

ANALYSIS OF THE ANTI-EROSION DECREE – A CASE FROM THE CZECH REPUBLIC

ANALÝZA PROTIERÓZNEJ VYHLÁŠKY – PRÍPAD Z ČESKEJ REPUBLIKY

.....
Radek JURČÍK – Jana MERVARTOVÁ*
.....

I Introduction

The anti-erosion decree came into effect in 2021. It is the decree of the Ministry of Agriculture No. 240/2021 Coll., on the protection of agricultural land against erosion. With this decree, the Ministry of Agriculture implements Section 22, paragraph 1, letters a) and d) of Act No. 334/1992 Coll., on the protection of agricultural land, as amended by Act No. 41/2015 Coll.

The declared objective of the anti-erosion decree is to protect agricultural land against water erosion.

II Material and methods

The article used the method of analysis of the legal regulation of the anti-erosion decree and the Act on the Protection of Agricultural Land Fund. Furthermore, the article is based on the explanatory report to the Act on the Protection of Agricultural Land Fund. The analyzed decree consists of eight paragraphs and Annex No. 1 (Permissible level of erosion risk) and Annex No. 2 (Assessment of erosion risk on the assessed area).

III Results and Discussion

3.1 Aim of the Anti-erosion Decree

The Anti-Erosion Decree (officially Decree No. 240/2021 Coll. on the Protection of Agricultural Land from Erosion) sets out rules for the protection of agricultural land from erosion. Its content includes defining the permissible level of erosion risk, determining the method of assessing erosion risk, the obligation to develop a plan of anti-erosion measures and specific measures that farmers must comply with or implement. A key element is the reduction of the permissible soil loss from 17 tonnes to 9 tonnes per hectare per year.

This decree establishes soils unsuitable for the conversion of permanent grassland to arable land in terms of their physical or biological properties and their erosion risk from water erosion, as well as the method of assessing the erosion risk of agricultural land from water erosion, the permissible level of erosion risk from water erosion, and measures to reduce it⁽¹⁾.

.....
1 Janeček (2012)
.....

Abstract (EN)

This article deals with the analysis of the anti-erosion decree, the application of which should prevent soil erosion. Erosion of agricultural land is one of the aspects of its damage, and causes degradation of agricultural land. It is the process of carrying away the most fertile layer of soil (topsoil) by water or wind, which degrades the soil and reduces its fertility and yields. In the Czech Republic, it is a serious problem that threatens more than half of the agricultural land.

Abstrakt (SK)

Tento článok sa zaoberá analýzou protieróznej vyhlášky, ktorej uplatňovanie by malo zabrániť erózii pôdy. Erózia poľnohospodárskej pôdy je jedným z aspektov jej poškodzovania a spôsobuje degradáciu poľnohospodárskej pôdy. Ide o proces odnášania najúrodnejšej vrstvy pôdy (ornice) vodou alebo vetrom, čo degraduje pôdu a znižuje jej úrodnosť a výnosy. V Českej republike ide o vážny problém, ktorý ohrozuje viac ako polovicu poľnohospodárskej pôdy.

Keywords (EN)

soil protection, erosion, the Czech Republic, European Union, environmental protection

Kľúčové slová (SK)

ochrana pôdy, erózia, Česká republika, Európska únia, ochrana životného prostredia

.....
* Mendel University in Brno, Czech Republic
.....

3.2 Soils Unsuitable for the Conversion of Permanent Grassland to Arable Land

Soils unsuitable for the conversion of permanent grassland to arable land are:

- a) soils located in areas where lower than permissible levels of erosion risk cannot be achieved through the measures specified in Section 7, Paragraph 1, Letters a) and b); the procedure specified in Section 5 shall be used to assess the erosion risk for the purpose of identifying soils unsuitable for the conversion of permanent grassland to arable land;
- b) soils with a soil profile depth of up to 30 cm;
- c) soils on which technical measures to reduce the erosion risk specified in Section 7, Paragraph 1, Letter c) are designed or implemented;
- d) soils on which an organizational measure in the form of protective grassing of the land specified in Section 7, Paragraph 1, Letter a) is designed or implemented.

3.3 Permissible Level of Erosion Risk

The permissible level of erosion risk is determined by the permissible loss of agricultural land caused by water erosion related to the soil depth expressed in tons per 1ha per year and is set out in Annex No. 1 to this Decree.

The decree distinguishes between different types of erosion, which is welcome. Water erosion is caused by water (rain, surface runoff) that washes away soil particles. It occurs mainly on slopes and during heavy rainfall. Water disrupts the soil structure and carries particles down the slope. Wind erosion is caused by wind that carries away dry and unconsolidated soil particles, especially in dry and open landscapes. It more often affects lighter soils with a low organic matter content. These processes, therefore, operate under different climatic and soil conditions and require different solutions. The decree, therefore, distinguishes between different types of erosion and tries to “force” farmers to adopt good agricultural practices when managing agricultural land^{(2), (3)}.

3.4 Method of Assessing Erosion Risk

The assessment of the erosion risk of agricultural land consists of performing a calculation in an anti-erosion calculator in order to determine the level of erosion risk of the assessed area using the procedure specified in Annex No. 2 to this Decree.

When assessing the erosion risk of the assessed areas, the agricultural land protection authorities

base their assessment on data on repeated erosion events recorded in the monitoring of agricultural land erosion⁽⁴⁾.

If the agricultural land protection authority finds that there have been changes to the parameters of the assessed area that have an impact on the assessment of erosion risk and the calculation performed in the erosion control calculator, it will revise the definition of the assessed area and notify the agricultural entity of this fact.

3.5 Plan of Measures to Reduce Erosion Risk

The plan of measures to reduce erosion risk of agricultural land (hereinafter referred to as the “plan of measures”) contains measures to reduce erosion risk in order not to exceed the permissible level of erosion risk of the assessed area. The plan of measures serves for the purposes of assessing erosion risk and selecting appropriate measures to reduce erosion risk pursuant to Section 7(1)(a) and (b).

The plan of measures is prepared using an erosion calculator for a period of at least 5 years and always includes the assessed area. The plan of measures may also include other areas of agricultural land, provided that it does not exceed the scope of five times the area of one crop on which an erosion event occurred, as recorded in the monitoring of agricultural land erosion.

If the agricultural entity operates in accordance with the plan of measures, it is considered that the permissible level of erosion risk is not exceeded⁽⁵⁾.

Measures to reduce the risk of erosion are:

1. Organisational measures, which are:
 - a) appropriate placement of cultivated crops, including protective grassing;
 - b) strip crop rotation.
2. Agrotechnical measures, which are in particular:
 - a) contour cultivation;
 - b) protective cultivation, which is understood as farming in which at least 30% of plant residues are maintained on the soil surface at the time of emergence of cultivated crops, and which consists in reducing the number of operations in cultivating the soil and their combination, when ploughing is omitted and crops are sown either directly into the harrowed soil, or the soil is only loosened with a cultivator instead of ploughing; in the case of no-till cultivation of stubble areas, plant residues are only partially incorporated into the soil, mulch is formed on the surface;

2 EU Commission (2022)

3 Kotovicová (2009)

4 Jordana (2000)

5 Widowaty (2018)

- c) undermining;
- d) diking or pothole-making.
- 3. Technical measures, which are:
 - a) ditches;
 - b) embankments;
 - c) grassed valleys with a stabilized path of concentrated drainage;
 - d) dirt roads with an anti-erosion function;
 - e) protective dikes;
 - f) protective reservoirs;
 - g) terrain levelling;
 - h) terraces;
 - i) anti-erosion borders;
 - j) remediation of erosion potholes.

IV Conclusions

The decree defines measures such as contour cultivation, protective cultivation (e.g., no-till), and undermining, which are intended to help reduce the risk of erosion. There is currently a debate about the possible repeal of the decree and its replacement with other measures, such as agronomic recommendations or eco-schemes, within the EU's Common Agricultural Policy. The reason for this is that the anti-erosion decree is complex, especially for small farmers, and difficult to apply in practice.

The Common Agricultural Policy has major implications for agricultural policy in the Czech Republic. Its target orientation and national plans, taking into account specific conditions, must be adopted within the framework of the EU's common agricultural policy.

Critically, the Czech Republic prepared several working versions of the strategy paper, prepared as of October 2021 and submitted to the EU Commission for informal consultations. This national plan is very general and does not address how to specifically and in detail achieve the objectives of the EU Commission at the national level in the Czech Republic⁶.

V Summary

Agricultural soil erosion is the process of removal of the most fertile layer of soil (topsoil) by water or wind, which degrades the soil and reduces its fertility and yields. This natural process is often accelerated by agricultural practices such as inappropriate cultivation and insufficient protection, and is a serious problem in the Czech Republic, threatening more than half of the agricultural land. It can be reduced by anti-erosion measures such as agronomic techniques, crop rotation, and the cultivation of cover crops. This article discusses valid anti-erosion measures.

Acknowledgements

The project is co-financed by the Governments of Czechia, Hungary, Poland, and Slovakia through Visegrad Grants from the International Visegrad Fund. The mission of the fund is to advance ideas for sustainable regional cooperation in Central Europe.



References

1. EU COMMISSION. Common Agriculture Policy. Online 3. 5. 2022 form https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/cap-glance_cs
2. JANEČEK, M. 2012. Protection of agricultural land from erosion. Praha : ČZU, 2012.
3. JORDANA, J. 2000. Traditional foods: challenges facing the European food industry. In Food Research International, vol. 33, 2000, no. 3–4, pp. 147–152.
4. KOTOVICOVÁ, J. 2009. Ochrana životního prostředí II. Brno : MZLU, 2009, p. 165.
5. MINISTRY OF AGRICULTURE. National CAP plans in the Czech Republic. Online 3. 5. 2025 <https://eagri.cz/public/web/mze/dotace/szp-pro-obdobi-2021-2027/zakladni-informace/strategicky-plan-spolecne-zemedelske.html>
6. WIDOWATY, Y. – ARTANTO, IO. 2018. Protection of Agricultural Land Sustainable Food for The Realization of Food Security in The Special Region of Yogyakarta 4th International Conference on Food, Agriculture and Natural Resources (FANRes). In Proceedings of the International Conference on Food, Agriculture and Natural Resources (Fanres 2018) 172, 2018, pp. 36–41.

Contact address/Kontaktná adresa

doc. JUDr. Ing. Radek Jurčík, Ph.D., MBA, LL.M.
Mendel University in Brno
Faculty of Business and Economics
Department of Law and Social Science
Zemědělská 1, 613 00 Brno, Czech Republic

✉ jurcik@mendelu.cz

JUDr. Jana Mervartová
Mendel University in Brno
Faculty of Business and Economics
Department of Law and Social Science
Zemědělská 1, 613 00 Brno, Czech Republic

✉ mervartova@mendelu.cz

6 Ministry of Agriculture (2025)