

## Original Article

### Spatial characteristics of the Hungarian national programme for football field construction

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#### Abstract:

The investments realized in the past decade in the framework of the Hungarian National Programme for Football Field Construction have constituted an important part of the activities of local governments aimed at the development of sports facilities. In the spirit of the above, the aim of this paper is, relying on the database of the Hungarian Football Federation, to explore the spatial characteristics of this project, as well as to identify the relationship between the football fields completed and the various characteristics of the settlements (e.g. population size, level of economic development).

Research has indicated that the size of settlements can have a significant influence on the football fields completed, and the economic power of the local government has a major impact on their willingness to construct football fields in the first place. Based on an analysis of the tendencies over time, we can clearly observe the increasing role played by settlements of smaller populations, as well as the decreasing significance of the administrative role of the settlement (preference of administrative district centres).

**Key words:** Hungarian National Programme for Football Field Construction, local governments, settlements, local taxes

#### Introduction

The examination of the spatial distribution of sports facilities has long been an important area of research at the intersection of sports science and human geography. Main reason for this fact is that the location influences the sport-related activity of society and the performance of different teams (Rodríguez-Canamero et al., 2018; Chacon-Araya et al., 2018). The analyses show, on the one hand, the most important characteristics pertaining to the location of the facilities concerned within the settlements (Chapin, 2000; Estabrooks et al., 2003; Higgs et al., 2015; Kozma et al., 2016; Newsome & Comer, 2000; Thornley, 2002), and on the other hand, they also try to shed light on the differences between the settlements. From this latter point of view, one of the most important findings of the examination of the spatial distribution of leisure sports facilities was the identification of the differences between settlements of different sizes/locations/financial positions (Hallmann et al., 2011). A Canadian research project that looked at urban agglomerations pointed out, on the one hand, that the relatively higher value of large cities is followed by a lower value in the first suburban zone, while more distant suburbs once again have a higher value (O'Reilly et al., 2015). On the other hand, differences could also be observed in terms of the quality of the facilities (e.g. the existence of supplementary services, the number of parking places, the number of locker rooms): relatively less attractive facilities are typical in larger cities (primarily due to these facilities being of older construction), followed by higher values in the first suburban zone, and then by somewhat lower values in the second zone, which were nonetheless better than those in the large cities themselves. With respect to the financial position of settlements, earlier research in the field has not identified clear trends, but it can be regarded as an important finding that privately owned sports facilities are concentrated on settlements where those in higher income groups reside (pl. Higgs et al., 2015; Lamb et al., 2010). In recent years, mainly for political reasons, the Hungarian National Programme for Football Field Construction (or OPP, to use the Hungarian acronym), as an element (perhaps the one most accepted by public opinion) of the development of sports facilities, has gained much impetus. Launched in 2011, the primary aim of this programme was the improvement of the conditions of school-related and leisure sports. In the framework of the above, the Hungarian Football Federation receives support through the National Tax and Customs Administration from the corporate income tax contributions by business associations offered for the purpose of the development sports facilities (Bács – Bácsné Bába 2014, Ráthonyi-Odor – Borbély 2017, Váczi et al. 2017). Local governments and sports associations can then submit applications for the available sum, although it was applicants in the former category that dominated the field. The organizations concerned initially had to provide 30% as their own contribution to the development; since 2013, in case of organizations for which meeting the 30% requirement presents a problem, it is enough to contribute 10%, while the remaining 20% is contributed by the Hungarian Football Federation from FIFA sources.

In light of the above, the purpose of this paper is, on the one hand, the identification of the settlement-level characteristics of the programme, and on the other hand, the presentation of any changes over time.

## Material & methods

In the course of the research project, I used the data available on the website of the OPP, which showed settlement-level data on the football fields of various types constructed in the individual years. The data related to the settlements (e.g. population size, level of development of the local government) were obtained from the websites of the Central Statistical Office and the Regional Information System.

## Results & discussion

On the basis of the data it can be established that a total of 642 football fields were constructed between 2012 and 2018 (Figure 1). This number falls behind the originally planned 100 football fields/year, which can be explained by a number of factors. On the one hand, in 2012, it was still necessary to reckon with the difficulties of the first year, and on the other hand, in the course of 2014/2015, many local governments earmarked their available financial resources for other purposes (e.g. as own financial contribution in case of projects co-financed by the European Union). The decrease observed at the end of the 2010s can fundamentally be explained by the fact that the Budapest Programme for Football Field Construction, designed to satisfy the needs of the capital, which had earlier played a major role among the applicants, was launched in 2017, and the majority of the football fields was already constructed in the framework of this programme.

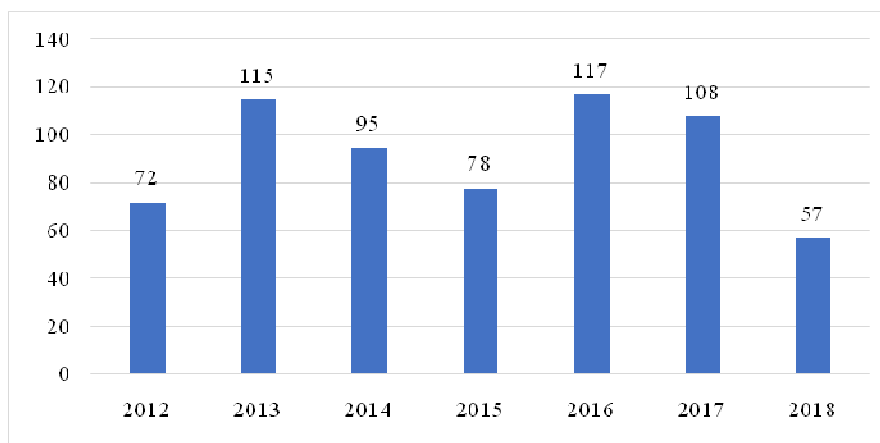


Figure 1 The number of new football fields realized between 2012 and 2018 in the framework of the OPP.

Source: own editing on the basis of the data available at <https://palyaepites.mlsz.hu>

The examination of the distribution of the completed football fields according to population size reveals a two-sided image (Table 1). On the one hand, as we move through the categories towards cities with larger populations, the number of settlements where no football field was constructed decreases, and in case of cities over the size of 50,000 inhabitants, there are only four settlements in this group: Pécs, Székesfehérvár, Szolnok and Szombathely. On the other hand, it can also be clearly observed that in case of settlements with populations below 25,000 people, with the exception of those below 1,000 people (the reason for which will be discussed later), there is an overrepresentation in all cases: the share of these settlements from the total population of the country was lower than their share in the football fields completed (the biggest difference was observed in the category of settlements with populations between 3,000 and 5,000 persons). The reason behind this was that, in the course of the implementation of the programme, smaller settlements were given a certain priority in order to ensure the availability of sporting facilities for them.

Table 1 The relationship between the number of football fields completed and the population size of the settlements between 2012 and 2018 (on the basis of the population sizes in 2015)

| number of inhabitants        | A              | B          | C     |
|------------------------------|----------------|------------|-------|
| less than 1,000 inhabitants  | 2.26           | 40 (6.23)  | 7.72  |
| 1,000-2,000 inhabitants      | 11.57          | 79 (12.31) | 9.21  |
| 2,000-3,000 inhabitants      | 23.26          | 67 (10.43) | 7.10  |
| 3,000-5,000 inhabitants      | 31.41          | 73 (11.37) | 7.43  |
| 5,000-10,000 inhabitants     | 47.29          | 75 (11.68) | 9.04  |
| 10,000-25,000 inhabitants    | 62.11          | 99 (15.42) | 14.41 |
| 25,000-50,000 inhabitants    | 64.29          | 43 (6.70)  | 9.28  |
| more than 50,000 inhabitants | 74.78          | 75 (11.68) | 17.97 |
| Budapest                     | not calculated | 91 (14.17) | 17.83 |

A – the percentage of settlements within the given size category where football fields were constructed in the framework of the OPP (%); B – the number of football fields completed on the settlements in the given size category and their proportion within the total number of football fields; C – the percentage of the population living on settlements in the given size category within the total population of the country (%)

Source: own editing on the basis of the data available at <https://palyaepites.mlsz.hu>

If comparing the types of the football fields completed against the population size of the settlements, we can observe several tendencies (Table 2). In terms of very small football fields, there are two peaks: in case of settlements below 2,000 and those above 25,000 inhabitants. The first of these can probably be explained by the fact that the local governments of these settlements, due to their more modest financial means, only had the possibility to build football fields of this size. Behind the higher value of larger settlements, we can find the fact that football fields were also built in a large number of kindergartens on settlements in this category, and of course these institutions preferred the smallest possible size. Football fields of the largest size were hardly constructed on the smallest settlements, which can be explained by two reasons: on the one hand, there was no demand for these, and on the other hand, the costs would also have exceeded the financial capabilities of these settlements. The largest share of these football fields could be observed in case of medium-sized settlements (5,000 to 50,000 inhabitants), which was followed by a decrease on larger settlements. This latter fact (i.e. the decreasing proportion) is most likely due to football academies operating on practically all settlements in this size category, which realized investments aimed at the construction of large football fields also from corporate income tax contributions, but in a different arrangements (with the grants provided to the academies themselves). By contrast, on medium-sized settlements, the development of large football fields, often serving the purposes of professional sports, were realized by the most important sponsors, and at the same time also owners, of the local sports teams, namely the local governments, with support from the OPP.

Table 2 The relationship between the size of football fields completed and the population size of the settlements between 2012 and 2018 (%)

| number of inhabitants        | very small football field (12x24 meters) | small football field (22x42 meters) | medium-size football field (44x64 meters) | large football field (111x72 meters) |
|------------------------------|--|-------------------------------------|---|--------------------------------------|
| less than 2,000 inhabitants  | 18.5                                     | 79.8                                | 0.8                                       | 0.8                                  |
| 2,000-5,000 inhabitants      | 7.9                                      | 82.7                                | 3.6                                       | 5.8                                  |
| 5,000-10,000 inhabitants     | 8.1                                      | 74.3                                | 2.7                                       | 14.9                                 |
| 10,000-25,000 inhabitants    | 9.0                                      | 61.0                                | 4.0                                       | 26.0                                 |
| 25,000-50,000 inhabitants    | 16.3                                     | 53.5                                | 7.0                                       | 23.2                                 |
| more than 50,000 inhabitants | 16.0                                     | 69.3                                | 2.7                                       | 12.0                                 |
| Budapest                     | 29.7                                     | 57.1                                | 4.4                                       | 8.8                                  |
| Hungary                      | 14.6                                     | 70.6                                | 3.6                                       | 11.2                                 |

Source: own editing on the basis of the data available at <https://palyaepites.mlsz.hu>

As mentioned before, applicants constructing football fields in the framework of the OPP were, with a few exceptions, local governments, which had to contribute to the costs in a certain percentage. The source of such contributions could only be the own revenues of local governments, with local taxes being the most important source. In light of the above, the question naturally arises whether there is a connection, on the level of settlements, between the football field construction activities and revenues from local taxes. The analysis of the data fundamentally confirms the existence of such a connection (Table 3). On the one hand, both the average and the median of the per capital local taxes collected by the settlements concerned were higher than the corresponding value of their given size category. On the other hand, we can also observe that the biggest difference between the two categories of settlements (all settlements in the categories – columns A and B; settlements concerned with football field construction – columns C and D) was in case of the smallest settlements (those with populations below 1,000 and those having between 1,000 and 2,000 inhabitants). In all likelihood, this can be traced back to the fact that in this category practically only those settlements were able to contribute their own percentage of funding that had a sufficient size of revenue from local taxes, while in case of larger settlements this relationship was less important.

Table 3 The relationship between the revenue of local governments from local taxes and their willingness to construct football fields in the period between 2012 and 2018 (the data on local taxes are the average of the years between 2012 and 2016, with the quotient of the two indicators in brackets)

| number of inhabitants       | A       | B       | C              | D              |
|-----------------------------|---------|---------|----------------|----------------|
| less than 1,000 inhabitants | 7,854   | 3,591   | 27,541 (3.51)  | 9,313 (2.59)   |
| 1,000-2,000 inhabitants     | 36,108  | 20,004  | 65,411 (1.81)  | 26,854 (1.34)  |
| 2,000-3,000 inhabitants     | 63,837  | 39,699  | 81,525 (1.28)  | 47,835 (1.20)  |
| 3,000-5,000 inhabitants     | 138,431 | 81,631  | 196,626 (1.42) | 109,063 (1.33) |
| 5,000-10,000 inhabitants    | 279,826 | 218,650 | 312,412 (1.12) | 239,300 (1.09) |

A – the average of the per capital local tax revenues of the settlements in the given size category (HUF); B – the median of the per capita local taxes collected on settlements of the given size category (HUF); C – the average of the per capital local tax collected on settlements of the given size category concerned with football field construction (HUF); D – the median of the per capita local taxes collected on settlements of the given size category concerned with football field construction (HUF) Source: own editing on the basis of the data available at <https://palyaepites.mlsz.hu> The next stage of the research project consisted of the time analyses, to determine whether any changes can be observed over time, if there is any difference in football field construction, on the level of settlements, between the beginning and the end of the 2010s. As far as the population sizes are concerned (Table 4), the most characteristic tendencies could be observed with respect to the two extreme values

(the smallest and the largest settlements). A very significant increase could be observed in case of the smallest settlements (those with populations below 3,000 inhabitants): in 2012, only 13% of the football fields were constructed on these settlements, while in 2018, their proportion was close to 50%. By contrast, the share of the largest settlements (those with a population over 50,000) shows a decreasing tendency: from the initial 25% at the beginning of the 2010, the figure decreased below 10% (although it is also true that in 2015 there was already a 5% figure as well), while in case of Budapest the decrease is even more marked (in 2018, there was only one single football field constructed in the framework of the OPP in Budapest). In all likelihood, the reason behind this process is that the Hungarian Football Federation has made an increasingly intensive effort to ensure that a larger part of the new football fields be constructed on smaller settlements, in the interest of providing for the fundamental conditions of engaging in sporting activities also on these settlements. Furthermore, in case of Budapest, the effect of the launching of the Budapest Programme for Football Field Construction, mentioned above, must also be taken into consideration.

Table 4 The change in the distribution of the football fields constructed in the framework of the OPP according to settlement size between 2012 and 2018 (%)

|                             | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------|------|------|------|------|------|------|------|
| less than 2,000 inhabitants | 6.9  | 14.8 | 18.3 | 14.1 | 20.5 | 24.1 | 33.3 |
| 2,000-3,000 inhabitants     | 6.9  | 11.3 | 8.6  | 9.0  | 10.3 | 13.0 | 14.0 |
| 3,000-5,000 inhabitants     | 20.8 | 7.0  | 12.9 | 10.3 | 8.5  | 11.1 | 10.5 |
| 5,000-10,000 inhabitants    | 12.5 | 9.6  | 8.6  | 17.9 | 14.5 | 11.1 | 5.3  |
| 10,000-25,000 inhabitants   | 11.1 | 22.6 | 12.9 | 10.3 | 16.2 | 13.9 | 21.1 |
| 25,000-50,000 inhabitants   | 4.2  | 6.1  | 6.5  | 10.3 | 5.1  | 9.3  | 5.3  |
| more 50,000 inhabitants     | 25.0 | 10.4 | 14.0 | 5.1  | 11.1 | 9.3  | 8.8  |
| Budapest                    | 12.5 | 18.3 | 18.3 | 23.1 | 13.7 | 8.3  | 1.8  |

Source: own editing on the basis of the data available at <https://palyaepites.mlsz.hu>

The conclusions drawn on the basis of the distribution of the football fields completed according to settlement size are also reinforced by the median values of the population sizes of the settlements in the individual years (Table 5): after the fluctuation in the early 2010s, a marked decrease can be observed in the second half of the decade (the value for 2018 decreased to almost half of the one for 2015), which also clearly shows the increasingly better position of settlements with smaller populations.

Table 5 The median value of populations of settlements where football fields were constructed in the framework of the OPP, shown as a subject of settlement size, between 2012 and 2018

|        | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  |
|--------|-------|-------|-------|-------|-------|-------|-------|
| median | 5,284 | 6,648 | 4,429 | 6,132 | 5,266 | 3,617 | 3,102 |

Source: own editing on the basis of the data available at <https://palyaepites.mlsz.hu>

According to the results of the paper presenting characteristics of the OPP on the county and administrative district levels (Kozma, 2018), the dominance of district centres in the selection of the settlements can be observed to a certain district: a significant proportion of the football fields completed were constructed on the settlements concerned. If we examine the changes over time, however, the decreasing role of this effect can be observed (Table 6): as time passes, more and more attention is also given to other settlements in the districts. The data for 2018 suggest that this process continued further, as less than 1/3 of the football fields were constructed in district centres. As a result of the process, the settlements concerned were gradually “saturated”; despite the above, however, football fields were constructed in only 105 out of the 174 district centres by the end of 2018, which means a proportion of 60.3%.

Table 6 The proportion of football field developments realised in the framework of the OPP in administrative district centres in the years between 2012 and 2018 relative to all investments (excluding football fields constructed in Budapest) (%)

|  | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|------|------|------|------|------|------|------|
|  | 50.8 | 46.8 | 44.7 | 46.7 | 42.6 | 35.4 | 32.1 |

Source: own editing on the basis of the data available at <https://palyaepites.mlsz.hu>

A more detailed examination of the public administration status of the settlements concerned (Table 7) reveals that the proportion of settlements where a new football field was constructed after the district centre gradually increased, and with the exception of 2008, there was a decrease in the proportion of settlements with new football fields constructed ahead of their own district centres.

Table 7 The relationship between settlements with football fields constructed in the framework of the OPP between 2012 and 2018

|      | A         | B         | C         | D         |
|------|-----------|-----------|-----------|-----------|
| 2012 | 32 (50,8) | 0 (0,0)   | 5 (7,9)   | 26 (41,3) |
| 2013 | 44 (46,8) | 8 (8,5)   | 3 (3,2)   | 39 (41,5) |
| 2014 | 34 (44,7) | 12 (15,8) | 2 (2,6)   | 28 (36,8) |
| 2015 | 28 (46,7) | 10 (16,7) | 1 (1,7)   | 21 (35,0) |
| 2016 | 43 (42,6) | 26 (25,7) | 3 (3,0)   | 29 (28,7) |
| 2017 | 35 (35,4) | 36 (36,4) | 10 (10,1) | 18 (18,2) |
| 2018 | 18 (32,1) | 22 (39,3) | 0 (0,0)   | 16 (28,6) |

A – the number and percentage of football fields constructed in district centres; B – the number and percentage of football fields on settlements where the district centre already had a new football field constructed; C – the number and percentage of football fields constructed on settlements where a new football field was constructed in the district centres in the same year; D – the number and percentage of football fields constructed on settlements where there was still no new football field constructed in the district centre

### Conclusions

The most important findings of the study could be summarised as follows. The population sizes of the settlements influenced football field construction in a variety of ways. On the one hand, a certain degree of overrepresentation can be observed in case of settlements with smaller populations. On the other hand, the share of very small football fields exceeded the average on the largest settlements, while large football fields were overrepresented on medium-sized settlements. Another important determining factor was found to be the economic possibilities of the individual settlements: due to the necessity of the own contribution necessary for football field construction, local governments in better financial positions started such projects in a larger proportion. The analysis of the changes over time revealed two tendencies. On the one hand, the population size of the settlements where football fields were built was gradually decreasing during the decade of the 2010s, and on the other hand, the proportion of football fields constructed on settlements other than district centres increased.

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