2014-2020's Common Agricultural Policy: watering development in Hungary, Békés county from the European Rural Development Found (ERDF)

[1]Attila Rákóczi, [2]Klaudia Urbán

[1] Hungarian University of Agricultural and Life Sciences, Institute of Rural Development and Sustainable Economy, Department of Rural and Regional Development Gödöllő, Hungary; [2] Government Office of Békés County, Békéscsaba, Hungary. Corresponding author: A. Rákóczi, rakoczi.attila@gmail.hu

Abstract. Through our research it is presented what features irrigation cultivation in Hungary has been characterised by. The data related to Békés County is also covered. It is highlighted that – following world trends – developing the irrigation sectors is an enormous break point of the agriculture of our country. Based upon the community grants of 2014-2020 the Rural Development Programme launched two calls for proposals concerning irrigation development. In our research the data and figures of the project proposals – submitted from Békés county – of the Hungarian State Treasury as a paying agency are observed and examined. The number of submitted proposals within the county, the requested grant amounts, the fields to be developed, the current status of the evaluation process and the typical errors are presented. As a result of our survey it can be claimed that a large number of proposals have been submitted in the county with high grant amounts related to a wide range of topics. Simultaneously, due to the quality of content the number of rejected proposals is quite high as well. Applicants themselves also withdrew for some reasons. Nevertheless, projects to be implemented by all means have great influence on the agrarian economy of Békés county therefore available resources can reach the set policy objectives.

Key Words: applications, Békés County, Rural Development Programme, watering.

Introduction. In the period of large cooperative farms considerable irrigation development occurred in Hungary. During the years after the democratic transformation, as a result of the fragmentation of property structures, a downturn took place in the size of irrigated farmlands. Nevertheless, in the past 8-10 years significant resources have been available to farmers to implement irrigation development projects. The accessibility of irrigation purpose tenders announced from the resources of the 2014-2020 Rural Development Program was a substantial step forward.

Plant cultivation on irrigated lands plays a crucial role in agricultural production. The water contained in the ground facilitates the accumulation of nutrients, and after their dilution in water the plants utilize them through nutrient uptake by their roots. In addition to this, irrigation has a humidifying effect, which reduces evaporation from plants during drier periods. Anti-freeze irrigation is a special form of irrigation, during which under freezing weather conditions the heat-energy generated by the freezing of the irrigation water increases the temperature of the micro-environment. This form of irrigation has an outstanding role in the case of plantation type cultivation (Vermes 2001).

When farmland is irrigated, choosing the proper form of irrigation is essential (Ángyán & Menyhárt 2004). Beyond satisfying the water demand of irrigated cultivated plants, we must also pay attention to the quality of irrigating water (pH level, salt content, etc.). According to the conclusions of Rétvéri (1986), among the methods of irrigation, rain-like irrigation may deteriorate the soil structure, and beyond this the quantity of irrigation water used is also excessive compared to water demand. The high salt content of irrigation water results in changes in the pH level of the soil, the accumulation of heavy metals and soil salinization. Because of the latter, nowadays special irrigation methods are more widespread (drip irrigation, micro-irrigation) (Oroszlány 1963). As a result of global climate change, we must place outstanding emphasis on spreading water-efficient irrigation solutions (Somlyódy 2002).

According to the description of Bálint et al (1985), irrigation has a positive effect on agricultural production security, thus on its profitability. As a consequence of irrigation, germination, thus crop binding and grain densification is more effective. Thereby, higher crop yields can be achieved. It also has a farmland availability increasing effect, thus higher revenues and profits can be realized (Dégen 1972). As a results of the conditions and requirements of today's era, the intensification of global market competition, the increasing effects of climate change as well as general rainfall and water shortages, in agricultural production it is essential to spread irrigation in plant cultivation as broadly as possible (Somlyódy 2002).

Watering areas in Hungary. Hungary's agricultural land area equipped for irrigation was around 350 000 hectares in the 1970's. In recent years its new peak was reached in 2014 with over 160 000 hectares. However, today the amount of irrigated farmlands is under 140,000 hectares (Figure 1). After an analysis of the data, we can conclude that the amount of irrigated farmlands and the quantity of water used for irrigation significantly fluctuated year to year in the past 15-20 years, sometimes growing and sometimes shrinking, but the total agricultural land area equipped for irrigation was unchanged compared to the situation in 2000 (Tanczné & Gyüre 2018).

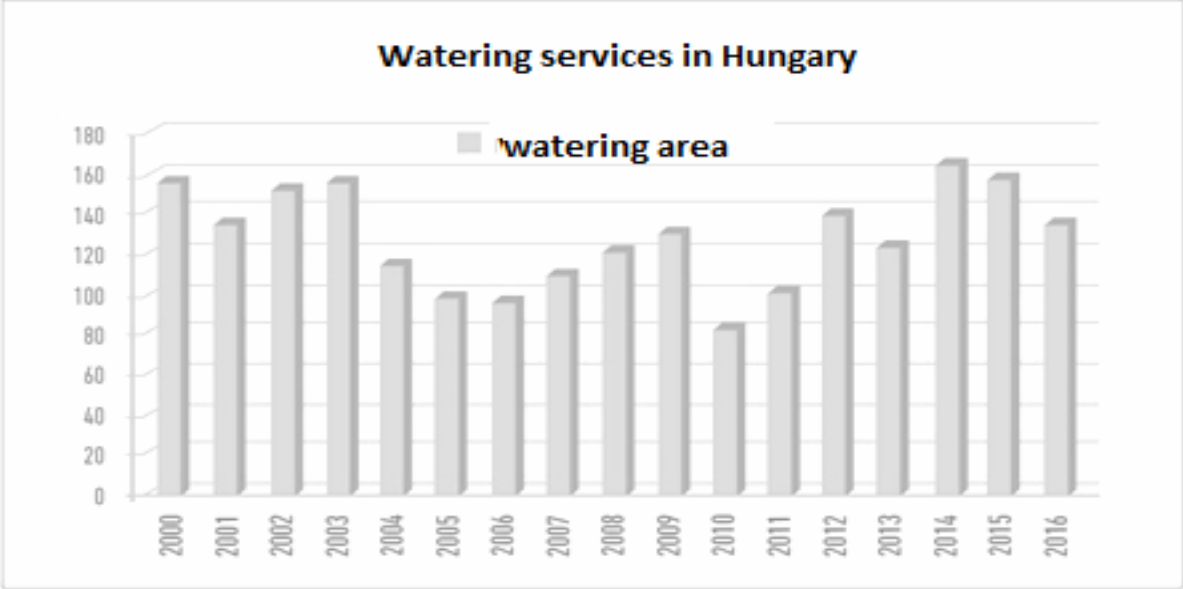

Figure 1. Agricultural water services (KSH 2020).

The slow development of plant cultivation on irrigated lands has complex reasons. Hungarian agricultural production habits, farmland usage conditions and our fragmented agricultural land property structure significantly contribute to this. Irrigation development is a complex issue, which involves multiple competences, including water management that is the responsibility of the Interior Ministry, since irrigation can only be developed in consideration of water reserves and harmonized with flood protection. It also involves the Ministry of Agriculture in charge of rural development, since for development projects the farmers need financial resources (Tanczné & Gyüre 2018).

Watering areas in Békés County. One of Hungary's most valuable agricultural regions is Békés County, where the significance of irrigated plant cultivation was great long before our times. Our County played a pioneering role in the development and spreading of irrigation in the past. Currently we are in third place nationwide, only Szolnok County and Hajdú-Bihar County is ahead of us from the aspect of the size of irrigated agricultural lands. This is not a coincidence, since the climate conditions of the County practically require farmers to mitigate the production shortfall caused by droughts by using water from our natural streams (Albel & Vincze 1963). It is evident that even in the 1960s

irrigation development in our County was considered an outstanding opportunity. In this same volume the authors note that productivity had doubled as a result of the County's water management activity in past decades, and production security had increased.

Marjai et al (1967) described that in the period of large cooperative farms further considerable irrigation development occurred, not just nationwide, but the size of irrigated farmlands in Békés County also grew, and significant irrigation developments were achieved.

Nowadays, our County is outstanding in the South Great Plains region, compared to the other two counties, from the aspect of agricultural lands that are irrigated at least once per year. Based on data from the National Statistical Office (KSH 2020) the size of agricultural lands that are irrigated at least once per year in our County exceeded 23 000 hectares in 2012, while it was the lowest in 2015 with 15 499 hectares, in 2019 up to 21 000 hectares (Table 1).

Table 1

At least watered area in Regio of South Hungarian Plain (KSH 2020)

County	*Year*								
	2011	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*
Békés	19 285	23 395	21 828	20 848	15 499	21 702	18 994	21 057	21 878
Bács-Kiskun	11 052	14 274	12 142	9 071	6 660	8 950	9 499	8 045	8 939
Csongrád	16 147	21 203	15 119	12 760	9 752	18 284	13 581	12 781	13 570

When farmers submit their applications for agricultural subsidy, they have a reporting obligation in their so-called Uniform Application, even if they wish to irrigate their land in a specific year. In the course of the application, they report the location and size of the land intended to be irrigated. It is evident from the data of Table 2 that more land has been reported in the County since 2015 than the number of cases when the irrigation was actually performed. Based on the Table's data the trend is significant, according to which the land area planned to be irrigated continuously grew, while the size of agricultural land actually irrigated was reduced year after year.

Table 2

Watered area in Békés County from the Uniform Application

Year	*Number of application*	*Hectar*
2015	337	16 432
2016	313	21 839
2017	279	19 129
2018	252	18 591
2019	306	17 770
2020	288	18 325

The Common Agricultural Policy's (CAP) watering applications. During the 2014-2020 cycle of the Common Agricultural Policy (CAP) the Rural Development Program provides numerous opportunities for the development of the agricultural sector, including irrigation. During this cycle, the total amount of available resources was HUF 1,310 billion. While during the 2007-2013 cycle a total of HUF 20 billion was spent on the development of agricultural water management (which included European Union developments, not just producers), in the 2014-2020 cycle HUF 49.5 billion is available for irrigation development, as well as a further HUF 19.3 billion for plantation establishment with the development of an irrigation option.

Two tender announcements were published for the above funds. One of them is VP-2-4.1.3.2.-16, entitled Subsidy for landscaping modernization, plantation establishment with the development of an irrigation option. The purpose of the subsidy is the usage of more modern technologies than current ones, the establishment of modern plantations, the modernization of species selection, improving average yield productivity

and quality as well as irrigation modernization. Its further purpose is to increase fruit production competitiveness within the landscaping sector as well as raising added value by subsidizing the spread of new, innovative and environment friendly production technologies and production methods (VP 2020).

The other tender is VP2.-4.1.4-16 entitled Subsidy for the development of agricultural water management sector. The purpose of the subsidy is water retention for agricultural production security and in the interest of adapting to climate change, sustainable management of our water reserves, spreading water-efficient irrigation technologies, providing climate change resistant production methods and sustainable land use. It is also a subsidy for bringing surface and underground bodies of water into a good condition and/or preserving their good condition from the aspect of quantity (VP 2020).

Material and Method. During our research we study the data of the Hungarian State Treasury as the funds payer agency of agricultural and rural development subsidies in Hungary, requesting the data from the Békés County Government Office as intermediary agent.

In our study we analyze the applications submitted in Békés County for the subsidies announced in the Rural Development Program's 2014-2020 cycle *VP-2-4.1.3.2.-16, entitled Subsidy for landscaping modernization, plantation establishment with the development of an irrigation option*, as well as *VP2.-4.1.4-16 entitled Subsidy for the development of agricultural water management sector*. We present the number of submitted applications for the tenders, their target areas, the tender amounts, the range of applicants, the size of the affected farmlands as well as the current situation in the approval of applications. In the analysis we also present the typical mistakes made by applicants in the tender process.

Results and Discussion. For the tender announcement VP2.-4.1.4-16 entitled Subsidy for the development of agricultural water management sector, a total of 99 applications were submitted in Békés County, in the amount of nearly HUF 4 billion. Of these 54 applications were approved, 26 applications were rejected and in the case of 13 application the under process is still ongoing (Table 3).

Table 3

VP2.-4.1.4-16 development of agricultural water management branch

Status of application	*Applicaton (pieces)*	*Support value (HUF)*	*Farmer (pieces)*	*Private entrepreneur (pieses)*	*Economic company (pieces)*	*Co-operative (pieces)*
Supported	54	1 899 977 368	21	16	17	0
Rejected	26	518 745 679	11	8	7	0
Decommitted	6	208 270 389	2	1	3	0
Under process	13	1 399 299 597	4	3	6	0
Suspended	0					
Total application	99	4 026 293 033	38	28	33	0

The distribution of the applications according to economic actors is also significant (Table 4). The number of primary producers is high, the number of private businesses is lower. However, the former undertake lower amounts than business associations. In the case of approved applications the approved subsidy amount is somewhat lower than the requested amount.

Table 4

The dismolition of the supported applications in detail

Category	*Supported (pieces)*	*Applicationed value (HUF)*	*Supported value (HUF)*
Farmer	21	290 903 386	279 834 560
Private entrepreneur	16	732 282 324	725 513 922
Economic company	17	876 791 658	871 721 879
Total	54	1 899 977 368	1 877 070 361

Among the principal reasons for the rejection of applications in the case of several clients was that the quantity condition of body of water affected by the irrigation development was qualified lower than 'good'. It also happened that the applicant failed submit the water management permit even after a request of remedying this deficiency. It also happened that the clients had no settled ownership status regarding the properties affected by the development, the right of use was not certified, which the client failed to certify even after a request of remedying this deficiency. It occurred that the applicant failed to reach the minimally required agricultural activity revenue in the last business year (EUR 6,000), or his agricultural activity revenue did not reach the 50% of total revenue required by the tender announcement. The investment would have been useful for several agricultural producers, but the application was submitted in a consortium form.

For the tender announcement VP-2-4.1.3.2.-16, entitled Subsidy for landscaping modernization, plantation establishment with the development of an irrigation option, a total of 23 applications were submitted in Békés County, in the amount of nearly HUF 400 million. Of these 8 applications were approved, 6 applications were rejected, 8 were withdrawn by the applicants and 1 is currently in suspended status (Table 5).

Table 5

VP-2-4.1.3.2.-16 The modernisation of a nursery - onto the support of plantation setup with the opportunity of the forming of watering

Status of application	*Applicaton (pieces)*	*Applicationed value (HUF)*	*Farmer (peces)*	*Private entrepreneur (pieses)*	*Economic company (pieces)*	*Co-operative (pieces)*
Supported	8	106 276 689	5	2	1	0
Rejected	6	76 290 161	4	1	1	0
Decommitted	8	200 900 310	6	0	2	0
Suspended	1	3 298 138	1	0	0	0
Total application	23	386 765 298	16	3	4	0

The overwhelming majority of approved applicants are in primary producer status and primary producers undertook a significant portion of the requested funds as well. The land areas affected by the developments are plantations in excess of 47 hectares. In the case of approved applications the approved subsidy amount is somewhat lower than the requested amount (Table 6).

Table 6

The dismolition of the supported applications in detail

Category	*Supported (pieces)*	*Applicationed value (HUF)*	*Supported value (HUF)*	*Area (ha)*
Farmer	5	94 041 835	93 920 706	30,87
Private entrepreneur	2	7 552 739	7 085 899	11,97
Economic company	1	4 682 115	4 685 246	4,39
Total	8	106 276 689	105 691 851	47,23

The rejections occurred because of the following 'typical' mistakes. It happened that the applicant couldn't fulfil the minimal requirements of the plantation type specified in the application. Some applications were submitted where based on the lease agreements it was uncertain if the property's use would be permitted for the entire period of the development project. It was also a reason for rejection if the submitted plantation development plan failed to contain the soil protection, or the irrigation and soil protection plan, or the client in his application failed to include the certifying document regarding the fulfilment of the minimal requirement system of the plantation type specified in the application.

Conclusions. A significant number of clients submitted applications for the 2 tenders announced in the 2014-2020 cycle of the Common Agricultural Policy (CAP) the Rural Development Program. There were a large number of rejections, but these all happened as a result of objective factors. In the case of both tender types the number of withdrawals was also high. At the same time, the subsidized and approved investment projects can considerably contribute to the agricultural performance of the County.

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Authors:
Attila Rákóczi, Hungarian University of Agricultural and Life Sciences, Institute of Rural Development and Sustainable Economy, Department of Rural and Regional Development Gödöllő, Hungary, e-mail: rakoczi.attila@gmail.hu
Klaudia Urbán, Government Office of Békés County, Békéscsaba, Hungary.
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