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SEDIMENTS AS A PART OF THE SOIL PROTECTION LEGISLATION

SEDIMENTY AKO SÚČASŤ LEGISLATÍVY NA OCHRANU PÔDY

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I. Introduction

The word sediment is a special term for an expert practice. In general, the sediment could be seen as various material deposited on the bottom of the environs over sedimentation. Their official definition can be found in the Slovak Act no. 188/2003. Bottom sediments, according to the actual version of presented Act, are "sediments of hydraulic structures and watercourses originated by erosion from the soil". This formulation, however, does not cover the sediments in reservoirs originated by material sedimentation from industrial sources in the catchments, materials in the watercourses from municipalities or waste water treatment plants or sediments originated by internal processes in water units, e.g. by banks erosion or sedimentation of dead planktonic and other organisms.

Why we need the term sediment, when according to the definition in act it is in fact only removed soil – the soil removed by water erosion from the agricultural soil fund into the water bodies. According to this definition, it is only original soil from specific parcels, transported to other place. Why is then this soil, as a basic part of the environment – created by the atmosphere, water, rocks, organisms[1] – called sediment? Can we possibly this soil transported by natural processes[2] compare and consider as somewhat similar to wastewater sludge? Wastewater sludge originates as a result of human activity. The soil is considered as a natural unit originated directly on the earth surface as a product of mutual influence of climatic con-

[1] Act No. 17/1992 Coll. on the environment as amended

[2] Act No. 188/2003 Coll. on application of waste water sludge and bottom sediments into the soil and about completing of some acts in version of later direction

Abstract (EN)

The soil protection has a long tradition in Slovakia. Slovakia has a good and strict legislation on the soil protection. It also includes protection against erosion and degradation. However, there is a certain gap in the legislation in addressing the relationship between the lost soil and the land ownership. It is not clear how the land ownership is changed with soil particles movement along the slope, on which erosion occurs. Even more uncertainty regarding the land ownership occurs if the soil is transferred to the watercourses or water reservoirs, where the soil is transformed into sediments. On the European level, sediment management is not covered by specific regulations. The sediment management is partially addressed in several European directives directly or indirectly. The current legislation in Slovakia is creating economic and legal barriers to the return of the soil from the rivers and the reservoir to its original owners. The paper deals with the current state of explaining the problem with the soil erosion and sediment transport in relation to the valid legislation in Slovakia and the European Union. Legislation addressing the erosion and sediment is not just based on land ownership but also on principles for protection of the environment as the transfer of harmful substances to the soil or water.

Keywords (EN)

sediments transport, soil protection, erosion, landscape, soil ownership

Abstrakt (SK)

Ochrana pôdy má na Slovensku dlhú tradíciu a na ochranu pôdy existuje aj dobrá legislatíva. Jej súčasťou je aj ochrana pred eróziou a degradáciou. Určitá medzera v legislatíve však existuje pri riešení vzťahu vlastníctva pôdy a odnesenej pôdy. V legislatíve nie je jasne upravené, ako sa mení vlastníctvo pôdy pri jej pohybe po svahu, na ktorom je erózia. Ešte väčšia nejasnosť je v riešení vlastníctva pôdy po jej prenesení do vodných tokov alebo do vodných nádrží, keď sa z pôdy stávajú sedimenty. Na úrovni Európskej únie nie je hospodárenie so sedimentmi riadené špecifickou reguláciou. Čiastočne sa problém sedimentov rieši priamo alebo nepriamo v niekoľkých iných smerniciach. Súčasná legislatíva na Slovensku vytvára ekonomické a právne prekážky pri návrate pôdy z tokov a nádrži jej pôvodným majiteľom. Príspevok sa zaoberá súčasným stavom riešenia problematiky erózneho odnosu pôdy a sedimentov vo vzťahu k platnej legislatíve na Slovensku a v Európskej únii. Legislatíva riešiaca eróziu a sedimenty nevychádza z vlastníctva pôdy, ale z ochrany životného prostredia pred prenosom škodlivých látok do pôdy a vody.

Kľúčové slová (SK)

prenos sedimentov, ochrana pôdy, erózia, krajina, vlastníctvo pôdy

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ditions, organisms, man, relief and parent rock[3]. But legislation in the Slovak Republic has an Act – Act No. 188/2003 Coll. on the application of sludge and bottom sediments to soil, where the sediment and sewage sludge are considered as the same material for their application to the soil, the soil after erosion and the rests from treatment processes in the wastewater treatment plant. Naturally, there are different sediment properties in large rivers and dams, and in small watercourses and small water reservoirs. Legislation, however, does not distinguish this aspect of sediments. Sediments are basically inorganic parts of the soil, while sludge are organic substances – residues of microorganisms that have been eliminated from wastewater.

II. Soil water erosion and soil ownership

When applying the Act no. 220/201[4], the erosion of the agricultural soil is characterized as the decrease of surface of the most fertile layer of agricultural soil, decrease of nutrients, humus and organic matter, reduction of microbiological life and loss of the soil functions. Further, the Act is dealing with restraining of this process by protecting the characteristics and functions of the agricultural soil, by sustainable maintenance and agricultural utilization and also by the protection of the agricultural soil area against the unauthorized change of soil on the property with uses for non-agricultural purposes.

The unauthorized soil change includes also the change of soil position and change of ownership. The soil particles, when moving and driving downhills, are changing not only position but also the ownership. Soil particles are transported from the first plot owner to the other owner and the whole process is repeated several times. The process ends when the soil particles reach a river or a reservoir. Soil particles turn into sediment particles. Soil owners turn into sediment owners.

The soil at the agricultural land plots has its owner and the Act No. 40/1964 Coll. Civil Code defines the ownership laws. According to the act, the relations, where soil is the object, are considered as ownership relations. Legislation handling the ownership is defined in the Second part of the Civil Code[4], §123 and following. Each parcel, in the Slovak conditions, has its owner(s) registered in the Land Cadastre. This owner has, according to the Civil Code, together with other Acts, wide competencies, as it is presented in paragraph §126. According to this paragraph, the owner has the responsibility to protect the soil against a person, who without authorization, interferes to its ownership law; especially the owner can request to release the matter from person, who unlawfully retains it.

Transported soil from the registered owner gets on the land parcel of another owner until it finally reaches water bodies, where the soil is restrained, even marked by a changed term – sediment. This reality is conflicting with legislation about the ownership law protection.

Nature and landscape protection, according to the valid legislation, is the matter of state. State is an owner of all free growing plants, free living animals and their communities, natural biotopes, ecosystems, minerals, fossils, geological and geomorphological units, and it also cares about complexion and utilization of the country. The nature protection is implemented especially by limiting and regulating of interventions into the nature and the landscape, by supporting and cooperating with owners and users of the plots and also by the cooperation with the public administration bodies [5].

When dealing with the protection of soil, as the basic part of the landscape, one should cooperate with the landowners or the owners of the soil transported by erosion in order to help them to keep and maintain their ownership. However, Slovak legislation states otherwise, as it is complexly based on unified approach to solve "waste treatment sludge and bottom sediments".

In the Act No. 188/2003 Coll. there is a definition of the producer of bottom sediments as a natural person or legal entity performing bottom sediments production. As it was mentioned above, bottom sediments originate by erosion transport from the soil of registered owners and their deposition in the water units. Does it mean, that the person who subsequently releases them is their owner or he is the owner of the transported soil? Is the owner of water units the sediments owner? Slovak Water Management Enterprise Banská Štiavnica, State Forests Enterprise Banská Bystrica and other forest authorities are the owners of the majority of water units in our country. Bottom sediments are temporarily stored on their plots registered in the Cadastral books.

From the viewpoint of ownership, as it is stated in §126 of the Civil Code, the owner can claim to issue the matter from the person, who holds it unlawfully, but how it is then with the soil issuance temporarily held in the water units.

It is regulated by the Act No. 188/2003[6] Coll. on application of waste treatment sludge and bottom sediments into the soil in §5 regulating the restriction of application of waste treatment sludge and bottom sediments. It is stated there, that only treated waste treatment sludge with minimum of 18% content of dry matter or bottom sediments with minimum 18% content of organic materials in dry matter can be applied on the agricultural soil. The owner cannot demand return of his soil in case that during the erosion transport, the organic and inorganic soil parts were separated and it was only the inorganic part from the eroded plot, which stayed in the stream and the organic part drained to other place. Furthermore, the rest of this deposited soil needs to be analysed in order to identify risk substances according to the Act annexes. Only an accredited laboratory can analyse the samples.

Essential deficiency of the actual definition of the bottom sediments is the awareness about the fact that the streams alone create their own sediments and that the stream has 3 areas. Upper stream is created by big slope; it is characterized by the erosion process and material transport. Middle stream is the place, where transported parts are partly deposited, but based on the slope, there are transported the parts from the upper stream and the water energy does not erode new parts

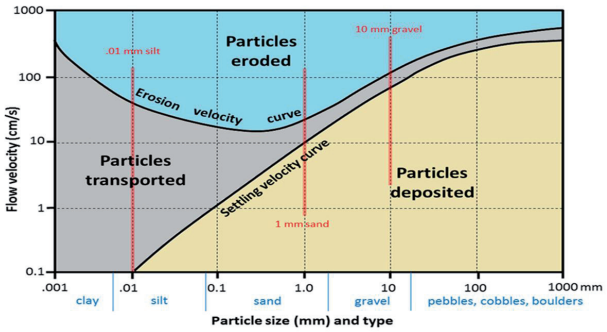
[3] Act No. 220/2004 Coll. on the conservation and use of agricultural soil

[4] Act No. 40/1964 Coll.Civil code

[5] Act No. 543/2002 Coll. on the nature and landscape protection
Act No. 188/2003 Coll. on application of waste water sludge and bottom sediments into the soil and about completing of some acts in version of later direction

from the river-basin and banks. And finally, the lower part of the stream, where the materials created in the stream are deposited and assorted according to water speed (Figure 1). Firstly, the biggest parts are deposited and then smaller and smaller. Clay minerals are transported to the farthest place and they often flow to the stream.

Figure 1: Hjulström diagram- transport of material in the rivers according to driving speed
Source: Hjulström (1935) in Costa (2016) adapted by author



The organisms living in water bodies naturally die and the transported parts of the bottom material are mixed with the organic matter of their dead biomass. These are natural processes of the stream, which are complemented by the transported material from the landscape - eroded soil - and their movement is then common. Definition of the sediment transport states, that it is a transport of grainy material of different greatness, not the transport of polluting materials. Only in anthropogenic landscape the materials in water are from urbanized territories or from territories with industrial activity and they accumulate in the sediments.

We should separate the sediments according to their place of origin and possibility of connection with other materials in water environment, for example lake´s sediments, sediments of small water reservoirs, brooks, rivers and dams. It could be essential to create evaluation criterions for their possible treatment. Especially, we should restrain to move eroded sediments into the cities, where they are mixed with materials transported from industry and communities. Deposited materials caught in small streams and small water reservoirs, often with only natural character of catchment, without influence of the communities or production, are according to the act defined as sediments. Their identification should be changed to so called transported soil, as it is required by legislation to protect this soil against consequent pollution, and their returning to previous owner on previous plot should be secured. The protection starts by separation of this soil from the mix of heterogeneous materials on the bottom of the streams and reservoirs, which could be called contaminated sediments and especially from waste treatment sludge. European Union legislation regulates the application of waste treatment sludge on the agricultural soil, as it is important for preventing pollution by chemical substances. On the other hand, it does not cover soil protection in the landscape against the soil removed by heavy rains or wind into the water streams and reservoirs. Soil protection against the soil is not necessary, unless the soil is coming from areas damaged by human activity or chemical accidents.

II. Bottom sediments

The term "bottom sediments", in Slovakia, is connected with big rivers passing through important industrial centres. Different chemical materials are deposited in these rivers and reservoirs, since they were not removed due to the missing or insufficient wastewater treatment. Within this context, deposited chemical or synthetic organic materials, not the soil from erosion transport, are assessed. That is why in practice, there is used the term sediments of dams or big streams as a term for deposited gravels, sands, soil mineral materials and mix of dangerous materials polluting the environment or the materials endangering man, which got on the bottom of water units in process of deposition.

Nowadays, sediments evaluation is more important considering their practical water management consequences. However, in case of these sediments, their removal is almost negligible due to uncertain legislation, difficult and financially demanding way of their disposal and uncertainty with their ownership (Figure 2).

Figure 2: Reservoir filled by sediments.
Photo: Jurik, 2017

At the same time, the sediments of water streams and reservoirs, similarly as waste treatment sludge, offer an alternative for contribution of organic matter and nutrients into the agricultural and forest soils. From the legislative viewpoint, it is a question of erosion prevention and determination of real removed amount.

Direction No. 59/2013 Coll. of Ministry of Agriculture and Rural Development of the Slovak Republic, by which §27 of the Act No. 220/2004 Coll. on protection and utilization of the agricultural soil contents is executed, contains the tables stipulating limit values of removed soil for water erosion. Erosion of the agricultural soil is respectable unless it does not exceed determined amounts for different deep soil. Safe soil removal is very high. It is presented in the Table 1.

Based on the presented tables, it is possible to say that around 1 162 022 ha of the soil in Slovakia is endangered by erosion (Table 2). In case of the lowest removal, the assumed yearly removal into the streams or rivers is about 5 810 110 tons of the soil or in average 2 324 044 m^3 of specific weight. Specific weight in evaluated soil samples is in interval 2,40 - 2,75 $t \cdot m^{-3}$.

Table 1: Limit values of the soil erosion in Slovakia

Soil depth	t/ha per year
Shallow soils (0,3 m)	5
Medium deep soils (0,3 – 0,6 m)	10
Deep soils (0,6 – 0,9 m)	15
Highly deep soils (over 0,9 m)	20

Source: Decree of the Ministry of Agriculture and RD of the SR No. 59/2013 Coll.

Table 2: Potential threat of the agricultural soils in Slovakia by water erosion

Category of erosion threat	Acreage in ha	% of agricultural soil fund
1 – no erosion to poor erosion	1 274 857	52,3
2 – medium erosion	217 487	9,0
3 – strong erosion	368 704	15,1
4 – extreme erosion	575 831	23,6

Source: Kobza et al. (2005)

It is possible that in the areas with strong or extreme erosion there is 7,5 million m^3 of soil after erosion removal at territory of Slovakia.

As an example, we can state the measured values for the water reservoir Horné Kozmálovce[7], where the volume of water reservoir is changed during the period of 10 years, from 3.230 mill. m^3 to 1.883 mill. m^3. It means that 13 470 000 m^3 of material from soil in the catchment is deposited of the total catchment area 401 567 ha, what is about 3,3 tons from 1 ha of the catchment. It needs to be said that the agricultural area forms only 45% of the catchment and the other part is composed by the forest soil fund and built territories where the calculated soil erosion removal retain in the reservoir is about 7 m^3 from 1 ha (17,5 t).

The literature presents also the term sediment delivery ratio (SDR)[8] – the rate of transported sediment material, while for big catchment only a small part of eroded soil is deposited in the streams and reservoirs. The SDR expresses the rate of deposited material for calculation or measured erosion. It is about 0,1 of the catchment dimension over 1.000 km^2 and therefore, the real erosion is essentially higher as the theoretical assumptions. Assumed removed amount can be in tens of t/ha for given catchment. This can be confirmed or denied only by more extensive study.

III. Prevention of erosion transport and sediments origin

Agriculture and forest soil care is the prevention for sedimentation of removed material from catchment in water streams and reservoirs. To prevent the erosion, it is necessary to reconsider the present maintenance of the plots with arable soil through agrotechnics and to reconsider the size or shape of the plots. Contour ploughing is an example of typical recommendation stated in the literature. However, every day we are the victims of opposite practice – fall line maintenance. This practice is implemented due to increasing of economic benefits, by simplification of maintenance, but on the other hand, it reduces the soil depth and by that its price and production ability.

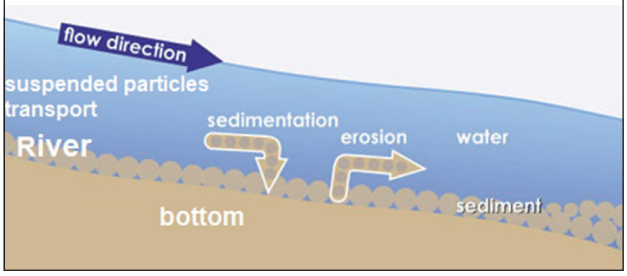
IV. Who, in fact, is threatened by the soil erosion?

According to the presented facts it harms mostly the water management staff. The reali ty, however, is much wider. At the first place, it is the soil owner who is affected, as the value of his plot is reduced. The legislation in our country protects the plot and its acreage, which in fact is not changed. Additionally, the thickness of the soil horizon is protected only indirectly, via erosion protection solution. In case of evaluation via soil ecologic units, it changes not only the soil profile thickness but also the main soil unit – black soil, haplic regosol or brown soils. This causes the change of plot price. Other people influenced by the erosion are the owners of plots situated lower, where the removed soil is transported temporarily or for long time period.

Further impact can be seen when it gets into the stream especially into the stream biota. Soft soil particles create water fogging and cover algae, microscopic plants and also benthonic organisms. It causes reduction of primary and secondary production in the stream or reservoirs. Every single river transports suspended and soluted particles as an important part of its flow regime. These particles tend to settle down on the river ground if the flow velocity is small (Fig. 3). Erosion by flow hydraulics is working the other way. When water flow velocity is higher, water is taking more particles from riverbanks and bottom of the river. Usually over the year sedimentation and erosion level each other out. But the sediments from suspended particles are changing position down in river.

As it was already mentioned, it causes also problems to the water management staff mainly due to the sedimentation of the streams and reservoir. Sediment content in reservoirs, especially in small water reservoirs, is today of high importance, but difficult to evaluate. In the past, during the existence of the State amelioration administration, in each water reservoir the deposits of fixed materials were periodically degreased. The time of the contact of soil parts with other materials was reduced and it was not problematic to return them on the territories affected by erosion.

Figure 3: Erosion and sedimentation in the watercourse
Source: www.db-sediments



[7] Ivan et al. (2017)
[8] Halaj (2010)

Table 3: Recommended sizes and dimensions of grounds or soil units on arable soil from the viewpoint of the erosion protection

Category of erosion threat	Category of slope	Ground length	Ground width	Ground area
1 – no erosion to poor erosion	0° - 3°	750 m	100 m	30 ha
2 – medium erosion	3° - 7°	550 m	250 m	10 - 20 ha
3 – strong erosion	7° - 12°	400 m	250 m	5 - 10 ha
4 – extreme erosion	over 12°	Delimitation into grass cover		

Source: Vilček (1999)

V. Solutions

The sediments have been transported in the landscape for millenniums. However, today's activities in the cultural landscape have accelerated them. Minimizing of these unfavourable influences can be considered as a solution. From a point of view of water streams, it lies for example in removal of erosion. Legislatively it is simple. Decree of the Ministry of Agriculture and Rural Development of the Slovak Republic No. 199/2008 Coll., which constitutes the Programme of Agricultural Activities in Declared Vulnerable Territories, divides Slovakia into three parts according to vulnerability or agricultural utilization[9]:

1. territories with the inclination up to 7°, where any regular agricultural production is possible,
2. territories with the inclination from 7° to 12°, where erosion measures are necessary in case of the agricultural activities on the soil,
3. territories with the inclination over 12°, where it is not possible to use the arable soil. It is the territory for long lasting grass cover, pastures (Table 3).

The role of soil protection against erosion on the slopes of agricultural land is currently taken up in the amendment to the Act No. 136/2000 Coll. on Fertilizers in the amended Article 10c. Article 15 of the Act deals with penalties for failure to comply with the conditions for the management in vulnerable areas. The amendment to the Act came into force in the year 2016.

Inspection of the soil maintenance is especially in form of grant provisions for cultivation of the field crops. In the application, an applicant has to identify the plot on the map. The map contains the evaluated soil ecological units, where it is possible to find out if it is an arable land, or if the farmer should describe the erosion measures. The information about the inclination and erosion measures are not required according to the published manual for grants- Direction of the Ministry of Agriculture and Rural Development of the Slovak Republic to governmental instruction of Slovakia No. 342/2014 Coll., which provides the regulations of grant support in agriculture in connection with the schemes of decoupled direct payments. Therefore, in conditions of Slovakia, it is not a problem if maize, sunflower or other root crops, which are cultivated also on the slopes with the inclination of more than 12°, where the arable land with paid state allocations should not be at all (Table 3).

In case there would be an inspection of support allocation according to the actual plots classification into the evaluated soil ecologic units[10], the number of sludge after storm rainfalls decreases on minimum, but also the sediments volume in the streams and reservoirs would be significantly reduced.

The second measure is to keep the width of the shore plots of the streams and reservoirs within the scope given by the Act on water, §49, which is 10 m for water management important streams and 5 m with vegetation for small streams. An important measure is also the creation of so called "buffer zones"- with slowing down of water flow and at the same time, the sedimentation of suspended solids and other materials, e.g. nutrients.

VII. Conclusion

The presented paper is oriented on the sediments, whose volume is essentially higher in water medium. Their transport has been happening through millions of years, while the problem of waste treatment sludge is, in our conditions, only 60 years old.

The soil of concrete owners became sediment on the parcels in state ownership; therefore, their liquidation is financed from the state budged. Consequently, it is necessary to pay attention to these owners, who with the objective to gain profit, are ready to risk losing their soil - the basic production factor. These losses are almost always irreclaimable.

Sediments are created at territories with agricultural use or in forested areas. But through erosion, water transport and gravity they are changing the location to other plots or to rivers and reservoirs. This is physical description of sediment transportation. But with the new location, the soil is changing also ownership. This alternative is not discussed and solved by the legislation or practical discussions. The problem of river sediments brings the possibility of different explanations, and also the advances for water units' protection, but especially the prevention in form of better and more purposeful erosion protection.

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2. Act No. 140/2014 Coll. on Acquisition of Ownership of Agricultural Land and amending and supplementing certain laws.
3. Act No. 543/2002 Coll. on Nature and Landscape Protection.
4. Act No. 40/1964 Coll. Civil Code.
5. Act No. 136/2000 Coll. on Fertilizers.
6. Act No. 188/2003 Coll. on Application of the Waste Treatment Sludge and Bottom Sediments on the Soil.
7. Act No. 442/2002 Coll. on Public Water Pipe Systems and Public Sewage Systems, amending the Act No. 276/2001 Coll. on Regulation of Network Industries.
8. Guidlines of the Ministry of Agriculture and Rural Development of the SR to the Government Regulation No. 342/2014 Coll. laying down the rules for granting support in agriculture in relation to the schemes of decoupled direct payments.
9. Decree of the Ministry of Agriculture and Rural Development of the SR No. 59/2013 Coll. amending the Decree of the Ministry of Agriculture of the SR No. 508/2004 Coll. implementing §27 of the Act No. 220/2004 Coll. on Protection and Usage of Agricultural Land as amending Act No. 245/2003 Coll. on Integrated Prevention and Control of Environmental Pollution as amended.
10. Decree of the Ministry of Agriculture and Rural Development of the SR No. 199/2008 Coll. constituting the Programme of Agricultural Activities in Declared Vulnerable Territories.
11. Decree of the Ministry of Agriculture and Rural Development of the SR No. 215/2016 Coll. defining Details of the Agricultural Land Usage in the Vulnerable Territories.

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USAGE OF AGRICULTURAL LAND FOR NON-AGRICULTURAL PURPOSES IN SLOVAKIA

VYUŽÍVANIE POĽNOHOSPODÁRSKEJ PÔDY NA NEPOĽNOHOSPODÁRSKE ÚČELY NA SLOVENSKU

Ina MELIŠKOVÁ *

I. Introduction

Slovakia covers the area of 4 903 420 ha with the 5 437 754 inhabitants. Agricultural land represents 2 381 953 ha and within that arable land is 1 408 660 ha. There is 0,44 ha of agricultural land per capita and 0,26 ha of arable land per capita. The land represents more than 90% of its area and it is a territorial base, and therefore the state-forming parameter of the Slovak Republic[1]. Bonitation as a marker of soil quality has had a long tradition in the territory of Slovakia. We recognize 9 bonited soil ecological units (BSEU). This term is understood as a homogeneous area having a unique character of the soil and ecological properties. It has been created and mapped based on characteristics of several indicators as climate, soil type, soil texture etc. Soil science recognizes 9 382 BSEUs on the territory of Slovakia. They are integrated into 100 main soil units, which have associated codes and are divided into soil types, sub-types, varieties and forms[2]. This system is widely used in the management of the agricultural practice. It served as a basis for the "differential premiums" in agriculture, as an instrument for the promotion of the development of agriculture, and at coordination and management of application of the Common Agricultural Policy of the EU. Its application is wide in science, research, and decision-making sphere of many state and management institutions[3]. The most vulnerable type of land resource is agricultural land. Agricultural land in the EU is withdrawn mainly for housing, industry, roads or recreational purposes. More than 1 000 km² are subject to withdrawal every year while about half of this surface is actually sealed[4]. An important reason why fertile agricultural land is withdrawn, sealed and loses its essential ecological functions is urban sprawl[5] . Withdrawal of agricultural land for non-agricultural purposes reduces the capability of the agricultural land to ensure food security and self-sufficiency. In Slovakia, in the course of one calendar year, a loss of 7 425 ha of agricultural land was recorded. Agricultural land acreage is continu-

(1) Statistical Office of the Slovak Republic (2018)
(2) BANDLEROVÁ et al. (2016)
(3) National Agriculture and Food Centre (2018)
(4) PROKOP - JOBSTMANN - SCHÖNBAUER (2011)
(5) EEA Report (2016)

Abstract (EN)

The paper analyzes the usage of agricultural land for non-agricultural purposes in Slovakia, the historical background of usage and protection of agricultural land with emphasis on its withdrawal and administrative procedure. It describes the historical development of usage and protection of agricultural land. The progress of agricultural land protection legislation correlates with the socio-economic determinants of a specific historical period. The paper reflects the administrative procedure of agricultural land withdrawal and significant measures for its protection. It also describes the decision-making process about the conversion of agricultural land, administrative procedures for agricultural land withdrawal, its reasons and also its conversion into another type of the agricultural land and measures protecting agricultural land acreage.

Keywords (EN)

agricultural land, land withdrawal, non-agricultural purpose

Abstrakt (SK)

Príspevok analyzuje využívanie poľnohospodárskej pôdy na nepoľnohospodárske účely na Slovensku, historické pozadie využívania a ochrany poľnohospodárskej pôdy s dôrazom na jej odnímanie a administratívny postup. Popisuje historický vývoj využívania a ochrany poľnohospodárskej pôdy. Progres v legislatíve ochraňujúcej poľnohospodársku pôdu korešponduje so sociálno-ekonomickými determinantami konkrétneho historického obdobia. Príspevok reflektuje administratívny postup odnímania poľnohospodárskej pôdy a významné opatrenia na jej ochranu. Taktiež opisuje rozhodovací proces konverzie poľnohospodárskej pôdy, administratívne postupy odňatia poľnohospodárskej pôdy, jeho dôvody, ako aj jej premenu na iný druh poľnohospodárskej pôdy a opatrenia na ochranu výmery poľnohospodárskej pôdy.

Kľúčové slová (SK)

poľnohospodárska pôda, odňatie pôdy, nepoľnohospodársky účel

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ously shrinking and over the last decade, there was a decrease of 41 067 ha of agricultural land[6]. One way to prevent the trend of withdrawal of agricultural land for non-agricultural purposes is to comply with the legislation and administrative procedure.

II. Historical overview of usage and protection of agricultural land

The progress of legislation of agricultural land protection correlates with the socio-economic determinants of a particular historical period. First, from 1918, there was no legislation regulating the comprehensive protection of the biological properties of agricultural land.

Since the establishment of Czechoslovakia, it was necessary to consolidate the ownership and use relations of citizens of Czechoslovakia. And so, land reform as the idea of land ownership was gradually created. Within this period, a total amount 1 312 721 hectares of agricultural land in Slovakia was confiscated and allocated to new owners according to the State Land Office decision. Its targets were to provide a livelihood for the population and that's why the land was emphasized as a factor of production rather than environmental aspects of land protection.

After World War II, it was indispensable to ensure the agricultural land use and expansion to a sufficient extent. The Act No. 55/1947 Coll. on the assistance of farmers in the implementation of the agricultural production plan stated that in the interest of nutrition of the population, all agricultural land must be farmed in accordance with the agricultural production plan. According to Paragraph 1 of this Act, the State was required to ensure that every agricultural land was farmed and conversely, in the case where the farmer was unable to ensure the land management, the competent authorities ensured it. Agricultural land withdrawal for another purpose was subject to the approval of the District National Committee. This Act was amended by Act No. 132/1948 Coll. and by Act No. 244/1949 Coll. As mentioned in Paragraph 41 section 2 of Act No. 241/1948 Coll., on the first five-year economic development plan of the Czechoslovak Republic (act on the five-year plan), the Government adopted Regulation No. 55/1951 Coll. on the expansion of arable land area and the safeguarding of land for agricultural production. The objective of this government regulation was to ensure proper management of the agricultural land, in particular, arable land and its planned expansion, mainly from agricultural land. This regulation, following previous legislation, has protected the size of agricultural land in two ways, namely, Conversion of individual types of agricultural land was subject to the consent of the District National Committee and Change of agricultural land to non-agricultural land out of the building area of the municipality was in principle impossible. Simultaneously, it is undertaken that land-use planning should regard maintaining of arable land. When farmer changed the purpose of the agricultural land without consent, he was obliged to return the land to the original purpose.

On the territory of Slovakia in the period 1918-1958, a land reform took place. As an effect of this reform agricultural land was allocated to state-appointed persons. The legislation mainly aimed at expanding the size of agricultural land, in particular, arable land, and protecting it from withdrawal for non-agricultural purposes.

The reconstruction of the countryside in the 1950s was realized through socialization. A new period of organizational consolidation of socialist agricultural enterprises was underway. The stabilization of the land base of cooperatives occurred as well as the period of the overall transition to the scientific and technical base of socialist mass production. Act no. 48/1959 Coll. on the protection of agricultural land defined the agricultural land as an irreplaceable basic production means of agricultural production. Paragraph 8, section 3 of the Act stated that, when removing agricultural land, it must be ensured that agricultural land of inferior quality is used first and that as little area of agricultural land as possible is removed.

In order to decrease the withdrawal of agricultural land and make the protection of agricultural land more effective, Act No. 53/1966 Coll. on the Protection of Agricultural Land Fund was adopted, repealing Act No. 48/1959 Coll. Contributions were, for the first time, incorporated into the law as an economic tool for the protection of land and the preservation of the culture of the agricultural land. Contributions for agricultural land withdrawal were paid not only to the state budget but also to the funds of individual cooperatives. The number of contributions was specified by the District National Committee and they were paid by the entity which took the land away from agricultural production. They were applied for both permanent and temporary withdrawals of agricultural land. In order to implement certain provisions of the Act, a Decree of the Ministry of Agriculture and Forestry no. 97/1966 Coll., was introduced, implementing certain provisions of the Act on the Protection of Agricultural Land Fund. Contributions were one of the main revenues of the State Land Regeneration Fund, which was established by the Ministry of Agriculture and Food of the Slovak Socialist Republic by Act No. 179/1969 Coll.

Act No. 53/1966 Coll. was amended by Act no. 75/1976 Coll. amending Act no. 53/1966 Coll. on the Protection of Agricultural Land Fund. The ground for adopting the amendment was to introduce stricter and more rigorous protection of agricultural land. This amendment tightened the economic protection instruments by introducing objectively decisive considerations for determining the amount of the contributions. The amendment also determined the payment of fines for breaching the obligations imposed by law and included a compensation for economic harm caused to a socialist agricultural organization by removing the land in a larger scale or by impairing or restricting its management.

Political-social changes, and the new legal environment in the Slovak Republic after 1990, were the reason for the adoption of the new Act no. 307/1992 Coll. on the Protection of Agricultural Land Fund. Dissimilar to the previous legislation, the Act made an owner, a tenant, or a land manager explicitly responsible for the agricultural land protection. Withdrawal of agricultural land was only possible after the consent of the body for the protection of agricultural land, in the area where

[6] Statistical Yearbook on the Soil Fund in SR (2018)

the agricultural land or the largest part of it was withdrawn. This act also laid down the obligation to pay contributions for the withdrawal of agricultural land from the agricultural land fund.

The impulsion for a new approach to land protection was the resolution of the Slovak Government no. 1141 of December 6, 2001 on the proposal for the principles of the Slovak State's Land Policy, approved on December 6, 2001 under the title "Principles of the State Policies of the Slovak Republic". This resolution, emphasized the correct use of land, respecting the principles and criteria of sustainable development and it also dealt with the protection of the quality and quantity of land. It underlined that land protection is carried out in the context of the protection of environmental compartments with the aim to achieve the stabilization of the area and the area of the best quality land and to prevent its unreasonable withdrawal. By adopting these Principles of State Land Policy of the Slovak Republic, the Government of the Slovak Republic has fulfilled the objective of implementing land protection initiatives coming from the world, especially from the European Union.

Act no. 220/2004 Coll. on the protection and use of agricultural land and on the amendment of Act no. 245/2003 Coll. on Integrated Prevention and Control of Environmental Pollution and on the Amendment and Supplementation of Certain Acts was a response to the Government Resolution no. 1141 of 2001. It emphasizes the protection of the environmental functions of agricultural land, ensuring its sustainable management and exploitation, as declared in the Principles of State Land Policy. Every legal regulation that used the institute of contributions for the land withdrawal at the same time introduced numerous exceptions to the obligation to pay contributions. According to the explanatory statement to the act, these exceptions related to about 70% of all agricultural land withdrawals, making the institute of contributions in the legislator's opinion non-systemic and undemocratic, which led to the abolition of the contributions at a given time. The act abolished the contributions, but on the other hand, it tightened the legislation on the protection of agricultural land. Categories and limit values related to erosion, compaction, soil organic matter quality, liming of agricultural land, limit values of risk substances in agricultural land, which were understood as the values of the maximum permissible contents of the hazardous substances and the degree of contamination were established. Fines were a single economic tool for the protection of agricultural land against its withdrawal for non-agricultural purposes. The legislator by this step expected a positive impact on landowners and users of agricultural land. The reduction of the state budget for the income from payments for the withdrawal of agricultural land should have been partly compensated by an increase in contributions and taxes from business activities on withdrawn land.

But the abolition of the contributions for the withdrawal of agricultural land for non-agricultural purposes did not produce the effect the legislature expected at the time of the adoption of Act 220/2004 Coll., when it abolished the contributions and therefore, five years after, the amendment to Act no. 220/2004 Coll., namely Act no. 219/2008 Coll.16 with the effect from January 1, 2009 was adopted. The amendment reintroduced the contributions but only for the withdrawals of agricultural land classified under the BSEU code into groups 1 to 4. The legislator planned to achieve three socio-economic aims, namely protection and stabilization of the best agricultural land in Slovakia; guiding and eventually forcing construction investors to orient themselves to Slovakia's locations outside the Bratislava and Trnava regions on lower quality land (BSEU in the 5th to Group 9) and less important locations for primary agricultural production; and securing funds for the implementation of certain provisions of the Act, such as activities concerning the organization of agricultural land registration in the cadastre with the real state in the field and the creation of an information system on soils.

Another major amendment to Act no. 220/2004 Coll. was Act No. 57/2013 Coll. amending Act no. 220/2004 Coll. on the protection and use of agricultural land and on the amendment of Act no. 245/2003 Coll. on the integrated prevention and control of environmental pollution and on the amendment and supplementation of certain laws as amended, and on amendments to certain laws with effect from April 1, 2013. It was based on the need to protect the institute of contributions of the best agricultural land in the cadastral territory proportionally throughout the territory of the Slovak Republic, by the individual protection of the specifically listed BSEU codes in the individual cadastral territories. The answer was an updated table of qualitative groups (BSEU codes) with the assignment of the contributions for the withdrawal of agricultural land by a quality group in €/m2 for each cadastral territory within the territory of the SR. The contributions had to be paid as it is in the current legislation for every agricultural land in Slovakia for all qualitative groups. The scope of exemptions from the payment of the contributions was abolished by the amendment as it represented about 70% of all agricultural land withdrawals as described above.

III. The administrative procedure of agricultural land withdrawal

Agricultural land may be used for non-agricultural purposes only on the basis of a withdrawal decision on the withdrawal of agricultural land. This decision is issued by the authority responsible for the protection of agricultural land within the territorial area of the authority where the agricultural land proposed for withdrawal is situated. Agricultural land protection authorities include The Ministry of Agriculture and Rural Development of the Slovak Republic, which is the central authority for the protection of agricultural land and issues generally binding legislation on the protection of agricultural land; The District office at the headquarters of the region, which coordinates the cooperation with the soil service and processes and submits to the Ministry information on agricultural land losses within the territorial area of the region; and The District Office – Land and Forestry Department and Remedies Department, which in particular decides on withdrawal of agricultural land for non-agricultural purposes, on changing the type of agricultural land, it is the authority concerned and gives an opinion on the protection of agricultural land in proceedings relating to the prevention and remedying of environmental damage on

land, deals with offenses and imposes fines on the protection of agricultural land, cooperates with the soil service and monitors and evaluates agricultural land losses within its territorial area at annual intervals. We recognize permanent or temporary withdrawal of agricultural land. Permanent withdrawal means the permanent change in the use of agricultural land with a permanent change of land in the cadastre, and temporary withdrawal means a temporary change in the use of agricultural land for a maximum of ten years, with reclamation measures to return it to the original state.

It is possible to apply for permanent withdrawal or temporary withdrawal of agricultural land. Legal entities or natural persons who apply for permanent withdrawal or temporary withdrawal of agricultural land for non-agricultural purposes are required to submit an application to the competent authority for the protection of agricultural land, i.e. The District Office - the Land and Forestry Department and the Remedies Department, in whose area the agricultural land proposed for withdrawal is located. This application must be accompanied, in particular, by the approved land-use planning by the District office at the headquarters of the region, the project documentation, the basic land identification data and the calculation of the contribution for the entire extent of the withdrawal. Under the next procedure, The District Office - Land and Forestry Department and the Remedies Department will assess the application and will if it finds that the principles of protection of agricultural land are followed, issue a withdrawal decision. This decision is the basis for the change of the type of the land in the cadastre to the other area, the lawful decision will be sent to the competent state administration authority in the cadastral area by drawing up a geometric plan or a copy of the cadastral map, which will permanently remove the areas from the register of the agricultural land and will earmark the change of the agricultural land to the other area no later than 60 days after the decision is taken.

When it is a change of one agricultural type of land to another agricultural type of land the competent authority for the protection of agricultural land, i.e. in this case The District Office - Land and Forestry Department and the Remedies Department upon the application of the owner or user will issue a binding opinion on the change of the type of land. In addition, when proposing a change of vineyard to another type of agricultural land, the expert opinion of the Central Control and Testing Institute in Agriculture and the opinion of the relevant territorial self-government authority, including an evaluation of historical contexts and regional development intentions are required.

We know various reasons for withdrawal of agricultural land for non-agricultural purposes. These include Housing and Civic Amenities, Industry, Transport, Mining and Other Purposes. Agricultural land may be used for non-agricultural purposes only in the necessary cases and to the extent justified. The authority of the protection of agricultural land is obliged in the proceedings on the change of the agricultural type of the land to ensure the protection of the best quality agricultural land in the cadastral area according to the code of the bonited soil-ecological units specified in the special regulation and vineyards.

In Slovakia, there are some tools used to guarantee the protection of agricultural land. Their regulation is contained in Act No. 220/2004 Coll. on the Protection and Use of Agricultural Land and on the Amendment of Act No. 245/2003 Coll. on Integrated Prevention and Control of Environmental Pollution and on Amendments to Certain Acts, as amended by later legislation. They are Consent to the withdrawal of agricultural land; Contributions; Principles for the protection of agricultural land and Fines. Other laws also ensure the protection of agricultural land, for example, Nature and Landscape Protection Act, Land Planning and Building Regulations Act, etc. We also distinguish economic instruments for its protection, other than contributions and fines. They are taxes, fees, and payments, with application in two main payment groups, namely payments for environmental pollution and payments for the use of natural resources.

When protecting agricultural land acreage, emphasis is placed on protecting its properties and functions, ensuring its sustainable management and agricultural use, protecting its environmental functions such as biomass production, filtration, neutralization and conversion of substances in nature, maintaining the ecological and genetic potential of living organisms in nature, protecting its areas against unauthorized use for non-agricultural use, observing the procedure for changing the type of land and the procedure for its withdrawal for non-agricultural purposes, and ultimately on penalties for violation of obligations in the field of its protection. Each owner or user of agricultural land is obliged to protect it from degradation, erosion, compaction, hazardous substances and control the balance of the soil organic matter. Moreover, anyone who proposes to use it for non-agricultural use is obliged, inter alia, to pay contribution from the permanent withdrawal or temporary withdrawal of the highest quality agricultural land in the cadastral area according to the code of the bonited soil-ecological units and the vineyard.

The current legislation protects the agricultural land acreage by the condition of granting consent to the withdrawal of agricultural land. It is an administrative tool of legal regulation without which, apart from the scope of exceptions imposed by the Soil Protection Act, it is not possible to withdraw the agricultural land. The protection of agricultural land under the BSEU code provides the contributions as an economic tool for the protection of agricultural land from permanent or temporary withdrawal for non-agricultural use. An important part of the Soil Protection Act and at the same time a tool for the protection of agricultural land are the Principles for the protection of agricultural land for non-agricultural use. Other tools are fines, which are a sanction for unlawful action in the field of agricultural land protection and can be stored up to 166 000 €. Their main task is to deter offenders from unlawful proceedings. However, if they are already stored, their height is determined according to the statutory criteria. We can state that the Soil Protection Act by its tools effectively protects the agricultural land and in the future, it is possible to slow down the decline especially highest quality agricultural land.

IV. Conclusions

In Slovakia, the main specific legal act ruling the use of agricultural land for non-agricultural purposes and thus withdrawal of agricultural land is the Act no. 220/2004 Coll. on

the protection and use of agricultural land and on the amendment of Act no. 245/2003 Coll. on Integrated Prevention and Control of Environmental Pollution and on the Amendment and Supplementation of Certain Acts as amended. The protection of agricultural land acreage is also contained in other laws, among them for example Nature and Landscape Protection Act and the Land Planning and Building Regulations Act. Agricultural land may be used for construction purposes and other non-agricultural purposes only in the necessary cases and to the extent justified. The owner or user of agricultural land who proposes to use it for non-agricultural use is obliged also to pay contributions from the permanent or temporary withdrawal of agricultural land according to the code of the bonited soil-ecological units.

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INCORRECT METHODOLOGY FOR AGRI-ENVIRONMENTAL MEASURE - MULTIFUNCTIONAL FIELD MARGINS - AS LIMITATION FOR ENHANCEMENT OF ENVIRONMENT IN SLOVAKIA

NESPRÁVNA METODIKA VÝPOČTU AGRO-ENVIRONMENTÁLNEHO OPATRENIA – MULTIFUNKČNÉ PÁSY - AKO OBMEDZENIE MOŽNÉHO ZLEPŠOVANIA ŽIVOTNÉHO PROSTREDIA NA SLOVENSKU

Lucia PALŠOVÁ *

I. Introduction

As a result of increasingly heavy pressure on land resources, agricultural production declines, the quantity and quality of land deteriorates, and there is increasing competition for access to land[1].

Sustainability of the agricultural land is the priority focus of the EU environmental policy.

To set up measures aiming at sustainability is a difficult political decision, since various social, economic and environmental needs (e.g. housing, transport infrastructure, energy production, agriculture, nature protection) have to be taken into account. Competences of the land management in the EU are exercised by concrete European states because until now at the EU level political will to adopt legally binding actions misses. In spite of this fact, European and international environmental documents encouraged European states to set up actions to maintenance and protect agricultural land based on the sustainable principle[2].

Inclusion of environmental measures into the protection of agricultural land seems to be the most effectively done through economic tools, while at the EU level it is done through sub-

[1] Food and Agriculture Organisation of the United Nations

[2] Intosai Woring Group on Environmental Auditing (WGEA) (2013)

Abstract (EN)

Agri-environment measures are a key element for the integration of environmental concerns into the Common Agricultural Policy. They are designed to encourage farmers to protect and enhance the environment on their farmland by paying them for the provision of environmental services. Rural Development Programme 2014 – 2020 introduced an agri-environmental measure for multifunctional field margins (biostrips on arable land), which contributes to increasing biodiversity, to protection of basic environmental elements and it also serves as prevention for climate change. Since so far no farmer asked the Agricultural Paying Agency for commitment, the objective of the paper was to assess the design and accuracy of calculation of the agri-environmental and climatic measure - the multifunctional field margins in the conditions of Slovakia. The research results show that the calculation methodology is incorrectly set and it does not compensate for the farmer's loss on farm yields.

Keywords (EN)

agri-environment measures, Common Agricultural Policy, farmer, multifunctional field margins, Rural Development Programme 2014 - 2020

Abstrakt (SK)

Agro-environmentálne opatrenia predstavujú kľúčový krok pri integrovaní otázok ohľadne životného prostredia do Spoločnej poľnohospodárskej politiky. Sú navrhnuté tak, aby podporovali poľnohospodárov pri ochrane ich pôdy prostredníctvom platieb za environmentálne služby. Program rozvoja vidieka 2014-2020 zaviedol agro-environmentálne opatrenie multifunkčné pásy na ornej pôde (biopásy na ornej pôde), ktorý prispieva k zvyšovania biodiverzity, k ochrane základných zložiek životného prostredia a podieľa sa na zmierňovaní klimatickej zmeny. Nakoľko doposiaľ žiaden z poľnohospodárov nepožiadal Pôdohospodársku platobnú agenturu o zaradenie do záväzku, bolo cieľom príspevku zhodnotiť nastavenie a správnosť výpočtu agro-environmentálneho a klimatického opatrenia- multifukčného pásu v podmienkach Slovenska. Z výsledkov výskumu vyplynulo, že metodika výpočtu je nastavená nesprávne a nijakým spôsobom nekompenzuje stratu poľnohospodára na výnosoch z poľnohospodárskej produkcie.

Kľúčové slová (SK)

Agro-environmentálne opatrenia, Spoločná poľnohospodárska politika, poľnohospodár, multifunkčný pás, Program rozvoja vidieka 2014 - 2020

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sidizing policy of the Common Agricultural Policy (further as CAP). Environmental protection of agricultural land was for the first time included into the CAP in the year 1985[3].

From the year 1992[4] the agri-environmental measures became a binding part of the rural development plans of all EU member states. Agri-environmental measures are aimed at limiting environmental risks linked with the modern agriculture, at nature protection and landscaping[5]. The measures can be designed at national, regional and local level in such manner, that it is possible to adapt them on agricultural systems and environmental conditions of a concrete geographical and natural area[6].

Within the measures, farmers voluntarily commit themselves to the state, that for the period at least 5 years, they will apply environmentally friendly agricultural techniques, that exceed they legal duties.

The state compensates them for the costs of implementing the measure and the lost income they would obtain from the conventional agricultural production. It means that correct setting of agri-environmental measures is crucial for a farmer's decision to enter into such environmental commitment. In the programming period 2014-2020, under the I. and II. pillar of the SPP pillar, a number of measures has been introduced that contributed greatly to the protection of agricultural land as well as to the protection of other related environmental components (e.g. habitat protection, bird protection, water protection).

II. Material and Methods

The main objective of the paper was to evaluate the setting and correctness of calculation of the agri-environmental and climatic measure - the multifunctional field margins in the Slovak conditions. During the analysis, mainly secondary sources of information were used, in particular statistical data, data from the Agricultural Paying Agency, the Central Register of Contracts, the Rural Development Programme of the Slovak Republic 2014-2020 (hereinafter RDP 2014-2020), related legislation, expert opinions and periodical literature.

The information and calculations were subsequently consulted with the National Agricultural and Food Centre - the Research Institute of Soil and Soil Protection (hereinafter RISSP) as well as with the representatives of the Department of Environmental Activities, Section for Rural Development and Direct Payments of the Ministry of Agriculture and Rural Development of the Slovak Republic (hereinafter MARD SR).

When processing the primary and secondary sources of information, methods of analysis, synthesis, induction, deduction and scientific abstraction were used.

Results of the paper are based on the research tasks of the Jean Monnet Centre of Excellence, no. 54260O-LLP-1-2013-1-SK-AJM-P "EU Land Policy - Pathway towards Sustainable Europe" and Jean Monnet Networks project No. 564651-EPP-1-2015-1-SK- EPPJMO-NETWORK "Sustainable Land Management Network".

III. Results

For the programming period, agri-environmental measures were included under the II. pillar by Regulation of the European Parliament and Council (EU) No. 1305/2013 of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) 1698/2005.

As stated in the point 22 of the Regulation 1305/2013, climate-related agri-environmental payments should continue to play a major role in promoting sustainable rural development and in responding to an increased demand for environmental services. Further, they should encourage farmers and other landowners to serve society as a whole by introducing or continuing in application of farming practices that contribute to climate change mitigation and adaptation and which are compatible with the protection and improvement of the environment, countryside and its characteristics, natural resources, soil and genetic diversity.

The Rural Development Programme 2014-2020 includes agri-environment measures related to climate into non-project measures M10 - Agri-environment-climate measures. Agri-environment-climate measures will address the following identified priority needs through its actions:

- Conservation of biodiversity and increasing the environmental efficiency of support for the protection of biodiversity;
- Ensuring the protection of soil against degradation;
- Elimination of impacts and adaptation of agriculture to climate change.

The following actions were incorporated into the Rural Development Programme 2014-2020 within the agri-environment measures related to climate:

1. Protection of habitats of natural and semi-natural grassland;
   Protection of habitats of European Ground Squirrel (permanent grassland);
   Breeding and conservation of endangered animal species.
2. Multifunctional field margins (biostrips on arable land);
   Protection of habitats of Great Bustard (arable land);
3. Integrated production in orchards, vineyards, and vegetable sector;
4. Protection of protected water management area of Žitný ostrov.

(3) Council Regulation (EEC) No 797/85 of 12 March 1985 on improving the efficiency of agricultural structures

(4) Council Regulation (EEC) No 2078/92 of 30 June 1992 on agricultural production methods compatible with the requirements of the protection of the environment and the maintenance of the countryside

(5) European Commission

(6) European Commission

IV. Calculation of the multifunctional field margins (biostrips on arable land)

The main objective of the multifunctional field margins (hereinafter as MFM) measure is to create conditions and place for nesting of relevant bird species, place for the protection of small animals and conditions for vegetation activity of pollinators in agricultural land through the creation of multifunctional field margins sown with perennial flower mixture consisting of certified species of plant seeds without any chemical treatment. The abovementioned procedures contribute not only to the protection and increase of biodiversity by means of expansion of perennial flower multifunctional field margins, but also to the protection of fundamental elements of the environment (water, soil) and, moreover, they are also involved in the mitigation of climate change by reducing greenhouse gas emissions and increasing the number of sinks of greenhouse gases.

The measure is intended for the most fertile areas of Slovakia, which are: Danubian Lowland, Trnava Plain, Eastern Slovak Lowland and Záhorská Lowland. The reason is that those areas are dominated by intensive agriculture through large-scale farming system that leads to decrease in biodiversity and limits the area that should offer the necessities of life to populations of birds, pollinators, etc. Based on that, the MFM measure may have a significant impact on the restoration of natural biodiversity near the most fertile agricultural land, which will have a positive influence for example on the quality of pollination, restoration of natural pest destroyers, protection of birds, etc.

The eligible beneficiaries may be natural and legal persons engaged in agricultural primary production, whose agricultural land is located in defined areas and they intend to enter the MFM with at least 1 hectare of arable land included in LPIS land blocks. Agri-environment commitment lasts for years with the possibility of an extension for one year. In 2015, applicants were allowed to sign up for the first time.

Cumulatively defined requirements serve as a condition for support. They are defined in the Government Regulation no. 75/2015 Coll. laying down the rules for the provision of support in connection with the measures of the Rural Development Programme as follows:

- annually (over the duration of the commitment) to sow a mixture of all-year flowering mixtures at the multifunctional field margin of arable land, which is at least 6 meters wide and at least 200 meters long, and which is located on the edge or within a soil block of arable land between two cultivated crops, while the area of the multifunctional field margin cannot exceed one third of the land block area, on which the multifunctional field margin is sowed;
- sowing of the multifunctional field margin must be performed by the end of April of the year in question;
- chemical plant protection products and mineral fertilizers should not be applied all year round on the multifunctional field margin;
- to prevent trespassing and turning of mechanization on these surfaces;
- multifunctional field margin should not be mowed.

Based on the telephone survey at the Regional Offices of the Agricultural Paying Agency concerned, between the years 2015-2017, no farmer requested an entry into the MFM agri-environment commitment for a five-year period[7].

The above-mentioned disinterest of farmers is unsatisfactory because 12 000 hectares should be intended for MFM, (approximately 100 000 hectares of arable land), which means that every sixth hectare of arable land in the territories concerned should be claimed as the multifunctional edge of a field - biostrip on arable land [8]. This area is diminished also by the fact that those should be field edges, so the Ministry of Agriculture and Rural Development of the Slovak Republic has planned to set up an MFM for each available hectare of arable land in the areas concerned.

Because of the almost non-existence of MFM support, we have investigated the causes of farmers' disinterest to enter the MFM. From the research results we could derive a conclusion, that the Ministry designed an incorrect methodology for calculating the support of the MFM.

Under the RDP 2014-2020 the aid amount is 350 €/ha of arable land with a multifunctional field margin created. The amount of the aid is 100% of the calculated payment. Compensation payment calculation: as the support for this type of operation is aimed to the most fertile areas, the loss will be on the most lucrative crops. The minimum area of biostrip is, as stated in the RDP 2014-2020, 1200 m^2, which is maximum 12% from hectare. The loss of production represents a lost income of 12% of the crops. The additional costs for creating multifunctional field margins that are created every year are generated by purchasing recognized seed mixtures, soil preparation, and seed incorporation into the soil.

The calculation of the MFM support is intended as a compensatory payment; the calculation is based on the following assumptions:

1. Areas of multifunctional field margins do not count into the areas of ecological interest.
2. Given that support for this type of operation is directed to the most fertile areas, the loss will be on the most lucrative crops (corn, wheat, rape). The minimum area of the biostrip is 1200 m^2, which is 12% per hectare. Loss on production accounts for a loss of 12% of the crops (see calculation for great bustard) - 76.24 $EUR \cdot ha^{-1} \cdot year^{-1}$. In case of the great bustard the loss on production is given (maize = 1280 EUR/ha, wheat = 1020 EUR/ha and rape seeds = 1113 EUR, on average = 1137.67 EUR/ha). Therefore, it is not clear what calculation is used by the Ministry, since for the great bustard, different basis for calculation is defined.

[7] APA claimed that two companies enetred into the commitment, namely AGROITAL PLUS, s.r.o. and ITALSLOVAK, s.r.o. Both these companies were consequently surveyed while in the both cases the representatives did not know, that the companies have entered into MFM commitment.

[8] Geodesy, Cartography and Cadastre Authority of Slovak Republic (2018)

Nor is it understandable whether the payment of 76.24 EUR/ha is intended for 12% of the hectare loss or the loss per hectare alone.

3. For the creation of multifunctional field margins, that are established each year, the purchase of recognized seed mixtures is required – the cost calculation based on the data from the relevant institutions is 200 EUR·ha^{-1}·year^{-1}. Until 2017, a certified seed mixture for the sowing of multifunctional field margins could not be purchased in Slovakia.
4. When preparing the soil for the establishment of the multifunctional field margins, additional costs occur for soil preparation and seed incorporation into the soil. They are calculated in the amount of 73.76 EUR·ha^{-1} per year. Within the calculation, it is not understandable how MARD SR came to that formula.

   The MARD SR should include the costs incurred by the farmer by disposing of a multifunctional field margin. In this case, 12% of the following costs have to be included: ploughing, soil preparation, mulching, sowing, mowing, rent and tax (approximately 200 EUR/ha). The calculation should also consider the fact that if the farmer cultivates only 10% of the arable land, the cost is calculated using a higher coefficient, as if he/she cultivates the whole hectare or several hectares.

   It should be also considered that, if the multifunctional field margin should perform its function, during fertilization and chemical spraying, the farmer has to use slower procedure also on the other 88% of the arable land, which makes the price of work more expensive.

The MARD SR calculated the payment for the multifunctional field margin exclusively by the sum: 76.24 + 200 + 73.76 = 350.

However, the abovementioned facts indicate that:

- the loss of production is clearly calculated only for the production losses of 12% per hectare of arable land (this amount, however, does not reflect the calculation for the great bustard);
- the costs for setting up a multifunctional field margin are probably also calculated as 12% for hectare of arable land (this calculation can not be verified);
- the price of seed varies (the difference in prices is significant) and, therefore, it is not possible to say whether it is a price per hectare or 10% from hectare of arable land.

The methodology for calculating the support for MFM was based on the Contract for Work no. 27/2013/S/370-TPPRV, National Agricultural and Food Centre – Research Institute of Soil and Soil Protection (RISSP)[9]. As the methodology for calculation is incomprehensible, I turned to RISSP with a request for clarification. The RISSP confirmed that it developed a methodology for the calculation of support within the agri-environment climate measure, but with the exception for the MFM support. Consequently they recommended me to contact MARD SR, which, after e-mailing, forwarded me to the published methodology for calculating the support for MFM.

Furthermore, until March 15th 2018 (the date when the Government Regulation no. 72/2018, amending the Regulation of the Government of the Slovak Republic no. 75/2015 Coll. laying down the rules for the provision of support in connection with the measures of the Rural Development Programme, as amended by the amendment to Government Decree no. 75/2015 Coll. came into force) it was not clear, what size is necessary for entering the multifunctional field margins on arable land. The RDP 2014–2020 shows that the eligibility criterion is at least 3 hectares of arable land kept in the LPIS. According to the Government Decree no. 72/2018, the MFM may be applied on the area of at least 1 hectare of arable land. The payment shall be made on the area of the sowed biostrip.

Since until now, no farmer has entered the MFM, I have asked the Ministry, where the MFM funds (4.2 million EUR) will be transferred. Ministry did not answer.

For illustration, I would like to add an information that measure regarding biostrips on arable land was also introduced in the RDP 2014–2020 of the Czech Republic, where the payment is calculated for 1ha of arable land, on which a biostrip is set up (up to 20% of the hectare and the payment is from 590 EUR to 670 EUR/ha of arable land).

V. Conclusion

The RDP 2014–2020 set the possibility for Slovak farmers to contribute to improving the environment by entering into an agri-environment commitment, and by means of RDP funding they will be compensated for the loss of income. Measure – Multifunctional field margins (biostrips on arable land). The aim of the measure is by setting up of multifunctional field margins, sowed by approved all-year flowering mixtures without chemical treatment, to create conditions and space for nesting of relevant bird species, the area for the protection of small animals and the conditions for the vegetation activity of pollinators in the agricultural land.

Incorrect and incomprehensible method of calculation for the measure used by the Ministry of Agriculture and Rural Development of the Slovak Republic caused that it is unprofitable for a farmer to enter into an agri-environment commitment that would increase his costs and cause a loss. As MARD SR does not correct the misstatement of the calculation methodology by its specification, no farmer is involved in the multifunctional field margins (biostrips on arable land). Therefore, the Slovak Republic by using the incorrect calculation of MARD SR does not contribute to the improvement of the environment.

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NEW WATER ACT IN POLAND – CHANGES AND DILEMMAS

NOVÝ ZÁKON O VODE V POĽSKU – ZMENY A DILEMY

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I. Introduction

Water resources are of exceptional importance for social and economic development and the state of the natural environment. Because they are unevenly distributed over time and in space, the use of water resources was, is and probably will be often a source of acute conflicts, including local and transboundary conflicts. In order to avoid or limit them, various rules were introduced sometime in the form of legislative documents, whose history goes back several thousand years. A lot of legal documents related to water management are related to agriculture, which results from the strict dependence of agricultural production on water conditions. This is understandable because in the world, as much as 80% of water is used in agriculture. One of the first written legal regulations in this respect was the Hammurabi Code developed in the 18th century BC. This code is widely known for precisely defining the rights and obligations related to the use of water, and especially for drastically high penalties applied in the event of neglecting the obligation to maintain irrigation equipment in good condition by their owners.

In later times, regulations regarding water resources were included, among others in civil Roman law. In medieval legal documents there are already detailed indications regarding water association. In various regions of the world and in individual countries, the water management documents take into account local conditions related to political, economic, social and climate changes, which forces periodic changes to legal acts. A significant development of water legislation with an attempt to codify it occurred in Europe in the 19th century (Austrian law, 1869)(1). The codification of Prussia from 1913 was a model for other later legislative documents(2), including the first Water Act (1922) in Poland after recovery independence (1918). It was a relatively small document (35 pages), but it was in force after a few amendments until 1962. The next Water Acts were adopted in Poland by the legislative authorities in 1974 and 2001.

After Poland's accession to the European Union (2004) the 2001 Water Act has been amended many times, among other things, due to the need to adapt it to the European Union legislative documents. The number of amendments was so great that it was decided to develop a completely new Water Act. Such decision was influenced by complaint of the European

(1) RADECKI, ROTKO (2014)
(2) ROLIŃSKI (2012)

Abstract (EN)

The article presents the reasons and goals of the new Water Act development, which was supposed to replace amended many times the 2001 Water Act. A new Water Act has been approved 1 July 2017. The main aim of new Water Act is an achievements the objectives of the EU Water Framework Directive and other EU directives related to water management. The most important change of new Water Act is the establishment of a new water management organization in Poland, for which since January 1, 2018 is responsible the State Water Enterprise Polish Waters. The second new fundamental change is the introduction of nine water management financial instruments. Water services fees are one of them. The mechanism for determining the amount of these fees was one of the most debatable problems when adopting this legislative document. The article also presents the voices criticizing the detailed introduced solutions, including changes in investment of water infrastructure and their maintenance in agriculture.

Keywords (EN)

water act, Poland, water management

Abstrakt (SK)

Predkladaný príspevok predstavuje dôvody a ciele pre prijatie nového zákona o vode, ktorý by mal nahradiť mnohokrát novelizovaný vodný zákon z roku 2011. Nový zákon o vode bol schválený 1. júla 2017. Hlavným zámerom tohto zákona je dosahovanie cieľov Európskej rámcovej smernice o vode a iných európskych smerníc, ktoré sa týkajú vodného manažmentu. Najdôležitejšou zmenou, ktorú zákon prináša, je založenie novej organizácie v Poľsku, ktorá sa bude zaoberať vodným manažmentom. Od 1. januára 2018 je touto organizáciou Štátny vodohospodársky podnik poľské vody. Druhou významnou zmenou je zavedenie deviatich finančných nástrojov vodného manažmentu. Jedným z nich sú poplatky za vodohospodárske služby, pričom mechanizmus stanovenia výšky týchto poplatkov predstavoval jeden z najdiskutovanejších problémov. Príspevok obsahuje tiež kritiku zavedených riešení, vrátane zmien vodnej infraštruktúry a jej údržbu v poľnohospodárstve.

Kľúčové slová (SK)

zákon o vode, Poľsko, vodný manažment

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Commission of the European Union for the lack of full transposition of the Water Framework Directive EU to Polish legislative documents. The first allegations were sent by the European Commission in 2008, the second warning in 2010, and after the third in 2012 the EC brought the case to the Court of Justice of the European Union, which on June 30, 2016 issued a judgment unfavorable for Poland, forcing it to take appropriate measures. Lack of reaction could cause the blocking of funds from the European Union's operational programs for the years 2014–2020 for planned water investments in Poland.

Work on the new Water Act started in 2012. The work lasted until 2015 when the final draft of the Water Act was adopted by the government. However, the parliament did not debate it because after the elections in 2015, there was a change of government and parliament. The new authorities in a relatively short time presented a new draft of the Water Act. Their aim was to remove the flaws of the Water Act of 2001, which were accused of dispersing the competences of water management in various institutions and the lack of an appropriate financing system and financial instruments. The second important objective of the new Water Act was to create a legal basis for the reform of water management that would meet the requirements and achieve the objectives of the Water Framework Directive and other EU directives related to the shaping, use and protection of water resources[3].

The new Water Act was enacted in 2017 and entered into force on January 1, 2018[4]. The Water Act 2017 introduces new legal, organizational, financial and technical solutions regarding flood and drought protection, water services and water management, while maintaining some of the existing ones. The importance and significance of Water Act 2017 is demonstrated by the fact that its adoption required changes to over 40 national laws and implementation of 7 water-related directives EU. In addition to the most important directives: Water Framework Directive (2000), Nitrates Directive (1991) and Flood Directive (2007), the new Water Act also implemented five others EU directives concerning:

- municipal wastewater treatment (1991),
- bathing water quality management (2006),
- protection of groundwater against pollution and deterioration (2006),
- the framework for action on the marine strategy (2008),
- environmental quality standards in the field of water policy (2008).

Some of the changes and new solutions introduced in the Water Act 2017 may be considered for use in other countries, of course after their verification in practice.

II. Structure of Water Act

The new Water Law was announced in the Journal of Laws of 2017 item 1566. It is a document (216 pages) consisting of 13 sections, 39 chapters and 574 articles. A detailed list of sections and chapters is given in Table 1.

Among the sections of this Water Act, attention is drawn to the extended section III devoted to water protection. This is understandable, as almost all of the above-mentioned EU directives relate to activities connected with water quality. The sections VI, VII, VIII and IX are crucial for the reform being introduced, as they illustrate the new organizational system of water management and instruments of its financing. Other sections cover issues also covered in earlier water laws, but of course they have been adapted to the concept of the implemented reform.

III. Major changes in the Water Law

The new Water Law introduces many new solutions in water management, of which the main areas of change are:

- organization of water management,
- water ownership,
- water services,
- water law permits.

In addition, the new legal bases for water management contain a number of changes compared to existing ones, including those concerning, inter alia, water protection and water drainage.

III.1 Organizational changes

Water Act introduces a completely new organization of water management in relation to the previous one. On January 1, 2018, an administrative unit was established and, at the same time, a state legal entity, the State Water Enterprise Polish Waters responsible for water management in Poland. At the beginning of January 2018, the Department of Water Resources of the Ministry of Environment was liquidated, and the Polish Waters were located in the Ministry of Maritime Economy and Inland Navigation. Also, local government units dealing with, among others, waters important for agriculture (Voivodship Offices for Land Reclamation and Water Facilities) were liquidated, and part of their staff was employed in the Polish Waters.

The activity of Polish Waters is managed by the President of Polish Waters, who has four Deputy Presidents for:

- protection against flood and drought,
- water services,
- water environment management,
- economy and organization.

Three of the above-mentioned Vice-Presidents are managed by the departments comprising the following internal units:

- Department of Protection Against Flood and Drought with four divisions: Investment, Maintenance, Planning of Flood Protection and Drought, Center for Flood Protection,

[3] GAJDA (2018)

[4] Water Act. 2017. Journal of Law (Dziennik Ustaw) No. 1566 Act 20 July 2017

Table 1: Structure of Water Act 2017

Section	Chapter
I. General rules	1. General regulations
	2. Explanations of statutory terms
	3. Water and water bodies
II. Use of water	1. Use of water and water service
	2. Water used for bathing
III. Water protection	1. The purpose of water protection and environmental goals
	2. Principles of water protection
	3. Treatment of municipal wastewater
	4. Protection of waters against pollution by nitrates from agricultural sources
	5. Polluting substances
	6. Protection of water intakes and inland water reservoirs
	7. Environmental protection of marine waters
IV. Flood risk management and counteracting the effects of drought	1. Flood risk management
	2. Counteracting the effects of drought
V. Water engineering, drainage and	1. Water engineering
	2. Drainage and irrigation irrigation
VI. Property management of State Treasury	1. Ownership of waters and obligations of their owners
	2. The State Water Enterprise Polish Waters
	3. The financial management of the Polish Waters
	4. Property management of State Treasury
	5. Economic instruments in water management
VII. Management of waters	1. Planning
	2. Information system for water management
	3. Water management control
	4. Water monitoring
VIII. Water Authority	1. Minister competent for water management
	2. State services
IX. Water permission	1. General regulations
	2. Issuing of water permits
	3. Expiration, withdrawal and limitation of the water law permit
	4. Water-legal notification
	5. Water-legal assessments
X. Water Association and Levee Association	1. Establishment of Water Association and Levee Association
	2. Water Association bodies
	3. Supervision and control over the activities of Water Association
	4. The dissolution of Water Association
XI. Compensation liability	1. Compensation liability
XII. Penal provisions	2. Penal provisions
XIII. Changes in regulations, transitional, adaptation and final provisions	1. Changes in regulations
	2. Transitional, adaptation and final provisions

- Department of Water Services with five divisions: Water Permissions, Coordination of Water Management Control, Property management of State Treasury and Cooperation with Water Users, Charges and Measurements, Hydropower,
- Department of Water Environment Management six divisions: Planning in Water Management, Water Programs, Environmental Management, Information System of Water Management, State Hydrological and Meteorological Service and State Hydrogeological Service.

The Deputy President for Economic and Organizational Affairs is responsible for three divisions: Organizational, Information Technology and the Economic.

The structure of the Polish Waters also includes other units: 11 regional water management boards, 50 catchment managements and about 330 water supervisions. A detailed list of their tasks is contained in the Water Act and the Statute of the Polish Waters[5].

An important role in water management is played by the minister competent for water management, who shapes the directions of water policy and oversees the Polish Waters, hydrological and meteorological service, hydrogeological service and service for the safety of damming constructions. The advisory body of the minister will be the State Water Management Council with slightly different competences than the National Council for Water Management still operating until the end of its term.

III.2 Water properties

The ownership rights in relation to public waters owned by the State Treasury are performed by:

1. Polish Waters – in relation to inland flowing waters and groundwater, excluding inland waterways of special transport importance,
2. minister competent for maritime economy – in relation to territorial sea waters and internal sea waters,
3. minister competent for inland waterways – in relation to inland waterways of special transport importance.
4. national parks have the right to perpetual usufruct in relation to land covered with waters within the borders of the national park.

Polish Waters may also, after obtaining the consent of the minister competent for water management, entrust the execution of ownership rights to waters to the Forest District or a local government unit.

III.3 Water services

In the works on the Water Law Act, the most controversial was the introduction of a new concept of "water services", in particular the mechanism for setting fees for water services and their size. According to the definition adopted, the water service is the use of waters beyond the scope of general, ordinary and special use of water. The catalog of water services provided in the Water Act is as follows:

- groundwater or surface water intake,
- damming, storing or retaining the groundwater and surface water and using these waters,
- treatment of underground and surface water as well as their distribution,
- collection and treatment of sewage,
- outflow of wastewater to waters or to the ground, including also the outflow of wastewater to water facilities,
- use of water for the purpose of energy, including hydropower,
- outflow of rain or thaw water to open or closed rainwater drainage systems or collective sewage systems within the administrative boundaries of cities,
- permanent drainage of land, object, construction excavation and mining plants, as well as outflow of drainage water to water receiver within the administrative boundaries of cities,
- outflow of water taken and unused into waters or into the ground.

III.4 Fees and penalties

Water services fees are one of nine water management financial instruments. A novelty is the implementation by the end of 2020 of the obligation to equip (at the cost of the Polish waters) water equipment with the apparatus for measuring the amount of water taken in and measuring the amount of water and sewage outflowed into waters or into the ground.

Fees for water services consist of a fixed fee and a variable fee. The amount of the fixed fee is determined annually by the Polish Waters mainly on the basis of entries in the water permit.

It should be noted that a fixed fee is not payable for water abstraction for agricultural or forestry purposes for irrigation of land and crops as well as for the purpose of rearing and breeding fish. The variable fee depends mainly on the quantity of the amount of water collected or sewage outflowed. In the Water Act, there are a few references to water management in forests. The provisions of Article 274 may be relevant, in which the upper rate for collecting underground water for irrigation for forest purposes by means of pumping equipment was set at about 0,04 EUR per 1 m^3.

The Water Law also establishes penalties in the form of so-called fees increased for the provision of water services without a water permit in the amount of 500% of the variable fee due or for violation of the water permit in the amount of a 10-fold unit variable fee rate. In the absence of a water permit, Polish waters may issue a decision to prohibit the performance of a water service immediately.

III.5 Water permits

Water rights permits treated as an instrument of water management will be issued by the organizational units of the Polish Waters (regional water management boards and management boards), and not as it was before by local government units, ie by marshals of provinces or poviat starosts.

A new concept of water law agreement has been introduced, which includes the following administrative proceedings leading to:

[5] KOZA (2018)

- issuing a water law permit,
- acceptance of the water law declaration,
- issuing a water legal assessment,
- issuing a decision to repeal certain prohibitions regarding the use of water or other activities related to water management.

A water permit is necessary, among others on:

- performance of water services,
- special use of water,
- long-term lowering of water level and reclamation of surface and underground waters,
- construction of devices and water structures such as canals, ditches, ponds, water reservoirs.

Obtaining a water permit is necessary before obtaining, among others decisions on building and spatial development conditions, decisions on building permits, road construction projects.

The procedure for issuing water permits and accepting the water-law declaration has not changed. Water-law assessment is a new instrument for water management. Its acquisition is required when planning activities that may affect the achievement of environmental objectives, mainly related to the water quality of water bodies. The positive assessment enables the planned project to be implemented, while the negative assessment requires a specialist justification and consent to the proposed action is the competence of the Polish Waters authorities.

III. 6 Other significant changes

A lot of attention was devoted in the Water Act to protection of waters against pollution, in particular activities aimed at protection of waters against pollution of agricultural origin, i.e. leading to the requirements of the Nitrates Directive. The current approach based on special activities in the areas particularly exposed has been changed and one action program for the whole country has been established obliging farmers to use the so-called catalogue of good agricultural practices.

Among other changes introduced into the Water Act, the provisions regarding water melioration (drainage and irrigation systems) are relevant for agricultural and forest areas. The definition of water melioration has been changed to the following: "Water melioration consists in regulating water relations in order to improve soil production capacity and facilitate its cultivation." In the current definition, also not completely correct in substance, one of the functions of land improvement was protection against floods in rural areas.

According to the provisions of the Water Law, the realization and maintenance of irrigation and drainage devices belongs to the owner of the land. However, it was envisaged to participate in covering the costs of these works with financial resources from other sources, including public funds with a specific form of payment by farmers in the form of so-called melioration fee. These regulations relate to farmland and, similarly to the Water Law of 2001, there are no specific provisions relating explicitly to the land improvement in forest areas. A further change is the abolition of the existing in the Water Act from 2001, the division into basic melioration facilities financed from the state budget and detailed melioration measures financed by owner with the support of public funds with their partial reimbursement by farmers.

The introduced change may cause negative effects, because drainage or irrigation systems, in order to fulfill their functions properly, must be able to outflow or supply water. For this purpose, mainly watercourses and canals are used in Poland, which were previously classified as basic melioration facilities. According to the current Water Act, regulations concerning the training of rivers and their maintenance do not take into account their key role in the functioning of drainage and irrigation systems. The specifics of water receivers and water supply have been omitted in principle, stating in general that the maintenance of water facilities belongs to their owners and includes an operation, maintenance and renovation in order to preserve their functions, and the costs of maintaining water facilities are attended by those who benefit from them. So if the maintenance costs of so-called watercourses important for agriculture are to burden the owners of the drained land, it can be predicted with a high probability of a rapid degradation process of drainage systems. This problem was probably taken into account, because in one of the article it has been states: "Local government units may incur the costs of investments carried out on waters owned by the State Treasury and the costs of maintaining those waters."

IV. Summary

The legislative bases of water management are very difficult to codify, due to the varied needs and conflict situations related to water resources. The development and adoption of the existing Water Act, as well as the previous 2001, lasted for many years. Undoubtedly, the new Act meets the requirement to reduce the dispersion of competences in water management.

The transfer of the water management department from the Ministry of the Environment to the Ministry of Maritime Economy and Inland Navigation is a surprise and is assessed differently, however it should be recalled that until 1960 there was the Ministry of Shipping and Water Management from which in 1960 the Central Office of Water Management was separated. It functioned until 1972, when competencies in water management issues were divided into three ministries, mainly the Ministry of Agriculture. In 1983, the Office for Environmental Protection and Water Management was established, which after several subsequent changes was transformed into the Ministry of the Environment. According to the Author's opinion, after the organizational changes, the name of the current Ministry of Maritime Economy and Inland Navigation would be more appropriate to the name of the Ministry of Water Management.

Organizational and substantive changes in the Water Act, which are assessed as revolutionary rather than evolutionary, require a certain period of time for their proper implementation and improvement. This also applies to the operation of Polish Waters. It should be emphasized that water law is a document that should reflect environmental conditions as well as political, economic, social and climatic changes that enforce periodic amendments to legal acts, which is undoubtedly awaited by the new Water Act.

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