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# EXAMINATION OF THE SUSTAINABILITY OF THE SPORT FACILITIES IN THE NORTHERN GREAT PLAIN REGION OF HUNGARY

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**Abstract:** *Developing sport into an industry has become a fundamental interest and a noticeable approach in Hungary in recent years. A so-called economic orientation can also be observed in the field of leisure time sports, which was made into law in Hungary in 2011 allowing the support of sport organisations and resulting in a number of infrastructural developments in Hungary.*

*A wide range of development opportunities remain open in sports. This evaluation aims to introduce what significant sport-investment projects have been implemented in the Northern Great Plain region in recent decades and what effects these investments have had. Surveys have been used to reveal whether these facilities originating from years of sport developments are sustainable and to what extent these are exploited for organising sport events.*

*Based on responses provided by a number of sport facilities – including ones built in the past and also ones opened recently – it can be concluded that sport in itself cannot solve the issue of operation and possible economic growth.*

*Considering these aspects, it is important to incorporate, not only in operation but also during planning, the idea that current facilities must „serve” not solely sport events as these in themselves will not make them profitable but they must remain open for all sorts of social events as well.*

**Keywords:** *sport, sport subsidies, sport facilities*

## INTRODUCTION

A fundamental element of the success of current generations is healthy lifestyle, which clearly determines the view of Hungarian society regarding sports.

The right to physical and mental health is recorded among the basic rights in The New Fundamental Law of Hungary, and Article XX states that this right is supported through sports and regular physical activity in Hungary.

The definition of health can be approached from various aspects most common of which is the one provided by the WHO „A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” (WHO 1948).

The paragraph on sports in Act I of 2004 states the Hungarian Parliament regards sports as a fundamental national value. The document records that sport strengthens physical and spiritual health bonds among community members.

Every person in Hungary has the right to do sports and this right is ensured by the state (Sports Law 2004) regardless of whether this means competitive sports, leisure time sports, student such as college and university sports, sports for disabled people or preservation of health.

The above quoted law clearly shows that a „healthy nation” and thus the physical and mental health of people is such a social interest that is regarded as significantly im-

portant and therefore it is also declared at a legislative level.

In Hungary, beyond the legislative framework other documents also record the importance of supporting healthy lifestyle and sport.

One such defining document is the National Sport Strategy (National Sport Strategy 2007) the situation analysis of which points out that sport is the least ensured in small settlements but the larger cities also struggle with the lack of facilities.

However, local governments face large financial burdens due to the typically high operating costs of sport facilities.

Sport infrastructure development has a significant place among the developments aims of the Hungarian Olympic Committee as the standard of existing facilities has been gradually deteriorating due to lack of funding. Utilisation of European Union funds for such aims seems necessary and it is a strategic question that these constructions serve the requirements of school, leisure time as well as competitive sport.

Existing sport arenas of the Northern Great Plain region were included in our present examination. We aimed to provide a location-specific picture about the exploitation and sustainability of facilities.

We believe that it is not enough to establish the resources for developments, the sustainability of facilities must also be ensured (Coates 2007).

Table 1 - Hungarian regions: Area, population, population density, 2014

Region	Area, km <sup>2</sup>	Population, people	Population density, people/km <sup>2</sup>
Northern Hungary	13,433	1,176,894	88
Northern Great Plain	17,729	1,484,375	84
Southern Great Plain	18,337	1,279,480	70
Central Hungary	6,916	2,965,413	429
Central Transdanubia	11,116	1,069,190	96
Western Transdanubia	11,328	984,521	87
Southern Transdanubia	14,169	917,492	65

Source: HCSO STADAT 2014.

**MATERIALS AND METHODS**

Our survey was carried out in the summer of 2014, involving 24 institutions. We used telephone interviews based on questionnaires consisting of 13 questions for the research. The questionnaires were primarily aimed at the sport arenas of the Northern Great Plain region.

The compiled questionnaire could essentially be divided into 3 larger parts. The questions of the first part included institutional data such as date of completion, operator, primary purpose for which it was established. The second unit included questions regarding factors that influence sustainability such as what events/venues are organised in the facility also including the frequency of these. The third unit revealed the health facilities provided at these establishments with questions regarding automatic defibrillators, permanent medical personnel or medical. Current evaluation introduces data regarding the facility and sustainability.

The evaluation was carried out using the EvaSys program (VSL Inc. Hungary <http://www.vsl.hu>).

Analysis of data for the Northern Great Plain region was based on accessible, primarily HCSO databases and studies related to the topic.

Correlation between the variables in question – population of the given town versus the capacity of the sport infrastructure or the frequency of events held – was assessed by calculating the correlation coefficient (r) and estimating

the statistical significance of this correlation using SigmaStat (Systat Software Inc. San Jose CA USA). Significance was assumed when p<0.05.

**RESULTS AND DISCUSSION**

The Northern Great Plain region is made up of three counties, Hajdú-Bihar, Jász-Nagykun-Szolnok, and Szabolcs-Szatmár-Bereg (Figure 1). It has borders with Slovakia, Romania and the Ukraine.

Figure 1- Regions of Hungary



Source:

Table 2 - Order of regions based on GDP per capita, 2004–2012

Area unit	2004	2005	2006	2007	2008	2009	2010	2011	2012
Central Hungary	I	I	I	I	I	I	I	I	I
Central Transdanubia	III	III	III	III	III	III	III	III	III
Western Transdanubia	II	II	II	II	II	II	II	II	II
Southern Transdanubia	IV	IV	IV	IV	IV	IV	IV	IV	V
Northern Hungary	VII	VI	VI	VI	VII	VII	VII	VII	VII
Northern Great Plain	VI	VII	VII	VII	VI	VI	VI	VI	VI
Southern Great Plain	V	V	V	V	V	V	V	V	IV

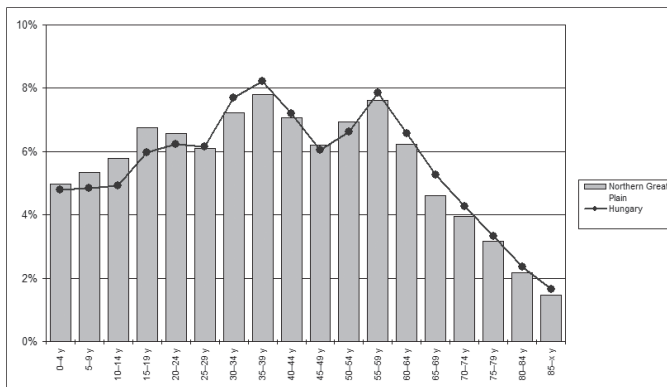
Source: HCSO STADAT

It is the second largest and most populated region regarding area and population in the country (Table 1). Population density is 84 people/km<sup>2</sup>

The Northern Great Plain region did not reach two-thirds of the country's average regarding GDP *per capita* between 2004 and 2008, therefore it ranks last among the regions until 2007 and ranks 6<sup>th</sup> from 2008 (Table 2).

The Northern Great Plain region has the nation's youngest age structure (Figure 2; see also Lakatos et al. 2009).

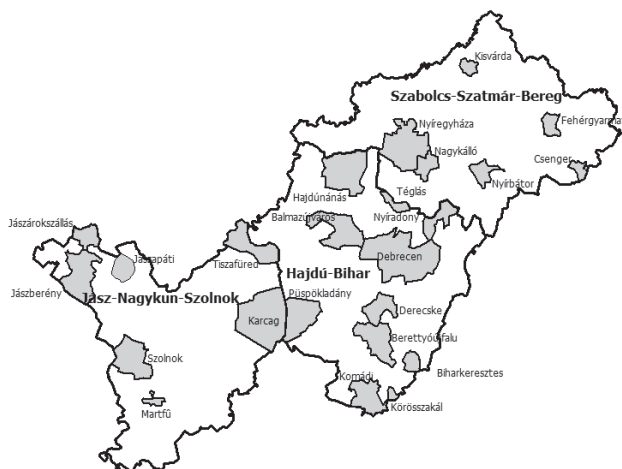
Figure 2 - Age structure of Hungary and the Northern Great Plains region, 2011



Source: Own compilation based on HCSO data.

The Northern Great Plain region is one of the most urbanised regions of Hungary if consider settlements with city status: 18.3% (71 cities) of its settlements were cities compared to the 11% of the national figure in 2014. Figure 3 illustrates the regional/geographical location of the respondents.

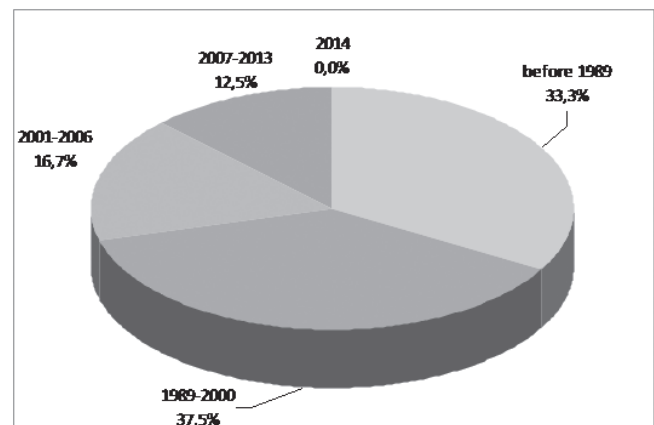
Figure 3- Geographical location of sport institutions involved in the survey within the Northern Great Plain region.



Source: Own compilation based on our questionnaires.

Firstly, we reviewed the date of completion and opening when assessing the responses.

Figure 4 - Dates of the openings of the sport facilities



Source: Own compilation based on our questionnaires.

Considering the current settlements' structure of Hungary, most sport facilities can be found in places with less than 2,500 inhabitants (45%), 23% in the capital, and 23% in the county seats (Tompa 2005).

It can be stated based on our own research that the majority of sport facility openings can be divided into 3 periods in the Northern Great region (Figure 4). 33.3% of the facilities involved in the research were opened in the period prior to the change of regime (before 1989). The most urgent problems in the case of these establishments, is the renovation of sport arenas. Generally, these facilities do not even meet the requirements of leisure sport activities not to mention the criteria of school and competitive sports. Local governments, however, are unable to independently provide venues suitable for professional sports with ever improving performance (Tompa 2005).

The second significant period was between the change of regime and 2000. This period was characterised by the problem that required state solution, namely to provide suitable locations for physical education classes which were established to cater for other events as well. A rapid increase in the number of sport facilities was also noticeable in the USA in this period (Johnson and Whitehead 2000).

The third notable group were the two large periods of EU funding between 2004-2006 and 2007-2013. Close to a third (29.2%) of sport arenas in the region were built during this time.

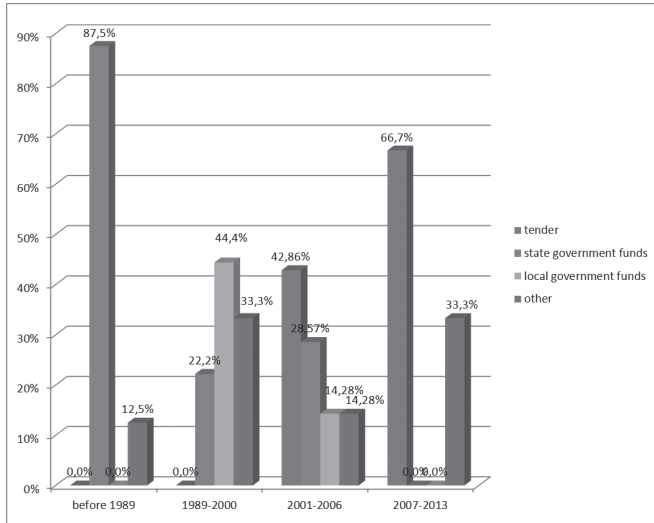
If we examine what resources were used for the construction of establishments in the specific periods, the data clearly show the resource utilisation opportunities of each period (Figure 5).

State funds were essentially dominant prior to 1989, which were supplemented by Cooperatives and larger state owned factories and plants. Following 1989 (change of regime), state funds decreased with birth of local governments which replaced them.

Following the EU accession, from 2004 establishments

from tenders clearly increased, which resulted in the significant decrease of state and local government funds. This decreasing engagement by the state led to the fact that no sport arenas were built in the region from state and local government funds after 2007. The “other” category includes infrastructural developments financed the privately owned factories and plants.

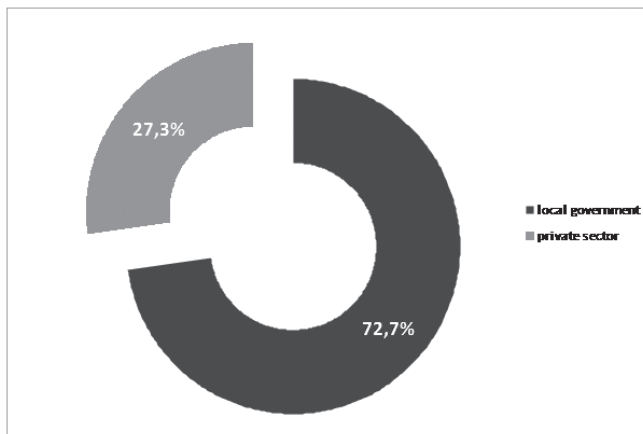
Figure 5 - Funds for sport arena constructions



Source: Own compilation based on our questionnaires.

We also wanted to survey who runs the involved institutions.

Figure 6 - Operators of sport arenas



Source: Own compilation based on our questionnaires.

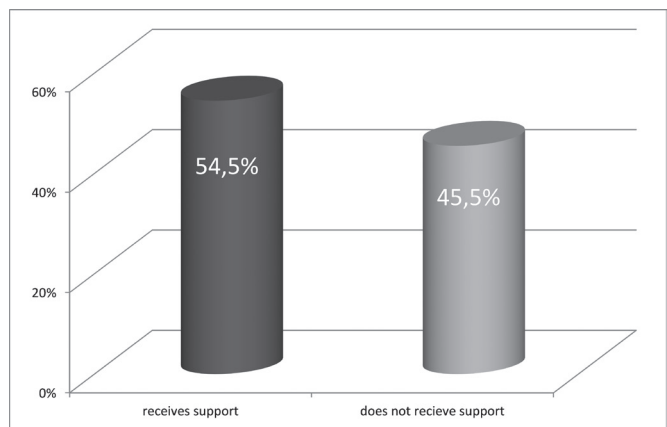
Local governments still have a great influence on sport in Hungary (Kovács and Farkas 2010), as the majority of facilities suitable for sport are owned by local governments (Tompa 2005). When examined in detail, researchers found that the state was present in almost half of the owners operating sport facilities, while a quarter was owned by local government and less than that were owned by ventures (András 2006).

Close to two-thirds of the 24 sport arenas (Figure 6)

were operated by local governments, while 27.3% were operated by ventures. We can conclude that our data was, from this aspect, in accordance with the national characteristics.

In Hungary, state and local government investments into sport per capita are significantly lower than European average (Váczí and Berkes 2009). Therefore, we found it important to find the answer whether facilities receive state or local government funds for maintenance. Although it is defined in the national sport strategy that the socialising, cultural, and educational functions of sport must be relied upon, 45.5% of institutions responded that they do not receive neither state nor local government funds (Figure 7). The operation of these institutions, however, supports that sport possesses an increasing economic dimension.

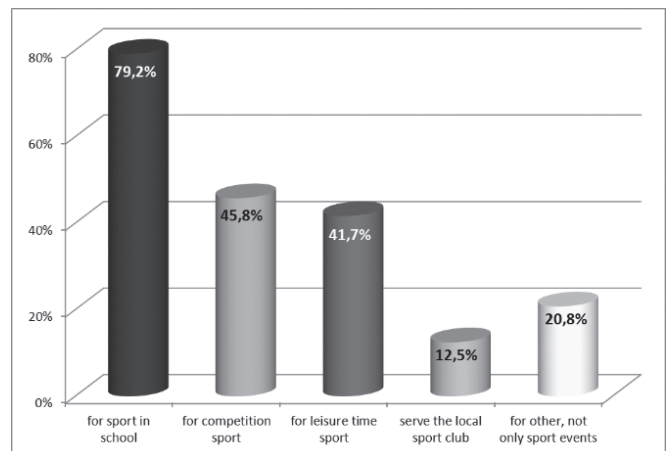
Figure 7 – State/local government funds of sport arenas



Source: Own compilation based on our questionnaires.

Hungary has been struggling with severe financial and institutional problems along with the lack of facilities both in leisure time and competitive sports (Vörös 2012), therefore, ensuring resources for operation has to be addressed by all means.

Figure 8 – Aims of sport arena establishments (it was possible to choose several answers).



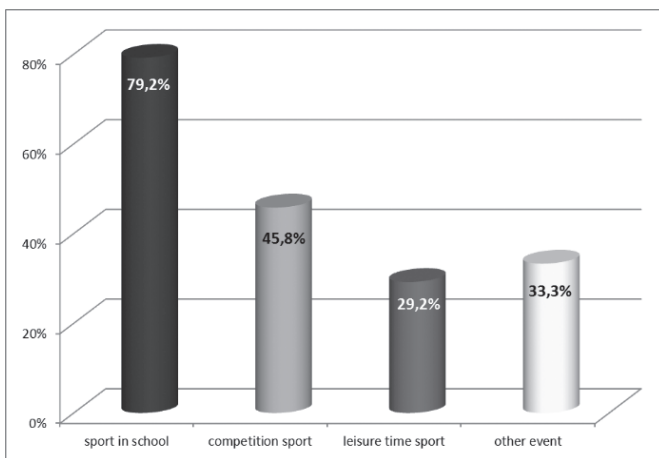
Source: Own compilation based on our questionnaires.

When researching the aims of sport arena establishments – not surprisingly – the responses point out that the primary of objective of establishments was to serve school sport activities (Figure 8).

It seems obvious that the governments at the time of change of regime attempted to solve the most urgent problem by constructing arenas suitable for physical education classes, but the number of constructed facilities did not even closely solve the problem which remained a current issue. The introduction of everyday physical education lessons further increased demands for smaller sport arenas.

In the light of previous results, it was expected that similar answers would be received when examining the most commonly held events at the surveyed facilities (Figure 9).

Figure 9 - Most commonly held events at sport arenas (it was possible to choose several answers).



Source: Own compilation based on our questionnaires.

79.2% of events can be tied to school sport (a significant part of this is likely to be physical education lessons or extra-curricular sport activity). Competitive sport (45.8%) comes next in the line of most common events, then other sport events (33.3%) and finally leisure time sport (29.2%). This is a positive result from many aspects. On the one hand, it can be stated that institutions are used for what they were originally established for. On the other hand, if we look at the expectation that facilities must be suitable for both competitive and leisure sport from the aspect of sustainability, then it can be seen that a significant number of sport arenas are multifunctional.

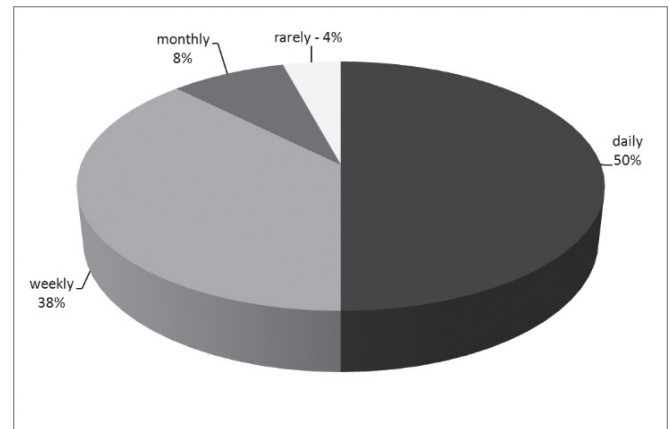
Considering that a large number of facilities serve as venues for school sport as well, it was expected that these events would be held daily (Figure 10). 38% of facilities claimed that they were only used weekly. Presumably, these are competitions or other events organised at weekends.

If we only examine the sport arenas, which indicated leisure time sport as the aim of establishment, then we find that 50% are used daily. 40% are used weekly and 10% are occasionally used. It would be worth investigating what lies in the background of these results. Is there no demand by the public for having the facilities open every day of the week

or does the operator lack the necessary funds for continuous operation?

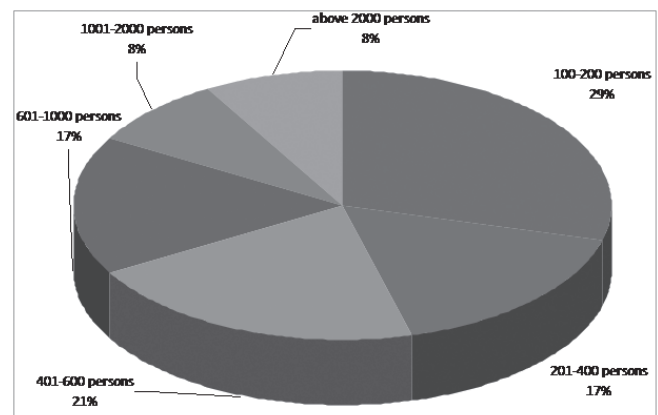
We found it important to analyse the capacity of facilities from many aspects.

Figure 10 – Frequency of events organised in sport arenas



Source: Own compilation based on our questionnaires.

Figure 11 – capacity of facilities



Source: Own compilation based on our questionnaires.

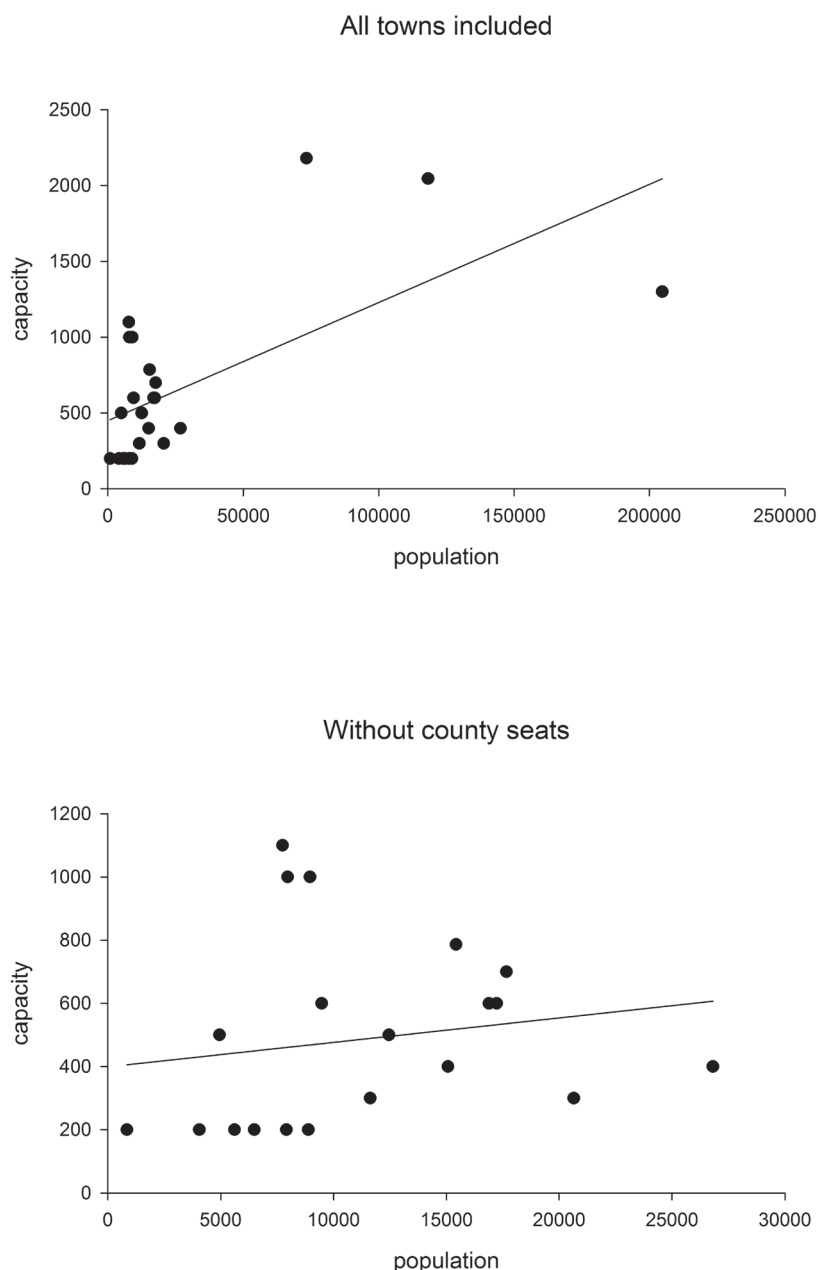
29% of sport arenas have a capacity of 100-200 persons while an additional 55% are suitable for accommodating 200 and 1000 persons. 8% have a capacity between 1000 and 2000 persons and a further 8% can accommodate venues for over 2000 persons (Figure 11).

We examined whether there is any correlation between the capacity of facilities and the population of the settlement and what relationship can be found between the frequency of events and the population of the settlements.

Figure 12 presents the relationship between the capacity of the sports-courts and the population of the towns in question. If all towns, including the three county seats (the three towns with the largest population) were included into the analysis (Figure 12A) a significant ( $p < 0.01$ ) correlation was found with an  $r^2 = 0.4163$ . It should be noted, however, that if these three towns were left out from the analysis (Figure 12B) the correlation was lost ( $p > 0.4$  and  $r^2 = 0.0275$ ).

**Figure 12** – Relationship between the population of the settlement and the capacity of the sport arena.

Including all 24 settlements in the analysis. (B) Excluding the 3 county seats from the analysis. The lines were fitted by applying the method of least squares.



[http://njt.hu/cgi\\_bin/njt\\_doc.cgi?docid=140968.248458](http://njt.hu/cgi_bin/njt_doc.cgi?docid=140968.248458)  
(25/04/2011.)

[http://njt.hu/cgi\\_bin/njt\\_doc.cgi?docid=82785.266554](http://njt.hu/cgi_bin/njt_doc.cgi?docid=82785.266554) (5/12/2014.)

<http://statinfo.ksh.hu/Statinfo/themeSelector.jsp?&lang=hu>  
(5/12/2014.)

<http://www.ksh.hu/stadat> (5/12/2014.)

Kovács A, Farkas P. Állami szerepvállalás a sportban- mennyire legális az önkormányzatok tulajdonosi része a sportvállalkozásokban? Magyar Sporttudományi Szemle 2010; 41:33-36.

Lakatos J, Tokaji K-né. Társadalmi jellemzők és ellátórendszerek, 2008. Központi Statisztikai Hivatal 2009; 53-63.

Magyar Olimpiai Bizottság. Sportfejlesztési irányai és területei

2012 [http://www.mob.hu/images/MOB/Strategia\\_2012/MOB\\_strategia\\_2012.pdf](http://www.mob.hu/images/MOB/Strategia_2012/MOB_strategia_2012.pdf) (12/12/2014.)

Sartori A. Európai (és hazai) stadionkörkép. KPMG tanulmánya 2011.

Tompa A. Létesítmények - létesítményfejlesztés

Váczi J, Berkes P. Az állami sportfinanszírozás új útjai. Magyar Sporttudományi Szemle 2009; 39-40:42-44.

Vörös T. A látvány-csapatsportok támogatásával összefüggő társadalmi adó törvénymódosítás lehetséges társadalmi-gazdasági hatásai. Magyar Sporttudományi Szemle 2012; 51:36-40.

WHO. Constitution of the World Health Organization. Geneva, 1946. Accessed Page 20 of „NATIONAL MENTAL HEALTH POLICY 2001-2005” on March 2001.



