Agricultural Land Protection in Central Europe Report

August 2019

Title: Agricultural Land Protection in Central Europe – CEILAND 2019

Publication type: Report

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The report arises from the conference outcomes "Central European Initiative on Agricultural Land Protection" organised by the Slovak University of Agriculture in Nitra, Faculty of European Studies and Regional Development on April, 3rd -5th, 2019, and summarises expertise of agricultural land protection from Central Europe countries in order to contribute to multiparty discussion about the agricultural land protection in Europe.

"The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein."

Co-funded by the
Erasmus+ Programme
of the European Union

Content

Introduction

Agricultural land is currently considered as vulnerable natural resource which is affected by diverse human activities - on one side it is “land take” for housing, industry, roads or recreational purposes, on the other side it is intensification of the agricultural production - the use of chemical preparation, heavy machinery for big plots, etc. Results of these processes have led to the progressive decrease of the agricultural land quality in the Europe.

Because in the EU does not exist any harmonized political tool for land management and in several EU member states the land policy is not suitably adjusted, decisions of relevant state and self-government authorities related to land management could be constantly directed to soil deterioration.

The Report: Agricultural Land Protection in the Central Europe has been elaborated with the EU financial support in the frame of the Erasmus+ Jean Monnet Project "Central European initiative on Agricultural Land Protection (CEILAND)" No 600441-EPP-1-2018-1-SK-EPPJMO-PROJECT.

Central Europe is specific geographical region with significant influence share of agricultural land in Europe with a good quality and climate conditions. The implemented project arises from the need to contribute to sustain quality of agricultural land and food security in the EU. Therefore, the main objective of the project was to foster a dialogue between the crucial stakeholders of agricultural land protection in Central Europe affecting the achieving the objectives of EU agri-environmental and EU food policy.

Specific objectives of the report as a one of the project activities is to present legal regulations and to summarize analyses and expertise about agricultural land protection from Central Europe countries. The report will consider the countries of the Central Europe as follows: Austria, Croatia, Czechia, Germany, Hungary, Poland, Slovakia, and Slovenia.

The aim of the collective of authors was to offer not only a one-time comprehensive material, but mainly to enhance the trust and confidence in the EU agricultural land protection, to provide the researchers, academics, professionals, students, general public the possibility to use the material later as well to be able to focus on and to solve some of the basic issues within the field of agricultural land protection.

Nitra 2019

Authors

I. General overview

1 The land withdrawal processes and legal background of the land protection in the European Union

The land is a finite resource. The way land is used is one of the principal drivers of environmental change with a strong impact on ecosystems. Land use in Europe is driven by a number of factors such as the increasing demand for living space per person, the link between economic activity, increased mobility and the growth of transport infrastructure, with usually result in urban expansion. Urbanization rates vary substantially, with coastal and mountain areas among the most affected regions in Europe as a result of increasing demand for recreation and leisure.

Land withdrawal by urban areas and infrastructure is generally irreversible and results in soil sealing, i.e. the loss of soil resources due to covering the land for housing, roads or industry. Urban land withdrawal consumes agricultural land and reduces space for habitats. Areas converted to artificial surfaces are only able to support few functions related to socio-economic activities and housing. Converting land to artificial surfaces reduce the potential of ecosystems to provide important services such as the regulation of the water balance and protection against floods. The land occupied by man-made surfaces and dense infrastructure also fragments the landscapes. It is also a significant source of water, soil, and air pollution.

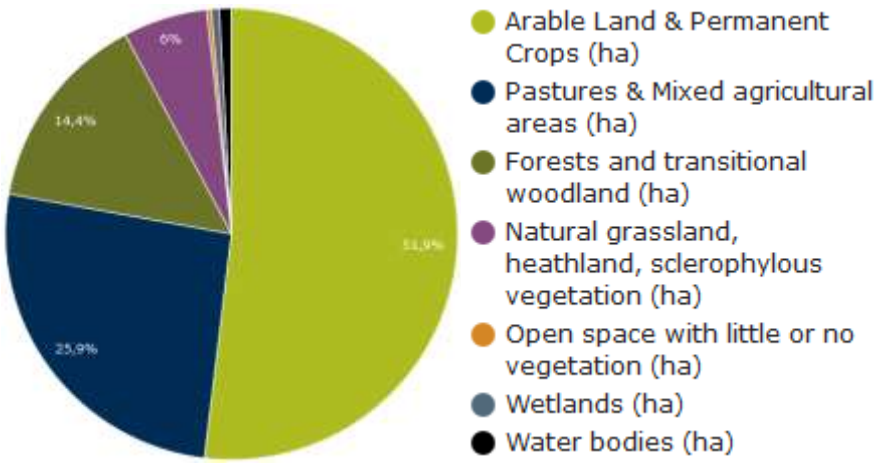

Fig. 1: Relative contribution of land-cover categories to withdrawal by urban and other artificial land development in EU 28 between 2006 and 2012 (ha)

Source: European Environment Agency (2019)

In EU 28 between 2006 and 2012 was withdrawn for urban and other artificial land development 263 966 ha (51.9 %) of arable land and permanent crops, 131 839 ha (25.9 %) of pastures and mixed agricultural areas, 73 116 ha (14.4 %) of forests and transitional woodland, 30 626 ha (6 %) of natural grassland, heathland, sclerophylous vegetation, 4 427 ha (0.9 %) of water bodies, 2 912 ha (0.6 %) of wetlands and 1 649 ha (0.3 %) of open space with little or no vegetation.

Dominant land withdrawal from land cover categories were arable land and permanent crops, i.e. 52 %. This phenomenon was particularly significant in Lichtenstein (100 %), Denmark (88 %), Slovakia (78%), Italy (76%) and Czechia (71 %). Pastures and mixed agricultural areas were the next biggest category of total land withdrawal between 2006 and 2012. These land cover types were the major target of land withdrawal, e.g. in Ireland (85 %), Luxemburg (63 %), the Netherlands (53 %) and Latvia (49 %). Another biggest category were forests and transitional woodland. The withdrawal of this land cover category was very high in Finland (82 %), Norway (71 %) and Slovenia (70 %). The next biggest category were natural grassland, heathland, sclerophylous vegetation. It was the largest land withdrawal class, e. g. in Malta (100 %) and Iceland (62 %). Water bodies were the next withdrawn land classes. Higher average amounts of water bodies were withdrawn e.g. in Netherlands (5 %), Iceland (4 %) and Belgium (4 %). The next withdrawn land classes were wetlands. Higher amounts of wetlands were taken in Iceland (17 %), Estonia (7 %) and Norway (6 %). The least withdrawn land classes were open space with little or no vegetation. Higher average amounts of this land cover category were withdrawn e.g. in Turkey (11 %), Norway (5 %), Iceland (4 %) and Albania (3 %).

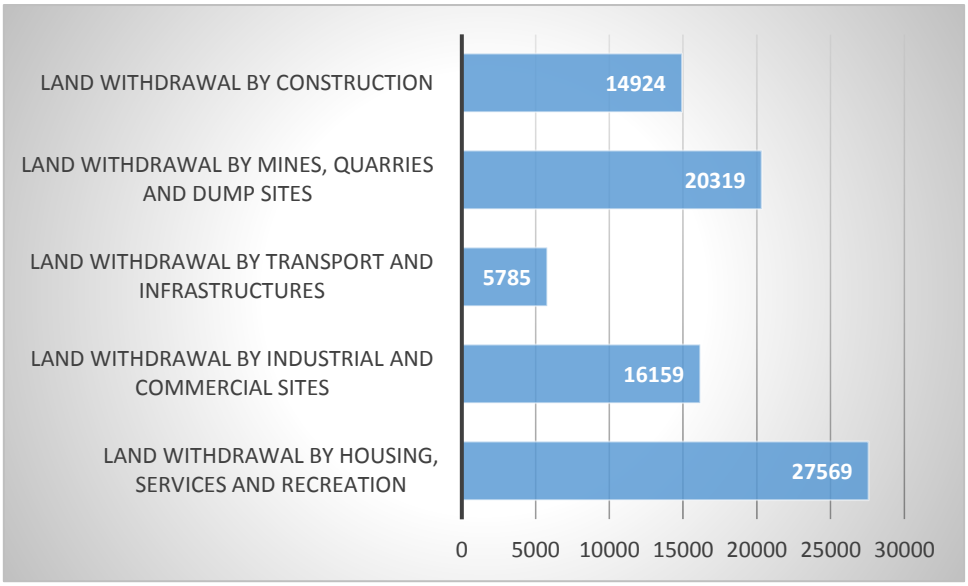

Fig. 2: Annual land withdrawal by several types of human activity in EU 28 between 2006 and 2012 (ha/year)

Source: Own elaboration based on European Environment Agency (2019)

The drivers of annual land withdrawal for urban and other artificial land development in EU 28 were housing, services and recreation, i.e. 27 569 ha (32.5 %), mines, quarries and dumpsites, i.e. 20 319 ha (24 %), industrial and commercial sites, i.e. 16 159 ha (19.1 %), construction sites, i.e. 14 924 ha (17.6 %) and transport and infrastructures, i.e. 5 785 ha (6.8 %).

Dominant driver of land withdrawal was for housing, services and recreation. This figure was over 30 % for housing e.g. in Denmark (49 %), Czechia (35 %), Sweden (32 %) and France (31 %). The construction of sport and recreation facilities was an important driver for Norway (64 %), Iceland (46 %), Austria (43 %), Cyprus (34 %) and Denmark (48 %). Land withdrawal as a result of mines, quarries and dumpsites was second very important driver. Among EU 28, the figure was significantly higher e.g. in the Bosnia and Herzegovina (62 %), Estonia (56 %) and Serbia (51 %). Another biggest driver was land withdrawal by industrial and commercial sites. This category was particularly an important driver in Liechtenstein (100 %), Germany (43 %), Italy (43 %), Switzerland (34 %) and the United Kingdom (31 %). Land withdrawal for construction sites was the next biggest driver. Construction sites represent transitional areas that will become other newly urbanized land classes in future. The figure for this driver was greatest in Luxembourg (69 %), the Netherlands (58 %), Lithuania (56 %) and Portugal (50 %). The last biggest driver was land withdrawal by transport infrastructure. This

driver was higher in Ireland (28 %), Croatia (24 %), Albania (19 %), Hungary and Romania (15 %), Slovenia (14 %) and Poland (13 %).

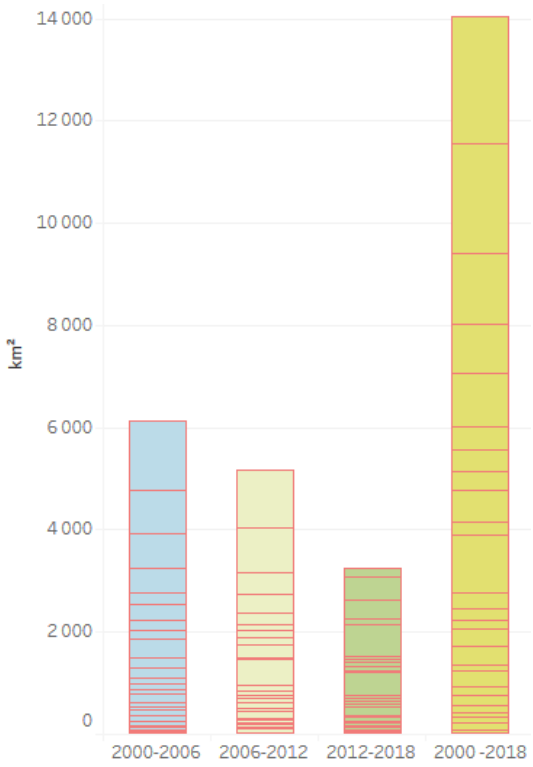

Fig. 3: Land withdrawal statistics for every 6 years and for the entire period 2000-2018 in EU 28 (km²)

Source: European Environment Agency (2019)

The overview of the land withdrawal processes for EU 28 shows that in the period 2000-2006 was withdrawn 6 130.25 km^2, in the period 2006-2012 was withdrawn 5 160.81 km^2, in the period 2012-2018 was withdrawn 3 236 km^2, and in the entire period 2000-2018 was withdrawn 14 048.85 km^2. Between the entire period 2000-2018, the most withdrawn land category was arable land and permanent crops, i.e. 7 098.09 km^2.

As mentioned above, the land is a finite resource with increasing substantial demands placed on it. As a result of increasingly heavy pressure on land resources (e.g. housing, transport infrastructure, energy production, agriculture, and nature protection), agricultural production declines, the quantity and quality of land deteriorates, and there is increasing competition for access to land (FAO/UNEP, 1999). The competition for land resources creates serious risks of geopolitical imbalances both worldwide and in the EU. The EU will thus be even more dependent in future on its land resources – which include some of the most fertile soils in the

world – and on their sustainable use (The implementation of the Soil Thematic Strategy and ongoing activities COM/2012/046 final).

For following reasons, at present is emphasized to ensure effective tools of land policy in the European Union. One of the most significant one is a land management focuses primary on the management of the use and development of land resources. Land resources management is defined as the actual practice of the use(s) of the land by the local human population, which should be sustainable which composes of legal, economic, institutional and environmental framework (FAO/Netherlands, 1991). Sustainable land management is then defined as a knowledge-based procedure that helps integrate land, water, biodiversity, and environmental management (including input and output externalities) to meet rising food and fiber demands while sustaining ecosystem services and livelihoods (World Bank, 2006).

Complexity of the land management consists in the fact that management of the land nearly always face a trade-off between various social, economic and environmental needs (e.g. housing, transport infrastructure, energy production, agriculture, nature protection). Competences of the land management in the EU are exercised by concrete European states because until now at the EU level miss political will to adopt legally binding actions. 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. EU Member States have a variety of legal decisions that can use to address environmental issues related to land use. Governments play a crucial role in implementing policies for wise use of land. Governments regulate the exploitation of resources and they control land use. They can and do use a variety of public policy tools to authorize, finance, and implement these actions. Public policy tools include international agreements, laws, programs, and public education (INTOSAI Working Group on Environmental Auditing, 2013; Figure 4).

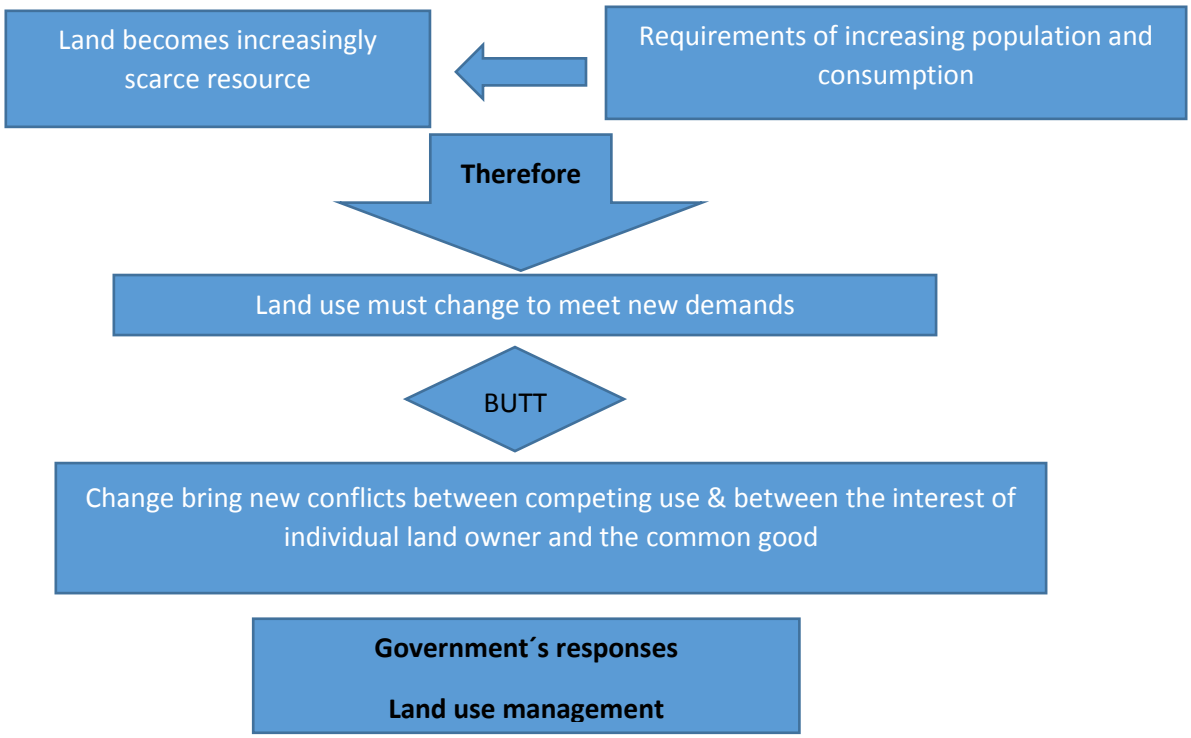

Fig. 4: The importance of land use management

Source: INTOSAI Working Group on Environmental Auditing, 2013

Legal decisions include legislation (legal acts), regulations, permits, licenses, bylaws, and ordinances. Legal decisions on land use are at the same time long term commitments which are difficult or costly to reverse. On the other site weak land administration can namely lead to severe injustice and conflict. Changes in administrative structure are likely to have long-term consequences, positive or negative, for political, economic and social development and environmental management (COM (2004) 686 final).

Competence of EU and EU member states in the field

Because the current land policy lies at the heart of economic and social life and environmental issues in all EU countries, the EU agricultural, energy, transport and cohesion policy reforms has effort to provide the opportunity to set the framework and the right incentives for public authorities and land owners in order to improve the effectiveness of land management. Most regulations and policies regulation agricultural law (land planning, tax law, environmental regulations, etc.) are within the competences of national states and local authorities. Yet agricultural land is directly or indirectly affected by a range or EU regulations and policies, notably in the following areas:

- Environment: (for example: renewable energy directive (2009/28/EC), nitrates directive (91/676/EEC), water framework directive (2000/60/EC), etc.;
- Regional policy, mobility and transport: development of large transport and other infrastructures, social and territorial cohesion;
- Common agricultural policy: overall agricultural orientations, land use and its evolution, land prices, young farmers, high nature value, etc.
- Land management decisions are usually taken at local or regional level. However, the

European Commission has a role to play in ensuring that Member States take environmental concerns into account in their land-use development plans and practice integrated land management. The European Commission has an exclusive right to propose new environmental, including land policy and has a responsibility to ensure the implementation of environmental law. The most important directorates-generals related to the environment are: Agriculture and Rural Development, Climate Action, Energy, Environment, Health and Food Safety, Joint Research Centre, Marine Affairs and Fisheries, Regional and Urban Policy, Research and Innovation.

The Directorate-General for Environment (DG Environment) is the European Commission´s department responsible for EU policy on the environment. Aims of the DG Environment are:

- To protect, preserve and improve the environment for present and future generations;
- To propose and implement policies that ensure a high level of environmental protection;
- To preserve the quality of life of EU citizens.

It also makes sure that Member States apply EU environmental law correctly and represents the European Union in environmental matters at international meetings.

Policy areas of DG Environment: action programmes, air, chemicals, circular economy, environmental assessment, green public procurement, industry, international issues, land, marine and coast, nature and biodiversity, noise, soil, sustainable development, urban development, waste and water.

Directorate-General for Agriculture and Rural Development (DG Agri) is the European Commission department responsible for the European Union policy area of agriculture and rural development. The work of the DG AGRI is closely linked with the Common Agricultural Policy (CAP). DG Environment works under the political leadership of Phil Hogan.

Policy areas of DG Agri: direct support, market measures, rural development, agriculture and environment, bioenergy, climate change, organic farming, quality policy, biotechnology, promotional measures, forest resources, state aid, research and innovation, food and feed safety, animal health and welfare, plant health.

The European Commission currently operates several affiliated institutions, whose aim is to assist the Commission in forming and implementing environmental policy. The most important are the European Environmental Agency, European Union Network for the implementation and Enforcement of Environmental Law (IMPEL), Environmental Policy Review Group etc.

The European Environment Agency (EEA) is an agency of the European Union. EEA's mandate is:

- To help the Community and member countries make informed decisions about improving the environment, integrating environmental considerations into economic policies and moving towards sustainability;
- To coordinate the European environment information and observation network.

The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) is an international non-profit association of the environmental authorities of the European Union Member States, acceding and candidate countries of the EU, EEA and EFTA countries. The Network's objective is to create the necessary impetus in the European Union to make progress in ensuring a more effective application of environmental legislation. The core of IMPEL's activities take place within a project structure and concern awareness raising, capacity building, peer review, exchange of information and experiences on implementation, international enforcement collaboration as well as promoting and supporting the practicability and enforceability of European environmental legislation.

2 Economic aspects of land management in the EU

Both the priorities and the objectives of the European Union policy implemented within the framework of the CAP, and the forms of support, in relation to agriculture and rural areas,

have evolved since its inception. The previous objective was: “maintenance of agricultural economy and agricultural areas”, whereas the present objective is: “management of the balance between the quality of the rural environment and quality of life in rural communities”.

The problems of management of agricultural lands in the European Union should be considered from the perspective of the regulations contained in the I and II pillar of the CAP. Pillar I utilizes direct subsidies, which are the most common form of protection of agricultural land in the policy of the European Union, making the reception of support depend on the fulfilment of cross-compliance requirements. The beneficiary of this aid is obliged to comply with the basic requirements in terms of management and the principles of good agricultural practice, in observance of environmental protection. According to the rules of good agricultural practice, requirements must also take into the account: proper soil and climatic conditions, existing farming systems, land utilization, crop rotation, farming practices, and farm structures (Council Regulation (EC) No 1782/2003 from September 29, 2003, establishing common rules for direct support schemes under the CAP).

The obligation of setting aside arable land has been introduced in the European Union as a supply control mechanism. Set-aside entitlements were established in 2003, which resulted in the granting of direct subsidies, with the assumption that the lands are not used for production purposes, but are rather maintained in good agricultural practice, in observance of environmental protection.

The framework of the II CAP pillar includes activities related to the development of rural areas. Subsequent budgeting periods (2000-2006; 2007-2013 and the current 2014-2020) contain many measures that directly or indirectly concern good management of agricultural lands. Measures implemented under the II CAP pillar are: consolidation of agricultural land, aiming at: creating favourable economic conditions, creating compact land complexes, improving the areal structure and maintaining environmental values.

Significant measures related to improving economic conditions include the support system for agriculture in mountains and other areas unfavourable for agricultural production introduced in 1975, which protected agricultural land from falling out of agricultural use. The support introduced by EEC Directive 268/75 was primarily aimed at ensuring the continuation of farming activity and preserving the socio-economic lifetime of rural areas. It established the boundaries of the area of intervention for naturally and structurally impaired agriculture and for the first time it was decided to compensate for losses resulting from said impairment, mainly through subsidies to compensate for reduced land rent in these areas.

The priorities of the rural area development support policy in the years 2007-2013 were to support land management, stimulate restructuring, development and implementation of innovations in agriculture and forestry, diversification of economic activities carried out in rural areas. The aim of these measures is to improve the quality of life, the condition of the environment, the competitiveness of agriculture and forestry. Afforestation of agricultural lands and afforestation of non-agricultural lands has been introduced to combat the degradation of lands especially vulnerable to erosion, over-cropping and the penetration of pollutants into groundwater. Among the measures to achieve the improvement of the environment one can distinguish measures aimed at sustainable use of land in the form of, among others, subsidies for Natura 2000 areas, agri-environmental subsidies and animal welfare subsidies. Natura 2000 subsidies were granted to farmers yearly per hectare of agricultural land in order to compensate for costs incurred and income foregone resulting from disadvantages in given areas, associated with the implementation of directives aimed at 2000 areas. Agri-environmental and animal welfare subsidies were granted to farmers who voluntarily undertook agri-environmental and animal welfare commitments. The subsidies included additional costs and income foregone resulting from the commitments made. It should be emphasized that agri-environmental and animal welfare subsidies covered only those commitments which exceeded the relevant mandatory standards established by the applicable regulations of the above Council Regulation (EC) No. 1782/2003 and other relevant mandatory requirements established by national legislation and identified in the program.

The current financial and legal instruments of the Common Agricultural Policy established for the period 2014-2020, have been structured in the three basic Regulations of the European Parliament and of the Council (EU) adopted on a single day - December 17, 2013, and bearing the numbers:

- No. 1305/2013 on support for rural development from the European Agricultural Fund for Rural Development (EAFRD);
- No. 1306/2013 on the financing, management and monitoring of the Common Agricultural Policy;
- No. 1307/2013 establishing rules for direct subsidies under support schemes within the framework of the Common Agricultural Policy.

The currently valid regulation no. 1307/2013 provides for two direct subsidy schemes: a) the basic subsidy scheme, and b) the single area payment scheme, applied in Poland. The preamble to the regulation states that one of the objectives of the new CAP is to improve the

results in terms of environmental impact, through the mandatory "greening" element included in the direct subsidies, which supports EU-wide agricultural practices beneficial for the climate and the environment. These practices should take the form of simple, generalized, non-contractual and annual measures that go beyond cross-compliance and are linked to agriculture, such as crop diversification, maintenance of permanent grassland (including traditional orchards where fruit trees with low density cover a grassland area), and the establishment of ecological focus areas. Failure to comply with the obligations resulting from the "greening" element shall be subject to penalties under regulation no. 1306/2013.

In addition to direct subsidies, an important group of instruments related to the management of agricultural lands in the EU are agri-environmental programmes and regulations in the field of organic farming. These promote practices contributing to a sustainable land management (in order to protect soils, waters and the climate), protection of valuable natural habitats and endangered bird species, the diversity of the landscape and protection of genetic resources of endangered local plants and livestock, as well as protection of the diversity of the landscape.

3 Ecological aspects of the land management

The change of land use is the most ubiquitous factor leading to sufficient changes and degradation of environment. Deforestation, urban development, agriculture, and other human activities have substantially altered the Earth's landscape. Such disturbance of the land affects important ecosystem processes and services, which can have wide–ranging and long–term consequences, as follows:

- Impact on natural resources including water, soil, air, nutrients, plants, and animals;
- Water pollution both in inland and coastal waters;
- Conversion of wetlands to crop production and irrigation water diversions has a negative impact on many wildlife species;
- Irrigated agriculture has changed the water cycle and caused groundwater levels to decline;
- Intensive farming and deforestation may cause soil erosion, salinization, desertification, and other soil degradations;
- Deforestation causes greenhouse effect, destruction of habitats that support biodiversity, affects the hydrological cycle and increases soil erosion, runoff, flooding and landslides;

- Urbanization causes air pollution, water pollution, and urban runoff and flooding;
- Habitat destruction, fragmentation, and alteration associated with urban development are a leading cause of biodiversity decline and species extinctions, etc.

What is Urban Sprawl?

Urban sprawl is actually another word for urbanization. It is related to migration of population from populated towns and cities to low density residential development occupying more and more rural land. In other words, urban sprawl is defined as low density residential and commercial development on undeveloped land. Urban sprawl is associated with a number of environmental effects. In Europe, the urban sprawl has rapidly increased during the last decades. It is one of the main challenges regarding the sustainable land use. Urban sprawl has negative effect on landscapes through three major processes: transformation, degradation and fragmentation. The conversion of agricultural lands into housing areas is the most visible effect. In the same time, valuable habitats and agricultural soils are lost. In the period of 2000 – 2006, for example, 46 % agricultural lands have been taken up by urban and other artificial land development in the European countries. With the spread of built-up areas in the landscape, natural and semi-natural areas are being portioned into smaller patches and reduced in size. This fragmentation affects the ecosystems, because smaller habitats are more prone to isolation, lack of food resources and reduced variability in habitat structure.

Soil degradation in EU

Nowadays, the modern human activities cause damages to the Europe's soils, which increase and lead to irreversible losses due to soil erosion, local and diffuse contamination and the soil surface sealing. Besides, the population growth together with urbanisation is setting soils under pressure, while agricultural intensification is making soils more susceptible to erosion. Another cause of soil degradation is sealing of soil surfaces due to an increased urbanisation and new infrastructures in the most developed and populated countries of western and northern Europe. Some of the main factors that cause soil degradation in the EU include soil erosion (caused by water or by wind), and a decline in the proportion of organic matter contained within soils: almost half of the the soils in the EU are considered to have a low content of organic matter and this is particularly evident in the southern EU countries. Other forms of soil degradation include also salinisation (the accumulation of soluble salts in soils), flooding,

soil contamination from industrial activities (the use and presence of dangerous substances in production processes).

Soil loss by erosion is the main cause of soil degradation also in the Mediterranean region. In some areas, soil erosion cannot be reversed, while in others nearly complete removal of soil has been observed. Soil deterioration by contamination is an important issue in central, western and northern Europe. For 12 of EU countries, the estimated number of potentially contaminated sites adds up to 1,500,000, of which more than 300,000 have been identified. This number sites is not expected to increase, due to national policies already in place and the commitment to the precautionary principle. But, the huge number of existing contaminated sites is an enormous challenge for the next decades and will need appropriate legal instruments, innovative remediation technologies and practical financial instruments. At the national level, many Member States have produced legislation, policies or guidelines to ameliorate or prevent soils from further degradation. But, in general the policy measures are primarily aimed at combating pollution in other areas, and affect soils indirectly. The development of an EU policy which recognizes the role of soil and takes into account the problems arising from the competition among its concurrent uses (ecological and socio-economic), and which is aimed towards the maintenance of its multiple function, would have multiple benefits and achieve a consistent improvement of Europe's environment as a whole.

Another form of soil degradation is the soil sealing - when soil is replaced by an impermeable material, for example, due to the covering of land for housing, roads or other construction work. A roadmap to a resource-efficient Europe COM(2011) 571 — one of the flagship initiatives of the Europe 2020 strategy — has called for EU policies, by 2020, to 'take into account their direct and indirect impact on land use in the EU and globally', such that the rate of land take (land taken for urban and other artificial land development) is maintained on a path which aims to achieve no net land take by 2050.

EU Policy

The European Commission plays an important role in ensuring that the EU Member States take environmental concerns into account in their land-use development plans and practice integrated land management. Monitoring and mediating the negative environmental consequences of land use while sustaining the production of essential resources is a major priority for policy-makers. European Union policies on climate change adaptation are directly relevant to current and future land-use practices and economic sectors depending on these.

Land-use is also important consideration for many other policy areas, such as territorial cohesion, urban planning, agriculture, transport and nature protection. The EU supports a number of development initiatives directly and indirectly promoting sustainable use management addressing desertification, land degradation and drought.

Common Agricultural Policy of EU

The implementation of the European CAP is an example of good practice in preventing soil erosion in an acceptable way. The measures of the new CAP (2014–2020) which has ecological focus areas and the protection of permanent pastures, together with the further application of crop residues, may result in further protecting of land resources. The CAP linkage to the Good Agricultural and Environmental Conditions (GAEC) and the payments can be a good instrument for achievement of sustainable land use. Farmers should also be engaged in a bottom-up approach providing feedback to researchers and policy makers about the impact of management practices on soil erosion rates.

NATURA 2000

Natura 2000 is the key instrument to protect biodiversity in the European Union. It is an ecological network of protected areas, set up to ensure the survival of Europe's most valuable species and habitats. It is made up of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated respectively under the Habitats Directive and Birds Directive. The network includes both terrestrial and marine sites (Marine Protected Areas (MPAs)). Natura 2000 is based on the 1979 Birds Directive and the 1992 Habitats Directive. Stretching over 18 % of the EU's land area and almost 6 % of its marine territory, it is the largest coordinated network of protected areas in the world. 43 % of the total area occupied by Natura 2000 sites in the EU countries is located in mountain areas.

On 16 December 2015, the Environmental Council adopted Conclusions on the mid-term review of the EU Biodiversity Strategy to 2020.

On 2 February 2016, the European Parliament adopted a Resolution on the mid-term review of the EU Biodiversity Strategy to 2020.

4 Land management as a tool for rural development

Land management is a core issue of any rural development policy. This is especially obvious regarding the second objective of the EU rural development policy: "ensuring the

sustainable management of natural resources and climate action" article 4 (b) Regulation n. 2013/1305. Consistently, EU rural development policy includes among the Union priorities: "restoring, preserving and enhancing ecosystems related to agriculture and forestry, with a focus on the following areas:

- restoring, preserving and enhancing biodiversity, including in Natura 2000 areas, and in areas facing natural or other specific constraints, and high nature value farming, as well as the state of European landscapes;
- improving water management, including fertiliser and pesticide management;
- preventing soil erosion and improving soil management.

In addition, land management is also an essential part of the third objective of the EU rural development policy: "achieving a balanced territorial development of rural economies and communities including the creation and maintenance of employment", article4 (c) Regulation n. 2013/1305.

Indeed, rural development policies aim to improve the standard of living and the quality of life of rural population through economic, social, cultural or political measures. These policies have to ensure the provision of basic public services and facilities. Nonetheless, and more importantly, they must provide for the economic and social conditions that make possible the development of personal and collective projects to guarantee a decent standard of living for everyone.

To achieve this objective, and along with other measures, linked to fostering the competitiveness of agriculture (e.g., fostering knowledge transfer and innovation, facilitating farm restructuring and modernization, promoting food chain organization), European Union has traditionally focused on the reallocation of resources in rural areas, supporting the diversification of economic activities. Diversification of economic activities and reallocation of resources allow rural population to reduce the risk of economic dependency and to improve the provision of services requested by changing consumer demands.

According to this approach, current EU legal acts outline that, for the development of rural areas, the creation and development of new economic activities is essential. These new economic activities may adopt different forms: they could well be new farms, but they should also tend to the diversification into non-agricultural activities, including the provision of services to forestry and to agriculture, the sustainable management of hunting resources, activities related to social integration, health, tourism, etc.

Agricultural and non-agricultural activities carried out in rural areas rely on scarce resources, including land, and compete for them. As a result, land management becomes an

essential planning tool to decide on the possible uses of land and, therefore, on the different kinds of activities that can be developed in each particular area.

However, little attention has been paid to the land management as a tool for promoting social cohesion through the reform of the land property and land tenure systems.

It is common ground that secure accesses to land and to land tenure are indispensable conditions to ensure social equity in rural areas. Secure and long-termed access to land and natural resources encourage farmers to develop sustainable practices both, in agricultural and non-agricultural activities. For the same reasons, overuse of lands, overgrazing, water overexploitation or deforestation, and similar practices which can lead to land degradation in rural areas, tend to be avoided when access to land and to land tenure is guaranteed. Consistently, the European Union, as a part of its international cooperation policy, actively encourages the implementation in developing countries of the "Voluntary Guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security", endorsed by the Committee on World Food Security in May 2012.

However, some forms of land property and land tenure systems could play also a major role within the rural development policy of the EU. More specifically, the common property theory may offer fresh insights on the relationship between land management, conservation of natural resources and social cohesion.

Common properties can adopt different legal forms, but they typically involve the collective ownership of valuable resources which can be used or employed by the community. The community can own the property directly (each individual holds an undivided interest in the entire property) of through a public body (e.g. a municipality). In addition, their legal regime usually confers a special protection upon these properties, preventing their sale or establishing tough conditions to sell them.

Many different types of goods can be treated as common properties, including lands, water resources, forests, pastures, hunting, fisheries, and almost any kind of natural resources. The more valuable the good, socially or economically, the more suitable the regime of common property could be. The community owning the property will better take care of the goods if they are considered to be essential for their survival.Practices involving an adequate management of resources, including water retention, pollution mitigation, and the protection of soils and coasts are likely to appear. But, even whether they are not considered to be essential resources, sustainable management practices are also likely to be implemented if the members of the community feel that they are the real owners of the common properties.

Land management based in common properties could increase social cohesion, too. Members of the community not only carry out similar economic activities on the same goods, but also share the burden and the privilege of protecting them.

Rules governing the use of common properties may vary in every particular case. Nevertheless, these rules have to be settled by common agreement of the members of the community, which increases their level of involvement with the protection of the goods and their rational use. In addition, evidence has been given to suggest that old rules governing common properties are seen as making part of the common heritage of the community.

According to article 345 (ex article 295 TEC), European Union cannot impose nor forbid specific systems of property ownership. But European Union can promote and support the systems thought to be more suitable in order to attain its general objectives regarding rural development. From this perspective, the common property approach for land management could become a useful tool for rural development.

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Regulation (EU) No 1293/2013 of the European Parliament and of the Council of 11 December 2013 on the establishment of a Programme for the Environment and Climate Action (LIFE) and repealing Regulation (EC) No 614/2007 Text with EEA relevance

Internet resources:

http://ec.europa.eu/eurostat/
http://www.eea.europa.eu
http://www.choicesmagazine.org/magazine/article.php?article=49#sthash.jcyo9VBe.dpuf
http://www.choicesmagazine.org/magazine/article.php?article=49#sthash.jcyo9VBe.dpuf\

II. Overview of agricultural land withdrawal in Central European countries

Central Europe is a specific geographical region with significant influence share of agricultural land in Europe with a good quality and climate conditions. There is a need to contribute to sustaining the quality of agricultural land and food security in the EU. Therefore it is necessary to foster a dialogue between the crucial stakeholders of agricultural land protection in Central Europe affecting achieving the objectives of EU agri-environmental and EU food policy.

Agricultural land represents one most vulnerable type of land resource. In the EU, more than 1,000 km² are subject to withdrawal every year for housing, industry, roads or recreational purposes. About half of this surface is actually 'sealed'. The availability of infrastructure varies considerably between regions, but in aggregate, every ten years we pave over a surface area equivalent to Cyprus (COM/2011/0571 final). The urban sprawl contributes significantly to the loss of fertile agricultural land, soil sealing and the loss of essential ecological functions. The increase in built up areas has led to higher greenhouse gas emissions, higher infrastructure costs for transport, water and electricity, and the loss of open landscapes. It has also reduced the size of wildlife habitats as urban development and roads break up the landscape into ever-smaller pieces, with potentially devastating consequences for biodiversity and ecosystems. Urban sprawl also has socio-economic impacts. It increases the demand for infrastructure such as roads, and it makes people more dependent on cars which poses a burden on household budgets (NTOSAI Working Group on Environmental Auditing, 2016). Decreasing of the agricultural land quality has an impact on the reducing the capability of agricultural land to ensure food security and food-self-sufficiency in the EU.

If we are to reach the state of no net land take by 2050, following a linear path, we would need to reduce withdrawal to an average of 800 km² per year in the period 2000-2020 (COM/2011/0571 final). It is worth mentioning that a large part of these activities are taking place near urban areas, which are often the most fertile land. As was done with natural areas, we therefore need to start considering EU agricultural land as a precious and non-renewable resource to be protected and preserved. Recent studies have shown that there is a very real and urgent issue concerning the governance of the land in Europe. European States have the obligation to respect, protect and fulfil human rights, and more especially the right to food of people living in Europe and abroad (Petition to the European Parliament 2015).

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1 Case Austria

1.1 Overview of agricultural land withdrawal

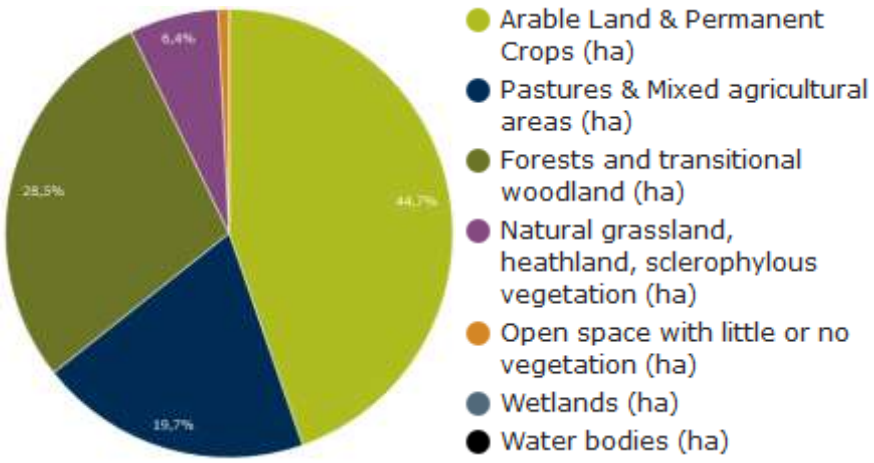

Fig. 5: Relative contribution of land-cover categories to withdrawal by urban and other artificial land development in Austria between 2006 and 2012 (ha)

Source: European Environment Agency (2019)

In Austria between 2006 and 2012 was withdrawn for urban and other artificial land development 2 539 ha (44.7 %) of arable land and permanent crops, 1 618 ha (28.5 %) of forests and transitional woodland, 1 118 ha (19.7 %) of pastures and mixed agricultural areas, 364 ha (6.4 %) of natural grassland, heathland, sclerophylous vegetation and 46 ha (0.7 %) of open space with little or no vegetation.

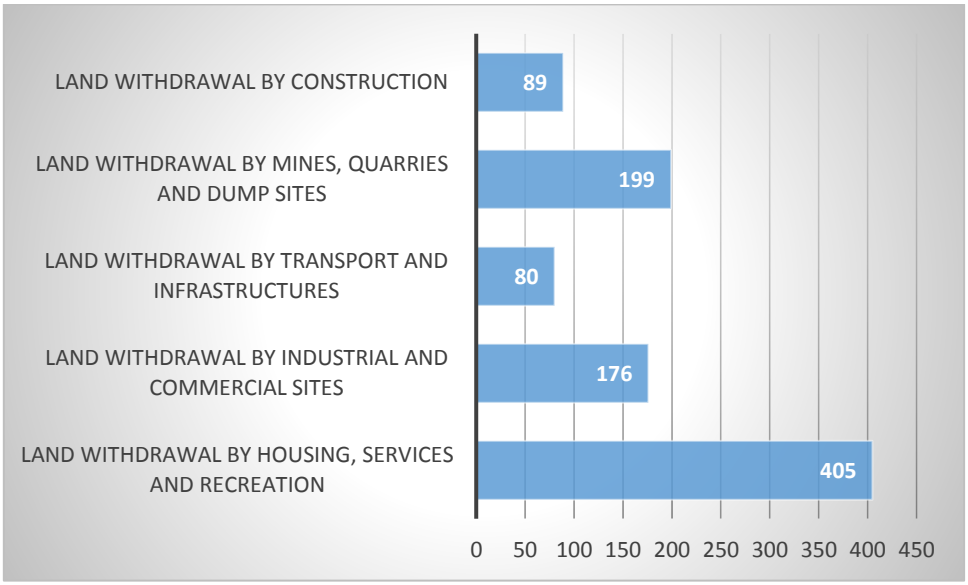

Fig. 6: Annual land withdrawal by several types of human activity in Austria between 2006 and 2012 (ha/year)

Source: Own elaboration based on European Environment Agency (2019)

The drivers of annual land withdrawal for urban and other artificial land development in Austria were housing, services and recreation, i.e. 405 ha (42.7 %), mines, quarries and dumpsites, i.e. 199 ha (21 %), industrial and commercial sites, i.e. 176 ha (18.5 %), construction sites, i.e. 89 ha (9.4 %) and transport and infrastructures, i.e. 80 ha (8.4 %).

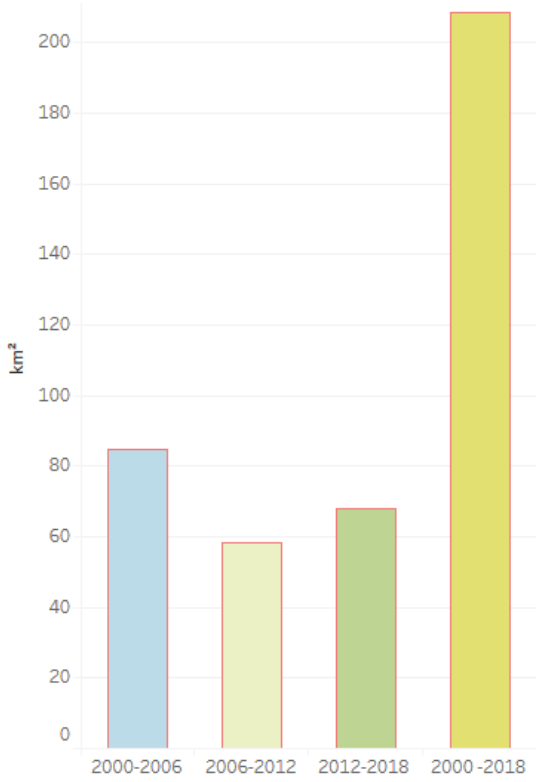

Fig. 7: Land withdrawal statistics for every 6 years and for the entire period 2000-2018 in Austria (km²)

Source: European Environment Agency (2019)

The overview of the land withdrawal processes for Austria shows that in the period 2000-2006 was withdrawn 84.93 km^2, in the period 2006-2012 was withdrawn 58.21 km^2, in the period 2012-2018 was withdrawn 68.18 km^2, and in the entire period 2000-2018 was withdrawn 208.63 km^2. Between the entire period 2000-2018, the most withdrawn land category was arable land and permanent crops, i.e. 89.42 km^2.

1.2 Legal background of agricultural land protection

As a federal state, Austria has three levels of government: national, regional (nine Provinces Bundesländer) and local (2,100 municipalities). The distribution of powers within the federal system is determined by the Constitution, which provides the following framework for legislative and regulatory activities of the different territorial authorities (OECD 2001): (a) in principle, the competent authorities for spatial planning regulation and implementation are the governments in the nine Austrian Provinces, (b) local authorities are responsible for spatial planning at the local level and (c) the federal government (national level) can issue sectoral

regulations for spatial planning in sectors that come within its responsibility (e.g. trading code, transport and traffic laws, water and forestry, mining law).

Based on the decision of the Austrian Constitutional Court (VfSlg 2674/1954), that defines spatial planning as a competence of the provinces' federal governments and nominal spatial planning as a public task, the spatial planning acts of the Austrian provinces form the backbone of the legally binding planning instruments (eight provinces have enacted a spatial planning law, the city of Vienna rules spatial planning under the title of "city planning" within the building law). Spatial planning laws include a bunch of – partly contradicting – planning goals, e.g. (a) ensure a land-saving development, (b) provide spatial conditions for agriculture and food security and (c) ensure favourable conditions for commercial and industrial development. Spatial planning decisions require a consideration of different planning goals regarding environmental, economic and social aspects.

Supralocal spatial planning programmes concretise the goals of spatial planning and define measures for the achievement of the spatial objectives. Within its remits, the province governments can enact integrative or sectoral regulations with spatial validity for the province territory or regional subspaces. For instance, in Lower Austria a sectoral spatial planning programme aims at the conservation of open and unwooded landscape inter alia on behalf of agricultural structure.

In Austria, soil protection was declared a national goal by the Federal Constitutional Law on Comprehensive Environmental Protection (Federal Legal Gazette No 491/1984) and is directly regulated by national law for the Clean-up of Contaminated Sites (Altlastensanierungsgesetz 1989) as well as Soil Protection Acts in five out of the nine provinces, targeted at the maintenance of productivity of agricultural soils (Gentile et al. 2009). The reduction of pollutants, the prevention of soil erosion and/or soil compaction as well as the control of the application of sewage sludge and the survey and inspection of soil status count among the specific objectives in the soil protection acts. National objectives and targets for soil conservation have been established in the Austrian Sustainability Strategy and the Soil Protection Protocol of the Alpine Convention.

At the federal level, there are no specific regulations on soil protection addressing for example the containment of soil erosion or the maximum input of pollutants. However, a number of regulations address soil protection indirectly:

- Klärschlamm- und Müllkompostverordnungen (Sewage Sludge and Waste Compost Ordinances) of the Federal Provinces;
- Kompostverordnung (Compost Ordinance);

- Düngemittelverordnung (Fertiliser Ordinance);
- Pflanzenschutzmittelgesetz (Persticides Act);
- Luftreinhaltegesetz (Air Pollution Control Act);
- Wassserrechtsgesetz (Water Act).

Spatial Planning Acts of the Federal Provinces:

- Burgenländisches Raumplanungsgesetz LGBl. Nr. 18/1969 idgF LGBl. Nr. 44/2015;
- Kärntner Raumordnungsgesetz – K-ROG LGBl. Nr. 76/1969 idgF LGBl. Nr. 24/2016;
- Niederösterreichisches Raumordnungsgesetz 2014 LGBl. Nr. 3/2015 idgF LGBl. Nr. 63/2016;
- Oberösterreichisches Raumordnungsgesetz LGBl. Nr. 114/1993 idgF LGBl. Nr. 69/2015;
- Salzburger Raumordnungsgesetz LGBl. Nr. 30/2009 idgF 9/2016;
- Steiermärkisches Raumordnungsgesetz LGBl. Nr. 49/2010 idgF 139/2015;
- Tiroler Raumordnungsgesetz LGBl. Nr. 101/2016;
- Vorarlberger Raumplanungsgesetz LGBl. Nr. 39/1996 idgF LGBl. Nr. 54/2015.

Soil Protection Acts of the Federal Provinces:

- Burgenländisches Bodenschutzgesetz LGBl. Nr. 87/1990;
- Niederösterreichisches Bodenschutzgesetz LGBl. Nr. 6160;
- Oberösterreichisches Bodenschutzgesetz LGBl. Nr. 63/1997;
- Bodenschutzgesetz Salzburg LGBl. Nr. 80/2001;
- Steiermärkisches landwirtschaftliches Bodenschutzgesetz LGBl. Nr. 66/1987.

Further legal regulations of the Federal Provinces:

- Oberösterreichisches Landesraumordnungsprogramm LGBl. Nr. 21/2017;
- Oberösterreichisches Alm- und Kulturflächenschutzgesetz LGBl. Nr. 79/1999 idgF LGBl. Nr. 95/2015;
- Burgenländische Klärschlamm- und Müllkompostverordnung LGBl. Nr. 82/1991;
- Kärntner Klärschlamm-und Kompostverordnung LGBl. Nr. 74/2000;
- Kärntner Abfallwirtschaftsordnung LGBl. Nr. 17/2004;
- Niederösterreichische Klärschlammverordnung LGBl. Nr. 6160/2;
- Oberösterreichische Klärschlammverordnung LGBl. Nr. 62/2006;

- Klärschlamm-Bodenschutzverordnung Salzburg LGBl Nr 85/2002;
- Steiermark: Gülleverordnung LGBl. Nr. 88/1987;
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- Burgenländisches Pflanzenschutzmittelgesetz LGBl. Nr. 32/1995;
- Kärntner landwirtschaftliches Pflanzenschutzmittelgesetz LGBl Nr 31/1991;
- Niederösterreich: Gesetz über die Verwendung von Pflanzenschutzmitteln in der Landwirtschaft LGBl. 6170–2;
- Niederösterreichische Pflanzenschutzverordnung LGBL. 6130/1–6;
- Oberösterreichische Pflanzenschutzmittelanwendungsverordnung LGBl. Nr. 42/2008;
- Salzburger landwirtschaftliches Pflanzenschutzmittelgesetz LGBl. Nr. 79/1991;
- Tiroler Pflanzenschutzmittelgesetz 2006 LGBl. Nr. 5/2007;
- Vorarlberg: Pflanzenschutzmittelverordnung LGBl. Nr. 18/2008;
- Wiener Pflanzenschutzmittelgesetz LGBl. Nr. 09/2008.

In Austria there is 20 ha (30 football fields) loss of arable land per day. This figure is average of the last 10 years.

The federal government stated in a Sustainability strategy (2002) that until 2010 only max. 2.5 ha of agricultural land may be used per day.

The figures of soil sealing are very high, e.g. in the period 1965 – 2015 was sealed 300,000 ha of agricultural land (it corresponds the whole arable land of Oberösterreich). Moreover 40,000 ha = 400,000,000 m^2 industrial wasteland, commercial and residential real estate are empty (it corresponds to the area of Vienna).

Annual loss of agricultural land is in Austria 0.5 % and therefore is Austria European Champion in this area. Conclusion of these facts is that in 200 years there will be no agricultural land in Austria.

The obstruction of the soil is a danger for:

- The increase of storm damage (drought and flood);
- The tourism, i.e. beautiful landscape is corrupted;

- Biodiversity;
- The 500,000 jobs in agriculture;
- Food security, i.e. self-sufficient food supply.

Governmental plan 2017-2021 consists of the masterplan against sealing of the soil; activation measures of existing, unused areas and buildings; focus on regional planning to reduce mobility needs; strengthening regional structures and the consumption of renewable energy and drive climate protection consistently.

Solutions for „stopping the land use“:

- Awareness-raising measures;
- Creation of an incentive system so that vacant industrial halls can be brought back into economic use;
- Local tax at the state level;
- Intercommunal financial equalization: Municipalities with well-developed industrial estates should pay part of their municipal tax to communities with little or no business; as such communities protect our nature for future generations;
- Further development of public transport, as they require less space;
- Designation of priority agricultural areas;
- Build in height and depth instead of in the area, such as parking lots and retail spaces.

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2 Case Croatia

2.1 Overview of agricultural land withdrawal

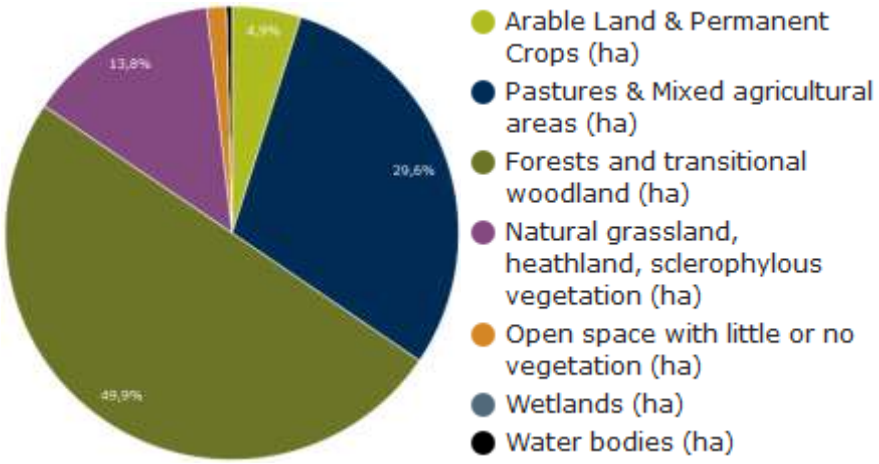

Fig. 8: Relative contribution of land-cover categories to withdrawal by urban and other artificial land development in Croatia between 2006 and 2012 (ha)

Source: European Environment Agency (2019)

In Croatia between 2006 and 2012 was withdrawn for urban and other artificial land development 2 345 ha (49.9 %) of forests and transitional woodland, 1 390 ha (29.6 %) of pastures and mixed agricultural areas, 646 ha (13.8 %) of natural grassland, heathland, sclerophylous vegetation, 231 ha (4.9 %) of arable land and permanent crops, and 65 ha (1.4 %) of open space with little or no vegetation and 19 ha (0.4 %) of water bodies.

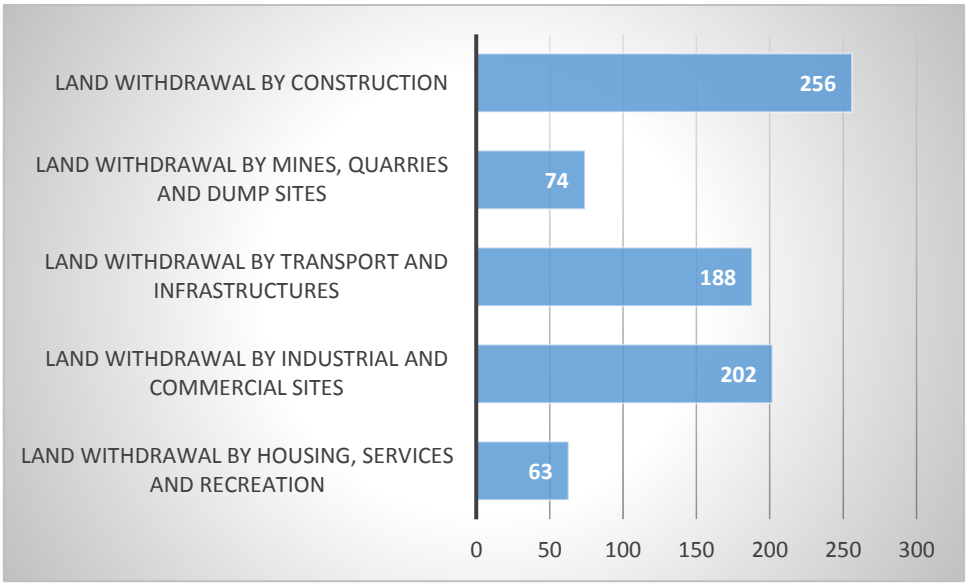

Fig. 9: Annual land withdrawal by several types of human activity in Croatia between 2006 and 2012 (ha/year)

Source: Own elaboration based on European Environment Agency (2019)

The drivers of annual land withdrawal for urban and other artificial land development in Croatia were construction sites, i.e. 256 ha (32.7 %), industrial and commercial sites, i.e. 202 ha (25.8 %), transport and infrastructures, i.e. 188 ha (24 %), mines, quarries and dumpsites, i.e. 74 ha (9.5 %) and housing, services and recreation, i.e. 63 ha (8 %).

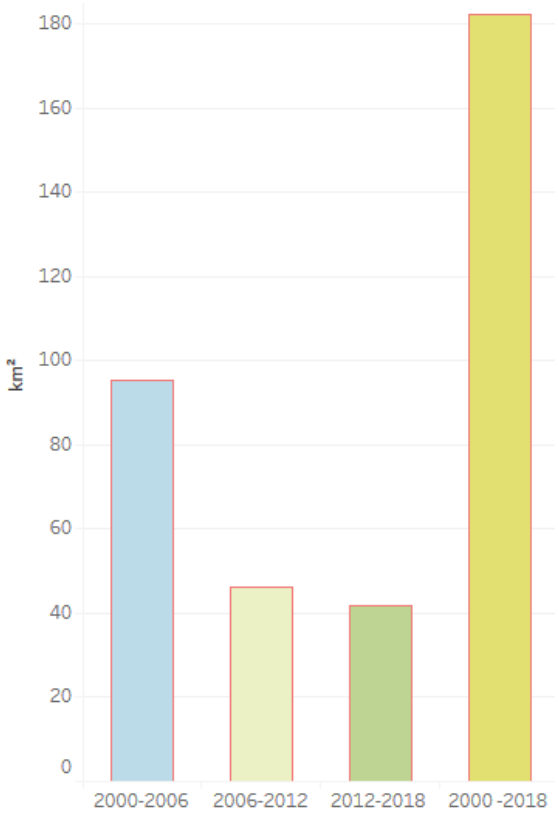

Fig. 10: Land withdrawal statistics for every 6 years and for the entire period 2000-2018 in Croatia (km²)

Source: European Environment Agency (2019)

The overview of the land withdrawal processes for Croatia shows that in the period 2000-2006 was withdrawn 95.39 km^2, in the period 2006-2012 was withdrawn 46.17 km^2, in the period 2012-2018 was withdrawn 41.82 km^2, and in the entire period 2000-2018 was withdrawn 182.35 km^2. Between the entire period 2000-2018, the most withdrawn land category was forests and transitional woodland shrub, i.e. 83.14 km^2.

2.2 Legal background of agricultural land protection

Regarding the spatial criteria, Croatia is characterized as a "rural" country. Therefore, most of the activities in the field of soil and land management are held by the Ministry of Agriculture. Anyway, soil protection issues have not been regulated so far by an integrative approach, and key competences in the field are among few government ministries, mostly between Ministry of Agriculture and Ministry of Environmental Protection and Energy. Besides, system efficiency was supposed to be enhanced by setting up a number of agencies and similar institutions, but the domains of their activities, duties and responsibilities are quite

overlapping. Soil protection policy in Croatia hasn't achieved a sufficient level of awareness. Incentives for the development of the national soil protection strategy have been rather limited, in spite of the fact that Croatia is in dispose of a rich, scientific-based soil database. In this context, the soil protection issue is mainly covered by two key acts: Environmental Protection Act (OG 82/94, 128/99, 110/07) and Agricultural Land Act (OG 66/01, 87/02, 90/05, 20/18).

An integrated approach is required to implement any future strategy and it could be used in different programmes of soil protection and land management. These problems have been highlighted several times by soil science experts individually or through scientific unions dealing with soil protection and land management. In September 2018, during the 13th Congress of the Croatian Society of Soil Science, the round table discussion on land and water resources management in Croatia identified a number of specific problems related mostly on the new legislation that impacts on land management and soil protection. The participants from academia, government bodies and practice, in general, agree that the legislation has to be changed, but there are still numerous issues that should be better addressed. Practitioners struggle to fulfil the requirements given by the huge legislative system, and academia and scientific knowledge are not perceived by decision makers in a way that efficient legislation is based on research.

The recommendations on how to coordinate currently available or developing land management tools and put them into a coherent system went into following directions:

- By applying an innovative system based on diverse knowledge and experience to protect/improve the soil as a natural resource, and thus enhance its productive capacity;
- Use of scientific knowledge is needed to formulate policy recommendations and to support decision-making;
- Interdisciplinary approach in research and development, as well as technological improvements and application, are needed;
- Changes are needed in the current land management system to achieve a coherent and efficient national policy;
- The importance of strategic planning was stressed, and defined development goals have to be integrated institutionally into policies, laws and administration;
- To achieve these goals soil protection strategy along with other land management regulations, have to be developed and adopted that would support and strengthen national, regional and local soil policies.

When the threats are in question, many actions and preparatory work on soil monitoring programme have been undertaken already, but hardly any resulted in establishing long term monitoring program. There are few exceptions, such as monitoring of soil and water salinization in a coastal agricultural catchment (Romić et al., 2017). Other threats are addressed is existing, or even identified, in existing policies. Nevertheless, as suggested by Glaesner et al. (2014), policies must address soil threats and functions directly to ensure that they are targeted by new sustainable soil management practice. Currently, duplications and inconsistencies in activities that have been already observed, mostly based on Water Framework Directive and certain agricultural and climate policies, have to be reduced by harmonization of the action plans.

Another question is resource-use efficiency and expectations on the national level. Efficient land use depends primarily on land availability and soil quality. But, from soil quality perspective additional actual and/or expected processes should be taken into consideration when defining the objectives of this specific legislation. First of all, Croatia is facing currently the dynamic rural transformation and continuous and intensive depopulation, which results in the uneven intensity of land resources usage and high rate of land and farm abandonment.

Land use inventory certainly plays an important role in comprehensive planning and can be used to differentiate spontaneous or natural drivers of land use changes from those stimulated by public policies.

In Croatia there are following available land resources:

- The total area of Croatia represents 5,659,400 ha;
- Total agricultural land represents 2,638,044 ha;
- Abandoned/not used agricultural land represents 746,735 ha;
- Agricultural land in use represents 1,891,309 ha;
- Arable land represents 1,116,331 ha.

The rural and transitional area covers 98.9 % of the total territory of Croatia, and urban areas only 1.1 %. According to ARKOD that is national agricultural parcels identification system, in 2017 1,167,130 ha hectares of land are used for agriculture. In average, a farm uses 7.3 hectares of land spread on 8.5 parcels. What's more, 69.4% of farms use less than 5 hectares, but only 0.86% of farms use 40.1% of total agricultural land having more than 100 hectares of land available.

Current agricultural land use is certainly easy to follow and analyse by applying advanced technology tools that allow the comparison of the present state with the historical data

available from cadastre, aerial photos, maps, scientific and expert work publications, and many others.

When dealing with the quality of information on land and soil we collect and process, the issue of ownership becomes the most important. In Croatia, land use management and related policies are nowadays focused principally on land owned by the state.

Changes in state-owned land show the tendency of inefficient use. For example, the parcels being hydro meliorated in the past, with drainage system applied, nowadays enter ARKOD as pastures, meadows or karst meadows, even in the regions in which such categorisation is not possible to apply, as shown on the example of Krbavsko polje (Fig. 11).

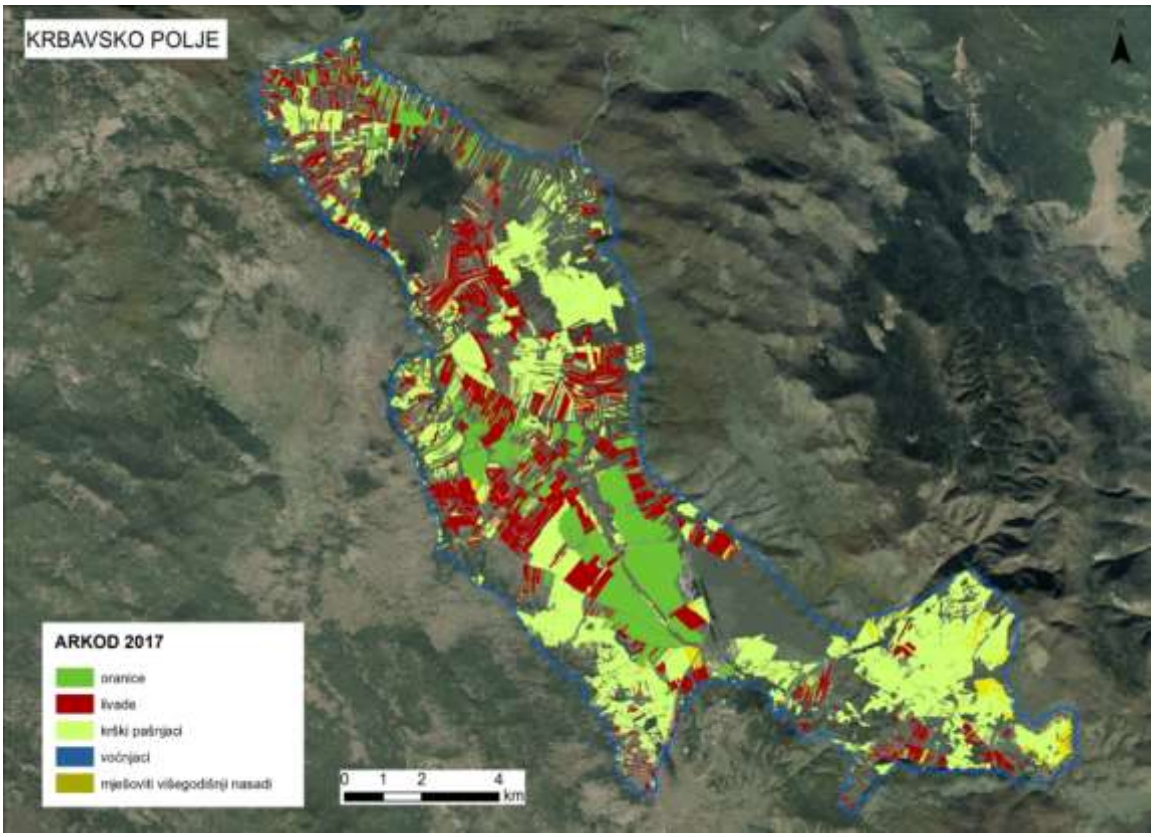

Fig. 11: Agricultural land categorization as registered in ARKOD in Krbavsko polje (Croatia)

Source: Romić et al. (2014)

This means that the investment into the agricultural land infrastructure may not guarantee that the parcels will be used efficiently by utilizing the full capacity of the land.

Obviously, transformative change in agricultural and food system is required in Croatia. First and foremost, economic growth and population dynamics are driving the structural change of agricultural production and therewith the land use. Additionally, climate change affects

disproportionately Croatian regions. So, it's important to predict and understand the change in soil quality that may lead to land degradation. This includes the understanding of agro-ecological site condition, change, and causes of change. Developing management strategies that can be implemented by farmers to manage agricultural land is an issue of long-lasting debates among the politicians, experts and farmers.

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3 Case Czechia

3.1 Overview of agricultural land withdrawal

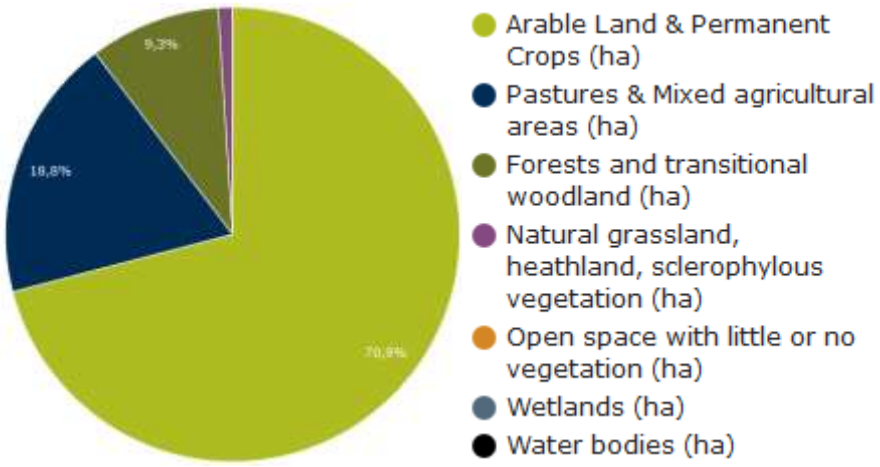

Fig. 12: Relative contribution of land-cover categories to withdrawal by urban and other artificial land development in Czechia between 2006 and 2012 (ha)

Source: European Environment Agency (2019)

In Czechia between 2006 and 2012 was withdrawn for urban and other artificial land development 9 188 ha (70.9 %) of arable land and permanent crops, 2 429 ha (18.8 %) of pastures and mixed agricultural areas, 1 205 ha (9.3 %) of forests and transitional woodland and 131 ha (1 %) of natural grassland, heathland, sclerophylous vegetation.

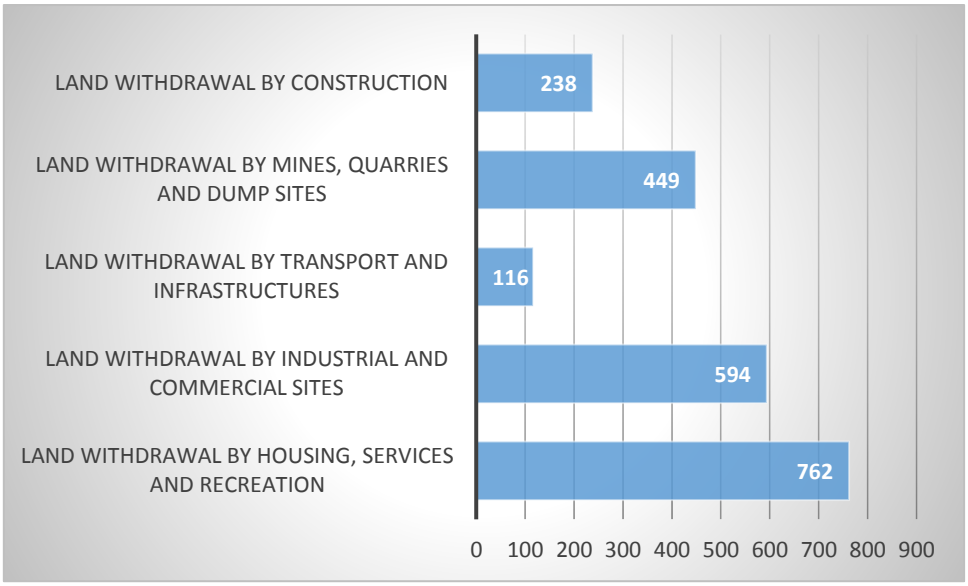

Fig. 13: Annual land withdrawal by several types of human activity in Czechia between 2006 and 2012 (ha/year)

Source: Own elaboration based on European Environment Agency (2019)

The drivers of annual land withdrawal for urban and other artificial land development in Czechia were housing, services and recreation, i.e. 762 ha (35.3 %), industrial and commercial sites, i.e. 594 ha (27.4 %), mines, quarries and dumpsites, i.e. 449 ha (21 %), construction sites, i.e. 238 ha (11 %) and transport and infrastructures, i.e. 116 ha (5.3 %).

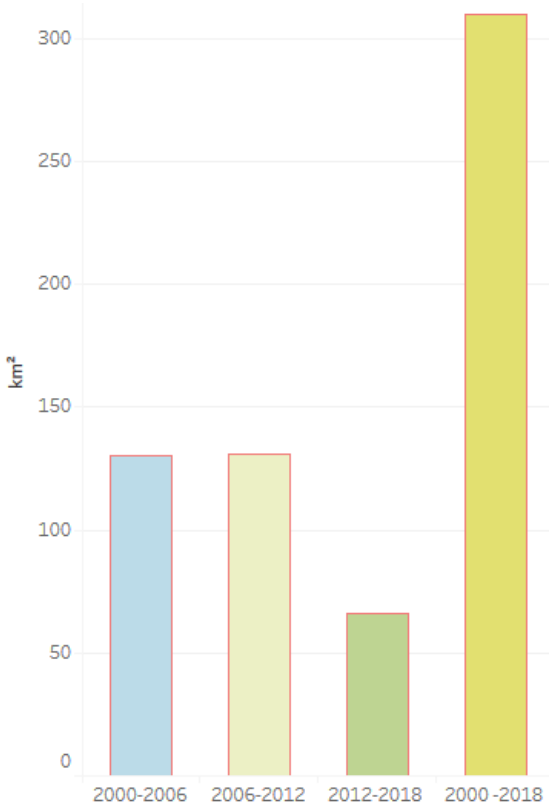

Fig. 14: Land withdrawal statistics for every 6 years and for the entire period 2000-2018 in Czechia (km²)

Source: European Environment Agency (2019)

The overview of the land withdrawal processes for Czechia shows that in the period 2000-2006 was withdrawn 130.54 km^2, in the period 2006-2012 was withdrawn 130.99 km^2, in the period 2012-2018 was withdrawn 66.05 km^2, and in the entire period 2000-2018 was withdrawn 310.06 km^2. Between the entire period 2000-2018, the most withdrawn land category was arable land and permanent crops, i.e. 210.89 km^2.

3.2 Legal background of agricultural land protection

The total decrease in the Czechia between 2012 and 2016 was 18,393 ha, that is 10 ha per day what is equivalent to 14 football pitches. Czechia currently losses about 20 ha of agriculture land per day.

The specific tools for soil protection

One of the most important tools of soil protection is the obligation to ensure the approval of land from Agricultural Land Fund.

Other indirect economic instruments include various subsidy measures in the area of farmland and environmental measures.

Owners or tenants have a general obligation to farm on land in such a way that they do not land, damage and protect cultivated land according to approved arrangements. In the event Of a defective condition, the protection authorities of the Agricultural Land Fund impose corrective measures to remedy the defect. Such remedial measures may include different crop rotation procedures, agri-technical and ameliorate measures that are used to. To re-improve soil properties, we should reduce the accessibility or withdrawal of hazardous substances causing pollution.

The Choice of the method of redress belongs to pests, i.e. agents of a defective condition. The Basic penalty for pollution or threat of land is a fine that reaches up to 1,000,000 CZK for natural persons when it comes to pollution, use without consent or violation of the conditions of use of the land. In a legal entity, the amount of the fine can climb to 10,000,000 CZK. The Limitation period is 5 years from the commission of the offence and the essential aspect for imposing the penalty is the amount of land and the degree of damage. In the event that the defect of the owner or tenant of the land was not caused, he can apply for a contribution to mitigate the impact imposed. These tools are then linked to the possibility of imposing a change of culture, the cost of which must be borne by the owner.

Activities of State Land Office of the Czechia in soil protection

The State Land Office is organizational unit of the Ministry of Agriculture of Czechia. Its scope is:

- Management of agricultural land owned by the state:
  - Land lease accent on sustainable farming;
  - Management of drainage and irrigation systems;
- Sustainable Development of Rural Areas:
  - Land consolidation process as multifunctional tool for sustainable landscape development; as process spatially and functionally arranges the land and creates new cadastral map; and as the only tool in Czechia solving rural landscape in a complex way, including realization of common facilities;
- Adaptation to Climate Change:
  - Integrated system for drought monitoring (INTERSUCHO) – the system works for Czechia, Slovakia and Central Europe.

It is also a Guarantor of the implementation of landscape development measures.

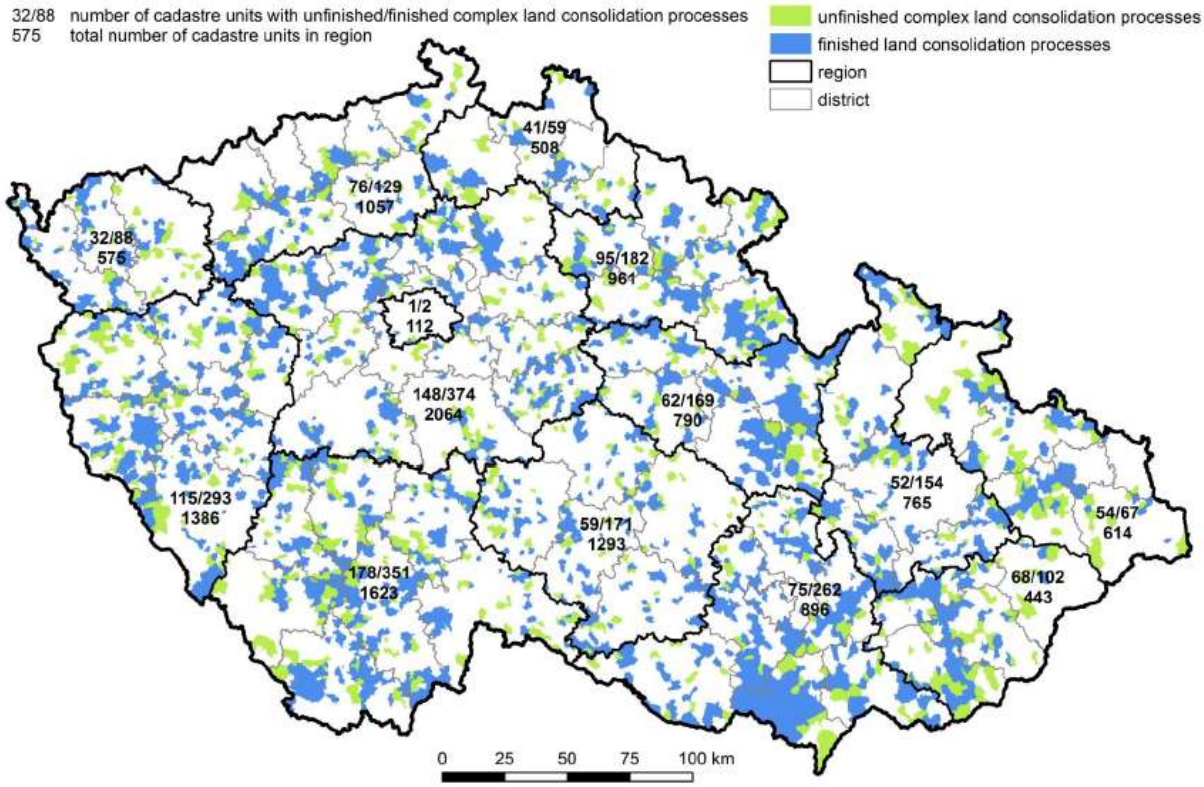

Fig. 15: Land withdrawal statistics for every 6 years and for the entire period 2000-2018 in Czechia (km²)

Source: State Land Office (2019)

The State Land Office was established on 1 January 2013 on the basis of Act No. 503/2012 Coll., On the State Land Office. Within the individual higher territorial self-governing units, its activities are carried out by the regional land offices, while it establishes branches of regional land offices for the land consolidation proceedings, whose territorial scope corresponds to the territory of one or more districts.

It acts in accordance with Act No. 503/2012 Coll., On the State Land Office, Act No. 229/1991 Coll., On the regulation of ownership relations to land and other agricultural property, Act No. 139/2002 Coll. of Land Consolidation and Land Offices, Act No. 92/1991 Coll., on Conditions of State Property Transfer to Other Persons, Act No. 428/2012 Coll., Act on Property Settlement with Churches and Religious Societies.

The State Land Office is competent to manage real estate managed by the Land Fund of the Czechia, as well as constructions used for water management land improvement and related water works owned by the state. It carries out transfers of agricultural land, settles restitution claims and other real estate transfers under Act No. 229/1991 Coll. (Land Act) and privatizes

property with which it is entitled. One of the main activities of the State Land Office is the land consolidation procedure by which land is organized spatially and functionally in the public interest, consolidated or divided, and secures access to the land. aligning land boundaries to create conditions for rational landowners.

At the same time, ownership rights are being organized. Land consolidation also provides conditions for improving the quality of life in rural areas, including facilitating the diversification of economic activity and improving the competitiveness of agriculture, improving the environment, protecting and improving soil resources, water management, particularly in reducing the adverse effects of floods and addressing drainage conditions in the landscape and increasing ecological stability of the landscape. The land consolidation results also serve to renew the cadastral documentation.

As of 1 January 2013, the State Land Office has been the legal successor of the Land Fund of the Czech Republic, acting as a liable entity under Act No. 428/2012 Coll. On 1 January 2013, the Land Fund of the Czech Republic was administered. At the same time, the State Land Office is itself a land settlement office with the churches and religious societies.

Intensity trend in agricultural system

Another threat for agricultural land in Czechia is agricultural intensification. The consequences of intensity trend in agricultural system are:

- Erosion and loss of soil fertility;
- Contamination of water, soil, air;
- Impermeable landscape;
- Loss of biodiversity;
- Loss of animal and plant species;
- Overgrowth of wild game (wild boar, roe deer, etc.);
- „ De-personalization of the countryside“;
- Damage caused by game and to game;
- Natural calamities, floods, droughts.

Agricultural system priorities should be biological diversity (increase in species richness of plants and animals) and preservation and development of agricultural and forest ecosystems of high natural value.

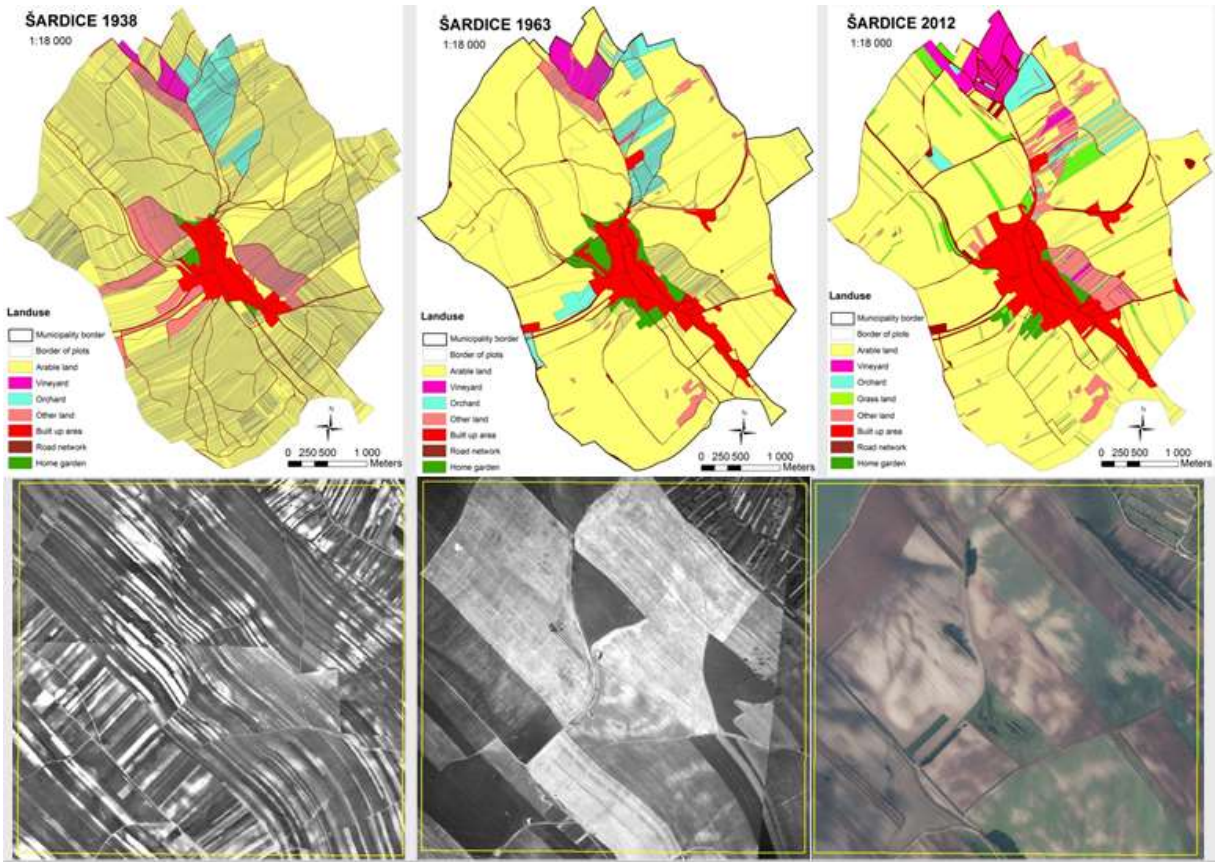

Fig. 16: Land withdrawal statistics for every 6 years and for the entire period 2000-2018 in Czechia (km²)

Source: State Land Office (2019)

Important role has the land consolidation as precondition of landscape elements. It is a legally defined process. It allows clarification of land ownership (acreage, location); allows for access to land; allows new land consolidation and allows the potential realization of landscape features.

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4 Case Germany

4.1 Overview of agricultural land withdrawal

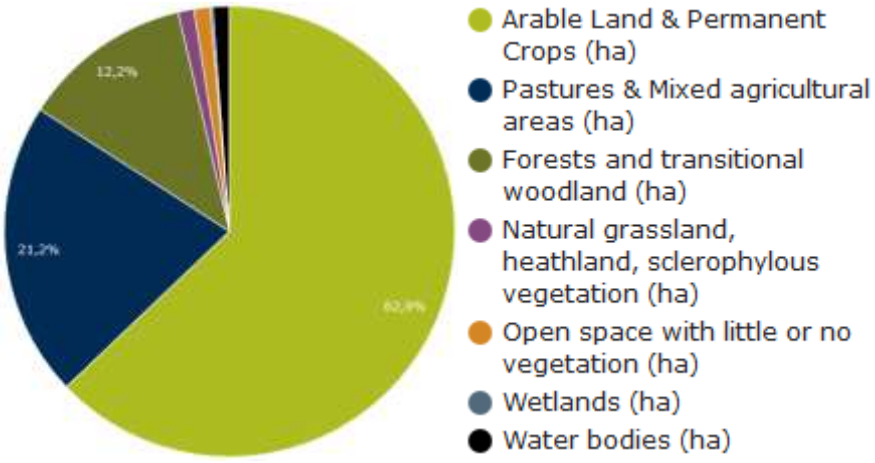

Fig. 17: Relative contribution of land-cover categories to withdrawal by urban and other artificial land development in Germany between 2006 and 2012 (ha)

Source: European Environment Agency (2019)

In Germany between 2006 and 2012 was withdrawn for urban and other artificial land development 27 254 ha (62.9 %) of arable land and permanent crops, 9 194 ha (21.2 %) of pastures and mixed agricultural areas, 5 300 ha (12.2 %) of forests and transitional woodland, 518 ha (1.3 %) of water bodies, 503 ha (1.2 %) of open space with little or no vegetation and 494 ha (1.2 %) of natural grassland, heathland, sclerophylous vegetation.

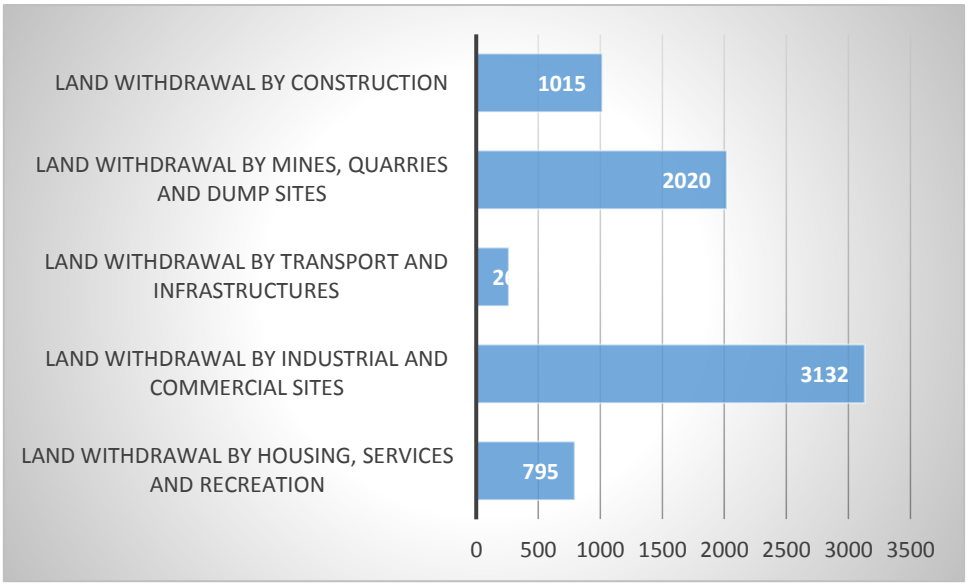

Fig. 18: Annual land withdrawal by several types of human activity in Germany between 2006 and 2012 (ha/year)

Source: Own elaboration based on European Environment Agency (2019)

The drivers of annual land withdrawal for urban and other artificial land development in Germany were industrial and commercial sites, i.e. 3 132 ha (43.4 %), mines, quarries and dumpsites, i.e. 2 020 ha (28 %), construction sites, i.e. 1 015 ha (14 %), housing, services and recreation, i.e. 795 ha (11 %) and transport and infrastructures, i.e. 262 ha (3.6 %).

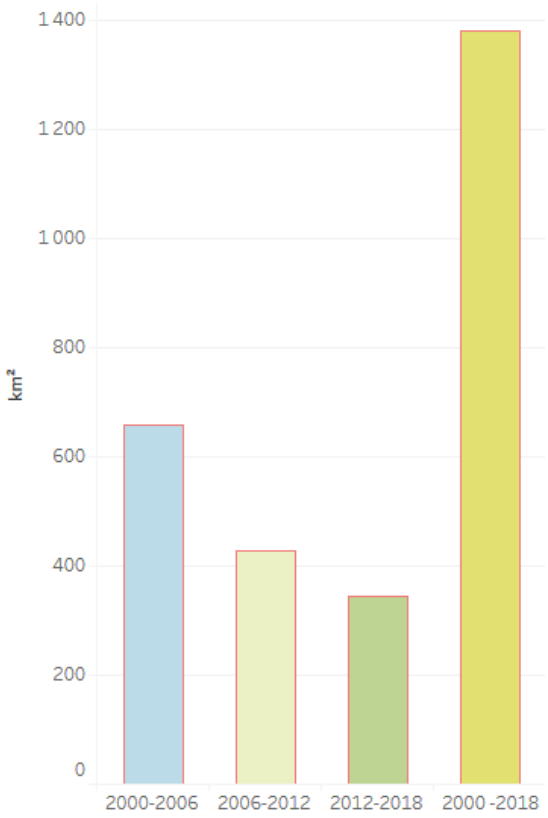

Fig. 19: Land withdrawal statistics for every 6 years and for the entire period 2000-2018 in Germany (km²)

Source: European Environment Agency (2019)

The overview of the land withdrawal processes for Germany shows that in the period 2000-2006 was withdrawn 657.25 km^2, in the period 2006-2012 was withdrawn 428.47 km^2, in the period 2012-2018 was withdrawn 344.07 km^2, and in the entire period 2000-2018 was withdrawn 1 381.11 km^2. Between the entire period 2000-2018, the most withdrawn land category was arable land and permanent crops, i.e. 841.58 km^2.

4.2 Legal background of agricultural land protection

Germany as Member State of the European Union is a Federal State. Germany's positions on EU-Level have to be found by coordination with 16 regional governments. Therefore there are continuous dialogs and frequent meetings with experts of 16 regional Ministries for Agriculture. Decisionmaking concern the “Joint Task for the Improvement of Agricultural Structures and Coastal Protection” (765 Million € p.a. deriving from the Federal

Budget). Moreover, German Legislation in most cases has to be coordinated with the regional governments and institutions (esp. environment and food security).

Agricultural Land Protection is essential and has outstanding importance for World Food Security and Global Wealth. Loss of agricultural land in Germany represents 100 pitches, i.e. 62 ha daily. It is generally known that soils build up extremely slowly. They have been developing since the last Ice Age about 10 thousand years ago. Even now, new soil is building up. However, we should see soil as a non-renewable limited resource. The development of only one centimeter of soil takes a long time – around 100 years – whereas intensive summer thunderstorms and dry winds in spring can carry away a lot of soil in only one day.

Soil protection objectives:

- Qualitative soil protection. Qualitative soil protection focusing on soil fertility and soil function. Here, the aim is to prevent harmful soil changes (prevention), to identify them early on and to take measures to advert danger as well as to detect harmful soil modifications such as contaminants, and to take measures to alleviate the burdens (restoration);
- Quantitative soil protection. Quantitative soil protection focusing on reducing land take, desealing and the conversion of land no longer in use. Also, a soil use law that improves generational equity is an important issue here.

National and regional laws, as well as the European policies and rules, protect German soils. Legal Framework for Soils consists of:

- Federal Soil Protection Act (BBodSchG);
- Federal Soil Protection and Contaminated Sites Ordinance (BBodSchV);
- Federal Nature Conservation Act (BNatSchG);

These laws all formulate how we humans want to use the soil – whether as raw material, for commercial or residential use, for active recreation or for environmental and social development.

Further laws and ordinances such as:

- Federal Building Code (BauGB);
- Federal Pollution Control Act (BImSchG);
- Act on Fertilisers and Fertilising (DüngG) (contain rules of soil protection and soil use. Specific requirements to promote soil fertility are laid down);
- Federal Forest Law (BWaldG).

An important role also plays Good Agricultural Practice. The Rules of Good Agricultural Practice (gfP) which are included in § 17 Federal Soil Protection Act go further and can still better serve soil protection. The principles of Good agricultural practice consists of:

- Location-adapted cultivation;
- Preserve or improve soil structure;
- Avoid compaction by smart field traffic;
- Avoid water and wind erosion by soil cover;
- Conserve hedges and other landscape elements;
- Preserve or stimulate soil biodiversity by crop rotation;
- Preserve humus by adequate supply of organic matter or by conservation tillage;
- Protect water bodies by proper distances when using fertilisers and plant protection products.

German Landmarket

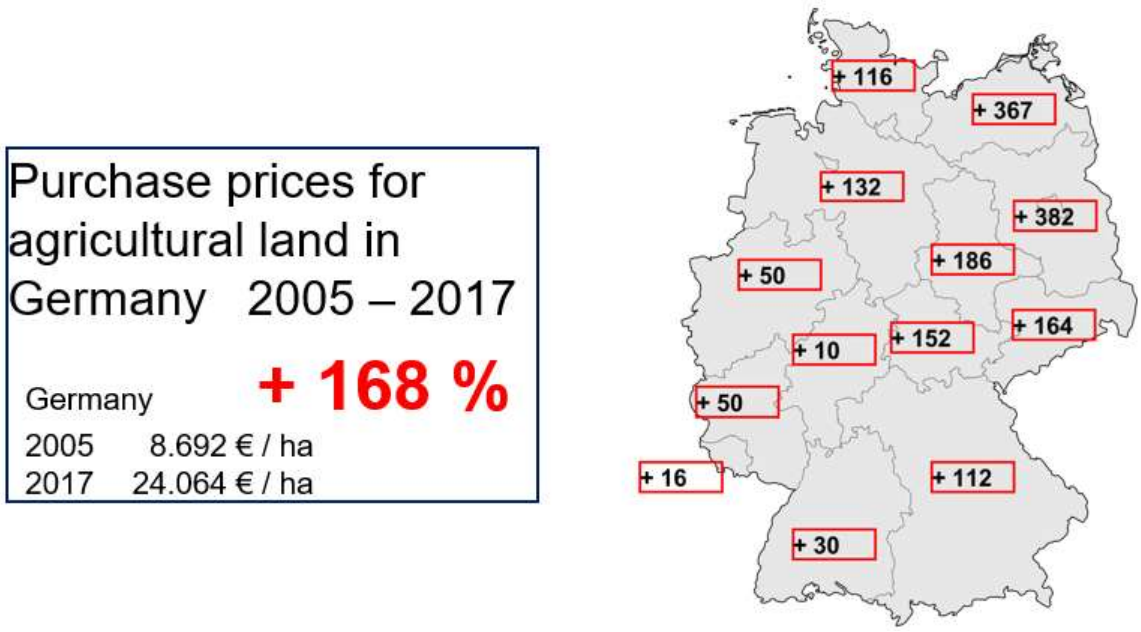

Fig. 20: Current Situation on German Landmarket

Source: International Conference of Agriculture Ministers on "Land", 29 October 2015, Aargau, Switzerland

There are some factors that boost prices for agricultural land:

- Area loss for urban sprawl and infrastructure: - 1.050.000 ha (1991 – 2016);
    - More losses for the benefit of:

        - Wood-Area: + 285.000 ha;
        - Water-Area: + 59.000 ha;
        - Protected Landscape: + 417.000 ha;
    - Total: > 1.500.000 ha;
- Area losses for renewable energy:
    - Open area solar plants need 83 x more area than wind energy for the same energy production;
    - Area loss through facilities 2001 - 2016: 1,5 ha / day in Germany;
    - Area losses since 2017: 10 ha / day in Germany (incl. compensation measures);
    - Projects are done > 90 % not from farmers.
- Other factors:
    - Buyer are wealthy investors out off the region;
    - manageable land size;
    - Lease of land to regionally-based farmers;
    - Safe investments of assets as a consequence of Euro-crises and low-interest rate policy of the central banks;
    - ECB buys government bonds from March 2015 – September 2018;
    - „Glut of money“ from ECB also affects the property market.

Consequences for rural areas are increasing concentration of farmland holdings; active farmers' scope for development is restricted; low-sustainability ownership structure is open to speculation; rural areas are weakened; downward trend in jobs in the villages; tax revenues tend to fall and less participation in the life of the region.

Objectives of agricultural land-market policy are broad distribution of land ownership; prevention of market-dominating positions on regional land markets; giving priority to farmers in respect of the purchase of land; ensuring the viability and sustainability of agriculture; limiting the increase in purchase and lease prices; giving priority to agricultural use of agricultural land; improvement of market transparency on land markets.

Rules on Land Market:

- No restrictions to buy or sell the property (not in size, time, nationality, etc.);
- Every Owner/Buyer/Seller also the public sector has to obey to the German and EU laws and regulations (open market but same rules for all, no discrimination according to EU rules); paying property taxes - municipality tax; Environmental Law, Law of Construction and Zoning, Agricultural law, Forest law;

– Special case: Law on Property Transaction - Regional authorities (Rural Development Institutions) have the right to interfere in the transaction using their pre-emption rights (not into the price-setting process).

The State has a double role: a Market participant/landowner like everyone (no distinction between state or privately owned land) and also providing the legal framework for the real property market to guarantee a functioning and healthy land market.

Participants act on the grounds of constitutional rights: Art. 1 freedom of contract (transactions between market participants); Art. 14 guarantee of private property: no expropriation without compensation and Art. 19 laws may not unduly interfere with the substantial contents of constitutional rights, the principle of proportionality.

National regulations in Germany in this area consists of:

– Grundstückverkehrsgesetz (1961 – German Land Transactions Act);
– Landpachtverkehrsgesetz (1986 – German Farm Lease Transactions Act);
– Reichssiedlungsgesetz (1919 –German Reich Settlement Act).

There should be overall conditions aimed at preventing land speculation and preserving traditional forms of farming; priority for farmers – except public interest; pre-emption rights for farmers – except public interest; sales, justified under free movement of capital based on objective, clear and non-discriminatory criteria; legal remedy für affected persons; member States adopt the necessary regulations in each national context.

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5 Case Hungary

5.1 Overview of agricultural land withdrawal

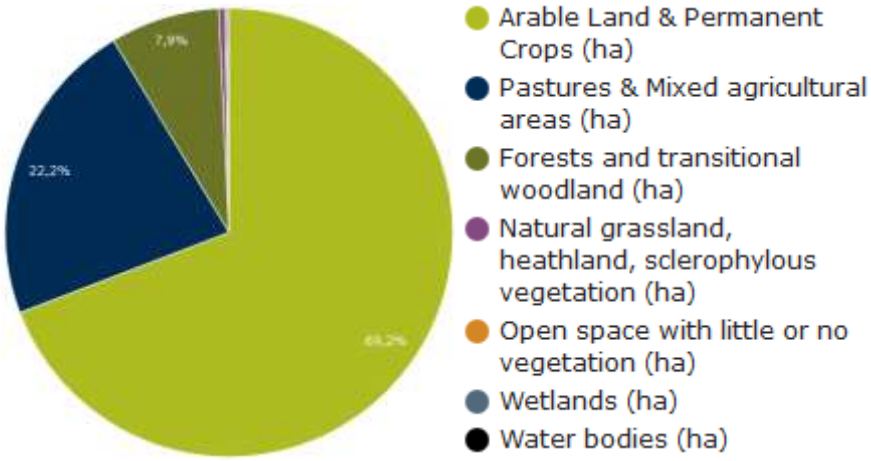

Fig. 21: Relative contribution of land-cover categories to withdrawal by urban and other artificial land development in Hungary between 2006 and 2012 (ha)

Source: European Environment Agency (2019)

In Hungary between 2006 and 2012 was withdrawn for urban and other artificial land development 6 751 ha (69.2 %) of arable land and permanent crops, 2 164 ha (22.2 %) of pastures and mixed agricultural areas, 772 ha (7.9 %) of forests and transitional woodland and 43 ha (0.7 %) of natural grassland, heathland, sclerophylous vegetation.

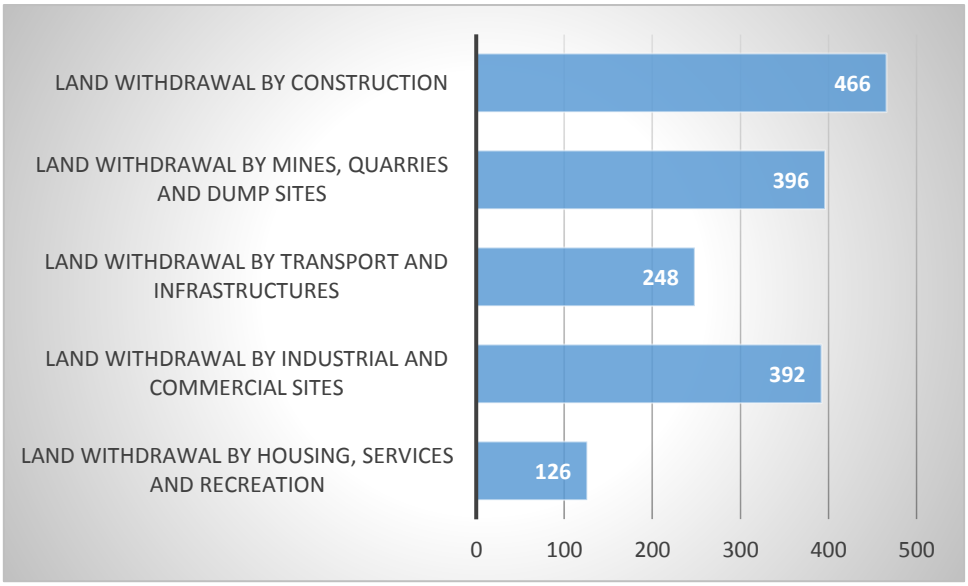

Fig. 22: Annual land withdrawal by several types of human activity in Hungary between 2006 and 2012 (ha/year)

Source: Own elaboration based on European Environment Agency (2019)

The drivers of annual land withdrawal for urban and other artificial land development in Hungary were construction sites, i.e. 466 ha (28.6 %), mines, quarries and dumpsites, i.e. 396 ha (24.3 %), industrial and commercial sites, i.e. 392 ha (24.1 %), transport and infrastructures, i.e. 248 ha (15.2 %) and housing, services and recreation, i.e. 126 ha (7.8 %).

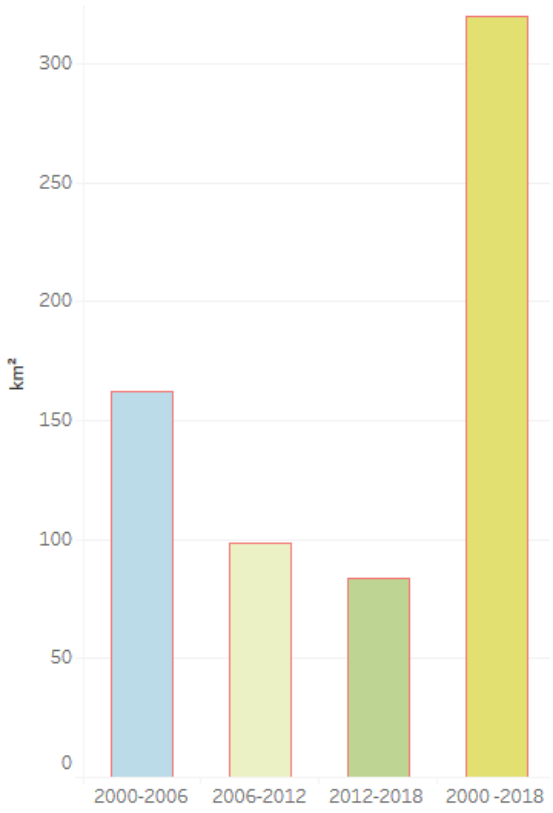

Fig. 23: Land withdrawal statistics for every 6 years and for the entire period 2000-2018 in Hungary (km²)

Source: European Environment Agency (2019)

The overview of the land withdrawal processes for Hungary shows that in the period 2000-2006 was withdrawn 162.11 km^2, in the period 2006-2012 was withdrawn 98.64 km^2, in the period 2012-2018 was withdrawn 84 km^2, and in the entire period 2000-2018 was withdrawn 320.20 km^2. Between the entire period 2000-2018, the most withdrawn land category was arable land and permanent crops, i.e. 216.06 km^2.

5.2 Legal background of agricultural land protection

Act LV of 1994 on Land – the first general law on land

The first specific major legislation concerning agricultural and forest land was Act LV. of 1994 on Land. It was amended many times and stayed in effect until 2014 May. The Act operated with a general scope regulating land acquisition, land lease, land and soil protection. As several of its provisions were taken over by the subsequent laws only the special features of the land acquisition and lease are considered here.

In Hungary there was a time gap between 1990-1995 during which agricultural land was a free asset to acquire even for foreigners or legal persons. In 1994 the Hungarian Parliament passed Act LV. of 1994 on the Land which significantly confined the conditions of farmland acquisition and lease. According to the new regulation cooperatives and other agricultural enterprises (both domestic and foreign companies) were banned from buying land although could keep their already existing landed property (appr. 140-thousand-hectare land). Agricultural land from that point was available only for Hungarian natural persons who could buy and own a maximum 300 ha land. These natural persons could lease or extend their landed property by leasing a further maximum 300 ha. Since companies were banned from buying, their only option to cultivate land was limited to lease it up to 2500 ha.

After remembering the first general land law of Hungary the relevant existing legislation is to be analyzed.

In accordance with legislative hierarchy first the relevant provisions of the Fundamental Law (Constitution) of Hungary are quoted (Article P):

- Natural resources, in particular arable land, forests and the reserves of water, biodiversity, in particular native plant and animal species, as well as cultural assets shall form the common heritage of the nation; it shall be the obligation of the State and everyone to protect and maintain them, and to preserve them for future generations;
- The limits and conditions for acquisition of ownership and for use of arable land and forests necessary for achieving the objectives referred to in Paragraph (1), as well as the rules concerning the organisation of integrated agricultural production and concerning family farms and other agricultural holdings shall be laid down in a cardinal Act.

The land and soil protection elements of Act LV of 1994 were taken over by Act CXXIX of 2007 on Land Protection. In 2013 with the passing of Act CXXII of 2013 on the Trade of agricultural and forest land the "old" land Act was repealed.

Act CXXII of 2013 on the Trade of Agricultural and Forest Land

The legislation was the answer for the upcoming years following the expiry of the derogation period of 10 years on the land. Before focusing on the objections put forward the European Commission concerning some provisions of the legislation it also important to note

that in Act LXXXVII. of 2010 on National Land Fund contains the principles of the Hungarian farm policy that are reflected in the provisions of Act CXXII of 2013.

In its preamble several objectives are listed, and their consistency is somewhat questionable. Objectives are maintaining subsistence farming, development of small farms, creating the desired dominance of medium size farms, a viable and competitive agriculture, employment and income growth in the rural areas, producer's organizations, sustainable land utilization, etc. are deemed to be equally important The act does not define the meaning of small, or medium size farms so we can rely only on the actual provisions of size limits.

As for size, the provision of the former Land Act lives on with the 300-ha limit on land acquisition. Agricultural land can be purchased only by farmers, e.g. natural persons with adequate qualification in farming or in lack of that for at least 3 years of pursuing agricultural activity in Hungary under their own name and risk with proof of income from it; or natural persons who have at least 25 per cent share and serve in personal capacity in an agricultural enterprise registered in Hungary. Non farmers can purchase and have (Hungarian and EU citizens) a maximum 1 ha land, except of the so-called recreation purpose land.

Land use size (the total of agricultural land that can be possessed by one farm including own and leased land) can not exceed 1200 ha (general maximum) or 1800 ha (special maximum for livestock farms, and producers of arable crop seed and/or horticultural plant seed). Hence, the explanation of the disappearance of farms from the biggest size categories. There are some exceptions from the 300 ha limit ownership.

Both for land acquisition and land lease there is a strict order of preemption and pre-lease rights. The land purchase contract is subject of authorization by the land office which must take into consideration the position of the Hungarian Chamber of Agriculture on the contract and the affected preemptors (transparency of farm system; speculative land acquisition; viable farms, asserting local farmers' interest; generation change)

Land lease regulation is almost as strict as in the case of land purchase. The length of lease can not exceed 20 years in the case of agricultural land. Lease contract are also subject of authorization by the land office.

Act CXXIX of 2007 on Land Protection

The protection of the land is the responsibility of its land user. The underlying responsibility burdens the owner of the land.

The most important land protection activities are listed as follows:

- Land utilization obligation: according to the specific land use category (arable land, etc.) or without production, meeting the soil protection regulations. In case of vine and orchard the land must be utilized with production;
- Plant care on non-agricultural landed property is a must;
- Administrative authorization is necessary for:
    - Changing temporarily or definitively the intended purpose of the land so that it becomes unsuitable for agricultural production. Exceptions are: country roads, agricultural landscaping, afforestation, transit zones at the state border, creation of fishponds, water abstraction and watering facilities, building hail damage prevention equipment, low capacity power plant for farmers. Temporary non-agricultural utilization can only be established if one (or more) of the followings are present: harvest destroyed, loss of crops, obstacles of timely agricultural work, damage in soil structure. Temporary non-agricultural utilization can be authorized for a maximum 5-year period. There are special provision for the case of Acts of God. Special provisions exist also for definite non-agricultural use in case of opencast mining or creating an extraction site. Nonagricultural use without the permission of the authority is a subject of a special procedure against the land user, or if the land user can not be identified against the owner(s) of the land;
    - Reclassifying exterior zone land of municipalities as interior zone property. In this case land of poorer quality should be the first choice and reclassifying should affect the least possible area. The request for reclassifying can be submitted only by local governments;
    - Utilizing interior zone agricultural land according to its purpose;
    - Planting forest for protection purposes unless afforestation serves soil protection.

  The above administrative authorization is carried out in the land protection procedure.
- In case of land improvement that would change the land use type of the agricultural land (land conversion), the opinion of the land office must be asked for in the planning phase;
- Determining features of the land, especially topography, surface formations, landscape elements of historic or cultural values are to be protected and preserved;

- After the expiry of the temporary non-agricultural utilization permission the land must be made suitable for its original agricultural or forest utilization, land office must be notified about the reuse with providing the plan of reuse;
- Land conversion is possible upon notifying the land office. If the land is a nature reserve conversion is subject of the permission of the nature conservation authority;
- Agricultural land value assessment: The task carried out by the land office in the land evaluation procedure by which the cultivation type and the quality of the land is determined. The procedure in certain cases is free of charge;
- Soil protection: The responsible authority is National Food-Chain Safety Office that runs the Soil Information and Monitoring System:
    - Provisions describe the responsibility of the state (operating the monitoring system, providing data and information for land users and landowners, creating the necessary legislative, economic and technical conditions and measures to encourage the protection of soils, supporting research and granting support for improving soil conditions);
    - The responsibility of land user to apply soil protective cultivation methods. To prevent erosion there are several provisions concerning the different cultivation types;
    - Activities dependent on authorization are; soil improvement, agriculture related landscaping, application of slurry as fertilizer on land, sewage sludge use on land, agricultural use of non-agriculture origin non-hazardous waste, use of non-hazardous waste from agricultural production.

The protection of the agricultural land regulated in other laws as well: Act XLVI. of 2008 on the Food Chain and its Supervision, Act LIII. of 1991 on the Protection of the Environment, Act LIII. of 1996 on Conservation contain provisions affecting land users, there are separate regulations on planning soil protection, on the protection and emission and environmental exposure concerning surface water, groundwater and geographical formations, etc.

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6 Case Italy

6.1 Overview of agricultural land withdrawal

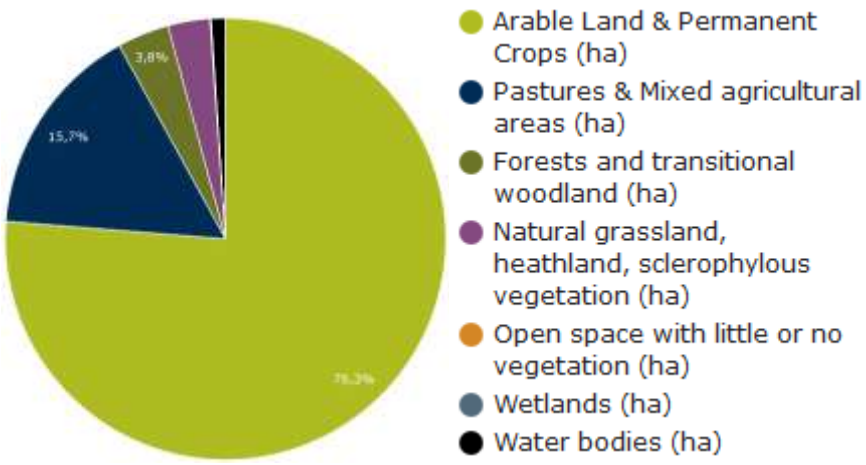

Fig. 24: Relative contribution of land-cover categories to withdrawal by urban and other artificial land development in Italy between 2006 and 2012 (ha)

Source: European Environment Agency (2019)

In Italy between 2006 and 2012 was withdrawn for urban and other artificial land development 26 477 ha (76.3 %) of arable land and permanent crops, 5 456 ha (15.7 %) of pastures and mixed agricultural areas, 1 321 ha (3.8 %) of forests and transitional woodland, 1 070 ha (3 %) of natural grassland, heathland, sclerophylous vegetation and 365 ha (1.2 %) of water bodies.

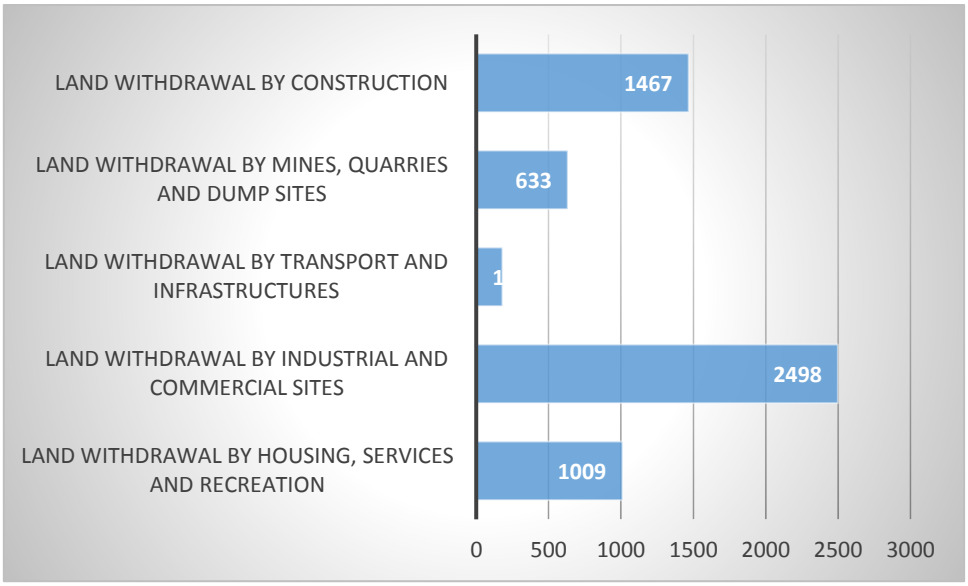

Fig. 25: Annual land withdrawal by several types of human activity in Italy between 2006 and 2012 (ha/year)

Source: Own elaboration based on European Environment Agency (2019)

The drivers of annual land withdrawal for urban and other artificial land development in Italy were industrial and commercial sites, i.e. 2 498 ha (43.2 %), construction sites, i.e. 1 467 ha (25.3 %), housing, services and recreation, i.e. 1 009 ha (17.4 %), mines, quarries and dumpsites, i.e. 633 ha (10.9 %) and transport and infrastructures, i.e. 180 ha (3.2 %).

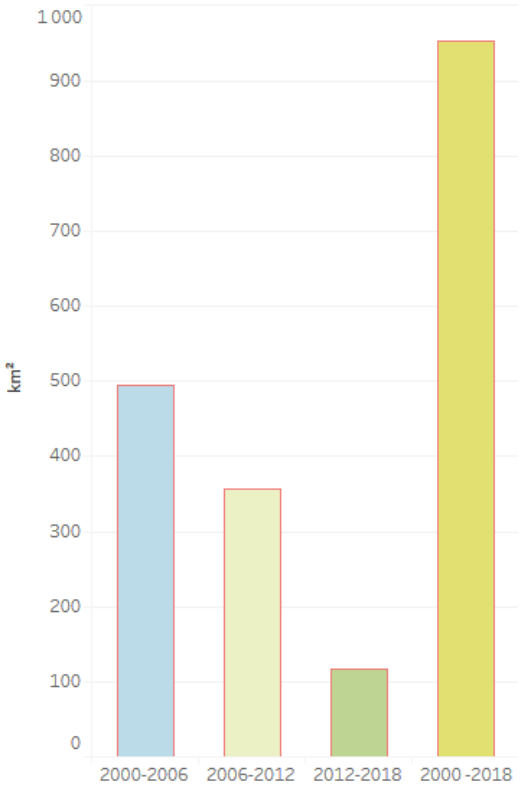

Fig. 26: Land withdrawal statistics for every 6 years and for the entire period 2000-2018 in Italy (km²)

Source: European Environment Agency (2019)

The overview of the land withdrawal processes for Italy shows that in the period 2000-2006 was withdrawn 494.32 km^2, in the period 2006-2012 was withdrawn 356.06 km^2, in the period 2012-2018 was withdrawn 116.53 km^2, and in the entire period 2000-2018 was withdrawn 953.12 km^2. Between the entire period 2000-2018, the most withdrawn land category was arable land and permanent crops, i.e. 719.37 km^2.

6.2 Legal background of agricultural land protection

From a conceptual perspective, land lays at the heart of four concepts and respective regulation: territory, landscape, environment, and property. On these regulatory layers, a fifth is added when land is used for agriculture. As each of these matters are touched by legal provision stemming from both international and intra-national institutions, untangling the normative framework of agricultural land protection requires the examination of principles and laws spanning from international treaties to local municipalities acts, and crossing several legal disciplines. Without the possibility of exhaustively treating the subject, the following paragraph will carve the main features of agricultural land protection in Italy.

The first references for a protection of agricultural land in the Italian legal system should be looked for in the Constitution. In the first part, which sets out the fundamental principles, article 9 affirms that "the [Italian] Republic […] protects landscape and the Nations' historical and artistic heritage". For what concerns agricultural land, the Constitution, in the third Part called 'Rapporti Economici', sets out at article 44 that "[i]n order to achieve the rational exploitation of the land and to establish equitable social relations, the law imposes obligations and constraints on private land ownership, sets limits to its extension according to the regions and agrarian areas, promotes and requires land drainage, transformation the latifundium and the reconstitution of the productive units; helps small and the medium holdings. The law provides for measures in favour of mountain areas".

From the current version of Title V (Le Regioni, le Province e i Comuni), which has undergone a substantial reform in 2001, the distribution of powers between State and Regions is subdivided according to three categories: subjects of exclusive competence of the State; subjects of shared competence; and subjects of residual attribution to Regions. Matters falling under the shared competence are regulated by Regions, whereas the power of setting fundamental principles is retained by the state. Article 117 attributes to the State the exclusive legislative competence on "environmental protection, the ecosystem and cultural heritage". Subjects of shared competence include food and administration of the territory. As the legislator did not mention agriculture among the topics of shared competence, Regions have the full legislative power on it, as in all the matters non-expressly listed in article 117. Article 117 Cost. also recalls that laws have to be in harmony with the Constitution, the European Union system, and international obligations.

As a consequence, whereas the protection of the landscape, conceived in its environmental and cultural dimension, has to be found in the national legislation unless the State directly delegates another body, the legislative competence on agriculture reseeds in regional laws, and territorial administration is object of shared competence. Nevertheless, the interdisciplinary nature of agricultural land - expressing simultaneously economic, environmental, social and cultural interests - makes impossible to sharply draw the lines between national and regional legislative competence, leaving alone the fact that European Union progressively gained competence on several subjects related to the topic.

Finally, the Italian Constitution recognizes, besides the principle of vertical subsidiarity – according to which services should be administered at the closest level possible to the citizen - the principle of horizontal subsidiarity. According to this principle, the State, Regions, and other local institutions "favour citizens' autonomous initiative, in single and associated forms,

for carrying out activities of general interest" (art 118 c4 Cost). From the constitutional framework and the nature of the subject it derives that normative interventions in favour of the protection of agricultural land will be found in the form of both State (setting the principles, or intervening also on the details, according to the subject) and Regional law, local administration regulations, and also in the form of citizens' initiatives and activities.

Landscape and territory management and planning

The three main areas where State regulation of land and soil protection in general is found are environmental protection, administration of the territory, and landscape management.

The protection of soil is a matter that falls between environmental protection and territorial administration. The objectives and the actions of soil protection have been defined by the Code of the Environment, which attributes to Regions actions for the realization of these objectives. Soil protection includes provisions concerning the management of watercourses, prevention and reduction of risks and mitigation of damages caused to economic goods and land by hydrogeological imbalances.

Whereas the Code of the Environment deals with soil on the viewpoint of its preservation as a natural resource, and mainly in association with the prevention of hydrogeological imbalances, the subject of administration of the territory addresses land and soil in a broader way. Territorial administration (governo del territorio) is the intervention of governing agencies on their territories addressed to its harmonic development, where harmonic territorial development encompasses urban development connected to the effective community's housing needs and suitability of the area; environmental and landscape value; protection of people's health and safe lifestyles and the socio-economic needs of local community. Originally conceived only in its urban dimension, territorial administration nowadays encompasses a broader range of functions and, despite a comprehensive national norm on the topic is missing, its principles can be nevertheless drawn by several normative interventions. In this sense, is to be recalled the law n. 10/2013 on urban green spaces which lists, at article 6, a set of measures that regions, provinces and municipalities can adopt in order to limit soil consumption and preserve non-urbanized municipal areas. In the further attempt of promoting a coordinated action and reducing the pace of soil consumption, a project for a national law was proposed and is currently under discussion in the Parliament.

The inaction of the national legislator on this topic is paired by a certain activism by Regions which, in the ambit of their laws on administration of the territory, already have specific provisions on the subject, or at least include the principle of prevention of soil

consumption. In addition, whereas the national law does not encompass provisions on citizens' participation, many Regions have designed these laws in order to establish some form of participation of citizens and stakeholders. In this respect, Tuscany has set the example by adopting an unprecedented normative experiment in Italy: the Tuscany regional law n. 46/2013 on public debate and promotion of citizens' participation in the elaboration of regional and local policies. Taking inspiration from the French experience of a national law on debàt public, Tuscany has created a procedure for ensuring communities information and involvement before and during the realization of public projects.

Territorial administration intertwines with, and it is subordinated to, the discipline governing landscape protection. Regulation of landscape stems from article 9 of the Constitution and it is found in the Code on cultural goods and the landscape. The Code implements the European Landscape Convention of the Council of Europe, although it presents some relevant differences. Article 1a of the Convention defines landscape as 'an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors', and places people's perception at the centre of the definition; article 5 consequently requires States to establish procedures for citizens' participation in landscape policy design, together with local land regional authorities. The Code disciplines the landscape as a component of the national cultural heritage, defined by the identity-expressing character, which derives from the action of natural and human factors and its interrelations (art 131) but leaves out people's perception from the definition. This absence in the definition rebounds in the substantial discipline, as the Code does not refer to participatory measures for the general public. In this regard, Regions, again, have proved able to innovate landscape governance and promoted several participatory projects for landscape protection.

Rural landscape falls within the general landscape regulation. If it is true that, in many Italian regions, rural landscape has been conserved across history and has consolidated the Region's identity and culture, and it has been recognized as UNESCO cultural heritage with benefits that rebound also on the local economy, the absorption of rural landscape under the Code rises several criticisms. Rural landscape in fact is the fruit of agricultural activities carried on by farmers, and its maintenance is dependent on their continuation. The Code, that applies on landscape a conservative vision of restrictions and planning and does not take into consideration the need to valorise farmers participation in landscape policies, risks to constrain its management rather than enhancing it. Support to farmers' stewarding and conservation activities is crucial in this sense. A move in that direction could be represented by the National Observatory for Rural Landscape, agricultural practices and traditional knowledge, instituted

in 2012 by the Ministry of Agriculture with the tasks of collecting data on traditional rural landscapes, techniques and knowledge associated with them, for valorising its importance and preserving the knowledge for future generations, and coordinating the protection of rural landscape with the Rural Development pillar of the CAP.

Moving on from a general land and soil management to a more specific discourse on agricultural land, we see that the normative framework is composed by a range of different interventions on agrobiodiversity, land distribution, protection of customary land use-rights.

Protecting collective land rights and use rights

According to article 118 of the Constitution, State and Regions shall favour the initiatives of citizens that contribute to the realization of activities of general interest. This could be the case for a particular form of land tenure that has historically helped in the preservation of rural land for agricultural, pastoral and silvicultural uses. These types of tenure rights are called generally "usi civici" and "domini collettivi" (but their denomination varies according to the area), they are a customary and collective use rights held by rural and mountain communities for carrying on activities instrumental for their livelihoods.

There is a very recent law (Legge 168/2017) aimed at re-organizing the heterogeneous phenomenon of the commons in Italy. The law, composed by three articles, has been seen useless by some commentators because it repeats in general terms what was already existing since the law 1766/1927, and appreciated by others, who saw the adoption of the law as a renewed interest in the protection of the collective land rights in Italy. The law takes into account the heterogeneous nature of these use rights; it recognizes the right to use and manage collective lands and to set its own rules; it attributes the status of juridical person to all the bodies that administer the collective lands and it affirms that these rights are inalienable, indivisible, and cannot form object of adverse possession.

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7 Case Poland

7.1 Overview of agricultural land withdrawal

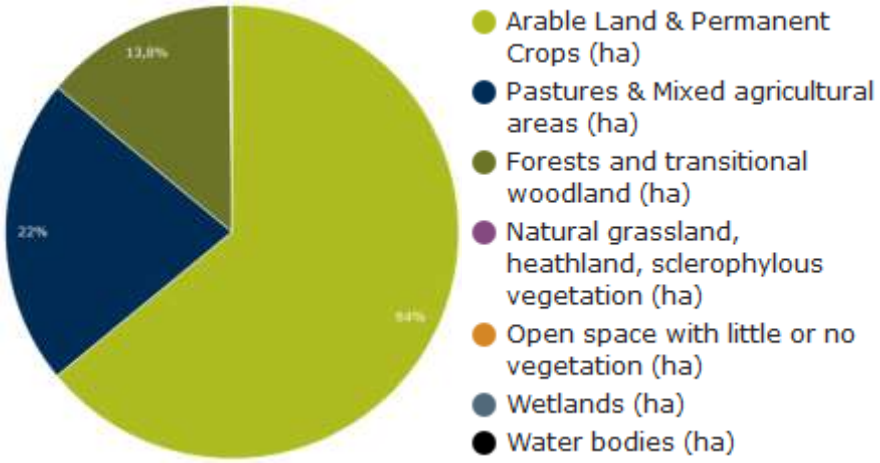

Fig. 27: Relative contribution of land-cover categories to withdrawal by urban and other artificial land development in Poland between 2006 and 2012 (ha)

Source: European Environment Agency (2019)

In Poland between 2006 and 2012 was withdrawn for urban and other artificial land development 32 357 ha (64 %) of arable land and permanent crops, 11 091 ha (22 %) of pastures and mixed agricultural areas, 6 970 ha (13.8 %) of forests and transitional woodland and 56 ha (0.2 %) of water bodies.

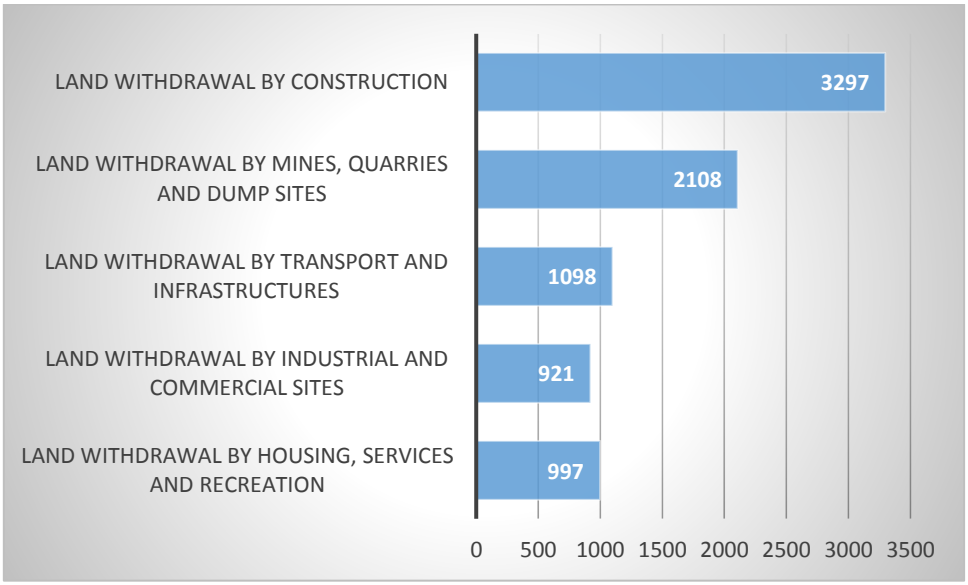

Fig. 28: Annual land withdrawal by several types of human activity in Poland between 2006 and 2012 (ha/year)

Source: Own elaboration based on European Environment Agency (2019)

The drivers of annual land withdrawal for urban and other artificial land development in Poland were construction sites, i.e. 3 297 ha (39.2 %), mines, quarries and dumpsites, i.e. 2 108 ha (25 %), transport and infrastructures, i.e. 1 098 ha (13 %), housing, services and recreation, i.e. 997 ha (11.8 %) and industrial and commercial sites, i.e. 921 ha (11 %).

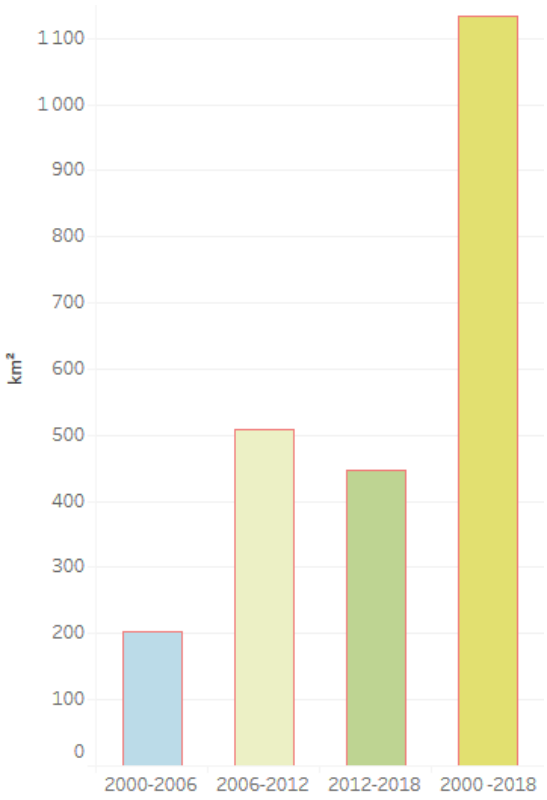

Fig. 29: Land withdrawal statistics for every 6 years and for the entire period 2000-2018 in Poland (km²)

Source: European Environment Agency (2019)

The overview of the land withdrawal processes for Poland shows that in the period 2000-2006 was withdrawn 202.31 km^2, in the period 2006-2012 was withdrawn 509.27 km^2, in the period 2012-2018 was withdrawn 446.94 km^2, and in the entire period 2000-2018 was withdrawn 1 133.82 km^2. Between the entire period 2000-2018, the most withdrawn land category was arable land and permanent crops, i.e. 744.32 km^2.

7.2 Legal background of agricultural land protection

A brief history of land protection in Poland

In Polish legislation, the issue of protection of agricultural land and its reclamation appeared relatively recently.

The first legal act was Resolution no. 198 of the Council of Ministers of 12 July 1966 on the protection of utilised agricultural area (M. P. no. 40, item 200). The resolution adopted the principle that land which lost the character of utilised agricultural area as a result of economic activity (mining, industrial) is subject to reclamation aimed at restoring its appropriate production or service capacity through appropriate technical measures.

Organisational units which as a result of their activity caused a change in the nature of utilised agricultural area were obliged to reclaim such land.

Another legal act dedicated solely to the issues of reclamation was Resolution no. 301 of the Council of Ministers of 6 September 1966 on the reclamation and development of land transformed due to the exploration and exploitation of minerals (M. P. no. 50, item 247).

The experience gained resulted in the creation of another legal act, the Act of 26 October 1971 on the protection of agricultural and forest land, and land reclamation (Dz. U. no. 27, item 249, as amended), which included comprehensively not only reclamation of agricultural land, but also protection of agricultural and forest land. The Act upheld the obligation to reclaim and manage land by the person whose activity caused the loss of utility value of land. Detailed principles of land reclamation and management were included in the Regulation of the Council of Ministers of 20 October 1972 on detailed principles of land reclamation and management (Dz. U. 48, item 303).

The legislator included in this regulation the procedure and the method of covering the costs of reclamation and management. Land reclamation costs were determined in the reclamation and management documentation, and sources of financing of reclamation were indicated, i.e. investment or working capital of an enterprise. The authority competent for agriculture and forestry at the district level determined the direction and time of land reclamation and management, the person obliged to reclamation and management, approved the documentation, kept a register of land subject to reclamation and management, and controlled activities in this area. The determination of the land quality class took place after 10 years from the completion of reclamation.

After more than 10 years of being in force, the Act of 1971 was replaced by the Act of 26 March 1982 on the protection of agricultural and forest land (Dz. U. 11, item 79). The Act in fact maintained the legal instruments for land reclamation created by the previous Act, providing them with details and expanding them. A new solution was the introduction of a financial instrument – the Agricultural Land Protection Fund. The executive provisions to the Act specified which projects financial resources of the Fund are allocated for. These were not only reclamation of land which lost its utility value for agricultural purposes, but also the preparation of documentation and expert analyses in the area of land protection. The holder of the Central Fund was the minister competent for agriculture, and of the field funds – province governors.

Due to the political changes at the turn of the eighties and nineties, the Act of 1982 was amended several times. In the end, it was replaced by a new regulation, i.e. the Act of

3 February 1995 on the protection of agricultural and forest land (consolidated text from 2004, Dz. U. no. 121, item 1266, as amended), which remains valid until now.

Legal regulations in the area of land protection in Poland

The Act of 3 February 1995 on the protection of agricultural and forest land plays a key role in the legal protection of agricultural land in Poland. This Act includes detailed regulations pertaining to the principles of protection of agricultural and forest land, its reclamation and improvement of the utility value.

Within the meaning of this Act, the protection of agricultural land consists in:

- Limiting its allocation for non-agricultural purposes;
- Preventing the processes of degradation and devastation of agricultural land and damage to agricultural production arising from non-agricultural activity and mass movements of land;
- Land reclamation and management for agricultural purposes;
- Maintaining peat bogs and water holes as natural water reservoirs;
- Limiting changes in the natural form of the land surface.

The main elements of protection of agricultural land include limiting the allocation of agricultural land to non-agricultural purposes, payments for its actual investment (exclusion of land from agricultural production) and reclamation. The first tool supporting the protection of agricultural land in Poland is related to spatial planning and aims at limiting the allocation of the best quality agricultural land to non-agricultural purposes. The second one is part of an investment process and is an economic mechanism aimed at discouraging an investor to develop land the most valuable for agricultural production, whereas the third one obliges an investor to restore basic utility functions of degraded land, e.g. as a result of mining operations. A special role in the protection of the highest quality agricultural land is played by the Minister of Agriculture and Rural Development since the regulations of this legal act oblige local authorities to ask to the Minister for permission to change the purpose of this land for non-agricultural purposes when adopting local spatial planning acts.

Tools for the protection of agricultural land:

- The procedure for the allocation of agricultural land for non-agricultural purposes. The adopted statutory regulations are primarily intended to prevent irrational management of agricultural land. To this end, the provisions of the Act made the possibility of allocating agricultural land of classes I-III for non-agricultural purposes dependent on

the consent of the competent authority, i.e. the Minister of Agriculture and Rural Development, granted at the stage of drawing up the local spatial planning act, i.e. the local spatial development plan. The consent to allocate agricultural land of classes I-III for non-agricultural and non-forestry purposes is granted only at the request of the commune head (mayor). The application on the allocation of agricultural land for non-agricultural purposes is then submitted to the Minister of Agriculture and Rural Development through the province marshal who, within 30 days of submitting the application by the commune head (mayor), encloses his/her opinion and sends it to the Minister. The Minister of Agriculture and Rural Development has a legal obligation to assess applications primarily from the point of view of protecting the land with the highest production value and maintaining the compactness of the agricultural production space before investing. Rules in above mentioned Act explicitly specify that the change of use of agricultural land for non-agricultural purposes should apply to wastelands and land with the lowest production suitability, and only in exceptional cases to the highest class land. Thus, the best quality agricultural land can be used for other purposes only if there is no other way to complete the investment, which should be demonstrated in detail and convincingly by the applicant;

- Exclusion of land from production. The allocation of agricultural land of classes I-III for non-agricultural purposes is only the first stage of protection of land against its permanent loss for agricultural production. In order to start using land for purposes other than agricultural – e.g., single-family housing, production and service or technical infrastructure – it is necessary to exclude agricultural land from production. The instrument of "exclusion of agricultural land from production" is one of the elements designed to protect the agricultural use of land. The procedure of excluding land from agricultural production is connected with the necessity to bear costs. These costs are to influence the decisions made by the investor and persuade him to place non-agricultural projects mainly where the soil has lower production suitability. The condition for a legal exclusion of land from agricultural production is to obtain an administrative decision allowing such exclusion. The authority competent in matters relating to the exclusion of agricultural land from agricultural production is district governor (a middle-level authority of the local government). An application for permission to exclude agricultural land from production shall be submitted to the district governor before obtaining a building permit;

– Reclamation of agricultural land. The Act on the protection of agricultural and forest land specifies the rules, procedure and authorities competent to act in relation to the reclamation of agricultural land. According to the statutory definition, land reclamation is understood as giving or restoring usable or natural values to degraded or devastated land by properly shaping the lay of the land, improving physical and chemical properties, regulating water regime, restoring soils, strengthening slopes, and rebuilding and building the necessary roads. In addition, the Act also defines the concept of land development – it means agricultural, forest or other use of reclaimed land. Development of reclaimed land usually takes the form of forest, agricultural or recreational development. The person causing the loss or limitation of land use value bears the costs associated with the reclamation of this land. Reclamation for agricultural purposes, reclamation of land located in the areas of agricultural production space, land devastated or degraded by undefined persons, as a result of natural disasters or mass land movements, is carried out by the district governor using funds remaining at the province marshal's disposal, but coming from fees for excluding agricultural land from production. On the other hand, reclamation for purposes other than agricultural is made by the district governor using funds from the state budget or funds of those interested in running activity on the reclaimed land.

Measures in Act on the protection of agricultural and forest land take into account environmental conditions and the principle of sustainable development. Poland, like other European countries, did not introduce absolute protection of agricultural land (a complete ban on its investment), bearing in mind the need for economic development of the country. However, provisions of the law clearly indicate which land should be primarily the subject of non-agricultural interest, i.e. wastelands and lower quality land.

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8 Case Slovakia

8.1 Overview of agricultural land withdrawal

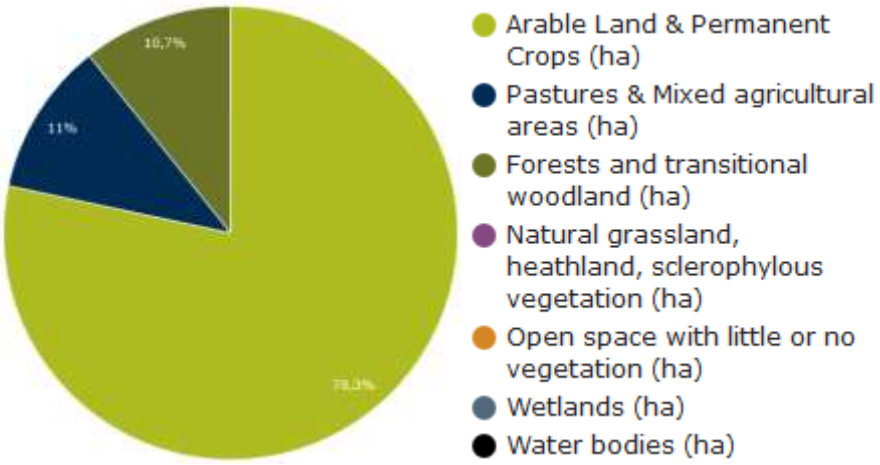

Fig. 30: Relative contribution of land-cover categories to withdrawal by urban and other artificial land development in Slovakia between 2006 and 2012 (ha)

Source: European Environment Agency (2019)

In Slovakia between 2006 and 2012 was withdrawn for urban and other artificial land development 5 391 ha (78.3 %) of arable land and permanent crops, 754 ha (11 %) of pastures and mixed agricultural areas and 737 ha (10.7 %) of forests and transitional woodland.

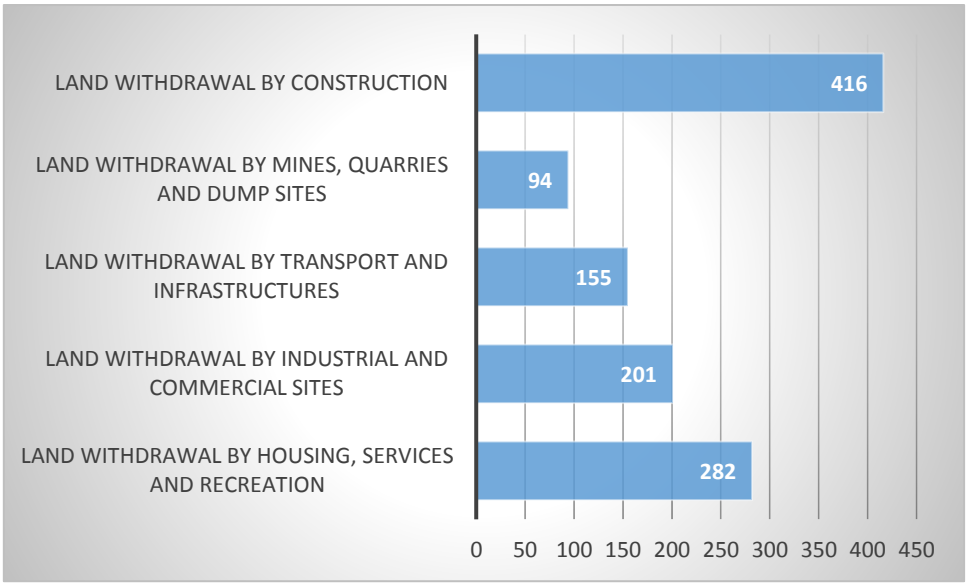

Fig. 31: Annual land withdrawal by several types of human activity in Slovakia between 2006 and 2012 (ha/year)

Source: Own elaboration based on European Environment Agency (2019)

The drivers of annual land withdrawal for urban and other artificial land development in Slovakia were construction sites, i.e. 416 ha (36.3 %), housing, services and recreation, i.e. 282 ha (24.6 %), industrial and commercial sites, i.e. 201 ha (17.5 %), transport and infrastructures, i.e. 155 ha (13.5 %) and mines, quarries and dumpsites, i.e. 94 ha (8.1 %).

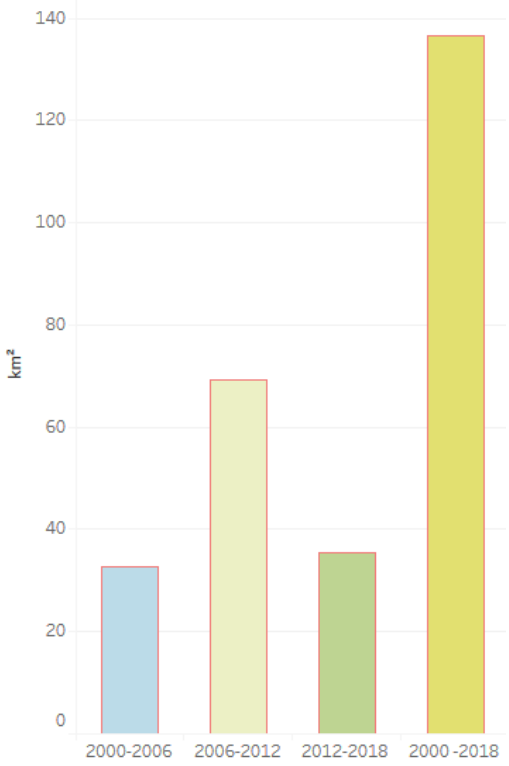

Fig. 32: Land withdrawal statistics for every 6 years and for the entire period 2000-2018 in Slovakia (km²)

Source: European Environment Agency (2019)

The overview of the land withdrawal processes for Slovakia shows that in the period 2000-2006 was withdrawn 32.74 km^2, in the period 2006-2012 was withdrawn 69.31 km^2, in the period 2012-2018 was withdrawn 35.49 km^2, and in the entire period 2000-2018 was withdrawn 136.61 km^2. Between the entire period 2000-2018, the most withdrawn land category was arable land and permanent crops, i.e. 111.74 km^2.

8.2 Legal background of agricultural land protection

Agricultural-soil protection as a public interest

The protection of the agriculture soil as the part of environment and the basis for any food production must be the primary criterion for any management of agricultural land. Since 2017, the Constitution established the state´s care and special protection for the agriculture land which is characterized as a non-renewable nature source. However, this constitutional regulation yet has not emerged in some specific legal regulation.

For any change of the agricultural land to other type of the land, there should be always paid a fee without any exceptions which are today very often. Instead of remissions of the fees, there should be applied only reducing of the fee. In specified cases, a total prohibition on change of the agricultural land to another type of land should be provided.

The financial resources gained from these fees should be invested back in the agricultural land protection.

Changing the agricultural land to the other types of the land, especially to the building land, should be primarily limited on changing the land with degraded soils and on the sites with old environmental burdens which need to be eliminated. Placing the large area industry buildings and factories should by primarily realised in urban areas, in old unused industrial sites, on the land with degraded soils and sites with old environmental burdens.

The environmental and rational practices in operating and cultivating the agricultural land should be supported by legislative means, for example:

- To conserve and build the balks and alleys as windbreaks and as means of water retention;
- To leave waterlogged and otherwise unproductive areas as natural refuges for the organisms which could serve as natural means of protection against the pests;
- Ploughing should be realised always across the fall line of the slope.

Legal regulation of the land withdrawal

To use the agricultural land for the non-agricultural purposes (e.g. building or mining), a particular state body has to decide on the withdrawal of agricultural land. There are some exemptions when the decision is not asked to be issued. Firstly, the acreage of a withdrawn land plot does not exceed 25 m2 for the building purpose or for the setting the public equipments (e.g. signals or geodetic marking) when the land plot is satiated out of the build up area of a municipality. Secondly, the agricultural land plot of the acreage up to 5000 m2 is situated in the build up area of a particular municipality. In these cases, a particular land office issued only binding statements.

The agricultural land can be withdrawn permanent or temporary. The permanent withdrawn of agricultural land is defined as permanent change of use the agricultural land with the permanent transformation of the land type in the cadastre. The temporary withdrawn of agricultural land is defined as temporary change of the use the agricultural land for the period of maximum 10 years which will be transformed in the original status by the recultivation.

The application for withdrawal of land is filed by an entity who intends the land withdrawal at the particular land office. The applicant has to add the annexes to the application such as the approval of the particular offices, project documentation, the proposal of the use the superficial horizon of the agricultural land, the project of the recultivation if the land is withdrawn only temporary, the basic data of the land plot, the statement of the state bodies and self-government, the final decision or the confirmation of the particular office for the building and construction on the fusion of administrative procedures relate to the building and land planning, other data important for the decision of the particular land office on the land withdrawal and calculation of fee for the land withdrawal.

The land offices are obliged to decided positive decision on the land withdrawal when the principles of the agricultural land protection in the case of non-agricultural use are fulfilled. There is no absolute prohibition for withdrawal of land of the best quality. The state bodies take into account the protection of the agricultural land of the best quality. However, if there is no other alternative to locate the buildings, the agricultural land of the best quality can be withdrawn. Nowadays, the decline of agricultural land is a global problem (e.g. Eswaran et al., 2001). The human factors, such as industry, transport, infrastructure and housing construction causes the loss even more agricultural land not only in Slovakia. Unfortunately, in Slovakia, they are situated on the most fertile land of the country (Ilavská, 2016; Némethová, Feszterová,

2018). Therefore it is necessary to revalue the adoption of the legal regulation related to the absolute prohibition of withdrawal of the land of the best quality in the particular municipalities.

The decision on the land withdrawal is valid only for a particular intention presented in the application and its annexes. It is not universal permission for any intention. Moreover, the validation of the decision is limited in time. The decision on the temporary withdrawal of land loss its validation by the expiration of the temporary period of time stipulated in the decision (maximum 10 years). The decision on the permanent withdrawal of land loss its validation when the land is not withdrawn for the intention presented in the application during the period of three years.

The Act on the land protection regulates one more exemption related to the use of land for the non-agricultural purposes during the period shorter than one year. The period of one year includes also the land recultivation. The above mentioned procedure is not applied; however, an applicant has to ask for a statement of the particular land office. The land office stipulates the requirements of the land use for non-agricultural purposes and the period of time to provide the recultivation.

Development of the agricultural land withdrawal

The fee for the land withdrawal was introduced in 1976 by the Government Decree no. 103/1976 Coll. on the fee rates for the agricultural land withdrawal from the agricultural production. The fee ranged from 10 000 crowns to 1 350 000 crowns for one hectare of agricultural land. The fee for the withdrawal of pastures and meadows was reduced to 30% - 80%. The fee for temporary land withdrawal ranged from 0,5% to 2% of the fee for permanent land withdrawal. In 1984, the decree was replaced by the new one. The new Government Decree no. 39/1984 Coll. on the fee rates for the agricultural land withdrawal from the agricultural production increased the high of the fee that ranged from 20 000 crowns per a hectare for the land of the worst quality to 5 040 000 crowns per a hectare for the land of the best quality. There were special fees for the permanent grass land that ranged from 10 000 crowns to 720 000 crowns per one hectare. The fee for temporary land withdrawal ranged from 2 000 crowns to 50 400 crowns per a hectare of withdrawn land or from 900 to 8400 crowns per a hectare if the withdrawn land was classified as permanent grass land.

When the independent Slovak Republic was formatted, the decree was replaced by the new Government Decree no. 19/1993 Coll. on the basic fee rates for the agricultural land withdrawal from the agricultural land fund. It was an executive legal regulation to the Act no. 307/1992 Coll. on the agricultural land protection. The government decree regulated the fees

for the permanent land withdrawal that ranged from 50 000 crowns to 11 300 000 crowns per one hectare of land and the fees for temporary land withdrawal that ranged from 5 000 crowns to 113 000 crowns per one hectare of land. In 1996 the decree was replaced by the new one again. The new Government Decree no. 152/1996 Coll. on the basic fee rates for the agricultural land withdrawal from the agricultural land fund did not change the nominal rate of fee but changed the currency from the Czechoslovak crowns to the Slovak crowns.

In 2004 the new Act no. 220/2004 Coll. on the protection and use of the agricultural land was adopted. The new Act on the land protection abolished the fee for the land withdrawal without any logical and scientific reasoning. After 4 years, the fee was introduced again by the government decree no. 376/2008 Coll. that regulates the high of fee and the form of its payment for the land withdrawal. The decree entered into force 1st January 2009. In the explanatory report to the decree was introduced a reason for abolishment and reestablishment of fee for land withdrawal that the program manifestation of governments and praxis showed that the abolishment of the fee was neither in favour of the land with the best quality or in favour of the maintenance and reproduction of the qualitative land potential in the Slovak Republic for the future generations and the fee are only economic measure for the agricultural land protection (the explanatory report to the decree no. 376/2008 Coll.). However, the fee was introduced only for the first four classes of the land quality. The fee was not paid if the withdrawn land belonged to the classes from 5th to 9th in spite of the fact that the fee is only economic measure for the agricultural land protection. Moreover, the fee for the withdrawn land in from the 1st to 4th class was not paid in the stipulated exemptions:

- The construction of the equipment that should be used for the accession and the protection of agricultural land plots (e.g. floods-protection objects, filed paths);
- The construction of the highways, roads and municipal routes;
- The housing construction on the land plots up to the acreage of 1000 m2;
- The construction of industrial parks and agricultural settlements;
- The construction of the municipal housing and public goods if the investor was a municipality.

The exemptions were not allowed if there was a suitable land plot in the class from 5th to 9th in the particular municipality. The fee for the land of the first class was 15 EUR per 1 m2, the second class 12 EUR per 1 m2, the third class 9 EUR per 1 m2 and the fourth class 6 EUR per 1 m2. The decree was replaced by the new government decree no 58/2013 Coll.

mentioned above which has entered into force 1st April 2013. The decree introduced the obligation to pay the fee for the land withdrawal into all qualitative classes of land.

In the explanatory reports there is missing any quantitative or qualitative analysis of the impact of fee payments on the land withdrawal. There is missing the analysis of the fee payments on the land withdrawal from the previous years that could give a reason for the manipulation of fee payments, their abolishment and reestablishment including the stipulation of the high of the fee for the more effective land protection.

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9 Case Slovenia

9.1 Overview of agricultural land withdrawal

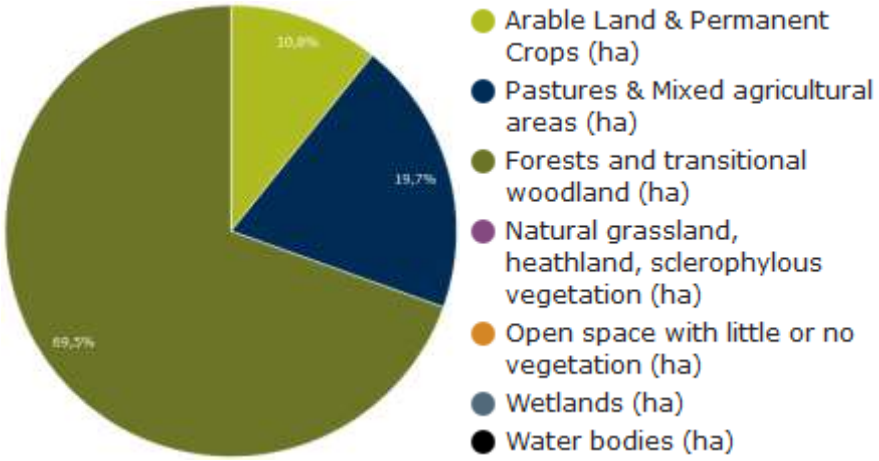

Fig. 33: Relative contribution of land-cover categories to withdrawal by urban and other artificial land development in Slovenia between 2006 and 2012 (ha)

Source: European Environment Agency (2019)

In Slovenia between 2006 and 2012 was withdrawn for urban and other artificial land development 374 ha (69.5 %) of forests and transitional woodland, 106 ha (19.7 %) of pastures and mixed agricultural areas and 58 ha (10.8 %) of arable land and permanent crops.

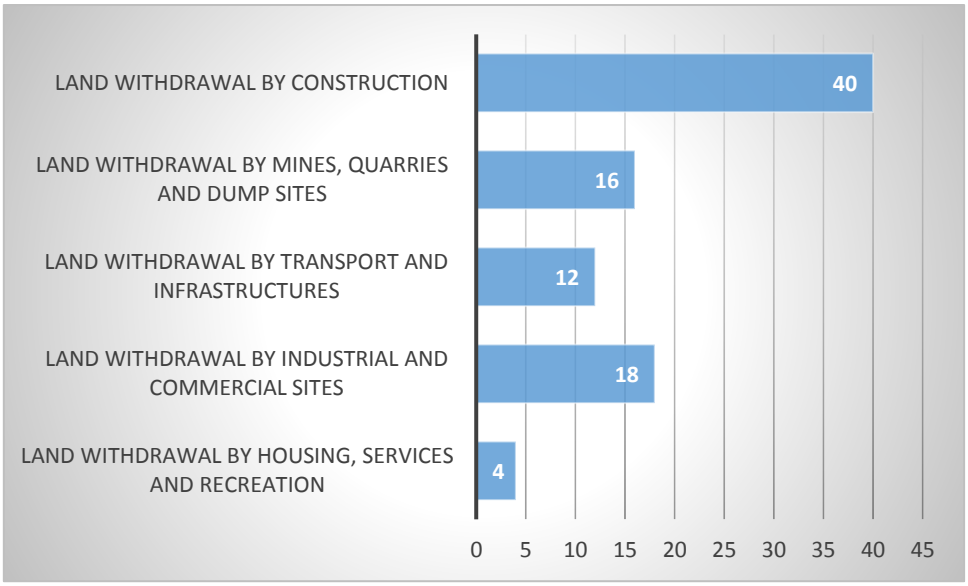

Fig. 34: Annual land withdrawal by several types of human activity in Slovenia between 2006 and 2012 (ha/year)

Source: Own elaboration based on European Environment Agency (2019)

The drivers of annual land withdrawal for urban and other artificial land development in Slovenia were construction sites, i.e. 40 ha (44.4 %), industrial and commercial sites, i.e. 18 ha (20 %), mines, quarries and dumpsites, i.e. 16 ha (17.7 %), transport and infrastructures, i.e. 12 ha (13.4 %) and housing, services and recreation, i.e. 4 ha (4.5 %).

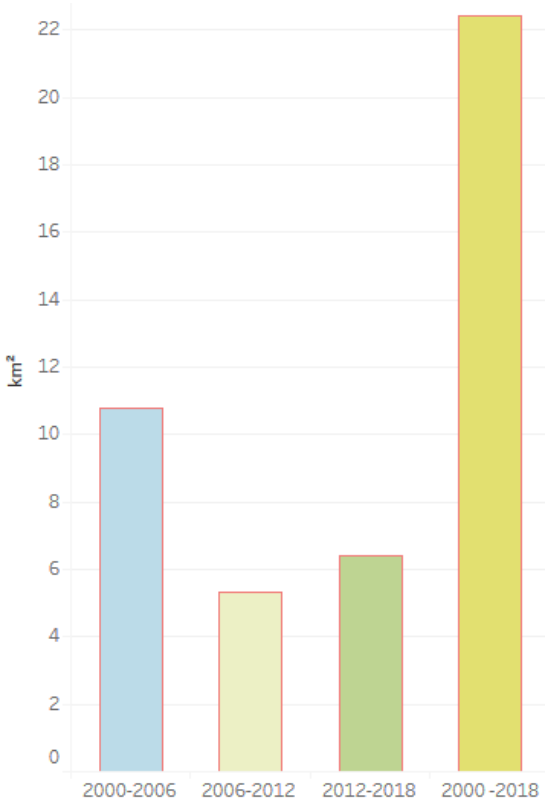

Fig. 35: Land withdrawal statistics for every 6 years and for the entire period 2000-2018 in Slovenia (km²)

Source: European Environment Agency (2019)

The overview of the land withdrawal processes for Slovenia shows that in the period 2000-2006 was withdrawn 10.78 km^2, in the period 2006-2012 was withdrawn 5.34 km^2, in the period 2012-2018 was withdrawn 6.39 km^2, and in the entire period 2000-2018 was withdrawn 22.43 km^2. Between the entire period 2000-2018, the most withdrawn land category was forests and transitional woodland shrub, i.e. 11.85 km^2.

9.2 Legal background of agricultural land protection

Legal and economic protection of agricultural land

The Slovenian general agricultural land legislation originates from the early 1970s, when the legislative competence in several agricultural matters was transferred from the federal (Yugoslav) level to Slovenia and other republics. The first Slovenian Agricultural Land Act from 1973 stipulated that spatial planning acts for Slovenia and the municipalities had to designate land for agricultural purposes according to the natural conditions and the social needs foreseeing the classification of agricultural land into three categories. The first category comprised land that was, in principle, permanently intended for agriculture. The second category consisted of land which was allowed to be used for non-agricultural purposes only under certain conditions, provided by the law; while the third category comprised the land which could also be used for other purposes related to agriculture (farm tourism, protected natural areas, water reserves etc.). The same Act introduced a special economic instrument for the protection of agricultural land: the so-called "compensation for the change of purpose of agricultural land" which should be paid by an investor before obtaining a permit for building a building on agricultural land. The amount of this duty was calculated on the basis of the surface and quality of the agricultural land concerned.

The following developments were marked by the frequent normative changes related to (1) the relationship between the general spatial planning and special agricultural land legislation as well as to the (2) level and detailedness of the special legal protection granted to agricultural land by legislation and/or executive regulations, and (3) the role of relevant ministries (for instance, of agriculture, spatial planning, environment and infrastructure) in the protection of agricultural land.

These issues are currently regulated by the general Spatial Planning Act from 2017 and the Agricultural Land Act from 1996. The latter Act has been amended several times, and, as far as the agricultural land protection is concerned, probably most substantially in 2011 - in a time of serious financial and economic crisis, when the policy-makers and also a wider public became more deeply aware of the importance of food security, local agriculture and self-supply as well as the role an efficient agricultural land protection plays in achieving this goals. It is interesting and far from a coincidence that in the same year (2011), the State Assembly of the Republic of Slovenia adopted the Resolution on strategic guidelines for the development of the Slovenian agriculture and food industry until 2020 - "Zagotovimo si hrano za jutri" ("Let's ensure food for tomorrow").

According to the Agricultural Land Act (ALA), agricultural land is defined as land suitable for agricultural production, which the spatial planning documents of local communities designate as areas of agricultural land and classify in two areas: (1) areas of permanently protected agricultural land and (2) other agricultural land areas.

Certain provisions of the Agricultural Land Act (relating to the duties of owners and other users to cultivate the agricultural land, to prevent its pollution and degradation, to prevent overgrowing and to assure permanent fertility of the soil), are also applicable on the land, which is, according to the spatial planning documents of local communities, intended for non-agricultural purposes, but is actually used as fields and gardens, meadows, permanent crops and other agricultural areas (Art. 1, 4 and 7 ALA).

On the basis of the ALA and taking into account the National Strategic Spatial Document, the Government determined, by a decree , areas for agriculture and food production that are of strategic importance for the Republic of Slovenia due to their cultivation potential, their surface, rounding off, importance for food production, preserving and developing rural areas and preserving the landscape.

The Agricultural Land Act stipulates that a professional organisation meeting certain requirements and selected by the Ministry of Agriculture, Forestry and Food, prepares, at the expense of this ministry, for each local community an expert proposal of permanently protected agricultural land areas.

The expert proposal for permanently protected agricultural land areas must take into account the surface, rounding and following conditions:

- The rating of agricultural land in accordance with the regulations governing the registration of immovable property (from 35 to 100 points);
- A slope of up to 11%;

- Land consolidation, drying or irrigation;
- The availability of water resources suitable for irrigation;
- The existence of permanent crops or
- Local characteristics of agricultural production and use of agricultural land (Art. 3.c and 3.f of the ALA).

The Ministry of Agriculture, Forestry and Food, as the national spatial planning institution responsible for agricultural land in the procedures of spatial planning, also determines the detailed content of the expert proposal.

Local communities are obliged to designate areas of permanently protected and other agricultural land on the basis of an expert proposal. The ALA as well as the general Spatial Planning Act stipulate that local communities are obliged to plan eventual development projects first on the land of non-agricultural use. If this is not possible, such projects are planned in the area of other agricultural land, and only in the last resort, on the area of permanently protected agricultural land, starting with the land of lower quality (rating).

Areas of permanently protected agricultural land must not be changed for at least 10 years after the spatial planning document of the local community has entered into force.

Exceptions from this rule are exhaustively laid down by the Act. The permanently protected agricultural land should change its purpose at least 10 years after the spatial act came into force only in the following cases:

- If the change of purpose is planned by certain compelling needs of the local community (for instance, due to the construction of an indispensable road infrastructure or water infrastructure facilities, or the relocation of agricultural holdings, Art. 3d);
- If the new state spatial arrangements are planned (for instance, road, railway, water and air-traffic infrastructure, certain energetic infrastructure), besides the extension of the existing ones (Art. 3e).

Very detailed and exhaustive provisions enumerate agricultural buildings which may be erected on the agricultural land if used for purposes related to agriculture (Art. 3.ea) and some other developments in the space on agricultural land (Art. 3.č and 3.ča). These provisions are only to a limited extent applicable to the best, i.e., permanently protected agricultural land.

According to Art. 3.g of the ALA, an investor who submits an application for a permit for the construction of a building whose floor area or part of the ground floor is located on agricultural land the rating of which is more than 50, must pay compensation due to the change

of purpose of the agricultural land. The amount of compensation is calculated by multiplying the surface area of the land concerned and a factor depending on its rating.

Soil protection

The soil can be legally protected directly, e.g., a particular soil type can be protected (such as "podzol"), or indirectly, as productive agricultural land, as a part of protected the habitat, in connection with a special plant or animal species or as a part of the geomorphological phenomenon/ecosystem such as grassland on moraines with a rough surface (Vidic, 2015).

The Agricultural Land Act defines fertile soil as "material of the surface layer of the soil, which due to its physical, chemical and microbiological properties enables the growth of plants and should be protected against permanent loss". A fertile land abandoned in construction work is used to improve agricultural land, regulate public green spaces or rehabilitate degraded areas, except when a fertile land is used to regulate the surroundings of the building, due to the construction because of which it has been pushed (Art. 9).

Most soil in Slovenia is not polluted; but some individual areas, burdened with certain metals, as a result of industrial activities in these areas, stand out (Vidic, 2015). In intensive agricultural areas, the residues of plant protection products and their breakdown products may be found, which can leach as nitrates through the soil and contaminate the groundwater. The soil in Slovenia is generally rich in organic matter, which impacts numerous features of soil (improves aeration and soil porosity, the binding of nutrients and dangerous substances; reduces soil erosion and is a habitat for numerous organisms and the sinking of atmospheric CO2). Despite this, more care needs to be taken to maintain and increase the organic content of soil in certain parts of the country. In certain parts of Slovenia, the soil is acidic, impacting the fertility of the soil, sensitivity to pollution and the varied use of soil. Soil is acidic due to non-carbon surfaces as well as the leaching of nutrients (Vidic, 2015).

The use of mineral fertilisers and plant nutrients in the soil in the past two decades has decreased significantly. The maximum nitrogen surplus balance has been found in north-eastern Slovenia (Vidic, 2015).

Due to relief, the danger of soil erosion is significant in Slovenia. The erosion of agricultural land is caused by water and wind, being most intensive on arable land (Repe, 2004). The risk of erosion can be reduced by implementing more appropriate cultivation methods.

The Rural development programme of the Republic of Slovenia 2014-2020 (RDP) foresees, inter alia, several measures necessary to improve the status of the water and soil.

In order to preserve soil quality, the legal provisions require strict limits of intake for plant protection products and mineral fertilisers as well as plant nutrients, while the agricultural policy measures stimulate professional fertilisation with organic fertilisers, crop rotation, conservation tillage and the greening of arable land. All these measures have positive effects on soil and water quality. In order to be motivated to take such measures, farmers are additionally trained and offered specialised advisory services.

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