; the results of current study are highly correlated with the results of other research experts. Such a conclusion can be deduced that the main problem and barrier of development of sport in every country are poor equipment and lack of exercise space per capita; and Tajikistan is no exception to that rule.

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