

**SZENT ISTVÁN
UNIVERSITY**

**The effect of the scenery protection regulations of
Common Agricultural Policy on the condition of
Cumanian mounds in Békés County**

Thesis of PhD dissertation

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1. BACKGROUND AND AIMS OF THE RESEARCH WORK

Two research studies in the June 2015 edition of the scientific journal *Nature* deal with the late Copper Age, early Bronze Age periods of Eurasian regions. ALLENTOFT et al. (2015) (researchers from various parts of the world), in the other research study CALLAWAY (2015) it was pointed out that in the period between 3,000 BC and 1,000 BC a significant wave of migration was characteristic in the Eurasian region. As a result of their migration and spreading these populations had a fundamental impact on the development of the cultural and ethnic image of modern age Europe. In the course of the research studies DNA analyses of bones taken from Cumanian mounds were performed and conclusions were drawn from these.

Because of the characteristic shape of the mounds they are of outstanding significance from the aspects of geology, zoology and botany, as well as scenery protection and scenery history (TÓTH A. 2002). Their scientific level exploration and research is not complete at all, therefore their preservation is of emphasized importance. In the territory of the Carpathian-basin their number exceeded 40 thousand in the past (TÓTH A. 1999a). With the passing of time their number rapidly diminished. Legal measures serving their protection appeared relatively late. The enactment of the Act of 1996 on environment protection was a breakthrough. At the same time, the legal regulation was incomplete, since in the absence of an implementation decree the condition of the remaining mounds continued to deteriorate.

The true breakthrough in the preservation of Cumanian mounds occurred after Hungary joined the European Union. As a result of the 2009 reform of Common Agricultural Policy (CAP), Cumanian mounds were placed under EU protection. The sanction system connected to agricultural subsidies presented a survival opportunity in relation to the preservation of Cumanian mounds that had never been seen in their existence.

Taking the above description into consideration, my research set the following goals:

- My goal is, from the 2010 introduction of the amended Good Agricultural and Environmental Conditions (GAEC) framework (as the implementation decree serving the protection of Cumanian mounds), to inspect its impact, results and effectiveness on the condition of Cumanian mounds through several years, by area surveys in the territory of Békés County.
- For the detection and measurement of the environmental conflict inducing effect of the newly introduced legal regulation, the exploration of cause and effect correlations, the understanding of the motivations of farmers, I set the conducting of structured interviews as a goal, among Békés County farmers and the experts of the researched field.
- Based on the results of the performed research, it is my goal to compile a proposal package that considers in an integrated manner the protection of Cumanian mounds as well as the interests and motivations of man who has been living in the scenery and shaping it for millennia.

For the achievement of the goals, starting from the introduction of the decree, I inspected the changes that occurred in the land use of the Békés County Cumanian mounds, which were included in it, with area surveys between 2010 and 2015. My work also extended to monitoring activity. In a discernable manner, the introduced regulation was a source of conflict among farmers. I also set the exploration of the circumstances as my goal, by means of interviews conducted with the affected people and experts. It must be emphasized that the mounds constitute an organic part of the scenery. Therefore, from the aspect of their preservation land cultivating people are in the center of the problem. In my opinion, without them, without understanding their motivation, we would be performing unnecessary work, since we can effectively protect our unique scenery values exactly with the assistance of the scenery's shapers.

2. MATERIAL AND METHOD

2.1. Presentation and description of the examined scenery

Békés County is a county situated in the southeast part of Hungary. According to Géza Féja (1937) this region of the country has been commonly referred to as Viharsarok (Stormy Corner). It is bordered by Hajdú-Bihar County from the north, Jász-Nagykun-Szolnok County and Csongrád County from the west and the international border with Romania from the south and the east. Its territory is 5,631.5 km², its population is 361,802 (Hungarian Central Statistical Office 2013), its chief town is Békéscsaba. From the aspect of its natural landscape the area of Békés County is situated in our major region called the Great Plain. The Great Plain is separated into two large sub-regions by the rivers that run through it, the Danube Plain and the Tisza Plain. These two large units can be further divided into medium size areas, thus the major region can be separated into five Danube Plain and eight Tisza Plain areas (MAROSI and SOMOGYI 1990). In relation to Cumanian mounds, starting from the middle of the last century, large scale, large crop-field cultivation represented the greatest risk factor. However, since the end of the communist regime, the main risk factor has been the use of dwarf-farms and small plot lands. The national average farm size is 28.10 ha, in Békés County it's 28.41 ha.

2.2. The methodology of the condition assessment and annual complete inspections

In the course of my research work, before the decree amendment, I performed a condition assessment work in the County, recording the initial conditions, in relation to the 185 Cumanian mounds included in the decree. I performed the assessment work in the 2010/2011 farming year, meaning between the autumn of 2010 the autumn of 2011. In the course of my work I used a THALES MobilMapper CE model PDA-GPS device, on which the Digiterra Hell 6.14.04.2 Geographic Information System program was installed.

Based on the data in the list, I entered the coordinate data of the mound's center into the PDA device. That is how I located each mound. After finding and identifying the mound onsite, I inspected its area data. On its center I entered a point-polygon for its Geographic Information System designation and for displaying it on a map. In the further phase of the onsite work, I also determined the correctness of the registered radius data. After this I also assessed its area by walking around at the bottom of the mound's superficies. In the following I examined the cultivation condition of the mound, the land use conducted on it, but the condition of the mound's superficies was also recorded (intact, leveled, damaged, etc.). After this I took photos of the mound with my digital camera from several directions and I archived the photos in the digital computer database following the unique identifiers of the mounds. I recorded the thus collected data on an assessment sheet onsite. We entered the data collected in the course of the assessment into Microsoft Office Excel 2007. The data in this database provide the initial reference data for my research work.

After the compilation of the initial database, starting from the autumn of 2011 until the end of 2015, I conducted annual inspections corresponding to farming years, meaning from the autumn of the concerned year to the end of the summer in the following year. From a methodology aspect these were performed by complete examination. The base population was the range of the mounds that had been disturbed in the previous year. Therefore, in the later years the base population was a variable number. It was the number of mounds registered as cultivated in the assessment of the previous year. The onsite procedure of the annual complete examinations occurred in the manner detailed above.

2.3. The methodology of monitoring inspection

Starting in 2013 I also performed onsite monitoring inspections. The reason for this is that the annual complete examinations only included the mounds that had been cultivated in the previous year, and did not include the

mounds that had been abandoned in one of the previous years. At the same time, from the aspect of the examination of the introduced regulation's effects, the mounds that had been abandoned in the past years must be examined as well, since the condition of those points out the stability of the results and effects.

From a methodology aspect my annual monitoring inspections were conducted based on representative sampling. The base population for sampling was the mounds the cultivation of which had been abandoned in the previous years. Based on the above the base population in 2013 was the mounds abandoned during 2012, here I determined a 7% sample. In the course of my monitoring inspections in the years 2014 and 2015, I decided on a 10% sample. The compilation of representative samples occurred with a random number generator, by means of the program Random Number Generator Pro 1.71 (version: 1.71). The onsite survey of the selected mounds took place after this, based on the onsite methodology described above. We managed the results of the annual monitoring inspections in a separate registry.

2.4. The methodology of the social sciences research

In the course of my scientific research I would like to explore the emotions, motivations and suggestions of the people who live and farm in the scenery, regarding the mounds and their preservation. Taking the situation, protection of the mounds and solution possibilities into consideration we specified a range of issues comprised of four points. For the exploration of the range of issues, the detection of cause and effect correlations, the understanding of processes and for solution options I used a methodology of social sciences, the so-called structured interview. I conducted a total of 20 structured interviews in the territory of Békés County. In the course of the work I conducted 5 expert interviews among the experts of the subject. The discussions I had with them also contributed to the expansion of my own knowledge, at the same time, in the course of processing I compared their viewpoints with the opinions of the affected people. I conducted 15 interviews among Békés County farmers.

For the purpose of easier processing, audio recordings were also made of the interviews, by means of a Dictaphone. The length of these was 2.5 hours in the case of experts, and over 6 hours in the case of the affected people. A verbatim transcript was not made of the interviews. During the interviews I also used a pre-printed datasheet containing a series of questions.

2.5. The methodology of data processing

We displayed the Geographic Information System data of the area surveys, and made them visually expressive by means of the map program of the MePAR browser. We processed the data recorded in the course of onsite inspections with Microsoft Office Excel 2007.

The mound conditions observed at the time of the introduction of the Good Agricultural and Environmental Conditions decree were also subject to statistical examination. In the course of the processing we used the data recorded during our area surveys in relation to the 185 mounds. Thus, on the one hand, we examined the data from before the introduction of the decree (initial condition assessment), the data subsequent to the introduction of the decree, as well as the results of our following annual area survey conducted in the first farming year. In the course of this, we examined the effects of the decree and the success rate of the sanction procedure by means of the statistical program IBM SPSS Statistics 23, with binominal test statistical analysis.

The essence of a binominal test is to discover if the p/q ratio of a variable (p : first ratio, q : second ratio, $p + q = 1$) significantly deviates from a p_0/q_0 ratio to be tested.

I subjected the conducted interviews to quantitative evaluation and content analysis, along the lines of the so-called problem range number 4 created by us, based on the methodological recommendations of BABBIE (2003) and NEWING (2011). In the course of this I also reflected on the opinions of the experts. I tried to increase the reliability of the results of the qualitative research by several methods in the course of my work. During the discussions I devoted

special attention to not stepping out of the role of researcher, and to avoid influencing the respondent's answers. In the course of the work I tried to record my observations accurately and in detail, and during the processing I tried to support my conclusions with quotes originating from the respondents.

3. RESULTS

3.1. The results of the condition assessment

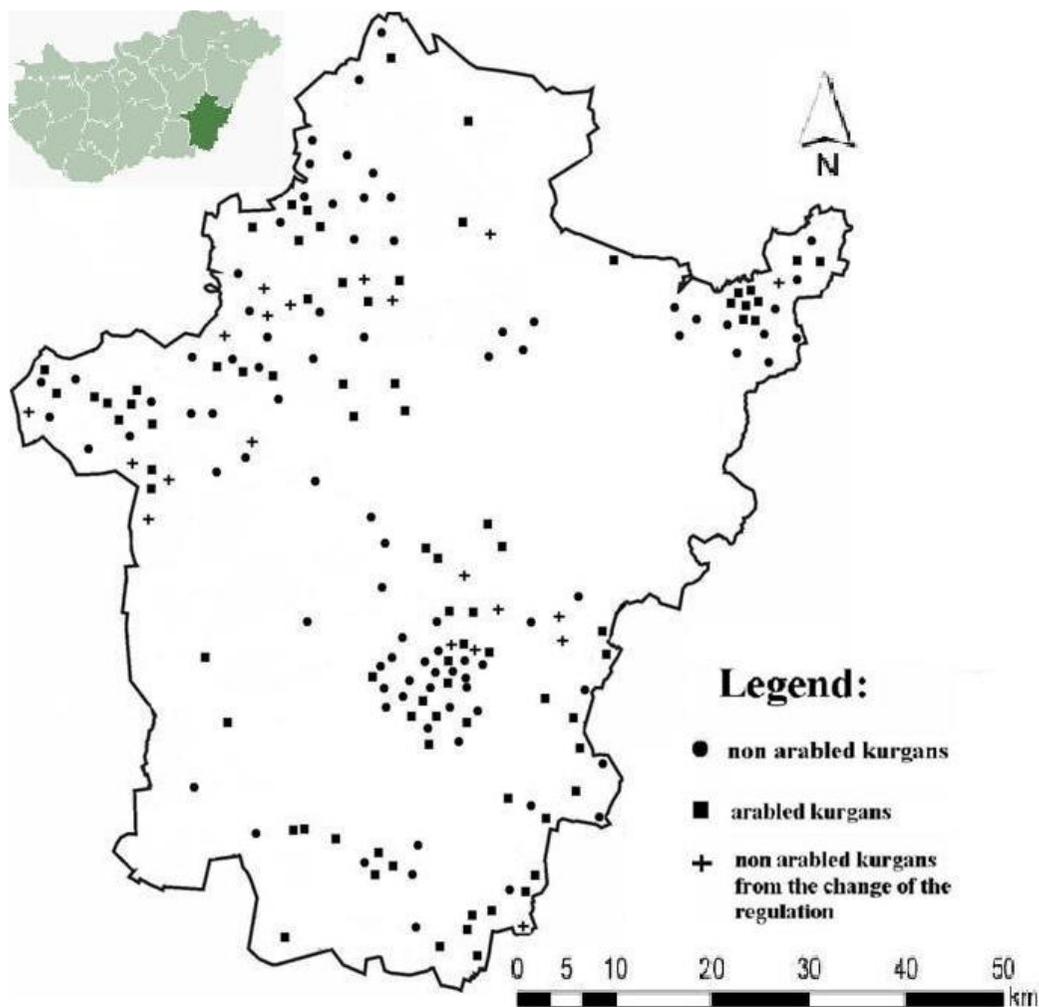


Figure 1: The results of the condition assessment

Table 1: The mound conditions and their numbers at the time of the assessment

state of kurgans	2010-2011 (piece)	cumulative at the end of 2011. (piece)
arable	78	78
non arable	87	
non arable from the regulation	20	107
total:		185

We can see the 185 pieces Cumanian mounds of Békés County and those state in the next map (Figure 1). Of the total of 185 mounds 87 were non-arabled in the time of state survey. During the year 2010, when there was a

change in the law, at the time of the site assessment we found 87 nearly non-cultivated original mounds out of 185 cultivated ones (*Table 1*). The area of these mounds has not been cultivated through history. We found 20 mounds that were used as ploughlands in the previous years and only because of legal changes they are now non-cultivated. During our work we found 78 Cumanian mounds that were under cultivation despite regulations.

3.2. The annual results of complete inspections (2012-2015)

Table 2: The annual results of onsite inspections

examined year	arable (piece)	non arable (piece)
2012	40	145
2013	24	161
2014	11	174
2015	8	177

The annual results of our area surveys are presented in *Table 2*. We can establish that in 2012 the number of cultivated mounds further declined, the cultivation of the areas of 38 mounds was abandoned by the farmers of the County. Thus, the total number of abandoned mounds increased to 145, and the areas of 40 Cumanian mounds were still subject to soil disturbance.

By 2013 the range of abandoned mounds further increased, the cultivation of 16 mounds was abandoned by farmers in this year. Thus, 161 mounds were of abandoned condition and 24 mounds continued to be subject to disturbance. On their areas the affected farmers mainly cultivated wheat, corn and sunflower crops.

In 2014 the affected farmers abandoned the cultivation of the areas of an additional 13 mounds. Thus, by the end of 2014 the areas of 174 mounds were in an abandoned condition, and 11 were still subject to disturbance.

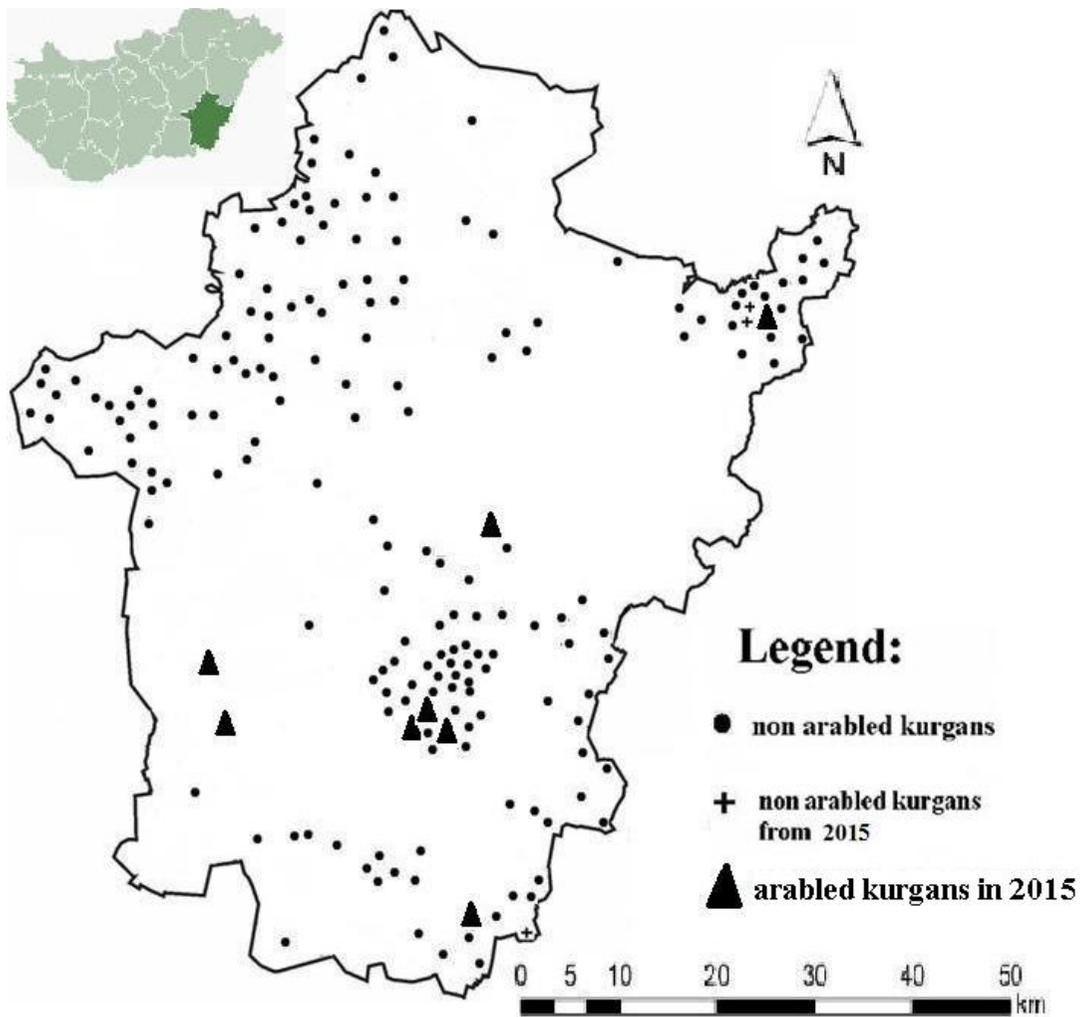


Figure 2: The results of the complete inspection conducted in 2015

Seeing the results of the last year’s study it can be established that farmers abandoned agricultural cultivation on the area of 3 additional mounds, thus 177 mounds were in an abandoned condition. Agricultural cultivation continued on the area of 8 mounds (*Figure 2*). The latter may have a number of explanations, despite the cross compliance sanctioning system that is in effect. The principal one is the selection for inspections connected to territory based subsidies, since only a certain percentage of those who apply for the subsidy are subject to onsite inspection. Within this not every applicant is subject to inspection in relation to the GAEC criteria.

3.3. The annual results of monitoring inspections

Our monitoring process started in 2013 and continued in 2014 and 2015. At this level of the monitoring process in 2013 we can claim that we have not found a mound that has been cultivated since the regulations except for one kurgan (5010) (*Három-határ-halom kurgan*). In the case of the 5010 kurgan there was a willful destruction by the farmer. This is another example of the conflicts of the kurgan economical regulations. There has been a punisher accusation by the authorities in this case.

It can be stated that the functioning of the GAEC decree, as the implementation decree of the protection of Cumanian mounds, is stable since it solves the protection of the mounds for the long term.

3.4. Examination of the effectiveness of the legal regulation

The efficiency of the regulation can be also analysed on the basis of the results, which help us draw conclusions in connection with the success and impacts of similar agricultural regulations. As part of this analysis the state of the kurgans was examined at the time when the law came into force.

Table 3: Changes that occurred in the cultivation of the 185 mounds at the time of the introduction of the GAEC decree

the HMKÁ regulation	state of kurgans	
	arable (piece)	non arable (piece)
before the regulation (state survey)	98	87
following the regulation immediately (2010/2011)	78	107
as a result of the sanction (2012)	145	40

During the state survey in our county in 2010 we found 87 non-arable mounds, and 20 mounds the cultivation of which was given up by the well-prepared farmers immediately after the change in the regulation came into force. In 2011 there were 78 mounds the cultivation of which continued despite the regulation (*Table 3*). These results were analysed with the binominal test. After studying the data it can be stated that in the case of 20 mounds farmers gave up their cultivation immediately. This means that: there is a deficiency in both the

flow of information and its understanding. It is evident that just the appearance of the legal regulation (without related sanctions) did not result in detectable change in the condition of the County’s mounds (Table 4).

Table 4: Examination of the effects of the amended GAEC decree

Binomial Test				
Category	N	Observed Prop.	Test Prop.	Exact Sig. (1-tailed)
0 non arable	107	,578378	,530000	,106
1 arable	78	,421622		
	185	1,000000		

The farmers who did not give up cultivating the mounds (78) were penalized with a serious sanction in terms of their SAPS support in 2011 (Table 3). Sanctioning occurs according to the process of controls falling under the cross compliance and the process of regulations concerning legal consequences, order 81/2009. (VII. 10.) FVM. The binominal test already indicated a significant correlation between the sanctioning effect of the implementation decree and the changes that occurred in the condition of the mounds. It is evident that the amended GAEC decree protects the County’s Cumanian mounds that are still of significance and were included in the decree, with effectiveness that has never been seen in their existence (Table 5).

Table 5: Examination of the sanctioning effects of the amended GAEC decree

Binomial Test						
		Category	N	Observed Prop.	Test Prop.	Exact Sig. (1-tailed)
arable1	Group 1	0 non arable	145	,783784	,422000	,000
	Group 2	1 arable	40	,216216		
	Total		185	1,000000		

3.5. Results of the social sciences research

The majority of interview subjects did not detail their past in any particular depth, very few referred to their ancestors. This is perhaps more expectable from the members of older age groups. At the same time, Dóra who

represents the younger age group (25 years old) mentioned family traditions in the field of farming.

„Even my great-great grandparents were farmers, this is the reason why I chose agriculture as well.” /Dóra, 25 years old/

Every respondent spoke about their farming history in detail, the development of their own farm. We separately discussed the factors that can be considered critical from the aspect of farming. In the course of the conversations they mentioned weather factors, marketing difficulties, administrative and agricultural subsidy regulations.

According to the content of the interviews, it can be established that the majority of farmers have rather little knowledge regarding Cumanian mounds.

„They were formed about 150-200 years ago, in my opinion they were built.” /Tamás, 41 years old/

There were only a few who demonstrated deeper knowledge in the course of the discussions.

The conversations revealed that the Act on Environmental Protection previously providing protection to the Cumanian mounds was not integrated into common knowledge. Few of the respondents made a reference to the Act.

„I think it was around '91, because at the time I read that even livestock may be harmful to them...”. /Valéria, 44 years old/

Most farmers made a reference to the GAEC decree.

„They have been protected since 2010. Cultivating them isn't allowed, only reaping grass on them and replanting grass...”. /István, 64 years old/

It was revealed by the interviews that most of the affected people learned about the changed rules from the town agronomist.

„I learned it from the town agronomist ...”. /Tamás, 41 years old/

From the conversations it was revealed that the circle of farmers who were not disadvantageously affected by the regulation is small. Even so, from the interviews it was evident that most of them abandoned the cultivation of the mounds because of possible legal consequences. Mária (29 years old) said the

same thing: „*We are afraid of the sanctions, we are trying even more to preserve these Cumanian mounds.*”

Among the respondents there were a few who did not know about the processes damaging the mounds. It is evident that the affected people assess the damaging processes incorrectly. Attila (37 years old) opines: „*I think that cultivation was a very-very slow erosion...*”. In contrast, according to an expert, János Greksza: „*Ploughing is one of the most damaging processes...*”.

In the course of the interviews the affected people were divided in connection with the problem of possible production shortfall arising from abandoning the mounds. There were some who complained that production shortfall had occurred, but there were also some who disagreed.

„*Even a grazing ground is not favorable on it, because it dries and burns out too fast.*” /Sándor, 64 years old/

„*The tractor has a harder time going up on it, that is all.*” /György, 46 years old/

In the course of analyzing the interviews I reached the conclusion that the new regulation had a considerable reaction among the farmers in the region.

During the discussions I wished to find out what kind of suggestions the affected people would have in relation to the possible amendment of the GAEC decree. In the course of the evaluation of this I compared the opinions of the affected people with those of the experts regarding the issue.

A smaller circle of affected people accept the regulation. According to Demeter (66 years old) „*If the law says that I shouldn't cultivate it then I will not.*” At the same time making the regulation stricter also arose from the part of Valéria (44 years old): „*I would make the regulation stricter.*” The experts were cautious regarding this issue.

It was evident that the land registry settlement of the areas of the mounds could be important. This subject arose from the part of both the farmers and the experts.

„*The land registry settlement of this issue should be solved.*” /Sándor, 64 years old/

„The land registry settlement of this issue would have great significance...”. /Veronika Tóth, ARDA/

The need for expanding knowledge related to the mounds arose from both sides.

„We were able to convince them in the framework of lectures, friendly conversations, addressing their hearts and minds.” /István, 64 years old/

In the case of both the affected people and the experts the subject of reconsidering the range of mounds included in the decree arose, their classification, the deletion of smaller size mounds from the regulation.

„I recommend additional research and the establishment of more categories, because low elevation mounds and those with a small area need not be protected in my opinion.” /Tóth János, ARDA/

The need for granting extra resources was voiced by a large circle of affected people. According to László (39 years old): *„We must weigh its financial side...”*. The experts carefully considered the issue of subsidies.

From the expressions during the interviews it was also palpable that beyond financial support the farmers also desire moral recognition. *„I should stop cultivating them, start managing them, mark their location with a sign, I would do that even with no compensation at all”* – stated György (26 years old).

I also experienced a division regarding the management of the areas of the mounds. A portion of the respondents regard it to be a state responsibility, the experts characteristically would rather entrust this on the farmers. A rather large number of people would also support marking the mounds with a sign onsite. The experts mentioned this as well. This is also supported by the opinion of István (64 years old): *„It’s important that they should be marked with some kind of a sign.”* *„The mounds should be designated onsite in the presence of the affected parties”* – opines expert János Tóth.

At the end of the interview discussions I definitely wanted to bring up what the affected people think about the future of the mounds. By their responses I also received an answer to the significance, justification and support for my own research. I think that in the case of this subject their statements are the most genuine.

„There are so few things – including castles, or anything else –, that we can show to future generations. They should be preserved! Without any grand words, but I seriously think that” /Ferenc, 46 years old/

3.6. New scientific results

1. My area surveys conducted through five years have proven that the amended GAEC decree – as the implementation decree for the protection of Cumanian mounds – protects the manmade mounds with effectiveness that has never been seen in their existence. I registered a significant change in the condition of Békés County Cumanian mounds. My research – as a case study – revealed that in the case of the expansion of the range of mounds included in the GAEC decree, within a short time, there would be a good chance for additional mounds to survive and be preserved. Consequently, if we wish to take any of our scenery-values under protection, their survival and preservation could be ensured through the regulation of cross compliance connected to EU agricultural subsidies.
2. In the course of my performed research work, it was proven that during scenery protection studies it is worthwhile to conduct deep interview discussions with the affected people, because in this manner their attitudes and motivations can be explored, thereby suggestions can be formulated toward the regulating authority as well, who are entitled to amend the regulations, to improve their effectiveness, and take supplementary measures.
3. The results of the deep interviews revealed that farmers are fundamentally accepting of our scenery elements located in their region, even if their preservation entails the restriction of their own farming activities. It was also discovered that with the expansion of knowledge related to protected scenery elements – besides the introduction of other compensation methods –, respect and acceptance toward them increases.
4. Taking the results of previous studies into consideration, my research confirmed that the significant damage to Cumanian mounds ongoing for several centuries – aside from a few exceptions – was not the result of conscious human activity. It is rather attributable to the lack of related

knowledge. From the results of my interviews it was also revealed that man shaping the scenery possesses general knowledge of the mounds, at the same time – with a few exceptions – knowledge connected to their characteristics, the processes causing or facilitating their destruction is rather superficial.

5. By my results it could be proven that the expansion of knowledge is of outstanding significance in the protection and preservation of Cumanian mounds. My study confirms that with the expansion of knowledge, respect for the mounds increases as well as the desire to rescue them.
6. My research revealed that in the course of the introduction of scenery protection measures, in the process of the management of possible arising conflicts, it is of outstanding significance – beyond the financial compensation of the affected people – to personally contact the farmers and to provide them with moral recognition.

4. CONCLUSIONS AND RECOMMENDATIONS

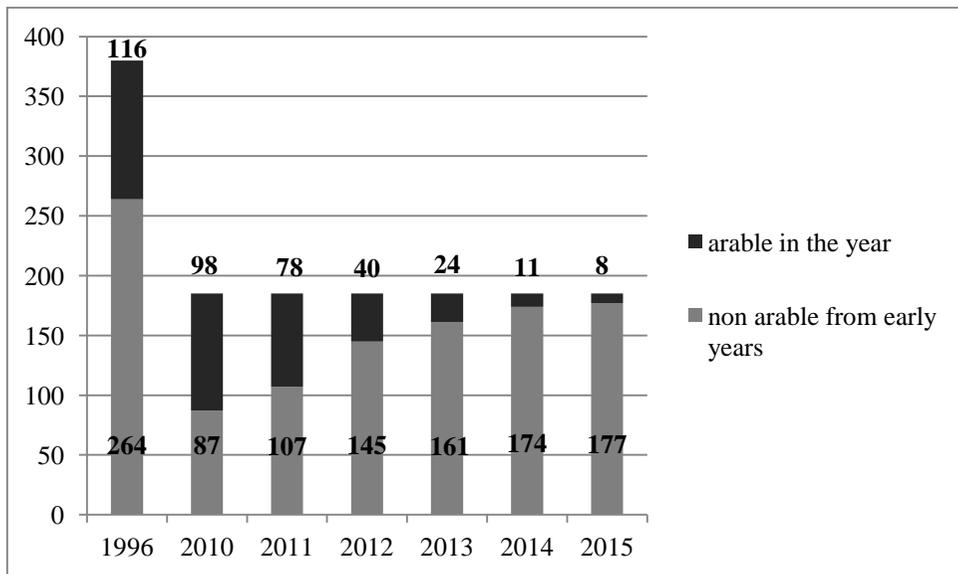


Figure 3: The condition of Békés County Cumanian mounds in the mirror of the past nearly twenty years (KMNP 2013 and own results)

The data provided by Körös–Maros National Park reveals that in 1996, at the time of the enactment of the Act on Environmental Protection, farm plot registration counted 380 Cumanian in the territory of the County, of which 264 were undisturbed, agricultural cultivation was ongoing on the areas of 116 (KMNP, 2013). It is evident from the results of my own research that in the course of the issuance of the decree that took effect in 2010 only a total of 185 Cumanian mounds were considered to be worth preserving. The majority of the County’s 185 Cumanian mounds were still being disturbed in 2010 (*Figure 3*). However, subsequently to the decree taking effect, a positive turn occurred in their condition immediately. In the last year of my study, in 2015, only a total of 8 mounds’ area was cultivated. My several years long monitoring inspections confirm that the regulation is functioning in a stable manner in relation to the protection of the mounds. Our sociological survey revealed that the legal regulations newly taking effect in agricultural administration are only realized by farmers as a result of possibly imposed sanctions. Based on the statements of the respondents, there was no conscious and deliberate damage causing. The

possibly unfavorable conditions that developed throughout decades can exclusively be attributed to the lack of knowledge in the case of Cumanian mounds. Those mounds where a marked area size has survived, and where some kind of construction activity was ongoing, have remained in a good condition to this day. At the same time those Cumanian mounds that faded from public awareness, or were placed under agricultural cultivation at some point, have eroded into their surroundings. The affected farmers possess insufficient information in connection with the mounds. Therefore, they are not really aware of which activities prevent the preservation of the mounds the most.

Based on my results I make the following recommendation.

- The range of mounds included in the GAEC decree should be reconsidered. In the course of this it should be examined which mounds are worth – depending on area size, endangered condition – leaving in the decree, and from among the mounds discovered and identified as a result of new studies, which are worthy of inclusion in the decree. Subsequently, a final database should be established, which could only be expanded in very justified cases. The mounds should be classified into two categories. One of these would be the mounds to be preserved, the implementation decree should be expanded with these. In the case of the other category we must accept that their continual protection is pointless.

- Subsequently to the final delineation work I recommend the establishment of a national Cumanian mound registration database with the data of the mounds to be permanently protected, which may be consolidated with the current Cumanian mound database. On the foundation of this database I also recommend the creation of a mobile phone application accessible free of charge, which beyond assisting the work of farmers would also help and inform hikers, tourists travelling in the region.

- I recommend that the inspection of scenery elements, including Cumanian mounds, appear as a separate chapter (as a selection element) among

the GAEC criteria. In the basic situation, the inspection of GAEC criteria has to be conducted by the Agricultural and Rural Development Agency in the case of 1% of applicant farmers (random and risk level). This has proven to be insufficient, since it inspects compliance with numerous regulations. Thus, it would also have to be taken into consideration that the selected farmers are chosen for compliance with all GAEC criteria, but not every farm contains a Cumanian mound. It is possible that as a result of the low inspection rate, a Cumanian mound inspection is not included in the system for years.

– Based on my research I recommend that Cumanian mounds, their importance and the significance of their preservation should be separately discussed in the framework of organized education. The involvement of the affected people, raising awareness among them is of outstanding significance. This would not even entail considerable costs, since informative materials, research studies are broadly available and accessible to everyone. However, it also must be considered that participation in mandatory training courses is a precondition of taking advantage of numerous agricultural and rural development subsidies. The descriptions of various subsidy conditions are discussed at these training courses, in the interest of making compliance with them easier, support material is presented. My present recommendation is targeted at Cumanian mounds appearing as an independent topic in the above mentioned training courses, perhaps Cumanian mound owners – because of the significance of the issue – should participate in a separate training course.

– I recommend that the data of the mounds permanently included in the decree should be indicated in the land registry competent at their location. Land registry settlement is a long existing problem that needs to be remedied. It was listed in the first place among the recommendation of the Cumanian mound conference in Békéscsaba, in 1994. Thereby, Cumanian mounds would not only be included in the subsidy registration system, but also the land registration system.

– Based on the results of my research, I do not recommend the dispossession of the areas of the mounds by the state, and that subsequently the management their areas to be a state or municipal task. In numerous cases this would also be unreasonable, since the mound taken out of a several hectares size land would be a spot from the aspect of management. The management of the areas of the mounds – because of their dispersed nature – can only be performed in an integrated manner, and ultimately the farmer of the affected land would be assigned to it. As a scenery researcher, I also definitely recommend the involvement of the affected people.

– I recommend that the farmers receive special subsidies from state resources for their community work, for the preservation of the mounds, which could exclusively be due for the management of the mounds' area, and proportional to it.

– I recommend that subsequently to the land registry settlement, the mounds under permanent preservation should be marked onsite as well, (the center and the circumference of the superficieses). The desire for moral recognition discovered in the course of our research should also be satisfied. I recommend this to be realized by placing an informative sign next to ever mound, on which the mound's name, history, significance, area data (height, radius) should be indicated. On the informative sign, the name of the farmer on whose land the mound is located should also be indicated – of course with their consent -, with the following text: „*We thank X.Y farmer for the protection of this mound, and for preserving it for future generations*”.

As a closing though to my recommendations I quote László SZELEKOVSKY (1999): „*One thing that makes the mounds special is that they are manmade, millennia old cultural history monuments, in the past they were residences an graves – and graves must be taken care of, BECAUSE GRAVES CONSECRATE A NATION INTO HOMELAND.*”

5. RELEVANT SCIENTIFIC PUBLICATIONS TO THIS DISSERTATION

Articles in periodicals

Articles in IF periodicals

RÁKÓCZI A.–BARCZI A. (2015b): A Körös–Maros Nemzeti Parkért Egyesület kunhalmok védelméért folytatott tevékenységének eredményei 20 év távlatából. In: *Civil Szemle* XII. (2) 57–74. p.

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BARCZI, A.–RÁKÓCZI, A.–PETŐ, Á. (2015): Preservation of the Kurgans in Békés County, Hungary. In: *International Journal of Engineering* XIII (1) 69–74. p.

RÁKÓCZI A. (2012): Egyes nemzeti értékeink sorsa és a kölcsönös megfeleltetés. In: *Agrártörténeti Füzetek* 33: 51–78. p.

RÁKÓCZI A. (2012): Egyedi tájértékeink, a gémeskutak hazai helyzete az európai uniós szabályozások tükrében. Örökség vagy átok? *Tájökológiai Lapok* 10 (1) 125–127. p.

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RÁKÓCZI A.–BARCZI A. (2014): Védett tájelemek az Európai Unióban, a 73/2009 EK rendelet hatásai a magyar kunhalmok állapotára. – Protected landscape elements in the European Union and the hungarian effects of the regulation in the look of the kurgans. *Tájökológiai Lapok* 12 (1) 95–105. p.

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RÁKÓCZI A.–BARCZI A. (2015): A közösségi agrártájtudományi intézkedések hatásai, konfliktusai a Békés megyei gazdálkodók és a kunhalmok körében. In: *Gazdálkodás* 59 (2) 142–152. p.

RÁKÓCZI A. (2013): A mezőgazdaság fejlesztése. In: *Boldog Élet* XXV. (3) 28–29. p.

RÁKÓCZI A. (2015): A civilizált emberiség nyolc halálos bűne. In: *Boldog Élet* XXVII. (1) 18–19. p.

Conference publications

Full Hungarian articles

RÁKÓCZI A. (2013): A közösségi agrárszabályozások sikere a nemzeti tájképi elemek védelmében. In: *ÚJ HANGSÚLYOK A TERÜLETI FEJLŐDÉSBEN (2013)*(Békéscsaba). Konferenciakiadvány: (ISBN:978-963-306-247-0) pp. 280–292.

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