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About project CEILAND

Central Europe is specific geographical region with significant influence share of agricultural land in Europe with a good quality and climate conditions. The proposal of the project "Central European Initiative on Agricultural Land Protection" (CEILAND) 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 is 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 project are:

- to promote discussion about sustainability of the agricultural land quality and acreage in Central European countries and subsequently in the EU;
- to boost knowledge about the quality and acreage of agricultural land in Central European countries;
- to strengthen effectiveness of land-use governance in Central Europe and the EU.

Cross-fertilisation and spread content idea of the project is visible in the content of the activities which achieve the objective of the project; all activities respect multidisciplinary approach on the agricultural land protection (socio-economic, legal, political and environmental aspect). Discussion about Central Europe and the EU agricultural land protection will be lead in mutual synergy of stakeholders at different levels of competence (academics, managing and control authorities, practice) what may influence further dialogue on this issue in the whole EU.

Impact:

- sustaining the quality of agricultural land in Central Europe in the context of the EU;
- agri-environmental policy and the EU food policy;
- contribution to develop land footprint of the EU for Central Europe;
- harmonization of political tools and implementation measures related to agricultural land protection in Central Europe;
- increasing awareness of the land value for civil society, especially within the EU.

More information about the project is possible to find on the project webpage: <u>http://ceiland.uniag.sk/</u>

One of the project result is a conference proceeding which aims:

- to present the papers and results of research related to agricultural land protection in Central Europe countries in regards to the EU and worldwide agro-environmental policy;
- to evaluate impact and to describe possible future tendencies within the field;
- to provide overview about the research activities of another institutions.



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Foreword

Foreword

Agricultural land represents one of the most vulnerable types of land. In the EU, more than one thousand km² are subject to its withdrawal – either for housing, industry, roads, or recreational purposes. Competences in the field of agricultural land protection are in the hands of Member states because till now there are no policy efforts to adopt legally binding measures. In spite of this fact, European and international environmental documents encourage European states to set up action to maintain and protect agricultural land based on the sustainable principles. All relevant EU documents (7th Environment Action Programme to 2020, Strategy Europe 2020, Soil Thematic Strategy, etc.) reflect that the problem of land protection in the EU is solved insufficiently and non-complexly, and that there is a need to implement EU land law. One of the means to encourage more intensive debate on this issue is organization of a symposium/conference focused directly on agricultural land protection that will gather researchers, academics and experts within this field from various EU countries.

The proceeding volume from the international scientific conference introduces the effort to sustain acreage and quality of the agricultural land in the EU. Central European countries, as a geographical coherent territory, have a strong link to agriculture and to food self-sufficiency of Europe, including the EU. The proceeding volume promotes discussion and reflection on agricultural land protection in Central Europe and enhances knowledge about the EU from multidisciplinary aspects of the agricultural land protection (economic, legal, political and ecological) and by stakeholders at different competence levels (academics, managing authorities and professionals from practice).

The proceeding volume from the international scientific conference is intended for the target group of students of Bachelor and Master studies at study programmes related to agricultural land protection as well as experts in this field from both public and private sector.

Authors





AGRICULTURAL SOIL AND AGRICULTURAL LAND - PROBLEMS AND CHALLENGES FROM THE VIEW OF LEGAL REGULATION *

Martin ILLÁŠ¹

¹Ministry for Agriculture and Rural Development of the Slovak Republic

Abstract

The paper is a technical description focused on identification of the basic terms, relations, problems, goals and challenges and possible legal or legislative solutions of the physical protection of the agricultural soil and the legal protection of the agricultural land as an object of legal relations in the Slovak Republic. Achievement the goals and their legal realisation is possible only if certain legal obstacles are resolved on the national level and level of European Union. This paper represents a basic analysis which can possibly serve as a support for an attempt to resolve the defined problems by the legislative means.

Key words

agricultural land, agricultural land, land ownership, land use, landgrabbing

Introduction

The basic term of the conference is the protection of agricultural land. This term can be divided in the physical protection of the agricultural soil and the legal protection of the agricultural land as an object of legal relations. The sense of these two aspects of protection is preserving the productive functions of the agricultural land.

Material and Methods

This paper is a technical description focused on identification of the basic terms, basic problems and basic goals and challenges of the protection of agricultural land in the Slovak Republic. It could possibly serve as a support for an attempt to resolve the defined problems by the legislative means. This paper is not aimed at identifying the economic measures of resolving the identified problems which are equally important like the legal measures.

Most of the definitions, data and possible legislative solutions mentioned in the text are primary based on the documents elaborated in the legislative process of the Act no. 140/2014 Coll. on Acquisition of Ownership of Agricultural Land and on Amendments to Certain Acts, as amended, and its later not adopted amendments drafts, prepared in the Ministry for Agriculture and Rural Development of the Slovak Republic. As a secondary source, the documents of the infringement procedure against the Slovak Republic no. 2015/2017 regarding the possible violation of the Treaty on the Functioning of the European Union were used.

^{*} The paper has been published in the journal EU Agrarian Law 01/2019, DOI 10.2478/eual-2019-0002 and presented at the conference - Central European Initiative on Agricultural Land Protection, 3th-4th April 2019, Nitra

Results and Discussion

1 Basic terms and relations

Public discussion concerned on the protection of agricultural soil and land is significant with one big problem – misconception and misuse of the terms used in argumentation. In order to achieve the aim of this work, it is needed to define these basic terms and basic relations.

Agricultural soil

Agricultural soil is a part of the environment. As a horizontal phenomenon or horizontal layer, it is an objectively existing part of the earth's surface, i.e. the pedosphere.

The agriculture soil is one of the basic means of production, beside the capital and the work. Unlike the capital, the agricultural soil is a non-renewable, non-repairable and nontransferable means of production. And unlike the capital, the agricultural soil itself cannot be object to ownership.

Agricultural land (agricultural land estate)

The agricultural land is a legally defined portion of the earth's surface determined by the parcel line which is covered with agricultural soil and is included in the so called "agricultural soil fund". It can be an object to ownership.

The agricultural land as any other estate is beside its horizontal sense also a vertical phenomenon because as an object of the ownership right it involves the whole space under the surface including the agricultural soil. It means that agricultural soil is a part of the agricultural land, it is its attribute and it is also the criterion of the value of the land (estate).

The agricultural land has several types - arable land, permanent grassland, garden, orchard, vineyard and hop-field.¹

<u>Ownership</u>

Ownership is one of the basic human rights. As a human right, it is imprescriptible, inalienable, perpetual and irrevocable. As a basic right, it belongs to any natural person and also to any legal entity.

Ownership means to own the object of the ownership, it means the right to dispose, the right to hold and right of usufruct. In connection with the liberty of contract, the ownership also means a right to acquire and to transfer the property.

Ownership does not mean only the "right" to own a thing but also the "liability" for and to the object of the ownership.

Usage or usufruct

The right to use (usage) and the right to derive profit from the object of the ownership (usufruct) are the parts of the ownership right.

Both of these two rights can be transferred to other person – the user, the tenant.

State territory and state sovereignty

It is often argued that the outflow of the agricultural land ownership out of the state territory may endanger the state sovereignty.

A state territory is a part of the earth's surface and the space above and below it, where the state exercises its sovereignty and determines the rules. It is a legally defined phenomenon. The state territory does not mean the state property. The state territory is not the object of the

¹ § 2 letter b) of the Act No. 220/2004 Coll. on the protection and use of agricultural land and amending Act No. 245/2003 Coll. on integrated pollution prevention and control and on amendments of certain acts, as amended.



state's ownership. It is an area with many different private owners and users.

The state territory cannot be endangered by private ownership of land, because the land is not transferrable out of the state territory and remains under the rules and laws adopted by the state.

State sovereignty means the inviolable right of the state to determine the rules in the state territory. It also includes the right of the state to transfer part of its rights and accept obligations.

Similarly to the state territory, nor the state sovereignty can be endangered by private ownership of land, because the state is the only entity able to determine the rules and laws in this territory.

Commodity

A commodity is a thing which is the object of ownership and therefore it is the object of property transfer. A commodity is any legally and economically valuable and usable thing.

This means that agriculture soil cannot be a commodity, because it is not a separate and autonomous thing. On the contrary, the agricultural land is a commodity because it is a legally defined thing and object of the ownership.

Market

Market is a system of relations where the exchange of commodities takes place. Market is essentially open and free. The owners of the agricultural land realize their ownership and their liberty of contract on the market.

The object of the market is not the agricultural soil but it is the agricultural land.

Farmer

A farmer is a person operating on the agricultural land as a producer or processor of primary products. The farmer can be a natural person or a legal entity, an undertaker or non-undertaker and owner or user of agricultural land.

Food safety and food self-sufficiency

Food safety can be defined as the ability to provide enough food for the population. It is the essential role of the state. It does not matter from which source the food is acquired, i.e. whether from the domestic or foreign sources.

Food self-sufficiency can be defined as the ability to ensure food safety at a local, regional or national level from its own, it means domestic sources.

Legal and economic environment

Legal and economic environment is created by the set of rules governing the acting of all entities. It is determined by the Constitution and other national laws and orders, by the international treaties, obligations and rules especially adopted by United Nations Organisation, World Trade Organisation and European Union with European Economic Area.

2 Problems identification

The loss of agricultural soil

The most significant trend in the present situation of the agricultural soil protection is continuing change of the agricultural land for other purposes than agriculture, i.e. changing the agricultural land in other types of land or by overgrowing with the forests. This change may be temporary or permanent, intentional or spontaneous, irreversible or reversible.



This trend is characterized by very intensive regional differences. It is an accompanying phenomenon of the growth in other sectors of the economy (mainly building industry and transport) and by the agricultural crisis manifested mainly by abandoned and uncultivated land.

Low price of agricultural land, low competitiveness of domestic farmers and inequality in the land-market

The agricultural land in the Slovak Republic has a very low price. The average asking price is 85 cents per square meter, but most of the agricultural land has price lower than this average price. The annual growth of agricultural land price is about 4 %.

There is no price regulation of agricultural land in the Slovak Republic. The reason is mainly the strong refusal of domestic farmers. As an example of price regulation can serve Germany where the rule of sale price regulation is based on the limit \pm 50 % of the market price.

The agricultural land in the Slovak Republic is despite of its low price relatively too expensive for domestic farmers who are mostly unable to buy it. On the contrary, the foreign farmers and foreign or domestic non-agricultural entities that are more solvent are able to offer higher prices because the agricultural land is relatively cheap for them.

Regarding to the fact that every owner prefers a higher sale price, it is logical that if the more solvent buyer offers only a slightly higher price he will buy the land. Therefore, the solvent entities in the market have a natural predominance. They are not forced to significantly increase the price of land because the competition of the domestic farmers is weak.

The second aspect of this problem regards the owners who sell the agricultural land. The selling owners generally do not have any market price survey and therefore they do not know what price they could ask. The solvent buyer may use this fact and may offer any price, even lower than is the market price.

Landgrabbing

The problem of the so-called landgrabbing which is intensively discussed in European Union has two negative forms: concentration of the land-ownership and outflow of the land-ownership.

Concentration of the land-ownership

Concentration of the agricultural land ownership means the accumulation of the agricultural land ownership into the hands of a small number of owners, especially those who are not farmers or farming is not their main activity. The concentration may result into the exclusive ownership or into the majority ownership share of the agricultural land.

The ownership concentration into the hands of the foreign owners is not so far a dominant problem in the whole country. It is intensively growing only in a local level (several districts with the most quality agricultural land). The ownership concentration is the dominant problem in case of large domestic companies and their owners, more precisely their final beneficiaries: only about 30 final beneficiaries own in average 10 thousand ha of agricultural land (it means together up to 300 thousand ha).

The main intent of the entities concerning the agricultural land into their ownership is depositing the capital into the agricultural soil as one of the means of production.

The risk or disadvantages of the concentration of the agricultural land-ownership can be summarized into these points:

- a) investing in agricultural land often without any interest in farming;
- b) outflow of the capital produced in agriculture into the other sectors;
- c) disturbing the access of the smaller farmer to the agricultural land as a means of



production;

- d) determining the market price of agricultural land;
- e) determining the price of rent to the competitor's disadvantage;
- f) deepening the inequality of market participants;
- g) devaluation of the minority share in the case of the land co-ownership.

Outflow of land-ownership from the Slovak Republic

Outflow of agricultural land-ownership from the Slovak Republic means the dominant position of the foreign buyers of the agricultural land in the land-market. It is a logic outcome of the open and free land-market in European Union, European Economic Area and World Trade Organisation and of the low prices of agricultural land, low competitiveness of domestic farmers and inequality in the land-market.

The buyer of the agricultural land is usually an economically stronger entity from abroad especially foreign farmer or foreign bank, holding or other non-agricultural subject.

The exact scale of their foreign ownership is not known because no official register operating with the origin data of the owners exists, especially regarding the legal entities. Only empirical data and estimates are available: about 30 to 150 thousand ha of agricultural land is in ownership or in usage of the foreign entities. In some districts with the most quality agricultural land, the scale of the foreign ownership or usage rises up to or over 50 % of the total agricultural land area. In the case of the foreign farmer, the ratio of the ownership and usage of the agricultural land is usually 1:3 of the whole operated area of this farmer.

Among the foreign farmers, the entities from Netherlands, Denmark and Austria dominate as the foreign owners of the agricultural land.

Outflow of land-ownership from the Slovak Republic has its advantages and disadvantages. The advantages may be summarized into these points:

- a) inflow of finances (foreign capital, foreign investing);
- b) consolidation of ownership instead of ownership fragmentation;
- c) the foreign farmers are in general very disciplined farmers;
- d) higher employment;
- e) impulse for the local domestic entities taking part in the agri-food complex.

The disadvantages are the same as in the case of the concentration of the agricultural land-ownership; the outflow of the produced capital out the Slovak Republic may be added. In case of outflow of land-ownership, the domestic farmers is the group which is affected by the negative impacts.

It is important that there are similar problems concerning landgrabbing across the European Union, for example in Romania and Bulgaria (where the level of foreign ownership of the agricultural land in the scale of the whole country moves around 50 % of the total agricultural land area) but also in East Germany (Heubuch, et al., 2016)

In the Slovak Republic, the landgrabbing is up to now not such a significant phenomenon, because there is a natural self-regulation factor – the huge fragmentation of the agricultural land ownership (see below).

The risk of concentration in the agri-food complex

Concentration of the land-ownership on a local, regional or national level causes a risk of disturbing of the alimentary chain or the so-called agricultural-food complex (agri-food complex). It means that the individual stages of the agri-food chain, i.e. producer, processor, supplier and seller, may get concentrated in one legal entity or in a group of several connected legal entities.

The result of the concentration in the agri-food chain is disqualification not only of those



entities that are not able to effectively participate in the land market but all smaller or domestic farmers. These disqualified smaller or domestic farmers either liquidate or become dependent on dominant entities. This process has its consequence in the crisis of domestic food production and in the collapse of food self-sufficiency.

Fragmentation of land ownership

One of the most important problems of the Slovak agriculture is the extreme fragmentation of land-ownership and complexity of ownership structure of agricultural land.

First reason is the duplicity of land-registry: the so-called "C register" as a binding register but often without real ownership relations and the so-called "E register" as non-binding but real-owned and transferred (the "E register" contains the pre-socialist parcel structure).

The second and essential reason is the ownership-fragmentation itself. In the Slovak Republic, there is approximately 1.9 million ha of agricultural land (another 400 thousand ha are presented by the areas which are not correctly registered or are dubious). This area consists of approximately 4.5 millions of parcels. One parcel has in average 0.4 ha. One parcel is in average owned by 11 co-owners. One owner of agriculture land is in average co-owner on 20 different parcels. In extreme cases – the so-called "land-associations" (total number of these entities is over 2800) – the land is owned by hundreds or thousands of co-owners (in some cases around 3100).These "land-associations" or "compossessorates" cover both the agricultural and forest land with total area around 475 thousand ha with up to 1 million owners.

The third reason of the ownership fragmentation is the ongoing trend of fragmenting the parcel or ownership share down to the minimal 2000 square meters limit.

The fourth reason is the persisting ownership of the unknown owners. Their ownership is protected by the Constitution as any other ownership, although the owner registered in the cadaster is not known or the owner is not registered at all. This property is held in the hands of the state administrators. The total area of the agricultural land in ownership of the unknown owners is up to 300 thousand ha. It is a negative factor especially in the cases where the unknown owner is the co-owner with not a negligible or even half or majority share together with the "known" owner or owners.

This complicated situation is despite its negative consequences on the other hand a natural barrier to a more dramatic outflow of land-ownership and to the concentration of land-ownership.

In the discussion concerning the ownership-fragmentation, also the reason of the so-called "Hungarian inheritance" is often mentioned. However, it is a misconception arguing that in the Slovak Republic the so-called historical "Hungarian inheritance" survives till nowadays instead of the more modern "Austrian inheritance".² It is true that in the old Hungarian law the heritage after the father was inherited by all his adult sons what led to more and more fragmented land-ownership. According to the historical Austrian law codified by the Civil Code in 1811, the heritage after the father was inherited only by the oldest adult son. But it is very important to realize that at latest from 1948 when the Universal Declaration of Human Rights was adopted at United Nations Organisation, the right of succession including the estate of inheritance is guaranteed to everybody without any difference based on age or gender. This conception of heritage is accepted in Austria as well as in the Slovak Republic or Hungary. By the way, the Czechoslovak Civil code was adopted in 1950 and a new one in 1964. Both of these two Civil codes contained the same system of inheritance which

² Till 1918 the territory of Slovakia was a part of Hungarian Kingdom. After 1918 the Hungarian law was preserved and the new Czechoslovak law system started to be unified. This process lasted almost till the end of the 20th century. The last Hungarian "law articles" were derogated in 1995.



substituted all earlier rules of inheritance without any regard if they were Austrian or Hungarian.

Complexity and non-clarity of relations in usage of the agricultural land

The indirect result of the fragmentation of land-ownership is the fact that up to 95 % of farmers manage the rented agricultural land, not on their own land.

In fact, the farmer does not need to own the agricultural land in order to manage it, but he needs only to use it (it means to farm). Therefore the farmer is dependent on the availability of rentable land and the price of rent. Consequently, the small farmer is threatened by other farmer who owns a large plot of land. This negative phenomenon is strengthened by the concentration of the land-ownership.

The relations of using the agricultural land provided by the Slovak law are extremely complicated: there are at least eight different titles of land-use – rent, sublease, "sub-sublease", administrative decision on the sublease, dealing plan, simple dealing plan, rent ex lege and various types of common using treaties and rent by the minority co-owners.

The fragmentation of land-ownership has another negative influence on the land-usage system: it results in more than 45 million potential relations of land-use (compare the number of 5.44 million of inhabitants in the Slovak Republic).

The risk of concentration of land-use

A phenomenon very similar to the concentration of the land-ownership caused by inequality in the land-market is present also in land-use. The concentration of land-use means the accumulation of agricultural land usage in the hands of a small number of dominant farmers who are tenants on the large area of agricultural land rented from a large number of the land owners.

The mechanism of the concentration of land-use is very similar to the mechanism of concentrating the land-ownership. The dominant farmers (domestic or from abroad) which are solvent are able to offer a higher rent. Every owner prefers to get a higher price of the rent, therefore the dominant farmer has a predominance in usage of agricultural land.

As the result of the land-use concentration, about at least 500 to 700 (maybe up to 1000) from approximately 17 000 farmers in the Slovak Republic use 80 % of agricultural land. The rest 16 000 subjects use only 20 % of agricultural land. The basic area limit of profitable farming as undertaking is about 180 ha of managed agricultural land (the basic volume moves between 150 and 200 ha).

This has an important impact on the distribution of the direct payments and other types of aid in agriculture because the real farming, i.e. the real use of agricultural land, is the criterion for direct payments in agriculture. Therefore only 500 to 700 farmers get 80 % of direct payments and the rest 16 000 farmers get the rest 20 % of payments.

Inequalities between European Union member states

The very negative factor of the Slovak agriculture and management of the agricultural land and one of the basic reasons of the low competitiveness of domestic farmers is the inequality in the direct payments and other types of aid in agriculture between the "old" and "new" member states of European Union. When joining the European Union in 2010, the "new" member states had to agree only with 40 % share of the payments in agriculture compared to the "old" member states.

3 Goals and challenges

The identification of the basic problems of the protection of agricultural land and all the



related difficulties implies the formulation of the main goals and challenges in finding the most suitable solutions. These aims are:

- a) increasing the agricultural soil protection in order to preserve the present area of agricultural land;
- b) conservation and strengthening the domestic agriculture-food complex, i.e. to assure that the agri-food chain (producer processor supplier seller) is as much as possible occupied by domestic entities;
- c) increasing the competitiveness of domestic farmers in the agricultural land market, i.e. to increase farmers' access to agricultural land ownership and to assure that domestic farmers have more free financial resources to buy agricultural land;
- d) ensuring easier and more straightforward farmers' access to agricultural land use;
- e) stopping the concentration of agricultural land ownership;
- f) stopping the outflow of agricultural land ownership out of the Slovak Republic;
- g) ensuring the food self-sufficiency.

4 The possibilities of legal solution

4.1 Rationalization of land-ownership

It is needed to establish the rational structure of the land-ownership.

In order to avoid further fragmenting of the agricultural land and ownership relations, it is needed to reform the fragmentation limits. The solution may be either increasing the limits of fragmenting parcels and ownership shares or even prohibition of the fragmenting only with certain exceptions. Breaching of these rules should be sanctioned by absolute nullity of the legal act.

Another legal measure aimed at the rational ownership structure may be liquidation of ownership of the unknown owners. This cannot be done by annulling their ownership because it is protected by the Constitution. Part of this problem may be resolved by the land consolidation which may lead to reduction of the property of the unknown co-owners where it presents a burden of land ownership of the "known" co-owners. The general solution may be achieved by more flexible disposal with this property by the state administrator but here it is needed to assure that this agricultural land will not became the subject of landgrabbing. Therefore, the releasing of the disposal with this property may be counter-productive. On the other hand, the fact that the state administrator holds a large area of the agricultural land including the land of the unknown owners and the state land property (round 160 thousand ha), increases the possibility of the state to support the smaller farmers and to regulate the market price of the rent.

In fact, the basic measure which is able to achieve this aim is the land consolidation; it means the re-parcelling and arrangement of ownership relations to land. This measure is able to reduce also the problem of the unknown owners, the problem of the duplicity of "C" and "E" register of the cadaster, the problem of the "land-associations" and also the problem of incorrectly registered and dubious data in the cadaster.

In order to achieve the transparent and clear relations in agricultural land ownership and usage it is needed to create the special cadastral *operatus* (documentation) of the owners which could allow to search the real estate by the owner, not only by the land. This database should be linked with the register of the final beneficiaries in order to reveal the hidden connections especially between the dominant land owners concentrating the agricultural land ownership.

4.2 Rationalization of land-use

The complicated system of agricultural land usage can be solved by these three measures:



- a) the land consolidation which will ensure the direct access to every parcel and will reduce the inequality of the majority and minority co-owners with their different interests and parallel rental contract;
- b) reducing the existing types of usage-titles (only rent, sublease, administrative decision on the rent and common using treaty);
- c) the rental contract only by decision of the majority of the co-owners.

In order to achieve the transparent and clear relations in usage of the agricultural land it is needed to create the register of the land-use relations, i.e. identification of the user, the title of use and its duration, which will be connected with the cadaster.

An alternative measure may be the regulation of the rent price which is provided by a special regulation since 2018.³

4.3 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.⁴ 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

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

4.4 *Modelling the ownership and agriculture land market*

In order to reduce the problem of landgrabbing, i.e. the risk of concentrating the ownership and outflow of the ownership out of state, it is needed to model the rigid protection of the ownership right. The fundamental condition for this modelling is the amendment of the Constitution and its provisions protecting the ownership right.

One of the legislative measures of modelling the ownership right may be establishing the area limits of the land ownership; it means to state the maximum possible area of the owned agriculture land. These limits should be different for particular types of owners, for example

³ Regulation of Ministry for Agriculture and Rural Development of the Slovak Republic no. 172/2018 Coll., which lays down details on the manner and extent of keeping and providing records and determining the usual rate of rent.

⁴ Art. 44 par. 4 and 5 of Act no. 460/1992 Coll. The Constitution of the Slovak Republic as amended.



the natural person, the natural person as undertaker, the legal entity and the group of interconnected legal entities.

Another measure of modelling the ownership right may be establishing the system of preemptive rights. However, some versions of this system may be counter-productive, especially the pre-emptive right of the owner of neighbouring agricultural land or of the tenant. These pre-emptive rights could lead to further concentration of ownership. Much more effective could be the system of pre-emptive right of the public entities like the state or municipalities.

In the specific case of the majority co-owner it may be possible to order him the obligation to buy out the minority shares what should be the prevention of the devaluation of the minor coownership shares.

In order to prevent outflow of the ownership out of the state through the legal entities it may be provided the limitation or prohibition of depositing the agricultural land as a non-monetary deposit into a business company.

In every case, there should be an obligation of the owner to ensure management and productivity of the agricultural land.

4.5 Collective action of farmers

As a measure of the collective sharing the risks and benefits of smaller or domestic farmers as owners or users of the agricultural land, it should be supported foundation of their cooperatives, sales associations, venture funds, sector-organizations and other similar forms of collective dealing. This cooperation should serve as the initiative protection against all demonstrations of the landgrabbing and against the inequality in the market. These activities are possible also today but they need more progressive support by the state.

Conclusions

Achievement the goals and their legal realisation is possible only if certain legal obstacles on the national and European level are resolved.

Constitutional obstacles

The Constitution of the Slovak Republic guarantee the ownership right in maximum wide range only with several specific exceptions reasoned by the public interest.⁵ The constitutional provisions does not allow to:

- a) limit the size of the land owned;
- b) give preference to some entities in acquisition of land ownership;
- c) prohibit the deposit of the land into a business company.

These obstacles could be eliminated by qualifying the protection of the agricultural soil and land as the public interest and by explicit modulating the ownership right in case of agricultural land with emphasising the liability component of the ownership right.

International legal obstacles

The legislation of European Union does not allow restrictions in the agricultural land market. The agricultural land market is a part of the common market of European Union which is protected by the principles of free movement of capital, freedom of establishment and prohibition of not allowed state aid.

The European Commission faces several legislative attempts of the new member states of European Union including the Slovak Republic to regulate the agriculture land market. These state use methods that are not conform to the law of European Union and to the

⁵ Art. 20 of Act no. 460/1992 Coll. The Constitution of the Slovak Republic as amended.



methods recommended by the European Commission. The methods recommended by the European Commission are:

- a) pre-emptive right of the tenant;
- b) price regulation of the agricultural land;
- c) transfer tax;
- d) uniform conditions of access to the agricultural land market;
- e) minimum rent duration.⁶

As it was mentioned above, several of these methods were actually used in the Slovak Republic [d) and e)] but several of them were dismissed and cannot be applied [a), b) and c)]. In the discussion with the European Commission it is often argued that these recommended measures are not able to resolve the actual problems, especially the problem of the land concentration and outflow of the ownership. As a comparative example of using these methods Germany may be mentioned, where all of these methods are applied but they do not solve the problem that is still growing especially in the East Germany. On the other hand, there exists also the totally opposite example – the legal regulation of the agricultural land market in France does not meet the measures recommended by the European Commission at all and is extremely strict, directional and affects the liberty of contract in a very intensive way; despite of this fact, the French regulation is not challenged by the European Commission as a violation of the European Union law.

In discussion with all European Union member states regarding the regulation of the agricultural land market, the European Commission recommended unofficially also to apply these measures:

- a) deconcentration of the land ownership;
- b) obligatory investment in farming of the land owned;
- c) adopting rules against the vertical concentration of the agri-food chain.

These unofficially recommendations of the European Commission are paradoxical because no specific method of their realisation was recommended and, what is more important, all of these measures are in fact in possible conflict with European Union law, especially in case of obligatory investing of the owner in farming of his land.

Diametrically different view compared to the official statement of the European Commission was presented by the European Parliament which recommended the member states to use practically all those measures which were dismissed by the European Commission.⁷

These extreme differences in the opinions of two highest bodies of European Union testify that the problem of the physical and legal protection of the agricultural soil and land requires wide discussion and essential decision. Actually, only two possible conclusions may be reached: either there will be adopted common legal regulation applicable directly in all member states, or it will be only very general legal regulation and the detailed rules will be adopted in the national legislation in a very different and individual way.

General strategies

As a general base for all possible legal solution it is needed to adopt some non-legislative actions which could serve as the political and ideological concept. It could be some kind a long-term strategy implying two basic thoughts: preserving and revitalizing the cultural landscape and the right of the state and its inhabitants to protect their environment from the negative effects of the free market.

⁶ Commission Interpretative Communication on the Acquisition of Farmland and European Union Law (Official Journal of the European Union, 2017/C 350/05).

⁷ European Parliament resolution of 27 April 2017 on the state of play of farmland concentration in the EU: how to facilitate the access to land for farmers.



Taking in account the high degree of involvement of civil society in public politics, it is obvious that all attempts leading to solution of the problems mentioned above must have the public support; that can be secured only if the citizens understand and accept the actions resolving the problems.

Summary conclusions

The paper defines basic terms and relations important for the involved topic: agricultural soil, agricultural land, ownership right, right to use (usage), state territory, state sovereignty, commodity, market, farmer, food safety, food self-sufficiency and legal and economic environment. As the main problems of the agricultural land protection were identified the loss of agricultural soil, low price of agricultural land, low competitiveness of domestic farmers, their inequality in the land-market, landgrabbing (manifested by concentration of the agricultural land-ownership and outflow of the land-ownership), concentration in the agrifood complex, fragmentation of land ownership, complexity and non-clarity of relations in usage of the agricultural land, concentration of land-use and inequalities between member states of European Union. The definition of the goals and challenges is aimed to resolving the basic problems, i.e. to increase the agricultural soil protection in order to preserve the present area of agricultural land, to conserve and strengthen the domestic agriculture-food complex (producer – processor – supplier – seller), to increase the competitiveness of domestic farmers in the agricultural land market, to ensure easier and more straightforward farmers' access to agricultural land use, to stop the concentration of agricultural land ownership and outflow of agricultural land ownership out of the Slovak Republic and to ensure the food selfsufficiency. These goals can be achieved by several possible legal or legislative solutions in several ways. First and essential legislative measure is rationalization of land-ownership which can be achieved by reforming the fragmentation limits, liquidation of ownership of the unknown owners, realisation of the land consolidation and by transparent and clear ownership relations in cadaster. Rationalization of land-usage can be achieved also by the land consolidation together with reducing the existing types of usage-titles, by concluding the rental contract only by decision of the majority of the co-owners and by creating the specific register of the land-use relations. Physical protection of the agricultural-soil protection should be codified as a public interest with strict rules of changing the agricultural land to other type of land always with paying a fee without any exceptions and with prohibition of changes in specific cases. To avoid the landgrabbing in all of its demonstrations, it is possible to model the ownership and agriculture land market by certain limits of the ownership right. As a private and initiative measure of protection against the inequality of the small and domestic farmers it is needed to support collective organising the farmers. The realisation of the possible legal measures requires in some cases to eliminate several obstacles, especially the constitutional obstacles caused by the rigid protection of the ownership right, the international legal obstacles caused by the law of European Union and the absence of any general strategies.

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Contacts:

Martin Illáš, Ministry for Agriculture and Rural Development of the Slovak Republic, Dobrovičova 12, 812 66 Bratislava, +421 2 599 266 404, martin.illas@land.gov.sk





AGRICULTURAL LAND PROTECTION AGAINST THE LAND WITHDRAWAL FOR THE NON-AGRICULTURAL PURPOSES

Jarmila LAZÍKOVÁ¹, Anna BANDLEROVÁ¹, Zuzana LAZÍKOVÁ¹, Emília MÄSIAROVÁ¹

¹Slovak University of Agriculture in Nitra, Faculty of European Studies and Regional Development, Department of Law

Abstract

The agricultural land is a natural non-renewable resource and a natural heritage of each country. Therefore the land protection is one of the main objectives of the state. The Slovak law maker has adopted the Act on the land protection which includes the special measures for the land protection. However, in the global crisis of land decline there is a question if the land protection measures should be reestablishment, especially when 12 hectares of agricultural land on average is withdrawn from the land fund each day.

Key words

agricultural land, legal amendments, land withdrawal, land decline

Introduction

The agricultural land is a natural resource, a natural heritage and economic, social and ecological potential of each country. The portion of the land surface of the earth upon which plant grows is covered by the soil (Baldwin et al., 1938). Soil is a non-renewable dynamic natural resource that is essential to life (Schoonover, Crim 2015). Soil as a part of the land is a natural system which is formated on the surface as a product of the mutual action of climatic conditions, organic nature, human being, relief and parent rocks. The agricultural land is usually productive land recorded in the particular land cadastre as arable land, hops, vineyards, fruit-groves, gardens or permanent grass lands (§ 2 (b) of the Act no. 220/2004 Coll on the agricultural land protection and land use, hereinafter as Act on the land protection). The Act on the land protection imposes on each land owner or land user to carry out the agro-technical measures on the land protection against its damage and degradation and on the maintenance its properties and functions and to use the agricultural land in favour of the ecological stabilisation of the landscape. Moreover, the land owners or land users are obliged to provide preventive measures against the appearance and extension of the weeds on their land plots respecting the Act no. 543/2002 Coll. on the protection of the nature and landscape which provide a protection to the protected species plants and animal. The agricultural land protection includes the land protection against:

- land degradation; it means the protection against the physical, chemical or biological harm or waste of agricultural land;



- water or wind erosion; it means the protection against the decline in the most fertile superficial agricultural land, the decline in the nutrient budget, humus and organic stuff, the decline in the microbiological living and the loss of land functions;
- land concretion; it means the protection against the unfavourable state of the agricultural land which cause by the increasing of the unit weight;
- risk stuffs, i. e. chemical elements and compounds as the sources of the natural or anthropological activities which cause the land degradation directly or indirectly.

There are two special measures for agricultural land protection regulated by the Act on the land protection.

The first one is that the state bodies are only entitled to approve the transformation of the agricultural land into the forest land. The land owners and land users are obliged to provide a harmony between the type of land in reality and the records in the land cadastre. In the past, if they wanted to transform a type of land (e.g. change of permanent grass lands to arable land), the entitlement of the state bodies was necessary. The amendment of the Act on the land protection has changed this rule. Nowadays, the state approval is necessary only in the case of transformation of the agricultural land into the forest land because it is one of the main reasons of withdrawal the agricultural land. In other cases, the state bodies issued only the obligatory statement to the transformation of the land type. The other cases mean the transformation of the one type of agricultural land to another one or the transformation of the non-agricultural land (except of the forest land) to agricultural land.

The second measure is the agricultural land protection against the non-agricultural use. The agricultural land can be used for building or other non-agricultural purposes only in the inevitable cases and in the legitimate extent according to the decision of the state bodies. The state bodies take into account the protection of the agricultural land of the best quality. The paper deals with the second measure that enables to withdraw a land plot permanent or temporary and with the fees paid for the permanent and temporary withdrawn.

Material and Methods

The objective of the paper is to describe the special measures for the land protection included in the Act no. 220/2004 Coll. on the protection and use of agricultural land and put the question of the potential reestablishment of these measures. The paper used the normative legal acts, the explanatory reports and statistical data related to the land withdrawal. There are used the method methods of jurisprudence such as legal analysis and comparison and data analysis by the descriptive statistical methods which results are presented in the form of tables and figures.

Results and discussion

1 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.

2 Fee for land withdrawal

The fee for land withdrawal is an economic measure that should compensate the land decline. The government Decree no. 58/2013 Coll. on the fee for land withdrawal and unlawful withdrawal of agricultural land (hereinafter as Decree 58/2013) stipulates a fee for permanent and temporary withdrawal of agricultural land.

The fees are depended on the quality of agricultural land. The agricultural land is divided into nine class of the quality. The first class means the land of the best quality. The fee for the first class as the land of the highest quality is 20 EUR per 1 m2 if permanent withdrawal and 0, 20 euro per 1 m2 if temporal withdrawal. The fees are documented in the table 1.



Class	Fee for permanent land withdrawal in EUR.m ⁻²	Fee for temporary land withdrawal EUR.m ⁻²
1 st	20	0,20
2 nd	15	0,15
3 rd	10	0,10
4 th	7	0,07
5 th	4	0,04
6 th	2	0,02
7 th	1	0,01
8 th	0,7	0,007
9 th	0,5	0,005

Table 1 Fees for the agricultural land withdrawal

Source: The government Decree no. 58/2013 Coll. on the fee for land withdrawal and unlawful withdrawal of agricultural land

The fee stipulated in the table 1 can be increased up to the 30%, when the withdrawal of land includes also the land with the irrigation system or decreased up to the 30% when the withdrawal of land includes land out of built up areas of a municipality but the land is directly beyond the border of this built up area.

The special fees are paid when the vineyards are withdrawal. The fee ranges to 100 EUR per 1 m2.

The fees are not too high to argue of an applicant out of the land withdrawal. The social value of agricultural land is still higher with the decline of agricultural land in Europe. Therefore the fees should be adequate to its social value. Moreover, there are exemptions when the fees are not paid. The fees are not paid in the following cases. The withdrawal land shall be used for:

- 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 water reservoirs for the water supply of inhabitants or the construction of the sewage treatment plants;
- the construction of the roads or railways;
- the construction of the public goods and the investor is a municipality;
- the construction of the equipment for the defence of the State;
- the construction of the family house with one floor up to the 250 m2 or two floors up to the 150 m².

If a natural person withdraws an agricultural land for non-agricultural purposes without permission of the state bodies, he/she committed the civil tort and the sanction is a fine up to 995 EUR. If a legal entity or a businessman withdraws an agricultural land for nonagricultural purposes without permission of the state bodies, the fine varies from 1660 EUR to 166 000 EUR per an unlawful withdrawal hectare of agricultural land. However, the fee for the land withdrawal should be also paid. The fee is calculated as in the case of the permanent land withdrawal. There is no higher fee for the law violation.

3 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 belonged to the classes 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. The stipulated fee is introduced in table 1.

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.

According to the statistical data from the yearbook on the land fund in Slovak Republic issued by the Geodesy, Cartography and Cadastre Authority of Slovak Republic, the figure 1 demonstrates the development of the land withdrawal in the period 2005 - 2018 in Slovakia.



Figure 1 Land withdrawal in Slovakia 2005- 2018

Source: own calculation by the Statistical Yearbook on the land fund in Slovakia, 2007-2018

According to the detailed view of the figure 1 we can observe that it is not suitable for the land protection to change the fee policy measures for land withdrawal very often. In the period of 2005 - 2007, the fee was abolished and the land decline was 2300 ha on average per year. However, the expectations of the market subjects related to the introduction of the new fees, logically with the objective to avoid paying the fee for land withdrawal, caused that the decline of land was extremely increasing in 2008. The fee was introduced only for classes of 1st – 4th. The adoption of the new decree in 2013 with the fee for all land classes caused that the land decline increased again in 2012 much higher than in the previous years. In 2015, there were adopted the amendment of the decree (no. 164/2015 Coll.) where one new exemption free from the fee payment was added. It was a construction that is accepted as the important investment with the investment costs for at least 1 milliard EUR and its realisation creates at least 2 000 jobs. In the same year, the decree was amended the second time (no. 285/2015 Coll.) where one more exemption was added which related to the construction accepted as the important investment and the construction will be realised by the state enterprise. In 2016, the new amendment was adopted (no. 363/2016 Coll.) where the exemption introduced by amendment no. 164/2015 Coll. was abolished. The short overview of these amendments shows that the fee policy is realised for a special objectives how to free some subjects form the fee payments. However, the land is so important resource for the life of the human being that this kind of fee policy is a hazard for nature and society as well. The



law maker has to stabilise the land policy in the field of land protection and not to provide the changes that are very often and without any adequate analysis in favour of the agricultural land protection not in favour of investor regardless state or private one. The provided changes of the fee policy received the negation of the consequences followed by this policy in the theoretical approach.

The figure 2 documents the land decline in the particular regions (NUTS III) of Slovakia in the period 2007 - 2018.



Figure 2 The acreage of the agricultural land in the NUTS III regions in 2007 – 2018

Source: own calculation by the Statistical Yearbook on the land fund in Slovakia, 2007-2018 *BA – the Bratislava region; TT – the Trnava region, TN – the Trenčín region, NR – the Nitra region, ZA – the Žilina region, BB – the Banská Bystrica region, PO – the Prešov region, and KE – the Košice region

We can observe that the most of land was withdrawn in the Banská Bytsrica region; however, the Banská Bystrica region is on the fifth place when taking into account the percentage share of withdrawn land on the total acreage of the particular region. The smallest acreages of agricultural land were withdrawn in the Trenčín region and the Košice region regardless absolute or relative share of withdrawn land. The land decline in Slovakia is very serious because about 4500 hectares of land is withdrawn each year. It means 12 hectares of agricultural land is withdrawn daily. We need to remember that the land is non-renewable natural resource; therefore we have not created enough land resources to be without worry for land decline and its further withdrawal. Therefore it is necessary to adopt measures that will solve the problem of land decline in favour of land protection proposed on the base of qualitative and quantitative analysis of the potential impact on the land protection. The present praxis showed that the often and specific changes of the fee payments as the only economic measure of the land protection do not fulfil their objectives in favour the agricultural land but in favour of various groups of investors.

Conclusions

The agricultural land is a natural non-renewable resource, a natural heritage and economic, social and ecological potential of each country. Therefore the law focused on the land protection should prevent the land decline and to limit the land withdrawal. It is necessary to adopt measures that will solve the problem of land decline in favour of land protection proposed on the base of qualitative and quantitative analysis of the potential impact on the land protection. There is important firstly, 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; secondly, the fee policy as the only economic measures should be stipulated on the base of social and natural value of land. The fee for land withdrawal should be sufficient high to prevent at least the most qualitative lands.

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Contacts:

Jarmila Lazíková, Department of Law, FESRD SUA Nitra, Tr. A. Hlinku 2, 949 76 Nitra, +421 37 6415076 e-mail: Jarmila.Lazikova@uniag.sk

Anna Bandlerová, Department of Law FESRD SUA Nitra, Tr. A. Hlinku 2, 949 76 Nitra, +421 37 6415077 e-mail: Anna.Bandlerova@uniag.sk

Zuzana Lazíková, Department of Law, FESRD SUA Nitra, Tr. A. Hlinku 2, 949 76 Nitra, +421 37 6415076 e-mail: xlazikova@uniag.sk

Emília Mäsiarová, Department of Law, FESRD SUA Nitra, Tr. A. Hlinku 2, 949 76 Nitra, email: erajcova@gmail.com





INTERNATIONAL LEGISLATIVE FRAMEWORK FOR SEQUESTRATION OF ORGANIC CARBON IN AGRICULTURAL SOIL AS A CLIMATE CHANGE TOOL

Matúš MICHALOVIČ¹

¹ Comenius University in Bratislava, Faculty of Law

Abstract

This article is dedicated to the sequestration of organic carbon in agricultural soil as a potentially effective tool in the battle against climate change. The protection of soil and climate are closely linked and interrelated. The article presents the most important international treaties in the area of battling climate change and links them to the protection of agriculture soil. International treaties that aim to the protection of soil are also reviewed by the author.

Key words

climate change, adaptation, mitigation, carbon sequestration, agriculture land

Introduction

Nowadays there is no longer a debate that climate change is real and represents the biggest threat humanity has ever faced. This fact is regularly confirmed by the World Economic Forum, which publishes the Global Risk Report annually, where the biggest threats to the global economy are identified. This year the fourteenth edition has been released and as three biggest threats in terms of likelihood have been identified three that are closely linked to climate change: extreme weather events, failure of climate change mitigation and adaptation and natural disasters (The World Economic Forum, 2019). It is now possible to argue that climate change is happening due to the amount of greenhouse gases (GHG) in the atmosphere. The Intergovernmental Panel on Climate Change (IPCC) in its Fifth Assessment Report stated that it is "extremely likely that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcings together" (IPCC, 2014). According to IPCC human activities are estimated to have caused approximately 1°C of global warming and that it is likely to reach rise of temperature about 1.5°C between 2030 and 2052 if we do not change our world rapidly (IPCC, 2018). Atmospheric concentration is measured in parts per million CO₂ equivalents (ppm CO₂e). This amount is rising significantly since pre-industrial levels (i.e. before 1800) when the CO₂ concentration was around 280 ppm to the level of around 410 ppm (Batjes, 1996). The opposite trend has been observed in the concentration of carbon in the soil. The soil of the whole Earth amount to 2157-2293 gigatonnes of carbon (Batjes, 1996). This means that the soil carbon pool is 3.3 times the size of the atmospheric pool (around 760 Gt) and 4.5 times the size of the biotic pool (560 Gt). However, through soil degradation, much of the natural soil carbon stocks have been lost, which is equivalent to the



loss of 42 to 78 gigatonnes of carbon (Lal, 2004). This article elucidates the process of soil carbon sequestration, which could serve as a solution to both of these problems.

Material and Methods

The paper uses the secondary sources of information. e.g. scientific papers, statistical data and related legal acts. Information were proceeded through the method of analyse, synthesis, deducation, induction and scientific abstraction.

Results and Discussion

1 Sequestration of Organic Carbon in Agricultural Soil

Despite the fact that the soil carbon pool is huge, the soil degradation caused that lot of natural soil carbon have been lost. It was concluded that "carbon sink capacity of the world's agricultural and degraded soil is 50 to 66% of the historic loss of 42 to 78 gigatonnes of carbon" (Lal, 2004). Fortunately, this process is not necessarily irreversible and there is a solution to this issue. Carbon sequestration, in general, is a transfer of atmospheric CO₂ into the other global pools including oceanic, pedologic, biotic and geological strata to reduce the net rate of increase in atmospheric CO₂ was termed as carbon sequestration (Lal, 2008). "Biological sequestration includes direct removal of CO2 from the atmosphere through landuse change (LUC), afforestation, reforestation, revegetation, carbon storage in landfills and practices that enhance soil carbon in agriculture (cropland management, grazing land management)" (IPCC, 2014). These definition are rather broader and this article aims to focus only on sequestration of organic carbon in soil, which could be described as an increase in the soil carbon content, which resulted from a change in management and at the same time, additional carbon is held on to in the soil and is separated from other parts of the ecosystem (Powlson, 2011). Basically, there is a huge carbon pool on earth which is slowly emptying and at the same time, excess carbon keeps building in the atmosphere. Such conversion of the GHG into the organic matter can arrest land degradation, restore the soil's chemical and physical stability, improve fertility and simultaneously it serves the purposes of the mitigation and adaptation to adverse effects of climate change. That is why many consider it to be a winwin opportunity (Lehmann, 2009). However, some authors point out that carbon sequestration can continue only for few next decades and after carbon builds up in the ground further gains will be slowed or even halted (Van Groeningen et al., 2014). Globally, around one-third of the soil of arable land is in agriculture so agriculture soil have a great potential to become a carbon sink. Enlarging soil carbon stocks have numerous advantages for agricultural systems, such as improved soil and water quality, increased crop yields, increased nutrient, reduced plant water stress, enriched species diversity of soil biota, reduced risk of soil erosion (Lal). Essentially, there are two groups of options for carbon sequestration: abiotic and biotic. Abiotic carbon sequestration does not involve the intervention of living organisms. Thus in agriculture is more on point to speak about biotic carbon sequestration. The biotic sequestration is based on the managed intervention of higher plants and microorganisms in removing CO₂ from the atmosphere. There are many options of practices of biotic carbon sequestration available: improved crop residue management; extended crop rotations; planting cover crops, perennial crops and winter crops; soil erosion control; improved water and nutrient management; increased utilization of cultivation systems that require minimal tillage (i.e., reduced tillage); crop rotation (Ussiri and Lal, 2017). I see carbon sequestration also as a tool that could help overcome challenges closely linked to climate change such as adapting to adverse effects of climate change and helps to produce more food for a growing world population, changes in the dietary of wealthier classes in countries like India and China by increasing quantity and quality of the soil.

2 International Agreement on Climate Action

This part of the article describes international treaties relating to climate change. Focus is given to the provision with regards to land use, managing soil carbon and carbon sequestration. First of all, I would like to focus on treaties dealing with climate change and later other relevant treaties will be analyzed. The three most important international treaties in the field of climate change law: the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol to the United Nations Framework Convention on Climate Change (Kyoto protocol) and Paris Agreement will be discussed.

2.1 The UNFCCC

The UNFCCC was adopted at the Rio Earth Summit¹ on 9 May 1992 and entered into force on 21 March 1994. At the moment it has 197 parties. To this day the UNFCCC is still perceived as a crucial point for the creation of the overall framework for international efforts to address the issue of climate change. Parties proclaimed that they are concerned that human activities increased the concentration of GHG and that this incensement will result in additional global warming and might adversely affect natural ecosystems. The UNFCCC sets the ultimate objective in the battle against climate change in article 2.² This ultimate objective could be divided into three separate targets: stabilizing GHG concentration, slowing rates of climate change and assuring that food production is not threatened and sustainable development is allowed. First of them was later termed as "quasi-target" while the second was termed as "quasi-time-table" because of the ambiguous wording used (Bodansky, D., 1993). The UNFCCC does not deal directly with carbon sequestration, however, it contains some provision related to the soil management. To give you an idea, the preamble states that Parties to the UNFCCC are "aware of the role and importance in terrestrial and marine ecosystems of sinks and reservoirs".³ However, the preamble is not legally binding and generally state the background and purposes of the international agreement. The UNFCCC stipulated that the Parties should take precautionary measures to prevent and minimize the causes of climate change and mitigate its adverse effect and that they should be cost-effective. Such measures should be comprehensive and should "cover all relevant sources, sinks, and reservoirs of greenhouse gases".⁴ As previously stated, the soil represents the second largest natural reservoir of carbon in the world, so this article addressed, although not explicitly, also soil. The commitments enshrined in the UNFCCC could be divided into three types: General commitments for all Parties to the UNFCCC, Specific commitments on sources and sinks for Parties listed in Annex I to the UNFCCC and Specific commitments on financial resources and technology transfer for Parties listed in Annex II to the UNFCCC. While speaking about carbon sequestration as a tool to mitigate climate change, the most important commitments are those intended for Annex I Parties. They could be divided into three main commitments. First of all, these Parties are under the obligation to adopt national policies and take measures

¹ The United Nations Conference on Environment and Development (UNCED).

 $^{^2}$ Article 2 of UNFCCC: "The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner."

³ Paragraph 5 of the Preamble to the UNFCCC.

⁴ Paragraph 3 of Article 3 of the UNFCCC.



aimed to limit GHG emissions and enhance its GHG sinks and reservoirs.⁵ The second commitment is represented by stricter requirements governing reporting. Parties listed in Annex I to the UNFCCC were obligated to make its initial communication within six months of the entry into force of the UNFCCC to each of these Parties, while other Parties are obligated to do so within three years.⁶ Thirdly, these communications shall be more detailed (also in the terms of sinks of GHG) than communications of other Parties.⁷

2.2 The Kyoto Protocol

The second important international treaties in the battle against climate change is the Kyoto protocol adopted on 11 December 1997 on the third Conference of the Parties (COP3) and entered into the force on 16 February 2005. To this day it has 192 Parties. The Kyoto protocol represents a milestone since it has been the first and to this date, the only international agreement setting out legally binding obligations to reduce GHG emissions - termed "QELRCs" - quantitative emission limitation and reduction commitments, but only on Parties included in Annex I to the UNFCCC. Another commitment inter alia put an obligation on such Parties to implement and/or elaborate policies and measures to protect and enhance sinks and reservoirs of GHG, to promote sustainable forms of agriculture in light of climate change considerations, to research, promote, and develop carbon dioxide sequestration technologies.⁸ The Kyoto protocol introduces two brand new and innovative flexibility mechanisms: Clean development mechanism (CDM)⁹ and International emission trading (ET).¹⁰ Especially the CDM was important for carbon sequestration. It allows Annex I Parties to implement emission reduction measures in other countries and to consider the emission reductions achieved with regard to their obligation under the Kyoto Protocol (Boer, 2017). The disadvantage is that the projects aimed at fostering carbon sequestration in agricultural soil have not been accepted as a CDM project, while afforestation and reforestation have been accepted.¹¹ The different situation occurred when different flexibility mechanism – joint implementation. Based on the Articles of the UNFCCC¹² the first COP decides to establish a pilot phase for two kinds of activities under the joint implementation. Either between Annex I Parties or if Annex I Party decided to do so on a voluntary basis, then between such a Party and the Party of the UNFCCC not included in Annex I.¹³ Parties with aim to reducing GHG emissions or improve GHG removal by sinks are allowed to invest in any other Party, ¹⁴ if such activities were accepted by all Parties.¹⁵ In the regime of joint implementation all land use, land use change, and forestry (LULUCF) projects are allowed. It is noteworthy to mention that the KP was ex-post marked as a success since all 36 countries with QELRC were in compliance with their commitments at the end of the first commitment period (Shishlov, 2016). It is possible to conclude that "Kyoto protocol highlights that carbon sequestration in agricultural soil by land management practices can contribute to mitigating climate change" (Piccolo, 2012), however not in its entirety.

⁵ Subparagraph (a) of Paragraph 2 of Article 4 of the UNFCCC.

⁶ Paragraph 5 of the UNFCCC.

⁷ Subparagraphs (b) and (c) of Paragraph 2 of Article 4 of the UNFCCC.

⁸ Subparagraph (a) of Paragraph 1 of Article 2 of the Kyoto protocol.

⁹ Article 12 of the Kyoto protocol.

¹⁰ Article 17 of the Kyoto protocol.

¹¹ See Decision 5/CMP.1.

¹² Paragraph 3 of Article 3 of the UNFCCC; Subparagraph (a) of Paragraph 2 of Article 4 of the UNFCCC; Subparagraph (d) of Paragraph 2 of the UNFCCC.

¹³ Subparagraph 1 (a) of Decision 5/CP.1.

¹⁴ Subparagraph 1 (b) of Decision 5/CP.1.

¹⁵ Subparagraph 1 (c) of Decision 5/CP.1



2.3 Paris Agreement

Third and in my opinion the most important international treaty dealing with climate change is the Paris agreement, which was adopted at COP21 on 12 December 2016 and entered into the force on 4 November 2016. To this day it has 197 Parties. The Paris agreement was adopted under the UNFCCC and enhances implementation of the UNFCCC, including its objective. Nonetheless the Paris agreement sets its own new objective, which is located in Article 2, which enshrines three separate but, in fact, very closely related "sub-objectives." The first relates to the long-term temperature goals – to hold an increase in the global average temperature to well below 2 degrees Celsius and to pursue efforts to limit its increase to 1.5 degrees Celsius.¹⁶ The second sub-objective is forcing on increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience, low GHG emissions development.¹⁷ It is important to stress out that this should be carried out in a manner that does not threaten food production. The aim to make finance flows consistent with a pathway towards low GHG emissions and climate-resilient development represents the third subobjective of the PA.¹⁸ Despite the fact that the Paris agreement does not explicitly mention agriculture, it is possible to identify provision relating to it. First of all, Parties recognized the fundamental priority of safeguarding food security and the particular vulnerabilities of the food production system to the adverse effects of climate change (regrettably) only in the nonbinding Preamble to the Paris Agreement. Important article from the author's point of view is article 5 concerning conserving and enhancing skins and reservoirs of GHG. On the one hand, this article imposing an obligation on Parties to "take action to conserve and enhance, as appropriate, sinks and reservoirs of GHG.¹⁹ Biomass, forests, ocean, other terrestrial, coastal and marine ecosystems included. And on the other hand, this article encourages parties to implement and support the existing framework under the Convention with regard to reducing emissions from deforestation and forest degradation (Klein, 2017). According to Climate Focus, this article could be understood as a support to sequestration options that are not ecosystem and biomass-based such and carbon capture and storage (Climate Focus, 2015). The heart of the Paris agreement are nationally determined contributions. They represent the switch from a top-down approach, used mostly in the Kyoto protocol to the "hybrid managerial approach" (Klein, 2017). Each party is obligated to "prepare, communicate and maintain successive NDC that it intends to achieve."²⁰ They represent each Parties' climate action plan. It is up to each party to consider what will be contained in these NDCs. Before

adopting of the Paris agreement Parties were invited to communicate their intended NDC well in advance of the COP 21²¹ and they later become Party's NDC unless the Party decided otherwise. By analysis made by Food and Agriculture Organization of the United Nations, agriculture and LULUCF "are among the most frequently included sectors included in the intended NDCs (Strohmaier, 2016). It is already known that all NDCs combined are not yet enough to achieve the long-term goal of holding an increase in the global average temperature to well below 2 degrees Celsius, and definitely not enough to pursue efforts to limit its increase to 1.5 degrees Celsius (Elzen, 2015).

¹⁶ Subparagraph (a) of Article 2 of the Paris agreement.

¹⁷ Subparagraph (b) of Article 2 of the Paris agreement.

¹⁸ Subparagraph (c) of Article 2 of the Paris agreement.

¹⁹ Paragraph 1 of Article 5 of the Paris Agreement.

²⁰ Paragraph 2 of Article 4 of the Paris agreement.

²¹ Subparagraph (b) of Paragraph 2 of Decision 1/CP.19.



3 International Agreements Supporting the Idea of Carbon Sequestration

Despite the fact that there is no doubt that previous three international treaties represent the principal legislation for the management climate change issue, none of them deals with the soil explicitly. Therefore other international and regional multilateral treaties for land use and ecosystem management need to be analyzed in order to provide a full picture of a comprehensive framework of international law dealing with soil protection and carbon sequestration in soil (Hannam, 2004). Therefore the second part of the article will be devoted to the Convention on Biological Diversity (CBD), United Nations Convention to Combat Desertification (UNCCD), and Sustainable Development Goals (SDG). This part of the article analyzes how they contribute to international governance of sustainable soil use and protection and how they govern the issue of carbon sequestration in soil.

3.1 Convention on Biological Diversity

The CBD was adopted at the Rio Earth Summit on 5 June 1992 and entered into force on 29 December 1993. Currently, it has 196 parties. To this day represents the most comprehensive legislative regime of international rules for the protection of biological diversity. The conservation and sustainable use of biodiversity, including soil biodiversity, is promoted by CBD (Wolff and Kaphengst, 2017) by enshrining them as the main objective.²² Many of the provision are interlinked with soil protection, mainly as a habitat for the species, for example by Article 8 each of the Party shall "promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings.²³ In general, it is possible to state that "the environmental, economic and social benefits of conserving biodiversity outlined under Articles 5-10 of the CBD could assist when framing domestic legislation to manage soil carbon sequestration" (Hannam, 2004). The benefits of increasing of the soil carbon were already mentioned above, so only very simply: enlarging soil carbon stocks have many positive effects and one of them is improving habitats for living organisms in the soil, such as microbes, bacteria, fungi as well as macro fauna (earthworms, termites, ants) (Voroney, 2018). Soil biodiversity is crucial for the wellbeing of natural ecosystems and also for the agricultural production (e.g. higher yields).

3.2 The United Nations Convention to Combat Desertification

The Rio Earth Summit brought very important action of the United Nations with regard to sustainable development – Agenda 21. Two years later, in 1994, the UNCCD was adopted, building upon chapter 12 of Agenda 21. This convention entered into force on 26 December 1996 and to this day it has 197 Parties. According to UNCCD land degradation in arid, semiarid and dry sub-humid areas resulting from various factors, including climatic variations and human activities is termed as desertification.²⁴ The main objective of the UNCCD promotes the reduction of land degradation by combating desertification, which should involve strategies aimed at improving the productivity of land, rehabilitation, and conservation of land.²⁵ Desertification and climate change are closely interrelated. Desertification, on the one hand, reduces a potential sink carbon sink by releasing carbon stored in the vegetation and disturbed the soil. On the other hand, global warming caused by climate change speeds up to the process of the desertification. On this basis, it is possible to agree with A. Imeson (2012) who expressed that "desertification is both an impact and driver of climate change". With that said, it is clear that this creates a synergistic relationship between the obligations of the

²² Article 1 of the CBD.

²³ Subparagraph (d) of Article 8 of the CBD.

²⁴ Subparagraph (a) of Article 1 of the UNCCD.

²⁵ Article 2 of the UNCCD.



UNCCD and obligations of the UNFCCC (Hilme and Kelly, 1993). The World Meteorological Organization, among others, is focusing on research on the interactions between climate change and desertification by e.g. advocating enhanced observing systems and enhancing climate prediction capability (World Meteorological Organization, 2007). At the moment the IPCC is preparing special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems that is scheduled to be adopted in second half of the year 2019 which should provide the most recent scientific knowledge about this issues and the relationship between them. All Parties to the UNFCCC and the UNCCD should incorporate procedures for the creation and/or restoration of soil sink within a national legislative framework based on the fact that it could serve as an important tool to meet obligations arising from these two international treaties.

4 The United Nations Sustainable Development Goals

The Sustainable Development Goals (SDGs) are part of the "2030 Agenda for Sustainable Development". This agenda was adopted in 2015 and provides a shared blueprint for peace and prosperity for people and the planet. Despite the fact that SDGs are not binding, countries are expected to take ownership and establish a national framework for achieving the 17 Goals. Healthy soil carbon cycling is a key element for achieving several of SDGs:

- SGD 1 End poverty in all its forms everywhere. Poor people, especially in developing countries, rely on agriculture as a primary source of food;
- SDG 2 Zero hunger. This SDG is underpinned by the need for fertile soil to be able to produce more food for more people;
- SDG 13 Climate action. Carbon sequestration offers a suitable solution for mitigation. Smart agriculture should be also implemented in order to adapt to the adverse effects of climate change;
- SDG 15 Life on land. In this area, healthy soil represents the essential and necessary basis for life both for animals and plants. Healthy soil produces healthier food and better nutrition.

Conclusions

Nowadays climate change represents the biggest threat that humankind and emissions of GHG show no peaking. The Paris agreement has brought new hope but so far in only the unconditional NDCs are implemented, the emission gap increases to 15 GtCO2e. The gap in the case of the 1.5°C target is 29 GtCO2e and 32 GtCO2e respectively (United Nations Environment Programme, 2018). This gap can be only addressed by upscaling and acceleration of far-reaching, multilevel and cross-sectoral mitigation (IPCC, 2018). Agriculture and other land use accounts for between 20 and 25 percent of global greenhouse gas emissions, which is a pretty high number. However, the agriculture could provide a tool that could help to achieve the net-zero carbon emissions worldwide, which according to Paris agreement should be achieved in the second half of this century.²⁶ This tool or rather mechanism is carbon sequestration, which could lead to incensement of the carbon in the soil. Despite the fact that that carbon sequestration can continue only for few next decades and after carbon builds up in the ground further gains will be slowed or even halted, it could provide enough time to reach peaking of GHG emissions.

In this article, the main international treaties in the area of battling climate change (UNFCCC, Kyoto protocol, Paris agreement) were described with remarks to soil protection and carbon

²⁶ Paragraph 1 of Article 4 of the Paris Agreement.



sequestration. Two more international treaties dealing with soil protection (CBD and UNCCD) were also described. Actions taken in accordance with them complement each other and could help mitigate climate change and on the other hand help to, not only prevent the further degradation of soil but also help restore quality and quantity of healthy soil agricultural soil due to the fact that soil carbon has a direct correlation with soil quality. The importance of soil quality is projected to only rise due to because of the projected increase in demand for food and bioenergy that will only put more pressure on agriculture. So far states have been reluctant to implement this tool in their national legislation. Only a few of them could be found worldwide – Australia could be marked as one of the best examples. Another countries should follow and develop policies and regulations to take full advantage of carbon sequestration in the agriculture soil, because there are more than enough places where the carbon could be stored cost-effectively, with enormous economic benefits, while preventing the costs of runaway global climate change. Nevertheless, without global-scale restoration, it will be impossible to sequestrate enough global needs.

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Contacts:

Matúš Michalovič, Comenius University in Bratislava, Slovak Republic, Faculty of Law, Šafárikovo nám. č. 6, +421 2 9012 2016, matus.michalovic@flaw.uniba.sk





LAND CONSOLIDATIONS IN SLOVAKIA — WHAT NEXT?

Zlatica MUCHOVÁ¹

¹ Department of Landscape Planning and Land Consolidation, Slovak University of Agriculture in Nitra

Abstract

This contribution has the ambition to point out the potential benefits of land consolidation for the actors involved: owners, (state and public) administration and designers (contractors) of projects. Long-term stagnation of land consolidation design and implementations in Slovakia is causing complications to owners in relation to users (complicated rental relations, disputes over subsidies), while the vast fragmentation of land ownership limits the land market (lack of transparency, favoring large players, and land speculation), spatial planning and necessary interventions in the country. In addition to land ownership consolidation, land consolidation projects should, taking into account climate conditions, allow for the implementation of nature-friendly measures for water retention and mitigation of water and wind erosion, drought and floods.

Key words

land consolidation, possible benefits, perceived risks, ownership fragmentation, land use

Introduction

Land consolidations (LCs) are a single, complex and specific process capable of spatial and functional reorganization of a territory with a real outcome. Many other planning tools try to achieve the same results but always fail on unresolved ownership relations. A construction can take place only on plots with resolved ownership or long-term lease. Thus, if there is an effort to implement something in the country (e.g. polder, bio-center, landfill revitalization, paths etc.), possible solutions are to buy land from the owners, expropriation (but only in the public interest), and/or use of state plots or land consolidation. Buying from landowners has its own drawbacks as this affects all of them, there are many owners with more than a third unknown, many shares in succession, some plots with ownership duplicity in the evidence and only the rest belongs to the known owners. It is a time-consuming, financially and legally complicated path. An expropriation can result in subsequent litigation. Use of state plots is rather difficult. Based on experience, the land consolidations seem to be the only viable process that can take the utmost respect to the requirements of all stakeholders.

Complex land consolidations (LCs) represent an aggregation of environmental, economic, and social benefits (Leń - Król, 2016). Basic definitions of FAO (2004, 2008) refer to land consolidation (LC) as a broad-spectrum measure that includes land redistribution to eliminate fragmentation, while the LC objectives go far beyond these activities. The environmental benefit of the LC is the impact on the structure and functions of natural ecosystems and environment. If they are carried out in a comprehensive manner, LCs can promote environmental protection and management of natural resources. Fragmentation of natural ecosystems has been recognized as one of the main causes of biodiversity decline, and this is



accompanied by degradation processes such as wind and water erosion and groundwater reduction (Pagáč - Mokrá, 2018). LC is very useful at providing possibilities for erosion control in rural landscape (Hartvigsen, 2014). Land consolidation is a standard tool for ensuring rural development and increasing land use efficiency.

LC, when realized, is not a simple, straightforward process, but it is causing partial problems that have to be described and addressed. Therefore, the issues are presented here from the points of view of owners, administrative authorities and the contractors as well. Advantages and disadvantages for each group as they are perceived today, after about 20 years of experience with the design of land consolidations are also mentioned. Visions that would direct the whole process to a real win-win situation for everyone have also been outlined.

Material and Methods

The paper uses the secondary sources of information e.g. scientific papers, data from relevant state authorities bodies, data from register of renewed land records, statistical data, related legal acts. Information were proceeded through the method of analyse, synthesis, deducation, induction and scientific abstraction.

Results and Discussion

1 Current state

LC projects started in 1992. Roughly two projects per a district have been contracted. In 1993, on the basis of the "land ownership arrangement" most projects have been cancelled in the phase of "register of initial state (RIS)" because of the huge fragmentation of ownership. Based on the Slovak Act no. 180/1995 Coll. the "register of renewed land records" (RRLR) became the priority. The aim of RRLR is to clarify ownership records. Of the original 52 land consolidation projects in Slovakia, only 12 were continued after 1995. They have been completed and entered into the cadaster of real estates (CRE) with a considerable time lag. Only in the years 2001—2009 contracts for more complex projects especially in environmentally degraded areas, e.g. in the High Tatras and Žiarska Basin (Vašek, 2014) have been issued. They have been processed on the basis of EU pre-accession help (from the SAPARD program, then the Sectorial Operational Program and the Rural Development Plan). Disruption occurred in 2010, when, despite fairly well up and running methodology contracting of projects stopped. In the period 2010—2014 only 3 projects have been given.

It was because of the pushing LCs in the background due to incorrect policy decisions on their (un)importance; there were problems with transparency and effectiveness of the implementation of the proposed measures, public assignments have been cancelled etc.

The plight motivated part of the professional community to start activities that would simplify and speed up the whole process while making it cheaper.

A sketch of new technological processes and design of the price list have been compiled. However, these activities did not bring revival in designing LCs.

So far we have complex land consolidation projects processed for 418 cadastral territories, plus 18 are in progress and 168 are before signing contracts.

In the coming years, the Ministry of Agriculture and Rural Development (MARD SR) wants to engage in land consolidation also to address the negative effects of climate change and to deal with problems related to subsidies. At the moment, the MARD SR is preparing a strategy for the next 30 years that, among other things, shall determine the direction in which the LCs will take in the future.

Every year, the state should finance the start of land consolidation in 120 territories. An annual average of 30.8 million euros should go from the state budget. In the next 30 years,

projects on the remaining 88% of the Slovak Republic territory, i.e. 3103 cadastral areas should be finished.

2 Most important aspects

The most important aspects of LCs from the point of view of owners, administrative authorities and the contractors are summarized below...

2.1 Owners

Benefits can be seen in the following:

- clarification and definition of ownership relations for a whole area;
- cancellation of the historical ownership type registered in the separated cadastral operate E;
- separation of known and unknown owners, territorially and ownership-wise;
- elimination of co-ownerships for properly sized plots;
- cooperation of owners on the new design of the territory;
- possibility of ownership groups defined by common interests or family relations;
- transparent and clear situation related to land lease agreements;
- satisfaction of owners wishing to use their land;
- unlocking the land market;
- accessibility of all plots in the particular area;
- demarcation of boundaries.

Problems caused by the owners' behavior:

- difficult acceptance of the contribution for the common facilities and measures;
- slow implementation of the proposed measures;
- pressure on an owner's plots location in the most lucrative parts with none/negligible claims of that particular owner in these areas (when master zoning plan envisages a construction);
- distrust towards contractors and administrative authorities.

Perceived downsides of a LC from the position of the owners:

- agricultural land area reduction and incentives for development/construction on the basis of recovery of the land market;
- monopolization of land ownership in the district by buying-up shares by investors that dictate terms;
- transfer of land ownership to foreigners, especially feared by large-farm managements;
- limited possibility of ecological and landscape-protection planning;
- no/limited realization of common facilities and measures;
- distrust to governmental actions due to the bad historical experience from consolidation of plots;
- complicated forest management;
- opaque and complex hunting right enforcement such as creation of hunting grounds and associations.

2.2 Administrative authorities

Benefits can be seen in the following:

- new cadastral operate (modern, simplified);
- basis for an information system connected to the cadaster, land planning and landscape protection/landscaping;
- territorial master plan for the whole project area;
- recovery of the land market, land use/management, investments;



- popularizing the region, tourism, employment;
- simplified collection of property and the rest of the business-related taxes on land;
- development zones.

Disadvantages as presented by government:

- project costs;
- implementation/construction costs;
- long duration of the project.

Complicating factors on the side of government:

- management changes during projects;
- insufficient qualification of the administrative authorities for managing LC;
- unfinished/changing project design technology;
- legislation lagging behind the (technical, process) development;
- problematic long-term planning due to changes of political representations.

2.3 Contractors/Designers/Developers

Single benefit:

- log-term state contract ensuring employment and large-scale work.

- Disadvantages:
 - low demand;
 - complicated public acquisition;
 - opaque and wrong acquisition criteria (low price instead of quality);
 - quality devaluation due to price dumping.

Complicating factors:

- frequent cancellations of finished public acquisitions;
- very harsh competitive struggle;
- termination and cancellation of companies dealing with land consolidations.

2.4 Threat

Currently, the biggest threats for LCs are as follows:

- lack of funding and low governmental priority;
- hardly visible benefits of LCs (proposed measures not being implemented) and lack of public information and publicity;
- resistance from large-farm managements fearing the change of the status-quo (clarification of agreements/records, recovery of the land market resulting in land loss to foreigners);
- lack of qualified experts in the central managements of the administrative authorities/government.

3 The need for changes and possible solutions

Basic thoughts, needs and solutions (visions for the topic of land consolidation) that could revive/improve land consolidation in the future:

- successive governments will finally understand the importance of the land consolidations as they accept the experts' explanation of benefits in the form of long-term economic advantages for the state;
- land consolidations will be positively perceived by the public and have enough publicity; i.e. move the topic form academic journals into popular communication channels aiming at showing/explaining final profit for single participants and whole communities as well;



- enough funding from various sources will be provided and divided accordingly between design and implementation of proposed measures;
- coordination of experts, practitioners, legislative and technological base for land consolidations;
- provide well-qualified managerial and administrative role of the state and qualified personnel at crucial posts for design and implementation of the projects;
- centrally provide clear and mandatory quality criteria, same for all projects;
- establish nationwide delivery requirements of individual projects and parts defined on the basis of the latest technical knowledge in response to the information structure to which the project will be incorporated;
- ongoing cooperation and consultation of the administrative authority/government with the scientific community and designers/contractors;
- fair and transparent mechanism for contracting projects ensuring the quality and integrity of supply based on a thorough assessment of the full capacity and quality indicators of the selected companies;
- stop the devaluation of projects' quality due to price dumping and incompetence;
- review, modify or amend the structure of the data outputs of projects related to land plots, relationships to them, to land management and the actual quality of the soil as well as broader view of the area and its proportionate development;
- direct project processing technology in order to integrate their databases to central information systems and model inter-connection principles for both graphics and metadata, e.g. INSPIRE;
- information from projects shall be used for various statistical outputs related to other areas of life to quantify benefits and advantages of the process of land consolidation for the society;
- solve threats in the country resulting from natural conditions, improper management mode and devastation associated with it;
- ensure protection of built-up/housing areas from erosion and create harmonic solutions for the citizens and the local flora and fauna as well;
- coordinate spatial planning and land consolidation;
- determine mechanisms and criteria for the selection and queuing of land consolidations considering broader relationships, linking the needs of development (land use plan of the region) and protective measures (flood/drought protection in the context of watershed rather than administrative boundaries). Coordinate and balance inconsistency of natural and administrative divisions, border areas, OKTOPUS (Tárníková, 2013);
- revise the criteria for assessing claims of holders related to new plots in the light of past experience and possible obsolescence and uncertainty of the previously used data.

Conclusions

Current situation considering the design and implementation of land consolidations (LCs) in Slovakia is unfortunate. Despite positive examples from abroad, there is still no real progress in this area. LC projects stagnate and their future is now dependent on political decisions. More than two decades of valuable experience and local expertise do not help either as they are often overlooked or ignored by decision makers and other stakeholders. Opinion polls among the owners show that awareness on the land consolidation is very low in some cases. Owners frequently have no idea that they can personally benefit from the process. Owners are rather suspicious and favor status-quo as, in their opinion, "risk". From the administrative/governmental perspective, most harmful for LCs is the difficult long-term



planning due to frequent changes of the political representations and the associated incomplete legislative processes. Every new political structure has its rules, procedures and priorities. Some designers/contractors due to their incompetence and low-quality projects (but, anyway, responsible authorities and participants should not have had accepted them) helped to create an excuse for opponents of LC projects to claim that they are generally of poor quality = unnecessary. The current situation created insecurity among contractors, fear of losing work finally leading to the end of companies. This is only a part of the problem. On the other hand, there are issues related to the rural development. The development of the countryside has stagnated since the beginning of socialist management. Implementation of even the best intended measures in the current situation of ownership fragmentation is almost impossible. The land is threatened by degradation (water, wind erosion, compaction); floods and drought threaten us and our living environment; green infrastructure in the country is missing etc. Quo vadis land consolidations in Slovakia?

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Contacts:

Zlatica Muchová, Slovak University of Agriculture in Nitra, Faculty of Horticulture and Landscape Engineering, Department of Landscape Planning and Land Consolidation, E-mail: zlatica.muchova@uniag.sk





AGRICULTURAL LAND PROTECTION IN SLOVENIA

Franci AVSEC¹, Gašper CERAR²

¹ University of Novo mesto, Faculty of Economics and Informatics, Cesta na Loko 2, 8000 Novo mesto, Slovenia

² Chamber of Agriculture and Forestry of Slovenia, Gospodinjska ulica 6, 1000 Ljubljana, Slovenia

Abstract

The Republic of Slovenia has 2 million inhabitants and a surface area of 20,273 km², which is mostly covered by forests (58%), while agricultural land makes up only 33% of the total surface area. The main challenges for agricultural land legislation and policy are the (1) relatively high scarcity and (2) fragmentation of the agricultural land, (3) high share of areas with limited possibilities for agricultural activity (86% of the total surface area) and (4) maintaining a diversified and relatively well-preserved environment in good condition. The paper analyses the protection of agricultural land from several viewpoints, including spatial planning and so-called compensation due to the change of purpose of the agricultural land, provisions and measures for the prevention and elimination of overgrowing, the protection of fertile soil, basic provisions for legal transactions with agricultural land, agricultural operations and the protection of the agricultural landscape.

Key words

Slovenia, agricultural land, agricultural land protection

Introduction

The Republic of Slovenia is situated in southern Central Europe and has approximately two million inhabitants. According to the last available data from the Slovenian Surveying and Mapping Authority, the total surface area of 20,273 km² is mostly covered by forests (58%), while the agricultural land represents only 33% of the total surface area (Statistika REN, 2018). Nearly 90% of the territory lies 300 metres or more above sea level, while plain areas account for less than 20% of the territory.¹

According to the Constitution, the Republic of Slovenia is a democratic republic and territorially unified state². The basic units of local self-government are 212 municipalities (the regions, which are foreseen by the Constitution as self-governing local communities on the meso-level, have not yet been established).³ The competencies of a municipality comprise the local affairs that may be regulated by the municipality autonomously and which affect only the residents of the municipality.⁴

¹ Rural development programme of the Republic of Slovenia 2014-2020, 2015, Section 2.1.

² Ustava Republike Slovenije, Art. 1 and 2.

³ 12 statističnih regij, 212 občin, 6.035 naselij (12 statistical regions, 212 municipalities, 6,035 settlements), 24 January 2019.

⁴ Ustava Republike Slovenije, Art. 140.



According to the last available data from the Agricultural Institute of Slovenia, the share of the Slovenian agriculture, forestry, hunting, fisheries in total added value in 2017, was 2.1%, and in total employment, 7.4%.⁵

Like other transitional, and also some Mediterranean countries, Slovenia has a bimodal structure of agricultural holdings (Bojnec, 2018). In 2016, there were 69,902 agricultural holdings in Slovenia. 133 or 0.19% of all agricultural holdings (with a size over 100 ha utilised agricultural area, UAA) used 33,359 ha (6.9% of all UAA), while 41,919 (59.96% of all) agricultural holdings, mainly small family farms, used 98,318 ha (or 20.5% of the total) UAA.⁶

After the Second World War, the majority of agricultural land remained in private hands. In 1990, 88.18% of arable land and 82.98% of the total agricultural land was privately owned.⁷ The state-owned agricultural land has been since 1993 managed by the Fund of Agricultural Land and Forests of the Republic of Slovenia. At the end of 2017, the Fund managed 59,386 ha of agricultural land.⁸

In the last few years the average size of a farm has grown to 6.9 ha of the agricultural land, mainly due to the withdrawal of smaller farms from production and the increasing numbers of farms of a larger size.⁹ However, the agricultural holdings' structure survey shows that, since 2010, the number of agricultural holdings has decreased by 6% in Slovenia and in the EU by 15%, while the UAA in Slovenia have changed only slightly in the same time. Thus, the difference in the average size of agricultural holdings between Slovenia and the EU-28 has increased in this period.¹⁰

Indicator	Ø 2000- 2004	Ø 2005- 2009	2010	2011	2012	2013	2014	2015	2016	2017
UAA	504,855	491,693	482,653	458,195	479,653	478,888	482,218	476,862	477,671	481,415
Arable land (%)	34.1	36.0	35.3	36.8	35.8	36.4	36.3	35.9	36.4	36.2
Permanent crops (%)	5.8	5.4	5.6	5.9	5.6	5.7	5.6	5.7	5.8.	5.8
Permanent grassland (%)	60.1	56.8	58.2	57.3	58.6	57.9	58.0	58.4	57.8	58.0
Share of UAA in the total area (%)	24.9	24.3	23.8	22.8	23.7	23.6	23.8	23.5	23.6	23.7
UAA per habitant (ha)	0.25	0.24	0.24	0.22	0.23	0.23	0.23	0.23	0.23	0.23

Table 1: The surface and structure of agricultural land in Slovenia from 2000-2018

Source: Slovenian Agriculture in Numbers, 2014, 2016, 2017 and 2018.

¹⁰ *Ibidem*, p. 23.

⁵ Slovenian Agriculture in Numbers, Ljubljana 2018, p. 3.

⁶ V Sloveniji smo v 2016 imeli 69.902 kmetijski gospodarstvi ali 3,4% manj kot v 2013, 2017.

⁷ Statistični letopis Slovenije, Ljubljana 1991, p. 214.

⁸ Poročilo o delu in zaključni račun Sklada kmetijskih zemljišč in gozdov RS za leto 2017, Ljubljana 2018, p. 32.

⁹ Prva ocena stanja v kmetijstvu, 2018, p. 20.



Due to its location in the climatic and geomorphologic junction of the Alpine, Mediterranean, Pannonian and Dinaric regions, Slovenia has a very diversified natural landscape and relatively well preserved environment. This finding can be to a great extent confirmed by the last available environmental indicators of Eurostat as shown in Table 2.

Compared with other countries and the EU as a whole, several amounts of data show a relatively high scarcity of agricultural land in Slovenia. According to the 2013 census data, the share of utilised agricultural area in the total surface area of Slovenia was 23.5%, in the EU-28 as a whole 40.0%, while the arable land in Slovenia represented only 35.6% of the total utilised agricultural area, while it was 81.6% in neighbouring Hungary and 59.6% in the EU-28 as a whole.¹¹

Agri-environmental indicators	Slovenia	EU-28	
Percentage of arable land in total UAA	35.9 (2016)	59.8 (2013)	
Gross nutrient balance per hectare of UAA (kg)	42 (2015)	51 (2015; estimated)	
Percentage of UAA, managed by low-input farms	45.1(2013)	39.3 (2013)	
Percentage of total UAA used for organic production (fully converted and in conversion)	9.6 (2017)	7.03 (2017, estimated)	
Nitrogen fertilised UAA (kg N/ha)	71.2 (2006)	67.4 (2006)	
Tranogen Terrinsen OTAT (kg Trina)	68.6 (2015)	74.4 (2015)	
Phosphorus fertilised IIAA (kg P/ha)	13.1 (2006)	8.7 (2006)	
Thosphorus forumsed OTAT (kg 17hu)	10.0 (2015)	7.4 (2015)	
Percentage of territory under the Natura 2000 network	37.9 (2016)	18.2 (2016)	
Estimated soil erosion by water (tonnes per hectare)	7.42 (2012)	2.40 (2012)	

 Table 2: Some agri-environmental indicators for Slovenia and EU-28

Source: Agriculture and environment, 2019.

A brief statistical outline about Slovenia and its agriculture could be synthesized in four challenges regarding the agricultural land protection. Compared to other countries, Slovenia shows (1) a high level of agricultural land scarcity as well as (2) a high fragmentation of agricultural plots and holdings, with (3) a high share of areas with limited possibilities for agricultural production in the total surface area, while (4) a rich biodiversity and relatively well preserved environment should be maintained in good condition. The following sections deal with the question of how the current agricultural land legislation and policy will respond to these challenges. They outline main legal regulations as well as some policy measures containing incentives and disincentives regarding agricultural land protection.

Material and Methods

The Slovenian Constitution stipulates that "special conditions for land utilisation in order to ensure its proper use" and "special protection of agricultural land" are provided by the law.¹²

¹¹ Farm structure statistics, 2015.

¹² Ustava Republike Slovenije, Art. 71 par. 1 and 2.



In the following sections, the paper will analyse how the constitutional principle relating to the special protection of agricultural land is operationalised within the agricultural land legislation and policy.

The Agricultural Land Act (ALA from 1996, with several subsequent amendments)¹³ is the central and general piece of legislation in this field. Some special issues related to agricultural land are regulated by three further pieces of legislation: the Protected Farm Inheritance Act¹⁴, the Agricultural Communities Act¹⁵ and the National Agricultural Land and Forests Fund Act¹⁶.

On the other hand, the legal regulation of agricultural land protection must be consistent with a wider general legislation dealing with spatial planning, protection of the environment, natural and cultural heritage - as the agricultural land is an indispensable part of the rural landscape.

The ALA explicitly defines the agricultural land policy as a set of measures for the elimination of overgrowing, execution of agricultural operations and the purchase of agricultural land planned by the National Agricultural Land and Forests Fund (Art. 1b). Since agricultural land other (for instance, tax) policy measures are directly or indirectly based on agricultural land legislation, they have a non-negligible impact on the agricultural land protection and its use.

The following sections analyse the agricultural land protection in Slovenia through basic legal provisions and policy measures that relate to (1) the protection of the agricultural purpose of the land, (2) statutory duties to use and cultivate the agricultural land and prevent its pollution and degradation, (3) protection of fertile soil, (4) legal transactions with agricultural land, (5) agricultural (land) operations, (6) some tax measures pertaining to the legal transfer of agricultural land and agricultural operations, and (7) protection of the agricultural landscape.

Results and discussion

1 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 1973¹⁷ 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 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.

¹³ Zakon o kmetijskih zemljiščih (ZKZ).

¹⁴ Zakon o dedovanju kmetijskih gospodarstev (ZDKG).

¹⁵ Zakon o agrarnih skupnostih (ZAgrS).

¹⁶ Zakon o Skladu kmetijskih zemljišč in gozdov Republike Slovenije (ZSKZG).

¹⁷ Zakon o kmetijskih zemljiščih (Official Journal of the Socialist Republic of Slovenia, No. 26/1973).



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 2011¹⁸ - 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").¹⁹

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 decree²⁰, 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;

¹⁸ Zakon o spremembah in dopolnitvah Zakona o kmetijskih zemljiščih, 2011.

¹⁹ Resolucija o strateških usmeritvah slovenskega kmetijstva do leta 2020 - "Zagotovimo.si hrano za jutri". A similar draft document, but for a new time horizon has been recently launched for public consultation by the Ministry of Agriculture, Forestry and Food: Resolucija: "Naša hrana, podeželje in naravni viri po 2021". Strateški okvir razvoja slovenskega kmetijstva, predelave hrane in podeželja. (Resolution: "Our food, rural areas and natural resources after 2021". A strategical framework for development of the Slovenian agriculture, food processing and rural areas).

²⁰ Uredba o območjih za kmetijstvo in pridelavo hrane, ki so strateškega pomena za Republiko Slovenijo.



- 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).²¹

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.

2 Use and cultivation of agricultural land

The Agricultural Land Act prescribes following duties for the owner, tenant or other user of agricultural land:

- to cultivate agricultural land as a good manager;
- to prevent the overgrowing of agricultural land, with the exception of agricultural land, which, according to the regulation governing the types of actual use of agricultural land, meets the conditions for the type of use of "trees and shrubs";
- to use farming methods, suitable for the land and its location, to prevent soil compaction, erosion and pollution, and to ensure sustainable land fertility (Art. 7).

²¹ See the Spatial Planning Act, Art. 8, 24, 28, and the Agricultural Land Act, Art. 3.c par. 8. and 3.d par. 3. In this respect, it must be mentioned that the Spatial Planning Act prohibits new individual settlements not connected with existing individual settlements (Art. 24 par. 4).



The agricultural inspection which finds that the owner, tenant or other user of agricultural land does not comply with these provisions, issues a decision imposing on the user to take appropriate measures which in a deadline not longer than one year.

If the elimination of overgrowing cannot be imposed on the owner of the agricultural land concerned because the user has neither a known residence nor a representative, the land is temporarily transferred to the management of the National Agricultural Land and Forests Fund.

The carrot and stick approach towards the elimination of overgrowing was introduced by a Decree of the Government²² which grants the reimbursement of the costs incurred in carrying out agromelioration work to eliminate overgrowth in overgrown agricultural land, being fixed as a lump sum.

3 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).

A special decree of the Government regulates the protection of soil against pollution.²³

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,

²² Uredba o izvajanju ukrepa odpravljanje zaraščanja na kmetijskih zemljiščih.

²³ Uredba o mejnih, opozorilnih in kritičnih imisijskih vrednostih nevarnih snovi v tleh.



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.

In order to achieve the objectives of protecting agricultural soil, the RDP provides for measures:

- M01 The transfer of knowledge and information activities²⁴: the purpose of the measure is to increase the level of competence of the target groups through different forms of knowledge transfer. The method of transferring knowledge and information is no longer a one-way linear process, since it is now being implemented in close interaction between various actors who traditionally create and manage knowledge transfer and end users of knowledge;
- M04 Investments in physical assets²⁵: the measure encourages investment in fixed assets that contribute to greater productivity, economic and environmental performance, and increasing the resilience and adaptation to climate change (for instance, agricultural machinery, agricultural buildings, small and large irrigation systems). Investments in physical assets are especially required in areas with limitations to farming due to natural features and statutory protection regimes. In these areas, productivity is usually lower and the selection of agricultural guidelines is limited and production costs are higher;
- M10 Agri-environment-climate payments²⁶: the purpose of the measure is to strike a balance between the need for food production and the protection of the environment, and to encourage agricultural holdings to manage agricultural land in a way that reduces the effects of farming on the environment; contributes to the mitigating of and adapting to climate change (conservation of biodiversity and landscapes, proper water management and soil management). Payments are intended for the implementation of agricultural practices which exceed the mandatory standards determined;
- M11 Organic farming²⁷: the purpose of the measure is to encourage agricultural holdings to implement a nature-friendly farming method (prohibition of the use of chemically synthesized plant protection products and mineral fertilizers, preserving soil fertility, improving the soil condition). The measure also represents a great opportunity for the creation of new jobs and the revitalisation of rural communities.

4 Legal transfer of agricultural land

4.1 Basic provisions

The legal protection of agricultural land in Slovenia includes some restrictions and preventive *(ex ante)* administrative control of the legal transfer of agricultural land.

The restrictions currently in force are:

- prohibition of the division of certain agricultural holdings, the so-called protected farms, with a special regime for intestate or testamentary succession according to the Protected Farms Inheritance Act. This prohibition is, by the Agricultural Land Act, extended to legal acts *inter vivos (successio anticipata)*. However, both Acts permit certain exceptions from this prohibition;

²⁵ *Ibidem*, p. 218.

²⁴ Rural development programme of the Republic of Slovenia 2014-2020, Ljubljana 2015, p. 184.

²⁶ *Ibidem*, p. 355.

²⁷ *Ibidem*, p. 635.



- the pre-emption right which certain persons may enforce in case where agricultural land, regardless of its owner, is offered for sale;
- restrictions relating to the persons who may acquire agricultural land on the basis of a donation contract (deed of gift);
- the restriction of creating new co-ownership shares (in the case of the sale of agricultural land or the donation of agricultural land to a donee who takes over a farm);
- prohibition to divide the consolidated agricultural land.

The administrative control consists of the approval issued by the administrative unit and confirming that the legal act *inter vivos* conforms with the Agricultural Land Act. In certain cases, defined by the Act, the administrative unit may issue only a certificate that the approval is not necessary. In both cases, a positive decision of the administrative authority is a precondition for the notarial authentication of the alienator's signature, without which the acquirer may not be entered into the land register and become the owner of the land (Art. 22 of the ALA).

4.2 Protected farms

According to the Agricultural Holdings Inheritance Act^{28} , medium sized farms of (having from 5 to 100 hectares of the so-called comparable agricultural surface) which belong to an individual, spouses or an ancestor and a descendant, are inherited, as a rule only by one heir. In the case of intestate succession, only certain forced heirs inherit shares where the value of which are reduced to the value of compulsory shares and must be paid, as a rule, in cash.

A similar solution is provided for the testamentary succession of a protected farm. As a rule, a protected farm may not be divided *inter vivos*, although the Agricultural Land Act provides for some exceptions from this principle (for instance, the transfer of agricultural land from one protected farm to another protected farm, the transfer of agricultural land to the state or the transfer of building land).

4.3 Pre-emption right

If agricultural land is offered for sale, several persons may enforce the pre-emption right in the following order:

- co-owner (in case where the land is owned by two or more co-owners);
- a farmer whose land he/she owns is adjacent to the land for sale;
- the tenant of the agricultural land offered for sale;
- another farmer;
- an agricultural organization or sole proprietor, who needs land or a farm for the purpose of carrying out an agricultural or forestry activity;
- the Fund of agricultural land and forests of the Republic of Slovenia for the Republic of Slovenia.

Under the same conditions, the pre-emption right among farmers who accepted the offer within each priority class, the buyer is determined in the following order:

- a farmer to whom agricultural activity represents his/her sole or principal activity;
- a farmer who cultivates the land himself/herself;
- a farmer who is designated by the seller, except in the case where agricultural land, forest or farm owned by the state is sold and the seller must determine the buying farmer on the basis of the public auction method (Art. 23 of the ALA).

²⁸ Zakon o dedovanju kmetijskih gospodarstev (ZDKG).



According to the Agricultural Land Act, a farmer is a natural person who, as owner, tenant or other user of agricultural land cultivates the land herself/himself or with the help of others, is appropriately qualified for this activity and obtains a significant part of the income from the agricultural activity (the income from agricultural activity must be at least equal to 2/3 of the average gross wage in the Republic of Slovenia in the past year).

In addition, a family member of such a person may also be a farmer, if he/she performs an agricultural activity on the farm as his/her only or main activity and is appropriately qualified.

The status of farmer is retained by an individual who has acquired a significant part of their income from the agricultural activity on the farm, but due to his/her age or incapacity to work does not perform agricultural activities on the farm any more, provided that he/she takes care of further cultivation of agricultural land.

Finally, the status of a farmer may be obtained by an individual who makes a statement on the record at the administrative unit that he/she will, alone or with the help of others, cultivate the agricultural land, obtain a significant part of his/her income from the agricultural activity and demonstrates sufficient qualifications (Art. 24 of the ALA).

4.4 The prohibition to create new co-ownership shares on agricultural land and the prohibition to split the agricultural land plots after commassation.

In order to reduce the number of co-owners and if possible transform co-ownership into ownership – "*Communio mater rixarum*" – the Agricultural Land Act prohibits owners of agricultural land to create new co-ownership shares on agricultural land through sale contracts and contracts of donation, if the donee is a young farmer who took over the farm and received support from the rural development programme (Art. 17a(2) the ALA).

To prevent the deterioration of merger of agricultural plots through commassation, the Act also forbids the division of agricultural plots shaped through commasation.

4.5 Restrictions for contracts of donation

In order to prevent the circumvention of the statutory pre-emption right through contracts of donation, the Agricultural Land Act only permits the following persons to acquire agricultural land by donation *inter vivos:*

- a spouse or extra-marital partner, children or adoptive children, parents or adoptive parents, brothers or sisters, nephews or nieces and grandchildren or granddaughters of the donor;
- a son-in-law, daughter-in-law or the unmarried partners of the child or adoptive child, if they are members of the same farm;
- the person who took over a farm in last five years;
- local community or the State (Article 17a(1) of the ALA).

4.6 Agricultural lease

After the conclusion of the lease agreement, an application for the approval of a legal transaction must be submitted to the administrative unit. The administrative unit shall approve or reject the approval of a legal transaction by decision, but where no approval is required, it shall issue a certificate.

Certain persons have a priority right to take the agricultural land on lease in the following order:

- a tenant;
- a tenant of land adjacent to the land to be leased and a farmer who owns land bound to the leased land;



- another farmer, agricultural organisation or individual entrepreneur, who needs land for performing agricultural or forestry activities.

When potential tenants have the same pre-lease right, priority is given to that one who deals with agriculture as his/her only or main activity.

A written lease agreement must at least contain:

- land registry and land cadastre data of the leased land;
- description and the unamortised value of the agricultural facilities, plants and plantations;
- the amortization period of permanent crops;
- purpose of the lease;
- price of the lease;
- duration of the lease and determining whether the lease is inherited.

A lease contract by which the lease is determined in the form of work on the farmer's farm or in the form of a share of the expected yield or if the estimated income is null and void.

The lease period must correspond to the purpose of the use of the leased land and must not be shorter than:

- 25 years if the land is to be used for the establishment of vineyards, orchards or hopfields;
- 15 years, if the land is to be used for the establishment of fast-growing deciduous trees;
- 10 years if the land is used for other purposes.

The farm land may also be leased for a short-term, if the lease relationship is not possible to conclude for the above-mentioned years.

A lease contract may be terminated on the basis of an agreement or in the case where the land ceases to be agricultural land. The lessor may withdraw from the contract, if the tenant does not manage land as a good manager or in contravention of the agreement gives agricultural land in subleasing.

5 Agricultural operations

The Agricultural Land Act defines agricultural operations as measures to improve the agricultural land and conditions for its cultivation in general interest. Under certain conditions, these operations are carried out against the will of an individual owner of agricultural land.

The ALA distinguishes four main types of agricultural operations:

- *voluntary exchange of agricultural land* is always carried out on the basis of the exchange contract if the exchange contributes to a more rational cultivation and the value of one land does not exceed the value of another land by more than 50%;
- *rounding-off* which is carried out on the proposal of an individual or legal entity who owns fragmented agricultural land in a rounded area or the land of another owner is located in his/her compact land complex. The administrative authority shall issue a decision for a rounding-off if the proposer of the rounding-off could not conclude the exchange contract with the other party, if the proposer offers the other party suitable agricultural land of the same category or, subsidiarily, agricultural land of equal value, and intends to use the land that would be merged for agricultural purposes;
- commassation (contractual or administrative) consists of merging agricultural land in an area and redistributing it among owners in such a way as that each owner obtains land which is rounded off as possible. Besides agricultural land, commassation may also encompass forests, unexploited building and other land in the commassation area and installations on this land (commassation fund);



- *meliorations* which include drying, irrigation and agromeliorations.

Due to the climate changes and environmental protection, the construction of new drying systems is not allowed any more.

An irrigation system is defined as a set of devices to provide water, its distribution and use in order to supply plants with sufficient water in the soil. Irrigation systems may be public, being owned by local communities (*local irrigation systems*) or the State (subject to public utility services: *state irrigation systems*), or *private* (owned by natural or legal persons).

Agromeliorations include measures that improve the physical, chemical and biological properties of the soil or access to farmland (land levelling, pruning of bushes and trees, filling of fertile land, removal of stones, arrangement of footpaths, construction of terraces, arrangement of mountain and karst pastures).

6 Tax measures related to the transfer of agricultural land and agricultural operations The agricultural land policy is also supported by some tax measures.

The sale of the real estate is subject to tax according to the Real Property Transaction Tax Act²⁹. A taxable person is a seller of real estate, but the contractual parties may also agree otherwise. The tax base is the selling price of the real estate or the price that the tax authority determines in the taxation procedure. The tax rate is 2% of the tax base. The real property transaction tax is not charged on the transfer of agricultural land within commasation in compliance with the regulations on spatial planning and the transfer of agricultural land ad agricultural operations (Art. 10).

An inheritance or a gift of a real estate is taxed according to the Inheritance and Gift Tax Act³⁰. The taxable amount is the value of the inherited property or the gift received at the time of the occurrence of a tax liability after the deduction of debts, costs and bonds. The tax rates depend on the status of the heir or donor and the value of the inherited or gift of the received property, are progressive and range from 5% to 39%. Persons from the first inheritance order (the spouse of the deceased or the donor and his/her descendants) are exempted from the payment of the tax. Special exemptions are foreseen for persons engaged in agricultural activity:

- a tax exemption for an heir or donee who is a farmer as far as the agricultural land or forest is inherited by or donated to him/her;
- the tax on inheritance also does not need to be paid if an heir or donee obtains a protected farm or if a farmer inherits a farm which is not protected, as a whole. If an heir or a donee who enjoyed the tax exemptions ceases agricultural activity within 5 years after acquisition of the farm, the tax is assessed subsequently (Art. 10 of the Inheritance and Gift Tax Act).

The Personal Income Tax Act³¹ provides certain exemptions and alleviations regarding the use of agricultural land. For instance, at the request of the taxpayer, the tax base for cadastral income does not include cadastral income from land:

- which is leased for a period specified in the lease contract;
- which was not usable or was of lower quality, but became usable or fertile through investments this exemption is temporary and lasts for a period of three years, starting from the first year after improvement or qualification;
- which will be used for new vineyards, plantations of hops, orchards or other permanent plantations (the exemption may last eight years for olive plantations and

²⁹ Zakon o davku na promet nepremičnin (ZDPN-2).

³⁰ Zakon o davku na dediščine in darila (ZDDD).

³¹ Zakon o dohodnini (ZDoh-2).



three years for other permanent plantations, starting from the first year after planting (Art. 73 of the Personal Income Tax Act).

According to the Act in the Personal Income Tax, a tax is levied on capital gains made by the sale of real estate owned by natural persons over a period of 20 years from the acquisition of the property. The tax base on capital gains is the difference between the value of the property at divestiture and the value of the property upon acquisition. The tax rate is 25% depending on the tax base and is considered as the final tax. The tax rate is gradually reduced after each five year period: it is 25% in the first five years, in the second 5-year period - 15%, in the third 5-year period - 10% and in the last (fourth) 5-year period - 5%. After 20 years the tax is no longer paid (Art. 132 of Personal Income Tax Act).

7 Rural landscape protection

The amount of agricultural land is decreasing due to the sealing and overgrowing of agricultural land. Statistical data show that, in the period from 1991 to 2011, the area of fields and gardens decreased by 26,373 ha, while the total agricultural land in use decreased by 103,080 ha. Compared to 2002, the total surface area decreased in 2011: arable land and gardens by approx. 14%, hop fields by 20%, vineyards by 16%, and increased the total volume: forests by 1.5%, olive groves by 59%, and meadows by 5.8% ³². We can conclude that the overgrowing of agricultural land continues. The process is most intensive in mountain areas with less favourable relief or less quality soil.

For the last 20 years, building has concentrated especially on easily accessible agricultural land near large settlements. The trend slowed down due to changes relating to a stricter agricultural land legislation and its implementation, spatial planning and environmental protection. In addition, the economic crisis slowed down investment. Although the spatial planning documents of the municipalities still foresee a change of purpose for a large surface area of land currently in agricultural use, the trend of sealing is likely to be much smaller, as only a limited extent of such land is available and there are clear examples of numerous investments that have proven to be less efficient and profitable (mostly business zones) than expected.

The RDP allows payments to farms and people living in areas with limited possibilities for agricultural activity. Slovenia is among the EU-28 countries with the highest share of agricultural land in use in areas with limited possibilities for agricultural activity. A total of 75.3% of agricultural land in use is located in areas with limited possibilities for agricultural activity.³³ The natural constraints reduce the competitiveness of Slovenian agriculture, limit the choice of possible production orientations and increase production costs.

Preserving agriculture in these areas is very important for Slovenia: it prevents the overgrowth of agricultural land, preserves biodiversity and the agricultural landscape and ensures the settlement of the Slovenian landscape.

In order to preserve the settlement of rural areas, the following measures are implemented under the RDP:

- M06 - Farm and business development³⁴: the purpose of the measure is to establish and develop farms and non-agricultural activities in rural areas. Slovenia contributes to the activation of the endogenous potentials of the local environment, which results in the strengthening of the rural economy, increasing the market orientation of farms,

³² Okoljsko poročilo za Program razvoja podeželja Republike Slovenije za obdobje 2014-2020, Kamnik, 2015, p. 8.

³³*Ibidem*, p. 84.

³⁴ *Ibidem*, p. 276.



the creation of new jobs and higher added value. Aid is launched for start-up activities for young farmers and helping start-up activities aimed at developing small farms;

- M07 Basic services and village renewal in rural areas ³⁵: the purpose of the measure is to build next-generation broadband networks in settlements with less than 5,000 inhabitants;
- M13 Payments to areas facing natural or other specific constraints ³⁶ (ANC): Due to the extensive agricultural and forestry use of the land, the ANC has developed a traditional diverse cultural landscape with a special ecological significance. Traditional forms of farming contribute to the conservation of biodiversity, especially in mountain areas, or in areas with extremely unfavourable natural conditions for farming. Payments for ANC represent a partial compensation to agricultural holdings, in spite of lower yields and higher management costs, farmers can continue to manage the land. This measure constitutes an important component of the income of agricultural holdings in these areas, thereby contributing to the further use of agricultural land, the preservation of rural areas and settlements. On the other hand, the development of sustainable farming systems contributes significantly to the preservation and enhancement of biodiversity in these areas;
- M19 Support for LEADER local development (CLLD community-led local development) ³⁷: LEADER is a tool for promoting joint local development following the bottom-up principle. The bottom-up approach enables local people to participate actively in decision-making regarding the priorities and development objectives of the local area, including the financial resources to attain the objectives of the local area, by forming local partnerships of so-called Local Action Groups (LAG). It enables the realisation of a wide array of challenges in different environments and a better flexibility in the attainment of the objectives, and corresponds to the actual needs of the local area.

Conclusions

Like agriculture itself, agricultural land provides multiple functions. Due to its fertile soil, it is not only the main base for the production of food and fibres, it is also an indispensable part of the natural environment, the natural and cultural heritage and rural landscape. As the protection of agricultural land requires an appropriate legal framework and policy measures, the sustainable use of this valuable natural resource depends on the rational use of space, the protection of the environment as a whole and the sustainable development of the economy and society. Recent developments in Slovenia and the European Union show the tendency that specific goals and measures of the agricultural land legislation and policy are becoming more and more integrated into the general agricultural policy.

Summary conclusions

Slovenia is a country with 2 million inhabitants and a surface area of 20,273 km2, of which, according to the Surveying and Mapping Authority of the Republic of Slovenia, 2018, 58% is covered by forests, while agricultural land represents only 33% of the total surface area. The main challenges for agricultural land legislation and policy are the (1) relatively high scarcity and (2) fragmentation of the agricultural land, (3) high share of areas with limited possibilities

³⁵ *Ibidem*, p. 296.

³⁶ *Ibidem*, p. 662.

³⁷ *Ibidem*, p. 738.



for agricultural activity (86% of the total surface area) and (4) maintaining diversified and a relatively well-preserved environment in a good condition.

The Constitution of the Republic of Slovenia stipulates that conditions under which natural resources may be exploited are established by the law (Art. 70(2)) and grants "special protection" to agricultural land (Art. 71(2)). The Agricultural Land Act regulates the classification, protection, use, cultivation and legal transfer of agricultural land and the so-called agricultural operations. The Act defines agricultural land as land suitable for agricultural production and designated as agricultural land in the spatial planning documents of local communities, while the Ministry of Agriculture, Forestry and Food is a national spatial planning institution, responsible for agricultural land in matters of spatial planning.

The spatial planning acts of municipalities classify agricultural land into areas of permanently protected agricultural land and other agricultural land areas in accordance with the criteria provided by the law and based on a proposal which is, as the so-called "expert basis" for each municipality prepared by a professional organisation at the expense of the Ministry of Agriculture, Forestry and Food.

The general spatial planning and special agricultural land legislation directs development projects primarily on the land for non-agricultural use, if this is not possible, on the agricultural land which is not permanently protected, and only most exceptionally, on the permanently protected agricultural land.

In addition, the Agricultural Land Act provides for an economic instrument to protect quality agricultural land: an investor applying for a permit for the construction of a building whose floor area is entirely or partly located on agricultural land, must pay compensation due to the change of purpose of the agricultural land concerned.

The owner, tenant or other user of agricultural land must cultivate agricultural land as a good manager, prevent the overgrowing of agricultural land and use farming methods suitable to the land concerned and its location, in order to prevent soil compaction, erosion and pollution, and to ensure sustainable land fertility.

The fertile soil (as material of the surface layer of the soil, which enables the growth of plants due to its physical, chemical and microbiological properties) is protected against permanent loss. The protection of fertile soil is also stimulated through certain measures of rural development: the transfer of knowledge and information activities, investments in physical assets, agri-environment-climate payments and support for organic farming.

In order to protect and improve the conditions for the rational use of agricultural land, the Slovenian legislation contains several special provisions relating to the legal transfer of agricultural land (1) the so-called protected farms which, with certain exceptions, may be inherited only by one heir, and may not be divided *inter vivos*, (2) the statutory pre-emption right to the benefit of several persons who are ranked in six classes in case where agricultural land is offered for sale, (3) a restricted circle of persons who may be donees obtaining agricultural land on the basis of a gift contract, (4) the restriction of creating new co-ownership shares on the agricultural land and the prohibition of splitting the agricultural land plots that were shaped after a commassation. Also the agricultural land lease contracts are subject to certain special provisions (priority right of the current tenant and some other persons to take the land on lease, a minimal notice period, and the protection of the investments made by the tenant etc.).

The ALA distinguishes four main types of agricultural operations to improve the agricultural land in general interest: (1) voluntary exchange of agricultural land, (2) rounding-off, (3) commassation (contractual or administrative) and (4) meliorations which include drying, irrigation and agromeliorations.



The tax legislation also supports the goals of the agricultural land policy with several tax exemptions and alleviations.

In order to maintain settlement in rural areas, particularly those with limited possibilities for agricultural activity (which represent 75.3% of the whole state territory), the Slovenian Rural Development Programme foresees measures for farm and business development, basic services and village renewal, payments to areas facing natural or other specific constraints and local development using the LEADER instrument.

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Contacts:

Avsec, Franci, 1262 Dol pri Ljubljani 5a, Slovenija, +386 41 337 218, e-mail: franci.avsec@siol.net.

Cerar, Gašper, Kmetijsko gozdarska zbornica Slovenije, Ljubljana, Gospodinjska 5, 1000 Ljubljana, Slovenija, +386 1 513 66 20, e-mail: gasper.cerar@kgzs.si





AGRICULTURAL LAND PROTECTION IN HUNGARY

Gabriella BÁNHEGYI¹

¹University of Pannonia Georgikon Faculty, Department of Economics, Social Sciences and Rural Development

Abstract

Agricultural land protection and the related regulation is partly the result of the will of legislators, the decision makers of farm policy to create and maintain an "ideal" structure of holdings and partly the manifestation of conservation or/and environment protection policies. As for the latter, the EU's Common Agricultural Policy and environment related laws have firm expectations thus member states are mostly responsible for implementing these rules. However, farm policy is mostly in the legislative powers of the member states with some EU principles that should be satisfied. Present paper examines the Hungarian approach to the above with special attention paid to the statutory provisions of the Land Acquisition Act and the guidelines on the sales of farmland provided by the EU Commissions in late 2017.

Key words:

Agricultural land, land acquisition and lease, price ceiling on agricultural land, land protection

Introduction

On their webpage devoted to agricultural policy monitoring and evaluating the OECD emphasizes the following assets of agricultural policies: efficient, ensuring the supply of safe and nutritious food to meet increasing demand while securing sustainability (OECD, 2019). Farm policy is certainly one of the essential elements of agricultural policies by which these assets can be created and maintained. Farm structure describes the main characteristics of agricultural land utilization. Land ownership and land rent patterns tend to change slowly if left alone, and are determined by historical, cultural, ecological, political-legal and economic factors that explain the differences detected in the farm structures of different countries. The aims of farm policies throughout the European Union seemingly favor small or medium size family farms and the Common Agricultural Policy certainly tries hard to make them more viable. On the other hand, one can read more and more frequently about the threat posed by conglomerate "land grabbing" and sellout of the European farmlands (Kay, 2016; THE GREENS/EFA, 2016). The debate around sustainable farming systems rolls on and countries all over the world apply their own approach when regulate land sales and land use.

In 2017 October the European Commission issued a set of guidelines concerning the conditions of agricultural land sales. The action was generated by the related legislation introduced by Bulgaria, Latvia, Hungary and Slovakia after the expiration of the transitional periods granted in their accession treaties. Back then, during the accession negotiations candidate countries asked for the permission of maintaining some non EU-conform rules concerning agricultural land, such as banning foreigners purchase, mainly because land market functioned on a lower price level than in the EU-15 (Swinnen and Vranken, 2009).



Material and Methods

Farm structure is greatly influenced by farm policy which is regulated and implemented at member state level. Farm policy determines who can have access to the land and lay down the rules of land utilization. However, recently the European Commission objected certain provisions of the Hungarian Land Acquisition Act (EC, 2016), followed by issuing a set of guidelines issued by the Commission upon the request of the European Parliament, in 2017 October. Three kind of particularly disproportionate measures mentioned in the Commission's guidance and all applies to the Hungarian regulations. Hungarian farm policy principles and related national legislation are analysed, their consistency with EC's guidance is discussed. Agricultural land protection also derives from existing environmental and nature conservation policies and legislation and The Common Agricultural Policy regulates the major scope of this area. Limited space does not make it possible to give an in-depth analysis of this important area, only the major interventions, measures and support schemes are mentioned.

Results and Discussion

1 Farmland threats

Several factors can be identified as threatening the agricultural land and by no means this list is exclusive, or exhaustive, neither can be all potential threat and potential solutions discussed in the framework of this paper. However, for initiating further thinking it is still worth having a short summary of them. Threats can affect the quantity and the quality of the available agricultural land. In this context conversion of farmland into non-agricultural use especially if irreversibly lost to development is considered a quantity loss. Natural or industrial disasters also can cause quantity loss. Quantity loss can occur if the land becomes abandoned, such as no one is willing to cultivate it. The three cases require different interventions. Other factors indirectly can affect land quantity but directly have an impact on land quality, and there are many factors starting with climate change, scarcity of water, use of chemicals, or pest resistance, rising energy costs, erosion, lack of knowledge of farmers about adequate technology, lack of investments into environment friendly solutions, lack of research, ageing farmers, lack of workforce, lack of legislation, measures and support, lack of implementation of existing legislation, etc.

2 Legislation and land protection

2.1 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. Foreigners – whether natural or legal persons were not able to acquire ownership rights on land with some



expectations (land acquired through compensation, homestead, etc.) and their land lease was limited to 300 ha. The Land Act initially established pre-emption rights for the tenants, share-tenants, later with the several amendments of the regulations the pre-emption rights (ranking) significantly changed following the actual priorities of existing farm policy.

Only a short note about an interesting provision of the Act: In 26. § (1) announces a future land consolidation tool farmers could apply for. Until its entry into force, the Land Act supported voluntary land exchange if it helped the parcel aggregation of farms with scattered and fragmented parcels. Incidentally the general land consolidation act promised in 1994 might just be born in 2020.

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):

(1) 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.

(2) 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 organization 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.

Before giving details of the land specific legislation in effect in Hungary it should be mentioned that there are other domestic laws regulating environmental, nature conservation issues that of course must be followed by land users. All concerning laws are based on the legislation (regulations, directives, etc.) of EU's laws and programs (Environment Action Programs, Biodiversity Strategy, Soil Protection Strategy just to name a few.)

2.2 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. Factors to be considered: Already existing use of the land to be purchased, residency with owning the neighbouring land; residency; distance of residency or seat from the land to be purchased/leased (if not more than 20 kms). The type of cultivation also plays and important role: livestock farmers with at least 3 years registered activity and the will of using the land as forage area can have priority in case of arable land and grassland; The goal of land purchase also is to be considered: production or processing products with designation of origin or geographical indication, ecological farming also have priorities, as well as horticulture and seed production. The type of farm and the age of the purchaser also to be considered when deciding on the preemption right: family farms have priority over all, and young farmers followed by registered new entrants are ahead of the older ones. The first place in the preemption rights is of course occupied by the state. Prospective purchasers must submit their declarations of certain obligatory commitments such as self-farming

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.

In 2019 January several new provisions came into effect with the amendment of the Act. In 24§ ha) a price ceiling on agricultural land was introduced (the contractual price cannot exceed – unless there is a major reason for that - the income-generating capacity of 20 years. The provision is rather vague as it can be difficult to calculate a 20 years income-generating capacity and the 'major reason' is not explained. Another important change, there is no appeal against the administrative act of the land office concerning the authorization of the sales contract. The court in administrative-law action cannot change the decision of the land authority, only can order its repeated procedure, by which provision the Land Act seems to lessen the right to an effective legal remedy.

2.3 The European Commission's guidance and the Hungarian provisions

Three questioned provisions were mentioned in the EC's guidance and all three applies to Hungary. All three affects the fundamentals of farm policy and therefore the scope of national competences. Some restrictions on land acquisition can be accepted (European Court of Justice) such as prior authorizations from national authorities for the acquisition of land; limits on the size of the land to be acquired; pre-emption rights allowing certain categories of buyers to purchase farmland before it is sold to others. Buyers benefitting from these rights may include tenant farmers, neighbours, co-owners, and the State; State price intervention. However, EU law does not allow discriminatory restrictions such as general residence requirements as preconditions for the acquisition of land. Other disproportionate restrictions: impose self-farming obligations, prohibit companies from buying land, and require qualifications in farming as pre-conditions of buying land (European Commission, 2017). Agricultural land is a unique asset of agricultural production and agricultural production



agricultural area occupies almost 60 per cent of the country's territory. The choice of production structure and technology, the knowledge about the proper use of pesticides, fertilizers the compliance with the existing difficult obligations of the CAP require a wellinformed, and qualified land user. Upon reading the list of acceptable qualifications (Government Decree 504/2013 (XII. 29)) one might even think that the expectation is a rather low level one, since it can be met by attending very short (2 months) trainings, thus the obligation about qualification can hardly prevent land purchase. Also, the legislation makes it possible to purchase land without qualification in farming if the purchaser has been "practicing" agriculture for at least three years. Qualifications awarded by a competent authority in another member state are recognized in Hungary as well.

Self-farming obligation is not to be confused with permanent personal presence in the agricultural production. Land use can be transferred to close relatives (also with qualifications in farming), to agricultural enterprises if the landowner or the close relatives has an at least 25 per cent share in it. Any landowner can transfer the use of the land e.g. for seed production. If farms are the essential actors of a rural community then self-farming of the purchased land is not a farfetched idea, however legislation does discriminate among owners, as self-farming obligation does not apply to those who purchased their landed property before 2014 May. A satisfactory solution is needed if the landowner through no fault of his/her own can not cultivate the land for a terminate or definite period and the above circumstances cannot be realized. In this case the lease of the land is the best way of ensuring the required utilization. And of course, if companies can only lease the land then banning leasing poses a real threat on their existence.

The ban on land purchase of legal persons is not new in Hungary, it was already a provision of the first Land Act. The underlying thought is that once a company can buy land than there is no way to control the fate of the land. Any company can be bought by another one regardless of its country of origin and its members (see the case of KGT-Agrar in Land Rush, 2016¹; Chinese companies buying agricultural land in France). If that can happen then the decisions concerning land use, cultivation, etc., can be made from far away by people without any relation to the rural area or community where the land is situated. Foreign corporations tend to grow large and can deliver the produced raw materials into their own country for processing, thus taking out much of the added value. Corporate land grabbing is thought to be a major issue behind the accelerated land concentration throughout Europe. The Hungarian legislation allows owners to transfer the use of the land to the companies they are members of (the 25 per cent share expectation of course can be argued) and this way the personal contribution can be ensured. In the EU the history of farm system is the history of family farms (until East Germany united with West Germany) and beside of the free movement of capital principle there is no good argument for letting companies purchase farmland. Not denving their role in agricultural production, the provisions of lease should be formed adequately to establish a safe existence and a predictable future for them. One thing might be added: the form of the enterprise is a choice. In the past – until the family farm became a prioritized form in Hungary, entrepreneurs might have chosen a limited company, or a limited partnership form for taxation or limited liability reason. Self-employed farmers could buy 300 ha land, rent that much (until 2013, then more), but there was not and there is not any prohibition that other members of the family could not possess agricultural land. So, at the same time there are companies cultivating land that would match the definition of a small or

¹ The Greens/European Free Alliance in the European Parliament (2016) Land Rush – The sellout of Europe's Farmland p 36. http://www.arc2020.eu/wp-content/uploads/2016/12/20160411Landrush.pdf Accessed: March 17 2019

medium size farm and might be operated by a family and there are self-employed farmers and family farms that can use more than 1000 hectares and employ full time workers.

2.4 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;
 - \circ 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, natural water surface, reed bed, wetland, natural flora of less favoured areas, 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. Proper reuse is to be inspected by the land office during an on-site visit.
- Land conversion (e.g. arable land into pasture, pasture into orchard, etc.) is possible upon notifying the land office. If the land is a nature reserve conversion (especially grassland and reed bed) 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 (except crop residues on the parcel). Permission can be granted for a maximum 5-year period in case of sewage sludge and waste use. In most cases a soil protection plan is to be submitted, some requiring an implementation plan, also (with necessary soil analysis).

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.

Several measures of the related EU financed programs support agriculture, for this purpose 8,9 billion euros were allocated to Hungary for the 2014-2020 period, much of it should contribute to land protection (through greening and cross-compliance, via rural development measures.) The analysis of these tools would require much more space than it is available in this paper.

Conclusions

Agricultural land is a unique asset of any country, the foundation of agricultural production. Agricultural land tends to be a scarce resource, and this might cause a competition for farmland that increase the price.Farm structure is formed by the farm policy and land laws of the countries, and although for many decades it was regarded as an area for member state legislation with certain EU principles to be satisfied, recently several "new" member-states were handed a guidance from the European Commission. Pre-emption rights however can serve the best interest of both agricultural population and environment if making possible that resident, community members qualified in agriculture have prior access to land. Examples from other member states initiated a thorough check up of existing land laws and their effects in the EU a land purchase of third state persons, enterprises sets a new problem. The possible land purchase of legal persons is the most debated issue and one argument against it that once companies (where personal and capital contribution is separated) are free to acquire agricultural land then subsequent changes in ownership can result in a structure where the land owner does not contribute to the common goals of the local community, is not interested in being an active actor in the local, national or even European food chain, and is not



interested in maintaining a sustainable, environmentally heathy practice. Healthy farm structure based on a predictable, carefully implemented farm policy and member states' scope of land legislation can not be replaced by common EU rules, while common EU principles and values of course should be observed and implemented by member states. Finding the balance will require effort and cooperation from both the member states and the EU institutions.

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Contacts:

Gabriella Bánhegyi, Department of Economics, Social Sciences and Rural Development, University of Pannonia, Veszprém, Egyetem u. 10, 8200 Hungary, +36 (88) 624-885, e-mail: banhegyi.gabriella@gmail.com.





FARMLAND AS A "COMMON"? TWO CASE STUDIES REGARDING SUSTAINABLE FARMING IN NORTHERN ITALY *

Antonio MANZONI¹

¹ Sant'Anna School of Advanced Studies, Pisa, Italy

Abstract

Eco-sustainable and ethical farming initiatives arising from civil society have had an increasing popularity all over the world in recent decades, and Italy is no exception to this trend. This contribution is aimed at presenting two significant case studies from this country concerning sustainable and ethical farming, one of which is a uniquely Italian experience. What I argue is that it is possible to see the main features of the theory of the so-called "environmental commons" as the ethical-legal basis in the background of these initiatives. Through a sort of *inductive* approach of research, the examination of the two case studies offers the possibility to propose a more general inquiry, i.e. to question whether and how these experiences can be expressive of a new conception of farmland which can be labelled as "farmland as a common".

Key words

sustainable and ethical farming, Community Supported Agriculture (CSA), commons, civil society, farmland protection, Northern Italy, agricultural land

Introduction

In this short paper, I present two private initiatives concerning sustainable and ethical farming in Northern Italy, questioning whether and to what extent it is possible to identify the main features of the so-called "environmental commons" as their ethical and legal background. To develop my arguments, I will proceed through the following structure.

In the first part, I will focus on the category of the environmental commons. After having set out a definition, I will proceed with the identification of the core elements of this phenomenon. In the second part, I will analyze two case studies that I consider significant for our present purpose. These are two private initiatives arising from the civil society in Northern Italy. The first is an example of "Community Supported Agriculture" (henceforth "CSA") called Arvaia. The second example is a uniquely Italian initiative named "Groups for the Acquisition of Lands" (henceforth: GAT). I will illustrate how these two projects work and the main principles characterising their statutes and structure. While describing these initiatives, I will highlight how and how much the main features of the commons outlined above are present in their statutes and in their ethical and organizing principles. These considerations lead me to the final part of this paper, where I submit some open questions for further research, given the limited length of this article: Can we talk about "farmland as a

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common", in light of the cases considered? Or are there some obstacles that hinder such a definition?

Materials and Methods

The materials used for this short research come almost exclusively from existing literature, laws, official documents and websites. The methods embraced in this paper are mostly qualitative. The way of proceeding through the arguments is slightly unusual. Indeed, I will start with the consideration of the commons, and not with our specific case studies. Having set out clearly the main features of the commons will clarify better *what to look for* when considering the case studies. In this way, I can highlight more precisely the elements of the cases considered which are typical of the theory of the commons.

Results and Discussion

1 The commons: definitions and core features.

The category of the commons has generated increasing interest on the part of both academic scholars and civil society actors in recent years. Perhaps one of the main reasons for this interest derives from the fact that the commons can be studied from a wide array of perspectives, all intertwined with each other. Legal scholars, sociologists, economists and philosophers, to name but a few, have all discussed and debated this fascinating interdisciplinary topic. For the purposes of this paper, though, I will mainly consider the contributions coming from the legal perspective¹.

There is no universal consensus, neither as to the definition nor the taxonomy of the commons. However, we can affirm that there is widespread agreement on the core features that constitute this category. Among the various possible definitions, I believe that the one given by Mattei and Capra (2015) is one of the most comprehensive and thorough. These authors argue that the commons "are neither private nor public. Nor are they understood as a commodity, as an object, or as a portion of the material or immaterial space that an owner, private or public, can put on the market to obtain their so-called exchange value. The commons are recognized as such by a community that engages in their management and care not only in its own interest but also in that of future generations" (Capra and Mattei, 2015).

As we can see, this definition is very broad. Traditionally, scholars include in the commons all the natural resources that are *essential for life* and that *we all share equally*: the air, the oceans, rivers, lakes, glaciers, the forests, etc. We can refer to these commons as *environmental* commons (henceforth, simply "commons") and they constitute the focus of this paper.² Another important feature of the commons which integrates the above definition has been especially underlined by economists. That is, the commons are goods which are both *non-excludable* and *rival*. These terms entail, respectively, that potentially no one can be excluded from the enjoyment of these goods, and that the enjoyment of them by one person decreases its availability for others (Hardin, 1968).

Therefore, starting from this definition and then making use of the relative literature, we can extrapolate what I believe are the core elements of the category of the commons. These elements can be grouped under four headings: (A) rejection of public-private dichotomy; (B)

¹ Notably, I will mainly focus on the Italian literature on the topic, since the paper deals with an Italian situation and some of the most relevant contributions on the commons in the last years are coming from this country.

Some scholars include in the taxonomy of the commons even immaterial goods such as the Internet, or even "everything that is obtained by social production, which is necessary for the social interaction and for the continuation of this production, in the form of knowledge, the languages, the regulations, information, affections, and so on" (Hardt, M., and Negri, A., *Comune*, Rizzoli, Milano, 2010, own translation).



holistic approach; (C) community management; (D) intergenerational justice. Let us proceed to analyze them separately, even if all these features are deeply intertwined with each other, so that the full understanding of one often depends on the understanding of all the others. Furthermore, we must specify that a full explanation of the features of the commons is not possible in a short paper such as this one, in particular because it is not our present purpose. What interests us here is simply to have an overview of the core elements of this category.

(A) - Rejection of public-private dichotomy. This first feature is probably the most important and, at the same time, the most problematic and politically radical. Commoners claim that the commons are goods that cannot fall within the traditional "public-private" dichotomy property (Mattei, 2015). From the modern age onwards, the dichotomy of "public-private" has been assumed to be exhaustive, i.e. no other forms of property can be imagined outside them. In other words, an asset can only be owned by a private subject or by the State: tertium non *datur.*³ Within this framework, how do commons exist outside this dichotomy, constituting a tertium genus (Mattei, 2011) compared to both public and private property? Starting with private property, the explanation is somehow the easier one. As hinted above, commons are goods which we all equally share and which are essential for life (e.g. the forests, the air, the water, the fisheries, the fruits of the land, landscapes, natural sources of energy, and so on). For this reason, to entitle individuals to own private property made up of these particular goods is considered to be unfair, since it would exclude all the non-owners from their enjoyment without a reasonable justification. Indeed, private property traditionally entitles the owner to have exclusive rights of enjoyment over the asset, in this way challenging the very nature of the commons which, as we said, are on the contrary, *non-excludable* goods.⁴ Along similar lines, commons also reject every form of commodification of natural resources. Indeed, given their incommensurable and, most of all, irreplaceable value, the commons are considered to be incompatible with their exchange and availability on the market similarly to every other commodity.

Regarding the rejection of the other element of the dichotomy, i.e. public property, the question is slightly more complex and is characterized by slightly sharp political claims. Various authors, not only commoners, have argued, especially in recent decades, that the State has become subject to an increasing power deriving from private actors. Furthermore, they claim that the State has started to act as a "large" private owner, dismissing common goods through liberalizations and privatizations for the sake of relieving its debts. In other words, what is claimed is that most of the time public property, instead of absolving its collective function, has merely become "the other side of the coin" of private property (Barnes, 2006; Mattei, 2011).

That said, in contrast to these elements the commons postulate a form of *collective* property which falls outside of both the private and the public properties. Indeed, while traditional

³ The historical shift which marked an essential milestone towards this totalizing polarization between the private and the public sphere is considered to have started with the Scientific Revolution (XVI sec.) and then to have been consolidated with the Industrial Revolution (XVIII sec.). The phenomenon of the enclosures, corroborated by the theorizations from the most eminent philosophers (e.g. Hobbes and his Leviathan, Locke and his "natural right to property", to name a few) and scientists (e.g. Newton, Galilei) contributed to the formation of a twopoles structure where no other forms of property were imaginable outside the exhaustive State-private dichotomy. What is argued by the commoners is that the construction of private and public property is essentially an ideology brought about by modern thought, which does not have grounds in "naturalistic" bases, as it instead claims to have. Cf. Capra and Mattei, 2015; Mattei, 2011. For a similar historical reconstruction, cf. Merchant, C., The Death of Nature: Women, Ecology and the Scientific Revolution, Harper, New York, 1990. ⁴ Especially after Hardin's article in 1968, private property has been deemed to be the best solution in order to avoid the "tragedy" of the commons. Indeed, the institution of private property naturally limits the otherwise free use and consumption of common natural resources by everyone.


property is *exclusive*, *individualistic* and it stands as the main cornerstone of a *competitive* market, the commons advocate a radically different conception of property, which is *inclusive*, *participative* and *cooperative* (Cf. ibidem and Ostrom, 1990). Moreover, while traditional property conceives a *concentration* of power in the hand of a single or a few owners, common property is aimed at a *diffusion* of power amongst all the various subjects entitled to that asset (Cf. ibidem and Ostrom, 1990).

(B) - Holistic approach. A second feature characterising the commons is a holistic approach to ecology and, in general, to the human-nature relationship. A holistic approach is aimed at considering systems in their wholeness, and not as a mere sum of their individual components. In this way, the value given to the whole is different and "higher" than the value attributed to the singular parts that compose this whole. The example of natural ecosystems is particularly explicative in this sense. The life of an ecosystem depends on the efficient functioning of all its components which work and thrive within an inter-connected and interdependent web of equal relations. Translating this reasoning into the human-nature relationship, the commons postulate an approach which does not only address the welfare of humans alone or of non-human nature alone. On the other hand, the commons attempt to offer a sort of compromise between these two opposites, and they advocate an ecological view which sees human and nature in an equal relationship with each other. The commons aim at a human welfare within and not above nature. As Mattei eloquently says, we do not have the nature, but, in a certain sense, we are the nature (Mattei, 2011). In sum, in opposition to a mechanistic, reductionist and hierarchical view, the commons advocate instead a holistic view, where humans, nature and the whole ecosystem are considered to be interconnected in an equal web of relations (Capra and Mattei, 2015).

(C) - Community management. A second element of the commons is that they are identified and managed by a community which considers them essential for their life and for their welfare. Regarding this feature, it is impossible not to mention the famous work by Nobel prize winner Elinor Ostrom. In her Governing the Commons, she catalogued a wide range of examples of communities around the world which, without the intervention of public or private property, managed to efficiently govern common pool resources (e.g. fisheries, water) in a sustainable and regenerative way (the so-called *commoning*). What is important to stress beyond this example is that the commons are those goods which the community of reference has deemed essential for its life and for that of future generations. Moreover, the term community bears a strong political message. A community is not a mere sum of people. On the contrary, a community is a group of people which is cohesive, cooperative and supportive in the management of goods that are essential for its life. In addition, since many commons are considered to be "global" (e.g. the atmosphere, the oceans), the term community can be elastically interpreted in a spatial way, i.e. considering as part of this community all the individuals who have an interest in the preservation of them, in a sort of "all-affected" mechanism (Capra and Mattei, 2015; Mattei and Quarta, 2018).

(D) - Intergenerational justice. Finally, there is the element of intergenerational justice. As we have already said, the commons are goods which, due to their peculiar nature, can potentially be exploited by everyone, while no one can be excluded from the enjoyment of them. The example of most natural resources is an evident example of this. But it is also patent how this feature dooms these goods to a certain extinction (Hardin's "tragedy"), if they are not managed in a way that enables their reproducibility and regeneration over time. For this reason, in addition to what was said in the above paragraph, the element of community is also elastically interpreted in a *chronological* way by the commoners. Indeed, not only are present generations deemed to have an interest in the preservation of the commons, but also and

foremost the *future* generations, since they can be extremely jeopardized in the enjoyment of natural resources if the current rhythms of exploitation are maintained.

2 Two case studies

At this point, it is worthwhile illustrating two significant examples of sustainable and ethical agriculture coming from civil society in Northern Italy. As I pointed out at the beginning, I will particularly focus on the statutes and on the organizing and ethical principles at the basis of these initiatives, highlighting how much they resemble the aforementioned features of the commons.

2.1. Arvaia: an example of Community Supported Agriculture (CSA).

Arvaia is an interesting example of CSA in Northern Italy. More precisely, this CSA carries out its activity in the area of Bologna, the main city of the Emilia-Romagna region. Founded in 2013, it defines itself as a "cooperative society made of citizens, producers and farmers"⁵. As the label CSA suggests, Arvaia is a project that has the main aim of cultivating its lands (47 hectares) thanks to the material and financial contribution of the community of its members and volunteers. Its functioning is quite simple. At the beginning of every year, the budget is calculated and presented to the members, so that they can pay their shares to finance the activity of Arvaia (Arvaia does not borrow money from banks). Usually, a suggested average share for each member is calculated, so that the sum of all contributions can cover the annual budget. However, in a spirit of solidarity that characterizes this initiative, members can also anonymously offer more than the average share, to compensate the eventual lower contributions by members who are unable to afford this expense. Then, once a week, for 49 weeks per year, part of the vegetables and other products of Arvaia (such as honey, bread, cereals) is distributed to the members in various collection points throughout the city.

But what are the aims and principles of Arvaia which mirror and express most the theory of the commons outlined above? First of all, Arvaia cultivates in a completely eco-sustainable manner (endorsing agroecology), and its products are all organic and locally produced. In this way, this CSA pursues the goal of shortening the supply chain, bringing citizens closer to organic farming and to the production which is behind the food they consume every day. In this regard, Arvaia speaks of an *alliance* between who produces the food (the farmer) and the consumer, defining itself as an "open and supportive community of citizens which sets itself the objective of directly cultivating its own food in a sustainable way"6.

Therefore, it is interesting to notice that Arvaia's activity is also aimed at fostering the social dimension of agriculture. Indeed, Arvaia also offers teaching programs for its members and volunteers, it hosts internships and, in a spirit of social inclusion, it opens internal paths in its fields to citizens who would like to enjoy the farm and the local landscape. In this regard, Arvaia eloquently affirms that "it does not only cultivate food, but also social relationships, cooperation and participation"⁷ among members who, as a proper *community* in the sense described above, collectively decide what vegetables they want to be cultivated. Indeed, Arvaia aims at fostering as much as possible an *inclusive participation* of all members in the choices of the CSA.

Another feature in line with the commons can be found in Arvaia's conception of food sovereignty. Here, Arvaia explicitly affirms that the community of producers and consumers should be "at the heart of food politics and systems and above the pure logic of profit characterising modern neo-liberal market". More than this, Arvaia endorses a conception of

⁵ Own translation from the official Arvaia website (http://www.arvaia.it/).

⁶ Ibidem.

⁷ Ibidem.



food sovereignty which could "*defend the interests and the integration of future generations*, and which could resist and dismantle the neo-liberal market and the contemporary nutritional regime, deemed economically, socially and environmentally unsustainable"⁸. This rejection of commodification can also be seen in the statute of Arvaia, where it is affirmed that "the time, the capacities and the competences of the members are relational goods which are made up of knowledge, expertise, reciprocal trust, and many other characteristics which are neither measurable nor convertible into money".⁹

Interestingly for our purposes, Arvaia also explicitly promotes in its statute a "participative and sustainable use of fundamental *commons*: the land, the air, water, the landscape, energy, knowledge and genetic heritage".¹⁰ In sum, we can surely say that Arvaia embraces a *holistic* conception of farming. Indeed, Arvaia pursues an idea of agriculture which does not only take into account the good status of its land and of its members, but which is also aimed at the welfare of the whole planet. In its statute this CSA recognizes the Earth ecosystem as a "great living organism, and humans are responsible for its welfare", and it attempts to enhance the associates' connection with the territory within a systemic and integrated context, where the welfare of every component is important.

2.2. The Groups for the Acquisition of Lands (GAT): a uniquely Italian experience

The second case study is a uniquely Italian experience founded in 2008 near Mantova, in the Lombardia region: the "Groups for the Acquisition of Lands", also known with its acronym "GAT". This initiative started as a response to the financial crisis of 2008, thus advocating a return to a "real" economy which does not appeal to financial markets but only to local investments.¹¹ Indeed, GAT is a foundation¹² that coordinates and promotes the collective purchase of farmland activities through the investment from small investors (usually families) within the Italian territory, using a model which resembles the so-called "fair trade purchasing groups".

The way GAT work is quite straightforward. First of all, the designated farm that expresses its will to become a GAT farm should have certain requirements¹³. For example, the farm should produce organic food and/or high-quality agricultural products. Its area cannot be smaller than 10 hectares; the farmer should accept a business plan and they should be available to constitute a limited liability agricultural company with the GAT foundation; and satisfy other requirements.¹⁴ Therefore, a farm which possesses these requirements is identified. A team of

⁸*Ibidem.* In particular, see the document available online: <u>http://www.arvaia.it/agro/wp-content/uploads/2017/07/che cosa intendiamo per sovranita alimentare.pdf.</u> ⁹*Ibidem.*

¹⁰ Ibidem.

¹¹ A similar experience comes from France, with the project named Terre de Liens (<u>https://terredeliens.org/</u>). Unlike GAT, however, this initiative relies on the financial market. Cf. Moiso, V. and Pagliano, E., 'Azionariato fondiario e gestione collettiva: una "Terre de Liens" italiana?', in *Agriregionieuropa*, anno 9, n. 33, giugno 2013, available online: <u>http://agriregionieuropa.univpm.it</u>.

¹² The information regarding GAT that follows is taken and/or unofficially translated from the official GAT website <u>https://www.fondazionegat.it/</u>. I would like to thank its founder, the lawyer Rosanna Montecchi, who kindly provided me with additional information on the recent GAT projects. So far, there are three GAT farms in Italy: one in Mantova (Lombardia), one in Parma (Emilia-Romagna), one in Scansano (near Grosseto, in Tuscany). However, the number of farms applying to become GAT associates is constantly increasing.

¹³ Among these, the farm should possibly be an already working farm (the majority of cases), even if GAT does not exclude considering abandoned or uncultivated agricultural lands for its project.

¹⁴ Cf. GAT website <u>https://www.fondazionegat.it/.</u>



designated experts draws up a report that describes the "state-of-the-art" of the farm, which will be presented and promoted to the potentially interested investors.¹⁵

GAT does not only pursue *economic* aims, such as preserving and incrementing the value of the investment made by the associates (indeed, nowadays investing in land means investing in an increasingly scarce - and, thus, increasingly valuable - asset). It first and foremost pursues ethical and ecological principles that resemble very much the theory of the commons illustrated above. Indeed, GAT farms embrace an ecological way of carrying out agriculture, with the production of organic food (the method chosen is preferably permaculture, which is a very stable and resistant productive system over time that requires low energy inputs) (Latouche, 2010). In addition, it advocates a shared vision of agricultural values between investors and farmers, eliminating the intermediaries between producers and consumers, thus choosing a very short supply chain like Arvaia. Among its principles, GAT aims to promote an ecological agri-food culture with a very wide meaning. This entails promoting not only education in terms of a healthy food regime, but also pursuing a more holistic conception which, in addition to physiological aspects, covers other important features of life such as culture, tradition, sociality, the notion of territory, and others.¹⁶ The GAT foundation also engages in and finances a wide range of activities other than agriculture, which are holistically interconnected in the spirit of ecology, sustainability, social inclusion and participation (socalled "social agriculture"¹⁷). For example, GAT promotes projects in the field of renewable energies, it provides scholarships and awards, it invests in scientific research on agriculture, it offers assistance on every aspect related to the agri-food sector to companies and private individuals, and many other diverse activities.

3. Farmland as a common? An open question.

At this point, we can surely affirm that most of the principles of the commons are present in the considered case studies. Indeed, we see how both Arvaia and GAT operate endorsing a *holistic* approach to farming, which does not only address agriculture *tout court*, but also takes into account the important role of the community of reference in a spirit of social inclusion and cooperation, without ignoring the interests of future generations. Therefore, are our cases examples of "farmland as a common"? This question is embedded in a more general inquiry, that is: can the good "farmland" (or "agricultural land") be a common according to the definition set out above?

Despite appearances, the answer cannot be, *prima facie*, totally affirmative. Indeed, we have to bear in mind the first and most critical feature of the commons, namely their *rejection of both private and public property* in their traditional meaning. Indeed, it seems unproblematic to think about farmland as a holistic asset, managed by a community even in the interests of future generations. On the contrary, some issues would arise if we affirmed that farmland were neither private nor public, but a common. Before making such an assertion, our contemporary liberal-constitutional states would waver: as we have said, the public-private

¹⁵ Associates (preferably physical persons, usually families) participate with the purchase of equal shares whose value is between 10.000 and 20.000 Euros each, depending on the business plan (existing GATs number between 70 and 85 associates). Every associate can purchase a maximum of four shares, in order to avoid dominant positions within the assembly.

¹⁶ As made explicit by GAT, one of its main objectives is to "stimulate the constitution of a quality system of agri-food products which can be immediately applied to the territory in its wholeness"

¹⁷ The most recent example of this is the Corte Grande Canedole project ("Cittadella GAT"). GAT is financing and sponsoring the regeneration of an 1875 rural court in the area of Mantova. This project aims to make Corte Grande the GAT headquarters as well as a multifunctional center of activities: organic and sustainable agriculture, projects of inclusion of weaker groups of the local population (such as disabled and elderly people), and the creation of new job positions are among the main purposes.



categories have been the only possible two alternatives for the ownership regimes of goods for centuries. Affirming that the good "farmland" is a common would starkly clash with all the existing situations regarding the ownership regimes on agricultural lands in Italy (and elsewhere in the world). Indeed, in most of the cases land is *privately owned* or, at least, owned with the traditional forms of property. However, we must consider that agricultural land is not a "usual" asset such as other commodities. Agricultural land is a particular natural resource which, as also the Italian constitution affirms¹⁸, has also a *social* function embedded within itself. Indeed, agricultural land is essential for the sustainment of our lives, not only as a food provider, but also due to its function of carbon storage and for many other reasons. Thus, the owner of agricultural land is not totally free to use this asset in whatever way they wish: they have specific limitations in the enjoyment of its property. Notably, in most cases the owner of agricultural land has the specific *duty* to cultivate it and to maintain it cultivable also for the future.¹⁹

In light of these considerations, therefore, is it possible to affirm that farmland is a common, given its essential social function that we have just pointed out? An affirmative answer to this question would still be opposed by the fact that, in the Italian legal system as well as in many other countries, this would entail "inventing" a third and new category of ownership and formalizing it in legislation and official policies. However, most of all, affirming that farmland is a common would have to face the fact that normally most of the owners *do not want* their asset to be *commonly owned*, nor do they want an inclusive participation of the community in the choices regarding their asset, and so on. As is often the case, especially for large-scale farmland, owners primarily want to gain the maximum profit from their asset, and they want to manage their land through an exclusive and individualistic form of ownership (the traditional form of private property), without permitting a diffused power on the land for all members of the community.

Therefore, is there some possible way to avoid these problematic issues and to consider farmland as a common? A thorough answer to this question would surely need deeper and longer research that is not possible in such a short paper as this. However, some hints for a possible answer can perhaps be found in what can be considered the highest peak of the formulation of the commons in our country in recent decades: the work by the Commission headed by the famous legal scholar Stefano Rodotà in 2007²⁰. Interestingly, this reform scheme was pur forward again in the form of a popular legislative initiative proposal in 2018, ten years after the original formulation.²¹ Very simply, the Commission suggested for the first time introducing the category of the "commons" into the taxonomy of goods that are set out in the Italian Civil Code. The Commission defined the commons as goods that cannot be included *stricto sensu* in the categories of public goods.²² Furthermore, they were defined as goods that "suffer a highly critical situation due to their scarcity, depletion and for absolute

¹⁸ Cf. in particular art. 42, 44 of the Italian Constitution. See also: Germanò (2016); Lucifero (2012); Germanò and Viti (2012).

¹⁹ Cf. *ibidem*.

²⁰ In 2007, the Commission was designated by the Government to draw up a reform scheme for the Italian civil code (dated 1942 and quite obsolete in some of its parts) in the part regarding public goods. The reform scheme remained a dead letter. Now in 2019, ten years later, a popular legislative proposal is aiming to re-launch this reform scheme.

²¹ While I am writing, an extensive campaign for the collection of signatures among the population is being carried out, so that the legislative proposal can be presented to the Italian Parliament. According to the Italian constitution, at least 50,000 signatures are required for popular legislative proposals.

²² The Commission identified the commons in "all the natural resources, such as the rivers, the streams, the lakes and the other water resources; the air; the parks, the forests and woodlands; the mountain areas of high altitude, glaciers and eternal snows; those coastlands declared as natural reserves; the wild fauna and protected flora; the other protected landscape areas. Even archeological, cultural and environmental goods are included".



lack of legal guarantees [and as] things that express utilities that are functional to the exercise of fundamental rights and functional to free personal development, and they are characterized by the principle of intergenerational safeguard of their utilities" (Rodotà Commission, 2007). The very innovative point, as is worthy of notice, is the definition of the commons in terms of their necessity for the exercise of the fundamental rights of the individual. In this regard, the Commission affirmed that, given this connection with fundamental rights, the enjoyment of the commons must be granted to everyone, *irrespective of the ownership regime within which* they exist, i.e. irrespective of the fact that they are in public or private hands. The Commission formulated this concept with the expression "diffuse ownership" and, as it can seen, this assertion is particularly interesting for the question we have been attempting to answer in this last paragraph. Indeed, we saw how agricultural land is an essential natural resource for human life and, we can say, for the exercise of some fundamental human rights. These include the right to food, the right to a healthy environment, and the right to water, to name but a few. Therefore, in light of this assertion, can agricultural land be included in the taxonomy of the commons, in accordance with the formulation of the Rodotà Commission? Indeed, it seems *prima facie* that agricultural land responds to all the requisites identified by the Commission to be deemed as a common: it is an increasingly scarce asset (ISPRA, 2018), it has to be managed in a sustainable way so as to make it available also for future generations and, most of all, it is an asset which is necessary to produce food and to store carbon, so we can say it is essential for the exercise of the fundamental rights of the individual. However, a critical point still remains: how to deal with the element of "diffuse ownership"? That is, how to grant the enjoyment of agricultural land to everyone, irrespective of the existing ownership regime? The nodal point seems to lie in what meaning we should attribute to the term enjoyment: what are the boundaries of the enjoyment of, say, a privately-owned farmland by a person who considers it as necessary to exercise their fundamental rights? These inquiries surely need much more space than is available in this paper. Up to this moment we cannot say that agricultural land is a common according to our definition. However, I believe that the formulation expressed by the Rodotà Commission could surely provide some hints for a change of paradigm, especially if it becomes codified law in the near future.

Conclusions

Initiatives of sustainable and ethical agriculture from civil society are increasing in Italy, and Arvaia and GAT are two significative examples of this trend. These and similar initiatives have embraced a new idea of farming which, in addition to the mere production of food tout court, attempts to include a wider range of related issues and activities. Social inclusion, enhanced participation of the final consumers in the choices of the farm, related projects regarding sustainable and renewable energies and cultural initiatives, are just a few of the aspects that this new concept of farming has endorsed. What we have tried to demonstrate is how these aspects resemble and express very much the core features of the theory of the socalled commons. A holistic approach to farming, the consideration of the community of reference as principal stakeholder in the management of agricultural land and the concern for the welfare of future generations are all aspects that constitute the backbone of the theory of the commons and which are all present in the case studies we have considered. However, the most critical point is the rejection of the public-private dichotomy, which is probably the main feature of the category of the commons. We have seen how this feature creates prima facie some hurdles if we were to consider agricultural land as a common. However, we can conclude this paper with an interesting and timely contribution by the Rodotà Commission, which defines the commons in terms of their aptness to exercise the fundamental rights of the *individual*. This innovative definition, we argue, could open the path for a new categorization



and conception of the good "farmland", which could potentially be included within the taxonomy of the commons.

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Contacts:

Antonio Manzoni, Scuola Superiore Sant'Anna, DIRPOLIS Institute, Piazza Martiri della Libertà, 33, 56127, Pisa, Italy, +39 050 883 170, antonio.manzoni@santannapisa.it.





AGRICULTURAL LAND PROTECTION IN ITALY BETWEEN PLURALITY OF SOURCES, SUBJECTS AND PARTICIPATION

Margherita BRUNORI¹

¹ Università Statale di Milano

Abstract

This article's objectives were to share the Italian experience in the comparative exercise of improving agricultural land in Central Europe, portray the regulatory setting of the topic in Italy, and give account to recent regulatory innovations fostering citizens and farmers participation in agricultural land management and protection. The application of the subsidiarity principle, in addition, makes the final regulatory framework vary considerably from Region to Region, making it difficult to appreciate the concrete features of land protection in Italy.

Key words

agricultural land, landscape management, territory management and planning, Italy

Introduction

Protection of agricultural land in its acreage and quality is dependent by a number of factors, and conversely has an impact on a variety of sectors. Together with agricultural production incentives, economic, social and cultural changes influence the patterns of use and state of agricultural land. Consequences of the state of agricultural land rebound on areas such as food security, the environment as well as culture¹.

Rural land functions vary widely; they can be recreational and aesthetical, or instrumental for biodiversity protection, for the prevention of depopulation and abandonment of rural areas, and for the prevention of land erosion driven by hydrogeological disturbances.² As a consequence, regulatory actions pertaining to the protection of agricultural land span among a variety of sectors and governance levels.

Agricultural land has, in the last decades, been increasingly object of international attention under several perspectives. Under the viewpoint of landscape and culture, soil, tenure, biodiversity and food production, soft and hard law instruments have blossomed to protect the fundamental functions of land; a non-renewable, limited natural resource. Its global relevance for realising a number of global goals of environmental, economic and social nature – as demonstrated, for instance, by the multiple references to land in the Agenda 2030 Sustainable Development Goals -, has legitimized the intervention of international law and policy in this historically national domain. Most importantly, thanks to the adoption, in December 2018, of the United Nations Declaration on the Rights of Peasants and other people working in rural areas by the United Nation General Assembly, land, in its multiple dimensions, has officially

¹ The recognition of the multiple functions of land and the need to design land governance in a holistic way was recently affirmed in a strategic communication publication released in the framework of the United Nations Convention for the Combat of Desertification (UNCCD) in 2017: the Global Land Outlook (GLO) 2017 Available online. https://www.unccd.int/actions/global-land-outlook-glo

² For an attempt of categorizing land functions and its indicators, see Piani, Taborra, Sigura (2013).



entered the sphere of relevance of human rights (United Nations General Assembly, 2018). The Declaration, with the right to land, the right to food and food sovereignty, the right to participation of rural communities in decision making and management of natural resources, the right to environmental protection and biodiversity, and the right to seeds, among others, has given human rights' relevance to agricultural land protection (Vezzani, Paoloni, 2019). Besides the human rights' conceptual framework, natural resources for agriculture (and within it, land) have been recently captured by the theory of the commons (Vivero-Pol et al., 2018). Both theoretical frameworks emphasize the importance of citizens' participation in the governance of natural resources, and the equitable access to them, with the focus on the most

Materials and methods

vulnerable social categories.

Stemming from the just described scenario, this article aims to give account to the most recent national and regional normative initiatives for protecting agricultural land in Italy. The objective is threefold. Firstly, the article aims at sharing the Italian normative approach and experience to agricultural land protection in view of a comparative effort and sharing of best practices. Secondly, it tries to portray the complexity of a subject whose regulation is fragmented across different levels of governance and different subjects. Thirdly, it endeavours to highlight the participatory dimension of the normative framework concerning agricultural land as to see to what extent the national regulatory context reflects the emerging international normative and conceptual framework.

The first part sets the Italian constitutional background for agricultural land protection and participation. The second part illustrates the specific laws on protection agricultural land, dividing it between regulation protecting the quality of soil, and regulation pertaining the protection of agricultural land access and use, and empathizing the participatory dimension of these measures. The third part draws conclusions.

Results and Discussion

1. Constitutional framework for the protection of agricultural land in Italy

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.³ 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

³ Costituzione della Repubblica Italiana, entered into force on the 1st of January 1948.



provides for measures in favour of mountain areas".⁴ From the current version of Title V (*Le Regioni, le Province e i Comuni*), which has undergone a substantial reform in 2001⁵, 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".⁶ Subjects of shared competence include food and administration of the territory.⁷ 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 117.⁸ 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.⁹ 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.¹⁰

⁴ Among the vast literature on article 44 of the Constitution and the social function of property, see: Marella (2013); Graziani (2005); Graziani (1982); Guadagnuolo (2015); Ferrari (2016).

⁵ l. Cost. n. 3/2001.

⁶ Even if not spelled out in the list, the regulation of property is of exclusive competence of the State by virtue of article 42, which states that "[...] Private property is recognized and guaranteed by law, which determines the methods of purchase, enjoyment and limits in order to ensure its social function and make it accessible to all. [...]".

⁷ "alimentazione, [...] governo del territorio" art. 117 paragraph 3 of the Constitution.

⁸ On this point, see: Germano (2003); Losavio (2012).

⁹ Carmignani in Costato, Germanò, Rook Basile (2011); Buoso (2015).

¹⁰ The primary source of EU competence on agricultural land protection stems from the integrated reading of article 11 and article 39 of the Treaty on the Functioning of European Union, where the transversal nature of EU environmental policy (according to the principle of integration) meets the objectives of the common agricultural policy (On this point, see Carrozza, P., Agricoltura tra Europa, Stati e Regioni. Quale futuro per una "nonmateria"? Rivista Di Diritto Agrario – anno XCVII – fasc. 1 – 2018). The greening measures contained in the Common Agricultural Policy 2014-2020, which subordinate the direct payment to the respect of three complementary environmental and climate measures (crop diversification, maintenance of permanent grassland, Ecological Focus Areas), together with the alternative practices allowed and other measures of Rural Development, constitute the main incentive for farmers to put in place practices that preserve soil quality, despite the overall efficacy of these measures has been evaluated as limited (Pe'er, Guy, et al. "Is the CAP Fit for purpose." An Evidence-Based Fitness Check Assessment (2017)). See also: M. D'Addezio, I vincoli ambientali di vecchia e nuova generazione L. Costato; A. Germanò; E. Rook Basile. Trattato di diritto agrario (2011) vol. 2, p. 31 - 80. Frascarelli, A., L'evoluzione della Pac e le imprese agricole: sessant'anni di adattamento, Agriregionieuropa anno 13 n°50, Set 2017; L. Costato, Per una storia della PAC (a sessant'anni dall'inserimento dell'agricoltura nel progetto di Trattato CEE), Rivista di diritto agrario, 2017, fasc. 1, pt. 1, pp. 64-84. Among the other European Union interventions on the topic, with regard to soil and land protection, there have to be recalled the 2011 Biodiversity Strategy Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions Our Life Insurance, Our Natural Capital: an EU Biodiversity Strategy to 2020 (Com/2011/0244 Final), and the Communication 'Roadmap to a resource efficient Europe' with the 2012 Guidelines on best practice to limit, mitigate or compensate soil sealing, which fixed the zero-soil consumption goal by 2050 and set a series of measures for enhancing the limitation of natural resources consumption and sustainable use of soil (Final communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Roadmap to a resource efficient Europe, COM(2011) 571, 20 September 2011). It has



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.¹¹ 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).¹² 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.

2. 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 Environment¹³, which attributes to Regions actions for the realization of these objectives.¹⁴ 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.¹⁵

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.¹⁶ 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 (De Lucia, 2017). In the further

to be remarked on this aspect that an initiative was taken, and later withdrawn, to adopt a directive on soil consumption: Proposal for a Directive of the European Parliament and of the Council establishing a framework for the protection of soil and amending Directive 2004/35/EC COM(2006)0232 (withdrawn in 2014).

¹¹ The principle was inserted in occasion of the constitutional reform (l. Cost 3/2001) to comply with European Union treaties.

¹² cfr. Arena (2005); Donati (2012); Donati (2013).

¹³ Decreto legislativo 3 aprile 2006, n. 152, art. 54, comma 1, letter (u): "difesa del suolo: il complesso delle azioni ed attività riferibili alla tutela e salvaguardia del territorio, dei fiumi, dei canali e collettori, degli specchi lacuali, delle lagune, della fascia costiera, delle acque sotterranee, nonché del territorio a questi connessi, aventi le finalità di ridurre il rischio idraulico, stabilizzare i fenomeni di dissesto geologico, ottimizzare l'uso e la gestione del patrimonio idrico, valorizzare le caratteristiche ambientali e paesaggistiche collegate".

¹⁴ Decreto legislativo 3 aprile 2006, n. 152, art. 61.

¹⁵ Decreto 23 febbraio 2010, n. 49 Attuazione della direttiva 2007/60/CE relativa alla valutazione e alla gestione dei rischi di alluvioni. (10G0071). On the topic, see: S. Bognini, La carenza idrica nella politica agricola comunitaria, in Riv. dir. ag. (2012) p. 448 ss.

¹⁶ Cons. Stato, sez. IV, 10 maggio 2012, n. 2710.

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.¹⁷ 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.¹⁸ 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 (Cezzi, Portaluri, 2016). 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 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.¹⁹

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.²⁰ The Code implements the European Landscape Convention of the Council of Europe, although it presents some relevant differences (Cartei, 2011;). 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

¹⁷ Disegno di legge, Atto Senato n. 984 XVIII Legislatura, Disposizioni per la rigenerazione urbana e per il contrasto al consumo di suolo, dicembre 2018.

¹⁸ The majority of Regions have an organic regulation on limitation of soil consumption is contained either in specific regional laws or in the laws on the governo del territorio (Calabria, Emilia Romagna, Liguria, Lazio, Lombardia, Piemonte, Toscana, Prov. Aut. Trento, Umbria, Veneto, Prov. Aut. Bolzano, Basilicata); some other Regions present some provisions (Friuli Venezia Giulia, Marche, Puglia, Sardegna); others only present the limitation of soil consumption as a principle (Campania, Valle d'Aosta, Abruzzo); whereas the rest lacks any provision on the subject (Sicilia, Molise). ANCE Dossier sul Consumo del Suolo 26 ottobre 2018 (<u>www.ance.it</u>). Of particular relevance for its comprehensiveness and progressiveness is the Tuscany Regional law on territorial administration (Legge regionale 10 novembre 2014, n. 65).

¹⁹ More generally on the *debàt public*, see: G. Pizzanelli, La partecipazione dei privati alle decisioni pubbliche, Milano, 2010; P. Marsocci, Consultazioni pubbliche e partecipazione popolare, in Rassegna parlamentare, n. 1/2016; Viviana Molaschi, Le arene deliberative. Contributo allo studio delle nuove forme di partecipazione nei processi di decisione pubblica, Editoriale Scientifica, Napoli, 2018. Very recently, the Italian Government has introduced a similar procedure to the Frech debàt public: the Dpcm n. 76/2018 «Regolamento recante modalità di svolgimento, tipologie e soglie dimensionali delle opere sottoposte a dibattito pubblico», which establishes that public consultations have to take place before the realization (in the project design phase) of large-scale projects. The act sets the criteria for activating the public consultation (object and size of the project); establishes the procedures and the National Commission for the Public Debate (Molaschi V., Il dibattito pubblico sulle grandi opere. Prime riflessioni sul d.P.C.M. n. 76 del 2018). Despite it has been pointed out that this instrument, as it has been designed, presents several criticisms, it nevertheless constitutes a tool for enhancing the participation of citizens in projects that potentially have a great social, environmental and economic impacts (Allegretti Umberto, Un caso di attuazione del principio costituzionale di partecipazione: il regolamento del dibattito pubblico sulle grandi opere Rivista AIC, 2018, fasc. 3, pp. 13) Stances as food security, soil consumption and protection of agricultural land could be brought and made more visible by citizens vis à vis the realization of large-scale development projects. It is unclear, however, to what extent the administration will have to take the outcome of the consultation into account. See also: Ufficio Valutazione Impatto del Senato della Repubblica Le consultazioni dei cittadini e dei portatori di interesse, Esperienze n 27 (2017); Ufficio Valutazione Impatto del Senato della Repubblica, a cura di Stefano Marci, Una nuova forma di partecipazione: il dibattito pubblico sulle grandi opere infrastrutturali ESPERIENZE N. 35 (2018).

²⁰ Decreto Legislativo 22 gennaio 2004, n. 42, Codice dei beni culturali e del paesaggio, ai sensi dell'articolo 10 Legge 6 luglio 2002, n. 137.



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 (Cartei in Cezzi and Portaluri, 2011). In this regard, Regions, again, have proved able to innovate landscape governance and promoted several participatory projects for landscape protection (Brocca, 2016).

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 (Ferrucci, 2019). 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.21

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.

2.3. Agrobiodiversity

Biodiversity, and especially microbial diversity, is essential for soil quality conservation. Before the adoption of the International Treaty on Plant Genetic Resources for Food and Agriculture (2001) and long before interventions on the subject by the Italian State and European Union, several Italian Regions have showed interest in the protection and valorisation of the diversity of plant genetic varieties for food and agriculture.²² Very recently, the Italian parliament evaluated that, to enhance the protection of agrobiodiversity, it was necessary to create a coordination at national level. The law 194/2015 has been drafted by building upon regional experience, and it establishes the National System for biodiversity relevant for food and agriculture, for the protection of plant, animal and microbial diversity. Similarly to regional laws' structure, the national law institutes the National Germplasm

²¹ Decreto n. 17070 del 19 novembre 2012.

²² In 1997, Tuscany has adopted the first law on agrobiodiversity, instituting a system for preventing the loss of plant varieties and the traditional knowledge associated to it. (Legge Regionale n. 50 del 1979). Recognizing the central role that farmers play in the conservation and innovation of plant varieties, the status of "custodian farmer" has been attributed to those farmers that, thanks to their passion, sensitivity and knowledge, preserve traditional and local varieties. The law placed the Custodian farmer at the centre of a Network of stakeholders that support their work on the field (local administration), preserve and catalogue local plant varieties (Seed banks), and conduct research to improve the conservation of local varieties and support the work of the farmers (Universities). Along time, the model created by Tuscany spread in most of the other Regions, who adopted similar systems for the conservation and valorisation of local agrobiodiversity. (Sirsi E., Brunori M., Tutela e valorizzazione dell'agrobiodiversità: la legge 194/2015 e l'esperienza delle regioni italiane nel contesto europeo e internazionale. Forthcoming 2019)



Bank, the National Database, the National Network for agrobiodiversity and the National Committee on Agrobiodiversity. At the centre of the system the law places the custodian farmers and custodian animal breeders; farmers and breeders who preserve *in situ* the plant and animal variety thanks to their work and traditional knowledge. Three representatives of the custodian farmers sit in the National Committee on Agrobiodiversity, enabling their direct involvement and participation in decision-making affecting them.²³

2.4. Measures for land access and contrast to land abandonment

Closely related to the protection of agricultural land is the recent wave of regional and national laws instituting land banks. In fact, the abandonment of lands in Italy, which is a country characterized by a high hydrogeological risk, is often a factor of soil erosion, land degradation and environmental damage (in case of fires, for example). The question of land redistribution occurred in several periods of the Italian history. A quite old law, still in force, which provides measures for the redistribution of agricultural land, is the law n. 440 of the 1978. The act passed in a period of economic crisis and sharp rise of unemployment. It is conceived for tackling the redistribution of land resources for increasing occupation and social and economic development, but in addition, by stating that its objectives are the safeguard of hydro-geological balance and environmental protection, it includes among the objectives also the protection of soil and the environment. The law delegates Regions with the task of checking all uncultivated or idle land and allocate it to those committed to cultivate it, under the submission of a project. The application of these directives by the Regional laws took different forms and it was generally incorporated into measures for land and environmental management (Strambi, 2018). These Regional laws have been repealed over time, but a new wave of attention on agriculture gave rise to a new activism by some Regions, which recently passed several laws instituting Regional Land Banks. The details of Regional Land Banks' object or functioning vary, but generally the system consists in a creation of a database that offers for the lease or allocation of agricultural land to young farmers, and the allocation is often accompanied by a supportive financial scheme. The land registered on the database can be both public and private (Strambi, 2018).

After the regional initiatives, law n. 154/2016 was passed by the Italian parliament, which established a national land bank. The Agricultural Land Bank, managed by ISMEA²⁴, became operational in March 2017. The national Bank, conceptually similar to the regional ones, differentiates on some aspects that make the all potential and objective different. Land registered on the Bank database is exclusively public property, and the land is not leased, but sold. Furthermore, not only agricultural land is offered on the Bank website, but also urban or constructed land. As Strambi points out, these two elements combined insert the national land bank in a project of privatization of public resources rather than of environmental management, youth employment and promotion of agricultural production. In conclusion, regional and national land banks have very different potential, but none of the two can yet be evaluated for their effects, because they have just started functioning (Strambi, 2018).

2.5. 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

²³ Legge 1 dicembre 2015, n. 194 Disposizioni per la tutela e la valorizzazione della biodiversità di interesse agricolo e alimentare, art 8.

²⁴ Institute for agri-food market, www.ismea.it



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. This kind of informal tenure was object of intervention during the fascist regime, when in 1927 a law was passed for registering all customary use rights with the aim of converting them in public land subject to the local administration (Legge 1766/1927). At the same time, the law established the inalienability of these collective lands and disposed that the communities' rights on these lands will be maintained (Germano, Rook Basile, 2015; Bassi, 2016). In 1994, a new law recognized the private regime of these tenure rights in the context of the normative framework for the governance of mountain areas (legge quadro montagna 31 gennaio 1994 n. 97) and attributed to Regions the task of producing the detailed discipline. Finally, 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 (Di Genio, 2018), 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 (Gatto, 2017). The law takes into account the heterogeneous nature of these use rights; it recognises 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. The law affirms that these rights play a fundamental role for local development, for the valorisation of natural and cultural heritage and for the intergenerational management of natural resources.²⁵ A Recent judgement of the Italian Constitutional Court strengthens the connection between the protection of these collective rights and the environmental protection expressed through landscape conservation.²⁶

Conclusions

This article's objectives were to share the Italian experience in the comparative exercise of improving agricultural land in central Europe,²⁷ portray the regulatory setting of the topic in Italy, and give account to recent regulatory innovations fostering citizens and farmers participation in agricultural land management and protection. This brief overview of the Italian regulatory framework for the protection of agricultural land and soil allows formulating several reflections. Firstly, the framework appears as a very intricated bundle of norms stemming from different regulatory sources, since the matter is of shared competence between the State and Regions, and because the interdisciplinary nature of the subject inevitably creates overlaps of competencies. The application of the subsidiarity principle, in addition, makes the final regulatory framework vary considerably from Region to Region, making it difficult to appreciate the concrete features of land protection in Italy, and rather requiring to consider the regulatory setting in each single Region and Municipality. However, in general terms, it is possible to draw remarks on the quality and scope of regional and national regulatory interventions, and it appears that regional initiatives have proved to be timelier and more progressive in promoting the social conditions that enable agricultural soil sustainable use and protection, that the national law. Some Regions have creatively filled the space left by the national law by autonomously setting the regulatory principles of several subjects (for example, for soil consumption, and agrobiodiversity, measures to contrast land abandonment, and participation) and gave the example for other Regions and the State. The

²⁵ Legge 168/2017, art 1 c.

²⁶ Corte Cost, 31 maggio 2018, n.133. Jannarelli (2018).

²⁷ Central European Initiative Agricultural Land Protection: ceiland.uniag.sk



State's later intervention has then built upon regional initiatives and created a national coordination, which also pushes those Regions which did not adopt similar measure to comply with it. Participation emerges as an increasingly valued complement for agricultural land and soil protection. It is realized both by increasing information to citizens (landscape protection - agrobiodiversity), by facilitating farmers (especially youth) to have access to land, and by recognizing the value that some farmers and pastoralists have played in the conservation and biodiversity and the environment (agrobiodiversity law and customary rights), therefore promoting the realization of the principle of horizontal subsidiarity. In terms of what need to be monitored and improved, it surely has to be pointed out that where the national legislator will intervene for setting the general framework on matters already regulated by Regions, it should be guaranteed that the most ambitious regional norm is adopted as regulatory floor. Indeed, an unambitious national law that does not manage to efficiently reduce soil consumption could work as negative example, tempting regions to lower their standards. In addition, national laws on land banks will have to be carefully monitored and improved to avoid that they do more harm than good and that they truly serve their purpose. More generally, all recently approved (national and regional) laws have to be monitored and its outcomes evaluated in order to efficiently support farmers. A last consideration to rise is that, besides all regional and national laws on agricultural soil conservation, it has to be recalled that the Common Agricultural Policy is still the main incentive for maintaining sustainable agricultural activities and among that the quality of soil. Without a sound financial support to small and middle farmers and their activities for maintaining the multifunctionality of agricultural land, any other scheme will generate scant effects (Costato in Cristiani, Di Lauro, Sirsi, 2019).

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Contacts:

Margherita Brunori, Post-Doc Research Fellow - Assegnista di ricerca Universita; degli Studi di Milano, Dipartimento di Studi Internazionali, Giuridici e Storico-Politici, margherita.brunori@unimi.it





CURRENT AND FUTURE CHALLENGES IN AGRICULTURAL LAND USE AND SOIL PROTECTION IN CROATIA

Marija ROMIĆ¹, Mario NJAVRO², Davor ROMIĆ¹

¹University of Zagreb Faculty of Agriculture, Dept. of Soil Amelioration

² University of Zagreb Faculty of Agriculture, Dept. of Management and Rural Entrepreneurship

Abstract

This paper describes trends in land-use, resource issues and research responses that are being observed in Croatia. The locus of rapid recent changes in land-use and agricultural production cannot be associated with any specific region: almost all the area is affected in a way. A number of vital soil functions are impaired by soil degradation, such as regulation of water flow in catchments, global emissions of greenhouse gases, attenuation of natural and artificial wastes, regulation of air and water quality, or land abandonment. The primary purpose of national assessments of soil and land resources is to assess and document the current condition and knowledge of natural resources, providing a solid baseline for long-term monitoring and management. Besides, inventories allow comparison of existing conditions to the natural or desired state of the land. The paper discusses the impacts of past and current policies and regulations related to agricultural land use and management in Croatia. It explains the role of land use inventory, national land management system and soil and land suitability assessment in comprehensive planning and policy-making. Such analysis is intended to stimulate changes in the agricultural system in Croatia, encompassing agronomic, economic and environmental component.

Key words

land use and management; soil functions; soil and land inventories; national assessment; planning and policy-making

Introduction

The main concern worrying soil scientists is about the soil and land resources expanding beyond soil productivity. The concept of soil quality encompasses all of the functions soils perform in natural and agricultural ecosystems, and the loss of soil productivity resulting from soil degradation is only one of the problems that are base for concern. To give the issue of land use and soil protection the attention it deserves on a national level, several aspects should be taken into consideration. On the first place the land ownership rights can be placed, as well as all associated issues that tackle their legal aspects. Across the EU, national legislations on land ownership rights have been developed on contrasting political, social and economic conditions. The problems of land ownership in Croatia are mostly inherited from the socialist period, and the process of transition to market economy has not been supported by an appropriate legislative framework in the field of land markets and policies, and also inheritance law. So, the issue of soil protection in Croatia should be examined in the wider



legal framework. Despite the huge provision of various both EU and national regulation that refers to soil and land, the general impression is that all these are not sufficient to ensure an adequate level of soil protection. The refusal in adopting a common strategy on the protection sustainable and soil in EU, including the related Directive leaves the ground to each member state to develop a specific legal and administrative framework based on their distinct political and/or economic motivations.

The soil is one of the most important natural resources and thus the soil protection issue has been recognized globally as a serious challenge. A recent analysis (EcoLogic, 2017, http://ec.europa.eu/environment/soil/pdf/Soil_inventory_report.pdf) highlights the weaknesses of EU level policy instruments in protecting Europe's soils, stressing the lack of a coherent, strategic policy framework across all policy clusters. Soils are actually addressed in many policy instruments, but what is missing is a political or/and legislative driver to establish an agreed strategic aim, particularly in relating to agricultural land management, soil and water pollution and the loss of biodiversity. These circumstances may limit the Member States to integrate these common policy questions into their national legal framework, but anyway they should not discourage countries to develop and establish a well-tailored legal framework in the field of environmental protection.

Land management and soil protection are commonly interrelated. Several soil degradation processes recognized at EU level are closely linked to agriculture (Louwagie et al., 2011). Both intensification of production in some regions and concurrent abandonment in others remain the major threat to the ecology of agro-ecosystems impairing the state of the soil, water and air and reducing biological diversity in agricultural and adjacent natural landscapes (Stoate et al, 2009).

Currently, soil quality protection in Croatia is not regulated by a specific law, but similar to EU policies, it features in agricultural and environmental policies as a secondary objective. The development and implementation of the policy measures that address soil degradation processes related to agricultural land use should be based on scientific knowledge on soil properties and functions.

Material and Methods

1 Analytical framework

Geo-spatial tools in combination with focused field studies were used for land resources inventory. Information on spatial distribution and classification of soils and land use were processed. Soil and land use mapping were used to identify various site-specific soil management practices. Interpretation of satellite data, a digital terrain model and integration of terrain attributes along with soil survey and sampling and accuracy assessment and verification was used to produce detail land use and land cover map. Corine Land Cover (CLC) Croatia, the scale of 1:100 000 was used, the smallest unit mapped was 25 hectares and finally 10.857 polygons of agricultural land were identified. LPIS initial layer was produced in 2009 and 2010, and it was used to establishing ARKOD, which is a national agricultural parcel identification system. It's a dynamic system in which 1.023.628 ha of agricultural land have been registered so far, and 854.675 polygons/parcels registered in 2012. ARKOD is a dynamic system, 1.023.628 ha of agricultural land have been registered so far. The number of polygons/parcels counts 854.675 in 2012 and 1.167.130 ha in 2017. Soil survey information is widely applied in Croatia so that almost all soil surveys have a practical purpose. In recent years there has been an increase in the range of suitability maps, reflecting the spread of environmental and agricultural interest.



2 Policy analysis

Policy analysis is based on literature research and comparative analysis between the theory of land policies and Croatian practice described in the legislative acts and existing researches.

Results and Discussion

1 Policy analysis

The United Nations defines sustainable land management (SLM) as "the use of land resources, including soils, water, animals and plants, for the production of goods to meet changing human needs, while simultaneously ensuring the long-term productive potential of these resources and the maintenance of their environmental functions". Especially in the face of climate change and variability, selecting the right land uses for given biophysical and socio-economic conditions, and implementing SLM, are essential for minimizing land degradation, rehabilitating degraded land, ensuring the sustainable use of land resources (i.e. soils, water and biodiversity) and maximizing resilience. Therefore, a crucial challenge for averting land, soil, water and vegetation degradation – one of the main contributing factors to large-scale food insecurity – is to strengthen policies on, and the governance of, land management and to address land-use conflicts. (http://www.fao.org/land-water/land/land-governance/land-policy/en/).

The land is the main means not only for generating a livelihood but often also for, accumulating wealth and transferring it between generations. Land rights and the allocation will have implications for overall efficiency (economic, social, environmental) as well as equity (Deininger and Feder, 2014).

Land policy is and instruments could be divided into three categories: Land consolidation, Land planning and use and Land markets. Land consolidation deals with the land fragmentation and farm size and improving farm competitiveness. Planning deals with the most suitable rural use while land market encompasses mechanisms in connection with the price, rent, tax and inheritance (Scotti and Joao Queiroz, 2014).

Although the land policy is not a part of EU Common Agricultural Policy (CAP), but the member states' national policy, it has been an integral part of the policy for years, namely through the concept of multifunctionality. The concept of multifunctionality emerged in the 1990s and assume effects of farming on land management, biodiversity and landscape value. Today it grew into agri-environment and climate change and other measures in both pillars of the CAP. The land is an extensive topic in EU research area and programs like Horizon or European Innovation Partnership in Agriculture (EIP-Agri).

Land policy in Croatia has been regulated by the law. Law on Agriculture is an umbrella act and its determines objectives and measures of agricultural policies (Law on Agriculture, Official Gazette 118/2018). Law at force (article 7th) determined the following goals of the agricultural policy: increasing the level of competitiveness of the agri-food sector, improving market mechanisms for sales of agri-food products, sustainable natural resources management, environmentally acceptable agriculture, balanced development of the rural areas, improving life conditions and new employment and stable farm income. In the same article, agriculture has been defined as the strategic sector of the Croatian economy.

It is interesting to notice how agricultural land policy measures are not part of the law anymore. In the previous versions of the law, land policy measures were incorporated and defined as measures that encompass measures for managing state agricultural land, land consolidation measure and other measures that influence on land preservation as one of the fundamental agricultural production resource (Law on Agriculture, Official Gazette 30/2015,



article 5th). Just for information, agricultural policy measures included in the current Law at force are rural development measures, direct support, market organisation and other measures. Nevertheless, Law on agricultural land (Official Gazette 20/2018) governs maintenance and protection of agricultural land, changes of use and charges, rules of use of state land and land fund. It is, again interesting to notice, the 17th version of the Law in the period of Croatian independence. This version of Law null and void the Agency for Agricultural Land (established 2009) and transfer jurisdiction on the state agricultural land to local governments. Beside already mentioned Agency for Agricultural Land, other institutions relevant for land policy, although not always with the relevant powers that be, are Croatian Chamber of Agricultural Engineers, Croatian Chamber of Agriculture, public and private extension service (advise farmers on land management and farm management), Croatian Centre for Agriculture, Food and Villages, and Ministry of Agriculture. The ministry took over some of the activities of the former Agency, like evidence and database on state agricultural land (Law on Agriculture, article 133rd).

Other institutions involved in land policy and land management are the Ministry of Environment and Energy, Agency for Environmental Protection, universities and faculties in the field of biotechnics, labs for soil analysis, NGOs and others.

Important for land policy in Croatia are Rural Development (RDP) measures and sources. RDP needs assessment resulted in the list of 26 needs. The following are connected with the land and soil: Consolidation of agricultural and forest land, Increasing the efficient use of water in agriculture and adapting to climate change, Soil erosion prevention and increasing of soil fertility and soil organic matter, Conservation of landscape and biodiversity, Maintenance of continuity of agricultural production in areas with natural and specific limitations for agriculture and Restoring the agricultural potential of the mined land.

Needs have been transferred into measures. Measure 04 is Investments in physical assets with sub-measure 4.1. support for investments in agricultural holdings (total budget of 226 million euros) and operation Proper manure management. Under the same measure, there is sub-measure Support for investments in infrastructure related to development, modernisation or adaptation of agriculture and forestry with the operations: Investments in public irrigation backbone infrastructure (about 100 million euros) and Land consolidation (32 million euros). Land consolidation operation still hasn't been operational and probably it won't in this programming period.

In addition, measure 05 Restoring agricultural production potential damaged by natural disasters and catastrophic events and introduction of appropriate prevention actions with the sub-measure 5.2 Support for investments for the restoration of agricultural land and production potential damaged by natural disasters, adverse climatic events and catastrophic events and operations Restoration of agricultural land and production potential (29 million euros) and de-mining (88 million euros).

Measures 10 (agri-environment-climate), 11 (organic production) and 13 (Payments to areas facing natural and other specific constraints) or so-called IAKS measures are to some extent intended for soil protection. Mentioned measures have a budget of about 30% out of total budget for rural development which exceeds 2,3 billion euros.

2 Soil protection policy in Croatia

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.



3 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.

The total area of Croatia	5.659.400 ha
Total agricultural land	2.638.044 ha
Abandoned/not used agricultural land	746.735 ha
Agricultural land in use	1.891.309 ha
Arable land	1.116.331 ha

Table 1. Available land resources in Croatia

Source: Romić et al. 2014

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. 1).



Figure 1. 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 agroecological 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.

Conclusions

Current rural transformation in Croatia affects land use, agricultural and forest production systems, employment and migration. This means that the effective national governance systems, evidence-based and well-targeted policy responses, identification and engagement of key stakeholders especially those who are politically weak and voiceless are needed to ensure outcomes that are both workable and legitimate. Besides, increased spreading of research and development will promote innovation for sustainable national resource management and may help to improve rural livelihoods in general.



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Contacts:

Marija Romić, University of Zagreb Faculty of Agriculture, Dept. of Soil Amelioration, Svetošimunska 25, 10000 Zagreb, Croatia. Phone: +385 1 2394014, Email: mromic@agr.hr

Davor Romić, University of Zagreb Faculty of Agriculture, Dept. of Soil Amelioration, Svetošimunska 25, 10000 Zagreb, Croatia. Phone: +385 1 2394014, Email: dromic@agr.hr

Mario Njavro, University of Zagreb Faculty of Agriculture, Dept. of Management and Rural Entrepreneurship, Svetošimunska 25, 10000 Zagreb, Croatia, mnjavro@agr.hr





DYNAMISM, FRAMING AND STANDARDS: CHALLENGES AND OPPORTUNITIES FOR LAND PROTECTION IN CEE

Bernd HALLIER¹

¹European Retail Academy / Roesrath, Germany

Abstract

Land Protection has to react to the dynamic challenges for the economics of farming in a global competition driven by consumer demand. Smart farming has to enclude the total supply chain by a vertical integration of standards from farm to fork. But today's economics have additionally to be enriched by sustainability goals to secure resources over a long-term and to counterpart the global climate change. Part of the traditional profession of farmers should be transformed to landscape rangers not to be measured any more in economic terms of agricultural output, but in terms of preservation of landscape to secure the present climate in Europe and its traditional culture. Last but not least ethics should underline the high value of food and food- security and optimize a fair sharing of the production-value along the chain from farm to fork ; also reflecting by animal care the conditions of growing, transporting and slaughtering animals.

Key words

economics of farming, climate change, sustainability goals, smart farming, total supply chain, vertical integration of standards

Introduction

Taken the long-based tradition in infra-structure Central and Eastern Europe had been within the last centuries strong performers in AgriBusiness for wood, crops and cattle. The soil and climate as well as the availability of land and last but not least of cheap labour had been keyfactors within the competition on European level.

Within the change from an agricultural society towards industry-orientation and even towards a post-industrial era the topic of Land Protection is a well-selected field for academic discussion and input for master-plans within civil society. Will the growing cities of the 21st century and shopping -/ distribution-centers in rural areas erode nature ? Will the sustainability of agriculture be destroyed by new living habits and global sourcing of consumer products ? What effects will have this especially for countries of CEE?

Taken the above scope of Economics - also in respect to the 50 years of socialism in CEE after World War II – an additional factor has to be seen by the climate change watched within the last decade. Ecology is not only an aspect of sustainability but also part of consumers' expectations like the growing market-share of organics shows in the supermarkets. Last but not least also Ethics is gaining power in the mind of the people : it is seen in relation of Fair Trade among the human beings along the production/distribution chain but also in respect to the growing, transport and slaughtering of animals. This essay will deal therefore in the beginning with the sub-chapters:

- New Economic Challenges for Agriculture;



- The Holistic Trias of Economics, Ecology and Ethics.

Due to the limits of a Conference Paper the points of discussion have been selected and should be understood as input either for the Conference as a kick-off to be enlarged or challenged by other contributors or taken later as material for further research.

Nevertheless this essay does not want only to remain in the academic description of changes but in the sense of applied sciences and cross-fertilization it is listing within a third subchapter selected solutions to optimize the Total Supply Chain:

- Selected Standards within the Total Supply Chain.

Material and Methods

The paper uses the secondary sources of information and were proceed through the method of analyse, synthesis, deducation, induction and scientific abstraction.

Results and Discussion

1 New Economic Challenges for Agriculture

Since the theory of Thomas Malthus about the growth of the population and the potential food-supply the economics of agribusiness (also in respect to food security) have been interpreted as a sector analysis of single countries. Within today's situation however there are impacts to be considered like belonging to international cooperations like in former times to COMECON or now to the EU, worldwide volatilities of changing amounts of supply or values of currencies, or climate change leading to losses of production on the one hand side and potential opportunities on the other hand to grow certain fruits never thought of in the past.

1.1 Socialism versus Market Economy

Agricultural production in Socialism was planned by the national administration and operated for example in East Germany via 15 regional areas in a top-down approach towards the local production units. In general demand was bigger than supply – and imported products like for example bananas exceptions. The author of this essay remembers also the case of barter-trade where the export of 1x1 bananas from the Bremen based company (West Germany) Scipio to Hungary had been enabled by an order of the Bremen City Administration for Hungarian buses.

This situation changed then dramatically by the introduction of the market-economy. The national agricultural production was no longer a top-down process – but a bottum-up process starting at the decision level of consumers at the point of sales. Insofar retail-technologies and data-mining became part of AgriBusiness also in the former COMECON countries.

Another aspect of market-economy is that the demanded output is no longer an algorithm of the availability of land, but that due to global competition the demand for national production has also to be seen in respect of international quality and prices. Especially due to the empowerment of retail-/wholesale companies the demand-side is not only focused on "the netto-value of a product" concerning quality and price but also on factors like proven good agricultural practice , tracing/tracking, packaging and terms of transport and delivery dates for example.

1.2 RFID, Smartphones and QR-Codes

Smart Agriculture will be the economic key for modern AgriBusiness Management : based on RFID and Clouds fertilization of the fields will be determined by laptop or even smartphones – riping processes will artificially slowed or speeded up – fields will have to be



connected with cooling/riping depots, packaging and transport-systems . QR-Codes and the Internet of Things will be part of the marketing from farm to fork.

Volume of standardized products fitting into this scheme of mass marketing will be of bigger importance than the absolute number of squaremeters . It will become a more holistic challenge – also in cross-ferilization of human brain! Learning has to be on all levels along the Total Supply Chain – and Standards have to be agreed on across all steps of the product-flow.

1.3 Risk factors

Economics of AgriBusiness suffer more by risks than other sectors. A wholesaler or retailer very quickly can change the source of his supply – a farmer has to think in several life-cycles of crop or animals as the increase of his volume is not infinitely on short term; once having invested it is difficult (or only by heavy losses) to devest and to shift the capital to other markets.

Globalization offers big chances to increase markets – but unfortunately agri-culture quite often is also target of political pressure : examples in the recent past are trade embargoes with Russia or threats with the USA – and uncertanties about the BREXIT.

2 The Holistic Trias of Economics, Ecology and Ethics

The author of this essay promotes already for several years the idea of "a Global House of Harmony based on a balance between Economics, Ecology and Ethics". The main point is to give each of those big "E" weight in an optimization modell – but to fit it to national, regional or local abilities. Such a new Frame of Thinking is also reflected by the defined 17 Sustainability Goals of the United Nations for the year 2030. It is an interdisciplinary benchmarking which can be applied as a set of mosaic stones individually optimized at local, national or supra-national levels. The 17 goals are: no poverty; zero hunger; good health/well being; quality education; gender equality; clean water/sanitation; clean energy; decent work/economic growth; infrastructure/innovation; reduced in-equalities; sustainable cities/communities; responsible production/consumption; climate action; life below water; life on land; justice/strong institutions ; partner- ships to fulfill the sustainability goals. Taken the topic " Central European Initiative on Agricultural Land Protection" this could be interpreted as a partnership to fulfill the UN-sustainability goals: dealing with infrastructure/innovation, life on land, responsible production/consumption, sustainable communities, decent work/economic growth, good health/well being.

2.1 Sustainability in a closer sense

While the broader way of sustainability defined by the UN could be covered for

the Slovak Republic or by a comparison of a panel of CEE-countries by a potential PhDcandidate within this Conference paper only selected examples of sustainability in a closer sense are listed.

2.1.1 Food Losses

Within a Conference in Nairobi/Kenya in March 2017 about food losses and food waste local reports showed that about 60 percent of the mango

harvest was lost due to a lack of right transportation and storage - and fluctuation in the demand. For investment for processing the mango for

juices or canning alternatively drying there was not enough capital or know-how available. Similar studies were presented about tomatoes.



2.1.2 Water Waste/Spoiling

The Ecological Foot Print of cattle shows us that beef is an enemy to water resources and climate if pushed to the maximum of production and consumption. In Spain the greenhouses for tomatoes caused water problems for whole areas. Connecting this fact with the spoiled over- production in Africa the question makes sense why to subsidize tomato greenhouses in Spain : and why not to channel the capital to Africa. And one example from Germany: where North-Rhine Westfalia is Europe's biggest pork-industry. The water in several districts is spoilt already from excrements of the German pork industry – but still worsened by the import of excrements from the bordering Netherlands which have higher environmental laws concerning the water quality in context with farming.

2.1.3 Mono-culture versus Bio-diversity

Mass-demand and concentration within farming (changing sometimes also into "industries") promote mono-culture compared with farming in Western Europe in the 50/60ies. The size of the farm /number of animals in selected categories pushed farms in the economies of scale / concentration on products/animals. Bio-diversity was neglected or lost. The lack of bees now becomes so evident that in Bavaria/Germany within six weeks 1.8 million people signed to put pressure on the regional government to improve environmental laws to shelter bees and other insects.

Also (well-intended) initiatives like changing cars from traditional fuel towards bio-fuel pushed farmers into mono-culture as it was subsidized heavily in the beginning and it turned out to be much more profitable to farm for fuel instead of food.

2.2 *Ethics*

As well as in the case of "sustainability" also concerning "ethics" the main-stream is defined within the UN-Goals : reducing inequalities , no pverty , zeroHunger, decent work/economic growth, quality education. But also for this section three selected examples will demonstrate the relevance of Ethics within a concept of agricultural land protection.

2.2.1 Food Security : a split of rich and poor

Already today migration shows that millions of people lack of the right amount of food or the necessary proteins – while other parts of the population of the globe waste food upto 30 percent or more . If land for growing food is decreasing due to infrastructure or a change of the climate prices of food will increase which will hit those who have already now problems with living costs. Those observations fit as well the national as also the international levels.

In Germany in the 19th century poor people in industrial areas started gardening ("Schrebergärten"), in Russia the private owned "datcha" provides some basic stuff – and nowadays "urban gardening" is topic at a lot of conferences. Interesting in this context might be also the concept of Fair Trade : con-sumers spend an additional fee on top of the original price to be passed on to the producers in Africa as a kind of developing aid. Similarly a milk-product company in Germany raises additional money to support smallfarms.Last but not least Food Banks have to be mentioned which as volunteers

collect oversupply in supermarkets and distribute it to underpriviledged groups of the society. Food Banks can be watched not only all over Europe but also nowadays all over the developed world.

2.2.2 Sustainable Cities and Communities

Due to different living standards in cities and in rural communities there is worldwide the mega-trend towards cities. Less and less people want to live in the country-side. In Germany



in the big cities there is a lack of space for living in flats or own houses – while in the country-side in villages or small towns there is a lack of people.

There is a big scope to create programs for people to make holidays in the country-side, to build weekend-homes or even to return permanently to the country-side. New technologies which enable home-offices might be such strategic tools to make living in the country-side more sexy.

2.2.3 Landscape Rangers

To a certain degree farming could be organzed not as a "profit-center" but as a "landscape protection". Equivalent to masterplans for cities also rural areas could be protected to serve as sustainable counter-parts for recreation or "climate-channels" for nature and human beings. Fauna and Flora are the natural partners to deescalate the danger of climate change.

Especially the Climate Change should teach human beings how important woods are to cool down the summer-heat at night. Farms and farm animals can be part of recreation concepts. The Value of Landscape has to be re-discovered. It is an ethical task to improve the image of farming.

Due to the macro-economic development of the stages agriculture – industry - trade – services the profession of the farmers declined in image values : the farmers status should be improved – his task for the local societies more honored. Perhaps the name and content of the profession of some part of the farmers could be changed to "Landscape Rangers" : being potentially to a certain degree some kind of UN-cultural heritage !

3 Selected Standards within the Total Supply Chain

Taken the fact that farming is part of the Total Supply Chain Management and that we live in a century of mass production/mass consumption one has to under-stand that STANDARDS are the drivers of the economics of TSCM and that standards help to optimize efficiency and are ex definitione by this sustainable –and last but not least it is ethical to develop those standards jointly around the globe and to teach all participants how to use them for their own and the joint sake.

Like in part 1 and 2 of this essay selected examples are also listed in part 3 – starting with Agriculture and ending with bar-coding/scanners at the super- markets.

3.1 Globalgap

One of the important internationally recognized standard-providers in the Agro-Sector is Globalgap. Its competences for the Total Supply Chain is reflected in its split of members in 12 percent coming from retail, 46 percent from the supply side and 42 percent associated member.

3.1.1 History

Todays Globalgap was founded in 1997 as a Proactive Food Safety initiative respondingto a decade of food-scandals: not in solving concrete crises after their appearance – but in looking in advance to risk factors within the Total Supply Chain from farm to fork. In the 80ies in Germany the public became increasingly aware of insufficient food controlsand sometimes even criminal acts. In 1994 in the UK the Mad Cow Desease (BSE) culminated in the threat that a possible epidemic might cause 10.000 people's death. British retailers established a work-group to analyse theirbuying-sources of the agro-sector to make sure that on those farms being suppliers for retail no dangerous cross-overs of deseases might happen. The first informal inter-national get-together took place in 1996 in Almeria/Spain to visit the sprawling plastic greenhouses. The workshop was in search of " good agricultural practice (GAP)" for



fruit and vegetables. German retailers and staff of the EHI Retail Institute joined those meetings. In the UK the retailer SAFEWAY hosted the group. Quickly it became clear, that on the one hand side a benchmark was needed; secondly that the benchmark had to be shared by more than one retailer/supplier because farmers have to be able to supply different retailers/markets; thirdly that the costs of control was a too high burden for the partners to be taken individually. To be efficient as a system the workshop had to be institutionalized and the control costs have to be shared. It was the EHI-CEO of that time (Prof.Dr.B.Hallier) who offered free space for a coordinating office in Cologne and Dr.K.Moeller as a coordinator. At this stage retailers like Ahold/Netherlands, Migros/Switzerland and Tesco/UK joined the EHI to help to finance the kick-off of the EurepGap (European Retail Produce GAP). To demonstate the international character EHI appointed Nigel Garbutt from the UK to become the first Chairman of EurepGap and the group used English as the working language of the workshop.

In 1999 more than 15 retailers of Eurepgap did go on stage in a first Global Conference being visited by 300 fruit and vegetable suppliers to whom the idea of third-party certification was sold. As the first global interprofessional organization of its kind in the fres hproduce sector, EurepGap established a comprehensive, simple and clear structure covering all relevant market participants and stakeholders. The EurepGap Council and Committees started with:

- standard setting;
- technical issues;
- scientific lssues.

EurepGap was registered as a Trademark in the function of a Certification Body. After trialAudits in Italy and Spain the first Cerificates were handed over at the Bologna-Conference in 2001. Once it became clear that the Gap-vision would be able to survive through its own Membership and control fees - the working group was transformed into an own legal entity by the name of FoodPLUS - with EurepGap as its first Trademark. BUT it was clear from the beginning that it was not to be used as a Brand in the eyes of the consumers: it is a trademark of food security - a benchmark which keeps the opportunities open for add ons for real brands.

The pyramide of food security is:

- legal standards as the lowest category;
- eurepGap/GlobalGap as a benchmark;
- individual Branding as an add on.

The success-story of EurepGap culminated in 2007 when at the Bangkok Conference the name of the organization was shifted from the European perspective to a Global focus and acceptance; from now on it works under the trademark GlobalGap. More than 155.000 producers followed 37 Globalgap standards and programs operating in 119 countries. Globalgap is backed up by 48 National Technical Working Groups, 36 accreditation bodies, 145 certification bodies, more than 1.000 inspectors and more than 700 auditors.

3.1.2 Certification

Following the announcement in Paris in 1999 within the next two years two accreditation bodies (UKAS and RvA) as well as two certification bodies (SGS AgroControl and CMI Checkmate International/NSF) shaped the first full operational EurepGap concept and controlled the pilot system. It has to be kept in mind that Eurep-Gap/GlobalGap is applied sciences and that local circumstances and experiences do show discrepancies between theory and practical implementations. Furtheron the whole system is in permanent adaption/improvementdue to the demands of the markets. Those changes could be segmented into three Vectors:



- vector 1 is the enlargements in terms of product-categories. It all started in 1997 with Citrus fruits - followed in 2003 by Flowers & Ornamentals, and Aqua-culture in 2004. Livestock was added in 2005 and Compound Feed Manufacturing (CFM) in 2009. But also the development of Risk Assessment for Social Practices (GRASP) in 2004 and the Integrety Program in 2008 could be accounted into this Vector;
- vector 2 is standing for the globalization process in which regional differences could be balanced by modifications into ChinaGap, ChileGap etc. – showing in protocols the diffence measured by the benchmark-system! In this Vector special highlights had been the China National Certification in 2004 and the North America Chapter in 2010;
- the third Vector is the Permanent Evolution. The local/national but also international experience is considered by EurepGap/GlobalGap by a permanent development of the benchmarks: the launch of the Zero-Version was followed by improvements by Version 1, Version 2 etc. Part of this vector are also the licensed consultants to facilitate the preparation of farms for certification (FarmAssurers) in 2011, the GlobalGap Academy in 2012, as well as the Abu Dhabi Declaration for food security with the SAI Platform in 2014, the first Consumer Communication Channel in 2016 and the Future by Digitalization Discussion in 2017.

Certification bodies are selected based on:

- strict independence;
- competence and structure that meet demands from accreditation bodies;
- auditor and Inspector Minimum Qualification;
- participation in Annual compulsory Globalgap training;
- signing an agreement with Globalgap reflecting the criteria and General Regulation.

3.2 Tracing/Tracking

Tracing/Tracking of animals started with cows; it became only relevant in Germany during and after the BSE/Mad Cow Disease in 1994/96. As an act of Civil Society the Workshop Meat of the EHI Retail Institute created together with the Central Marketing Association of the Agricultural Sector (CMA) the standard provider Orgainvent. In 1997 the EU Agriculture Council adapted the EHI/Orgainvent proposals and initiated the EU Regulations 820/97 and later the EU Regulation 1760/2000 to standardize tracing/tracking for cows and beef within the EU as well as for suppliers from outside of the EU.

3.3 HACCP

HACCP is standing for Hazard Analysis and Critical Control Points; its principles are required to be put in place, implemented and maintained permanently by food business operators according to the EU Regulation no. 852/2004 of the European Parliament and of the Council on the hygiene of foodstuffs. There are seven main steps of HACCP: Hazard analysis – Identification of critical control points – Critical limits at critical control points – Monitoring procedures at critical control points – Corrective actions – Verification procedures – Documentation and record keeping.

3.4 IFS

The IFS (International Featured Standard) was created in 2003 by the German Trade Association HDE and its French counterparts FCD; later Italian Trade Associations joined. Today IFS is acting worldwide. The basic idea of IFS is the fact that on the one hand side the European Law and National Laws require from food companies or food outlets to implement all relevant actions to secure food safety and on the other hand also individual suppliers/retailers develop marketing profiles with "add-ons" to the legal requirements to gain

higher margins. Those companies then need a control/audit for their claims. IFS's ambition is to harmonize those individual demands to one level of control to get more efficiency via an unified standard. The IFS-standard is benchmarking the individual steps and partners of the Total Supply Chain by an evaluation system which has four main categories:

- A: full compliance with the requirements (20 points);
- B: almost full compliance but small deviations (15 points);
- C: only a small part of the requirements are implemented (5 points);
- D: the requirements are not implemented.

All scorings are reported and explained in an IFS Audit Report. Based on the first evaluation all enterprises have the chance to secure and improve their market position by an action plan of continuous optimization of their products and services.

3.5 ISO

The International Standardization Organization (ISO) was founded in 1947 and is headquartered in Geneva/Switzerland. More then 150 countries are member bodies, corresponding members or subscriber members. ISO standardization needs the following seven procedures: preliminary work item – new work item proposal – working draft – committee draft – draft international standard – final draft international standard – publication international standard. Those standards are descriptions - they are not a guarantee for a quality itself.

Since the 80ies Prof. B. Hallier pushed within the food business the ISO Packaging norms as a rationalization tool: based on the module 400 x 600 mm sales-cartons and palettes by 1200 x 1000, 1200 x 800 and 600 x 800 can flow most easily from production via transportation units and depots finally into the shelves of retail. Not only efficiency was increased by this system but also damage in the transportation flow decreased: saving food waste too.

3.6 Circular Economy

In December 2015 the European Commission published a Circular Economy Package to encourage more sustainability in the UN reflected by the UN Sustainability Development Goals for 2030. In 2018 the Association EuroCommerce discussed the status quo in Brussels and the plans to revise various waste directions and to minimize waste and losses. The motto was typical for applied sciences: "Scaling up market solutions in Retail & Wholesale".

That EuroCommerce meeting of 250 experts was attended also by high level administration officials like Dr. J.Potocnik/UN International Resource Panel and former EU-Commissioner, D.Calleju Crespo/ General Director DG Environment, B.Poisson/ French Ministry for Ecology, MEPs like A.J.Valean or K. van Brempt. Retail was represented among others by Carrefour, IKEA, METRO, BGA, FCD, Virke and Prof.Dr.B.Hallier , EuroCommerce President Regis Degelcke and Christian Verschueren Managing Director EuroCommerce. Such a mix of experts guarantee the penetration of the ideas not only as theoretical points but also as a kick for trial and error applications in the real world of business.

3.7 Barcoding

Mass distribution via self-service like since the 70ies of the last century in the USA and Western Europe would have been not possible without product-identification by barcodes and scanning in the cash-zones of supermarkets. Since 2005 the national bar-code institutions are harmonized towards a Global Standard (GS 1) worldwide. Barcodes and in future QR-codes are driving forces for modern distribution from farm to fork.



3.7.1 History of Product Identification

Mass-distribution started in Western Europe in the middle of the 50ies and was defined by pre-packed products, branded goods, advertising - all under the leadership of the manufacturers - while retail contributed by self-service/ super-markets, increasing product ranges and bigger stores. In the end of the 60ies thecontrol of the items became a problem : product identification via bar-codes wastested by pioneers I ike Doderer/Augsbu rg/Germany, Migros/Switzerland and Ahold/ Netherlands. It was the proposal of Albert Heijn (Ahold) in the beginning of the 70ies to merge the national test-systems to start on a joint European level with astandardized European Article Numbering System (EAN}.In Germany the retailinstitute's workshop (at that time RGH/now EHI) was out-sourced and became in 1974 a national 50/50 joint venture with the Association of the Branded Goods Manufacturers. The task was reflected in the name of the company: "Centrale für Coorganisation GmbH (CCG)". Other countries in Europealso created EAN-organizations - each country with its own national flavour - but connected via a kind of franchise coordinated by a headquarter in Brussels/Belgium. Similar developments happened in the United States, which created the UniformCode Council (UCC) with the Universal Product Code (UPC). Similar efforts started in Japan. While the first tests mainly started at the shelves in the supermarkets - the real rollout was the connection with scanners at the cash-zone. Nevertheless it took about 25 years from the pilot installations up to a national full-scale penetration. But it was beside the system of self-service the second root of organized modern retail - seen as a benchmark also for the developing countries and uptill the fall of the wall between East and West. Within that evolution process the key-words mass data collection, data mining, consumer-basket-analysis, Efficient Consumer Response (ECR) branded the state of the art of retail distribution. In 2005 due to the ongoing globalization the international suppliers and retailers supported the harmonization of the American/European and other national barcode institutions towards a Global Standard (GS 1) worldwide - and insofar also CCG Germany was renamed to GS 1 Germany - like the Austrians are now GS 1 Austria.

In 2018 GS 1 had 111 member organizations comprizing 1.300 000 member companies and can offer services within 150 countries. The GS 1 standards create a common foundation for business among supply networks by uniquely identifying, accurately capturing and automatically sharing vital information about products, locations, assets and more.

3.7.2 The Bar-Code

The bar-code having started in Europe in 1974 as EAN due to the change to GS 1 now since 2009 is renamed to Global Trade Item Number (GTIN). But the bar-code systemis still the same and consists out of 8 or alternatively of 13 sections:

- in the example of the GTIN 13 the first three bars identify the country of the producer like 400 440 for Germany;
- the next bars are the name of the producer;
- next the article is identified;
- and finally a mathematical cross-check secures the code.

The bar-codes are handed out by the national GS 1 organizations - which all operate as non-profit institutions.

Historically the first innovation of barcodes is the chip-technology. The advantages are to be able to store many more data into a chip than onto a barcode - and the possibility to read the data from a bigger distance. The second innovation is the QR-code by which consumers can intertwine their smartphone Apps to be able to readadditional information beyond the normal barcode or to order electronically forexample products been seen at shelves or at posters.

3.7.3 loT for Agriculture

For the Agro-Sector the identification with GS 1 standards play an important role together with the Internet of Things (IoT). An EPCIS - (Electronic Product Consumer Information System) for sharing product information across supply chains helps small farming entrepreneurs as well as big agro-companies to become state of the art today and being already connected with future perspectives jointly developed by the big standard providers and their global partners. The IoT is transformational to systems, devices, technologies and applications across the involved industry and around the world. The IoT is driven by the following facts:

- an expectation by businesses and consumers that all things will be,,connected";
- increasing technological capabilities combined with lower cost of micro controller and communications Technologies;
- an explosion of cloud-based data gathering, processing and sharing platforms.

Within that context GS 1 is playing the role of the Global Language between the involved partners; GS 1 connects the physical and digitalworlds. The identification of objects, assets, locations, etc. and automatic data capture are powered by GS 1 bar-codes and EPC/RFID. Those standards for data-sharing enable interoperable, trusted and transparant data that are foundational to unleashing loT capabilities. The cooperation with GS 1 is an enabler for the agro-entrepreneurs:

- the Global Language of GS 1 provides the agro-sector with an access beyond the own sector;
- local/national farmers get globally recognized numbers in an international tradeworld where tracing/tracking of products is essential for listing by global players of wholesale/retail;
- beside those basics also other informations of potential relevance for processors, retailers and consumers like rearing, antibiotics, special treatment, animal-welfare and other aspects can be added for the Total Supply Chain from farm to fork;
- Last but not least the cooperation does also decrease costs for otherwise own developments who alternatively would have to deal with a chaos of individual solutions.

One of the future technologies being potentially used from farm to fork is the QR-Code. In Germany the kick-off between the agro-sector and the distribution using QR-codes started in 2011 with an anti-crisis action for pork. After a dioxin-scandal the task was to create "trust" by revealing the local source of the raw material for meat-products. The discounter Aldi South together with its supplier Toennies as a cutting-house and several producers of "meat-brands" placed on their packages QR-codes which can be read by the consumers' smartphones. The smartphones guide the customer towards an App coordinated under the Label "f-trace" (F standing for the German word Fleisch = meat) – where for the raw-material the local source of the animal, the locations of slaughtering, cutting and processing can be found.

Conclusions

Taken the topic of Land Protection it has to be seen that the factor "Land" is never absolute and insofar cannot be discussed "ceteris paribus" but its economics are dependent on changes by time – periods and values of societies ; and especially in CEE also in the dynamic changes after the 90ies of the last century transforming from socialism to global market economies.

The optimization of the use of land furtheron should not be just limited to economic aspects but the frame should be enlarged to enclude also ecological aspects like the UN goals of sustainability and ethics for a global house of harmony based on economics, ecology and


ethics. In this sense land protection has also a value to counteract by fauna and flora the danger of climate change.

Last but not least within that optimization standards could help within the daily processes to be more efficient in economic terms but also by reducing waste of resources being more sustainable. Needed is an interdisciplinary vertical integration of standards. The wealth earned by those savings could be shared among all participants of the total supply chain from farm to fork - helping by this national or international groups of underpriveledged.

Contacts:

Bernd Hallier, European Retail Academy / Roesrath, Germany, b.hallier@gmx.net





PROTECTION OF AGRICULTURAL LAND IN POLAND – TECHNICAL ASPECTS

Tomasz STAŃCZYK¹, Anna BARYŁA¹, Edward PIERZGALSKI¹

¹Warsaw University of Life Sciences

Abstract

The basis for the protection of agricultural areas in the technical aspect is sustainable agriculture, which means minimizing the processes of environmental resources degradation. The article reviews the main threats to water and soil in Poland. The threats to soil degradation as a result of organic matter reduction, water erosion and soil and water pollution are presented in detail. The measures recommended in Code Agricultural Practices to limit the effect of these processes were characterized. The scope of implemented in the period 1968-2017 land consolidation projects was presented. Water conditions and problems of water management in rural areas were characterized as well as the ways of shaping water moisture in soils by means of drainage and irrigation systems. It was found that the main tasks to be carried out still in Poland are the improvement of water infrastructure, investments in protection against erosion, land consolidation and measures to reduce pollution of soils and waters.

Key words

soil degradation, organic matter, water erosion, consolidation, drainage, irrigation

Introduction

The protection of agricultural areas includes many different goals and actions taken to limit the change in their use, as well as to minimize natural and anthropogenic processes and factors that lead to the degradation of their natural resources. In Poland, according to the Act on the Protection of agricultural and forest lands of February 3, 1995, amended last in 2017 (Dz. U. no. 121, item 1266), they include the following measures:

- limiting their allocation to non-agricultural or non-forestry purposes;
- preventing the processes of degradation and devastation of agricultural land and damage to agricultural production arising from non-agricultural activities and mass movements of the earth;
- land reclamation and management for agricultural purposes;
- maintenance of peat bogs and ponds as natural water reservoirs;
- limiting changes in the natural shape of the earth's surface.

The legal basis for these activities was presented in these conference materials by Jagiełło and Zdanowicz (2019), while this article presents technical aspects of the protection of agricultural areas. Conservation plans should take into account the area of the site: from an individual farm to the river basin area. In the case of a large facility in terms of area, the protection plan is much more complex, because it should take into account not only economic aspects but also social and ecological aspects. In other words, it must be an integrated plan for the protection of rural areas that takes into account the diverse interests of the community, animals and nature.



In a document published by the European Commission (2002) "Towards a Thematic Strategy for Soil Protection" to the main threats to soil included the following: decrease in organic matter content, erosion, pollution, sealing, compaction, loss of biodiversity, salinity, floods and landslides. In Poland, the greatest threats to agricultural areas include soil and water degradation as a result of erosion processes, a decrease in organic matter, soil and water pollution, as well as climate changes affecting unfavorable water conditions for agricultural production. It should be emphasized that the choice of methods limiting the degradation processes of soils and water should take into account the mutual interactions between these most important resources of agricultural areas.

Material and Methods

The scope of the article covers the analysis of the problems of protection of the agricultural land in terms of threats and measures undertaken in Poland in purpose of limit degradation processes. The main soil threats it means the decrease of organic matter and water erosion processes are characterized. The dynamics of consolidated agricultural land in individual years during the period 2068-2017 was also presented. Quantitative and qualitative problems of water resources were characterized. The analysis of the necessity to shape soil moisture according to meteorological conditions has been analyzed. There were also described the kinds and location of drainage and irrigation systems. The presented results of research and statistical studies are based on a literature review, data from the Central Statistical Office, the Institute of Soil Science and Plant Cultivation (IUNG-PIB) and the Ministry of Agriculture and Rural Development.

Results and Discussion

1 General characteristics of the soil and water conditions

Poland is a lowland country. Mountain areas (above 300 m a.s.l.) occupy 8.7% of the country area, and the mountains (above 500 m a.s.l.) 3.1% of the territory. The Carpathian and Sudeten Mountains are located along the southern Polish border. Their average height position is 1500 m a.s.l. About 50% of soils in Poland are light and very light sandy soils with low water holding capacity. Loams and organic soils cover approximately 25% and 8.5% area, respectively. Water resources in Poland depend mainly on rainfall, which is variable in time and space. The average yearly precipitation sum slightly exceeds 600 mm. In central Poland it is only 500 mm, and in the high mountains it is 1500 mm. The average precipitation sum varies during the year and also in many years periods. The average precipitation sum during wet years can be two or more times higher than in dry years. Surface water resources, referred to as the average river outflow from many years, account for approx. 28% of the total rainfall and per capita of Poland amount to approximately 1660 m^3 / year but eg. in dry year 1991, the resource ratio per capita was only 1100 m³, and in wet 1975 year, up to 2660 m³. It is almost three times less than the European average and places our country in the top ten European countries in terms of this indicator. The retention capacity of artificial reservoirs in Poland permits to store only 6% of the average annual runoff, which is commonly considered insufficient. This is an important issue because the trends of decreasing water resources are observed, special in the central territories of Poland.

The precipitation variation in time and space causes different weather phenomena: drought and periodical water excess and disasters floods almost in the entire country. Most of the area (48%) of agricultural land has relatively good water conditions, but the rest of areas require soil water control measures like drainage and irrigation systems as well as increasing water retention capacity in natural and artificial reservoirs.



2 Problem with organic matter in soils

The role of organic matter in the proper functioning of soils, especially those used for agriculture, is widely known, and the need to protect its resources has been emphasized in the Thematic Strategy for Soil Protection (Commission Communication COM (2006) 231, 2006). Organic matter affects the soil's production function by affecting their physical, chemical and biological properties, as well as the habitat function. It is the source of nutrients for plants, many groups of microorganisms and has a retention function. It is involved in the sorption of water, cations, anions and organic pollutants (Allen-King et al., 2002). The average content of organic matter in Polish soils is 2.2%. However, it is very different depending on the type of soil, environmental conditions and agricultural technology (Table 1).

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Class of organic matter content	Content of organic matter [%]	Share in total soil area [%]		
low	< 1	6		
medium	1-2	50		
high	2-3,5	33		
Very high	>3,5	11		

Table 1	Organic	matter i	n Polisł	n arable soils
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Source: Stuczyński and others 2007

Monitoring of the chemistry of Polish arable soils has been carried out since 1995. In 5-year time intervals, soil samples from 216 permanent measurement and control points are located on arable land characteristic for the soil cover of the country. Many years research carried by the Institute of Soil Science and Plant Cultivation (IUNG-PIB) showed no evidence of loss of organic matter trend in the whole country (Table 2).

	Value	1995	2000	2005	2010	2015
Uumua	mean	1,95	1,96	1,90	1,97	1,94
	minimum	0,79	0,77	0,72	0,76	0,62
[%]	maximum	5,75	5,68	5,46	6,05	6,62

Table 2. The content of humus in arable soils in the period 1995-2015

Source: IUNG-PIB 2017

However, there was a large diversity of regional and local areas, where there is both increase and loss of organic matter. The lowest level of organic matter occurs in the soil in the central part of Poland, where water resources are also lowest. Regardless of the values given in Table 2, there are many opinions about trends of humus content decreasing, especially in light soils. The current content of organic matter is the result of the balance of processes leading to its accumulation and decomposition. It should be noted that in addition to environmental factors, the level of organic matter is also influenced by the manner in which man manages. The accumulation of organic matter is favored by the use of manure and organic fertilizers, as well as the plowing of straw with the addition of nitrogen (10,000 kg C in humus needed for approximately 8333kg N, 200kg P and 143kg S (Skowrońska 2015). In contrast, protective soil cultivation and regular calcification promote the preservation of organic matter content. The decomposition of organic matter is a natural process and is possible only reduce its speed and distribution over time. Too fast this process in a short period of time leads to the release of large amounts of mineral nitrogen and phosphorus compounds that can get into ground and



surface waters, causing pollution and even contamination (Code of Good Agricultural Practice, 2004). Increasing organic matter in soil is a slow process. This process is strengthened by proper farming systems, such as conservative farming, including non-till systems, organic farming, permanent grassland, cover crops, soil mulching, fertilization with green manure and compost, and contouring. Most of these management systems have also proved effective in preventing erosion, contributing to increased soil fertility and the enhancement of soil biodiversity.

3 Reducing water erosion

Erosion and degradation of arable soils is a global problem. In Poland, among the factors degrading the natural environment, the first place in terms of range, effects and time of impact is soil erosion (Licznar 1995). It is estimated that about 30% of agricultural land is threatened with water erosion (Jała and Cieślakiewicz 2004, Nowocień and Wawer 2013). In the fight against erosive processes, methods appropriate to the type, form, intensity and cause of erosion are used. A comprehensive approach to erosive issues should include proper development of the catchment linking as a common system of forest and agricultural management, technical infrastructure, tourism and recreation aspects. The structure of land use at the catchment scale, the structure of use at the farm scale, land consolidation, agricultural and forest roads, and water condition regulation should be taken into account. At the farm scale, appropriate agrotechnical measures such as tilling direction, mulching, nontillage farming, soil conditioners can be used. Both on the basin scale and on the scale of the farm, technical anti-erosion measures such as terraces, structures and erosion devices, and water retention systems are recommend. The reduction of water erosion can significantly In addition, integrated anti-erosion activities including reduce the soil pollution. phytomelioration, agromelioration and technical methods can be a significant element of flood protection.

Soil erosion, by leaching substances is one of the factors causing soil pollution. An example is the use of pesticides, it has been proven that pesticides penetrate through the soil particles into groundwater and are eroded with the soil, getting into surface waters. There are many accumulated pesticides in the soil, in particular those that are not currently authorized for use in the EU (COM 2002, 179). In addition to erosion, soils pollution is caused by solid and liquid industrial and municipal waste, gases and dust emitted from industrial plants, exhaust gases of internal combustion engines and substances used in agriculture such as fertilizers and plant protection chemicals. Contaminants change the properties of the soil in terms of chemical, physical and biological. The research carried out by IUNG-PIB (2010) in Poland allowed to state that the soils in Poland are slightly contaminated with heavy metals, which allows them to be classified into soils of high agricultural value. The successive limitation in recent years of industrial pollution emissions, the ordering of waste management, the reclamation of degraded land and the general improvement of the culture of environmental use are conducive to limiting the area of degraded land.

Detailed measures for protection against water erosion addressed to Polish farmers recommended in Good Agricultural Practices (Duer et all 2004) erosion are:

- permanent cover of land by grass or other plants on the land with a slope greater than 20%;
- on land with a slope of 10-20% the use of crop rotation (a large proportion of legumes and their mixtures with grasses, sowing of intercrops, plant winter (so called. "green field");
- soil should be cover longest time by plants or mulching;
- where possible, plowing should be done perpendicular to the slope;



- it is preferable to replace the plowing cultivation by conservation tillage, direct seeding;
- establishing windbreaks which reducing the wind speed and the transfer of soil particles as well as reducing drying of the soil.

Protective measures should be taken simultaneously at the local, national and European level. According to the European Commission, the integration of activities at the Community level is dictated by the fact that soil degradation has an impact on other environmental areas covered by Community legislation and that disrupting between others the operation of the internal market, food safety and have a cross-border dimension (Szewrański et al. 2007).

4 Land consolidation

Rural areas in Poland have gone through and are still undergoing major structural and spatial and economic changes. One of the effects of these changes is the gradual concentration of farms, because all kinds of farm and agricultural works are carried out more and more often (Hałasiewicz 2011). Among them, the most effective treatment is the consolidation and exchange of land. It is a key starting point for a full reconstruction of agricultural land. The purpose of land consolidation is to improve living and working conditions in rural areas, thanks to the creation for individual farms of the possibility of proper organization and conduct of rational farming by organizing their area structure. Overall, 5 507 864 ha were consolidated in Poland, which is 17.6% of the administrative area of Poland. Unfortunately, since 1995, consolidation projects have been carried out on a very small area of only 10 000 - 15 000 ha annually (Figure 1). Also after Poland's accession to the European Union, the range of consolidation has not changed and still does not exceed 15 000 ha annually.



Figure. 1 The area of agricultural land consolidation in Poland in the period 1968-2017

Source: Ministry of Agriculture and Rural Development

According to Woch (2006) the demand for consolidation and exchange works in Poland is very large. The largest demand for over 50% of the area of communes occurs in south-eastern Poland (Woch 2006), including in the Podkarpackie Voivodeship (Balawejder and Noga 2016). Land consolidation in carved areas adversely affects the severity of erosive processes



(Koreleski 1991) and therefore during the reconstruction of the spatial structure of land the projects protecting the soil against erosion should be taken into account. Particular attention should be paid also to the compliance of the project with the local spatial development plan and the size, shape and layout of the designed fields, distribution of agricultural roads, land use changes, location of windbreaks and water infrastructure (Woch 2008).

5 Water conditions on agricultural lands

Water resources and water management in non-urban areas have much more functions than in cities and settlements. The quantity and quality of water resources influence inter alia, on:

- health of the population (through access to clean water);
- human security (in areas threatened by floods);
- economic development, including the level of plant and animal production;
- the state of the natural environment and its development;
- development outside the productive functions of areas (recreation, agrotourism).

In Poland, occur more frequently extreme hydrological events: floods and droughts. As a result of flooding in areas with high slope surface layers of soil are washed off and on flat areas sediments. The scale of the damage depends on the size of floods, locally may include the area thousands of hectares. Much greater than the flood, threat to soils are droughts with very negative impact between others on life of soil microorganisms and processes of mineralization and humification of organic matter, especially in peat soils. According to the requirements of crop production, on average in every decade 3 years are too dry, and 3 years too wet. The spatial variability of rainfall, on the other hand, makes the water balance in the central part of Poland, especially in drier years, negative. On the other hand, violent thaws and extreme phenomena in the form of torrential rains cause periodic excess of water and fateful floods, occurring almost all over the country.

Water deficits are sometimes related with anthropogenic activity, which may result in lowering groundwater and drying of lakes and reservoirs. The adjustment of periodic deficiencies or excess water is achieved in various ways, generally by storing water in natural and artificial surface reservoirs, as well as in soil and underground aquifers.

Rural development should follow the principles of sustainable development. In such activities, it is very important to harmoniously manage space with respect for landscape values and natural sciences. The conservation of ponds, wetlands, thickets, and clumps of trees in the valleys is very important for nature conservation, especially the growth of biodiversity. Small retention and restoration of rivers are very important in this area. Both the development of natural water retention and restoration of rivers should be carried out according to coordinated programs, which include natural and economic functions of water bodies. Changes in water resources also cause changes in the landscape. It should be noted that the natural circulation of water can be disturbed by planned communication investments: highways and expressways.

The need to maintain high agricultural production means that plant and animal production must be at a high level regardless of climatic conditions in a given growing season. For this purpose, it is necessary to develop systems for the regulation of water relations in the soil, in particular precise irrigation systems and regulated outflow.

The agricultural production intensity in Poland depends on a considerable degree on reclamation measures, which counteract formation of periodical water excess in soil, at occurrence of floods in spring and often also in summer, as well as supplement considerable water deficiencies in drought periods. Over a half of total agricultural lands require drainage and irrigation systems. Land reclamation in wide aspect means organizational, economic, agrotechnical and technical measure aiming at a permanent improvement of water conditions



in a catchments area and on agricultural fields, including the flood control measures, protection against erosion, phytoreclamation measures, recultivation of degraded areas, purification and utilization of waste waters, fish ponds. These measures should ensure, first of all, the soil fertility making possible the production optimization of farms. In the complex factors, stabilizing the agricultural production significant importance is also the water supply of rural settlements.

In regulation of water conditions different solution, depending on the site in a catchment area and kind of plant production, are applied. In valley sites permanent grassland predominate. The task of reclamation systems is flood control and keeping ground waters at a level most favourable for the growth plants. For the ground water control, first of all the network of ditches connected with drain pipelines are used. In spring and after high rainfalls in summer periods, such system enables excess water leading into rivers or water reservoirs. The same network renders possible to apply subirrigation through impoundment of water in ditches and supply with water the root layer of plants by means capillary water rise. Over 30 percent of grasslands lie on organic soils which are liable to degradation after drainage. The task of land reclamation systems is to counteract or considerably check this process through a precise moisture regulation in the root layer of plants. Total 4.7 mln of hectares of arable lands and 1.5 mln hectares of grasslands were in Poland reclaimed in the period 1960-1980. More than 90 % of these areas were drained only. Irrigation systems are located mainly in river's valley as subirrigation of grasslands (0,4 mln hectares). On arable areas sprinkler irrigation cover not more than 0.1 mln hectares. Microirrigation is used in horticulture mainly on about area 10 000 hectares (Pierzgalski and Jeznach 2006).

It is obvious that the functioning of drainage and irrigation systems should be adapted to the projected climate changes. Projections indicate that climate change will be accompanied by increased intensity and frequency of extreme events (heavy frosts, heat waves, very heavy rains, droughts), which significantly increase the risk of production in agriculture. Adaptation measures will meet two major problems: sources of financing adaptation and recognition that climate change will cause real damage to agriculture. These activities can be carried out as non-technical, organizational, and technical projects.

One of the most important problem of water protection in areas used for agriculture is the prevention of pollution from agricultural lands by nitrogen and phosphorus compounds, which are the reason for accelerating the eutrophication process and lead to adverse changes in aquatic ecosystems. It is estimated that about 50% of nutrients entering the Baltic Sea and pollution of rivers and lakes it is the result of such pollution. Among the activities desired for this limitation of this process are:

- proper storage and rational use of organic fertilizers;
- establishing mid-field shelter and protective zones (ecotones) along the banks of rivers and reservoirs:
- creation of biofilters at the outlets from drainage ditches and ditches.

Good Agricultural Practices also contain, among others, detailed recommendations for agricultural practice to protect water resources against pollution:

- natural and organic fertilizers (solid and liquid) may be used only during the period from 1 March to 30 November, with the exception of in glasshouses or other production under cover, the optimal date of application of natural fertilizer for environmental reasons is early spring, but it can be also applied in late autumn with immediately plowing;
- it is prohibited the use of manure and mineral fertilizers on flooded soils, snow covered or frozen to a depth of 30 cm;

- it is also forbidden use of natural fertilizer on soils without plant cover located on slopes greater than 10% and in liquid form during the growing season on the field with plants intended for direct human consumption.

The dose of manure applied during the year, may not contain more than 170 kg of nitrogen in pure ingredient per ha of agricultural land. If the production of organic fertilizers on the farm is higher dose (170 kg / ha of nitrogen is exceeded) is recommended to reduce the numbers of animals or receiving of manure by another farm, but it must be confirmed by written agreement. The farmer who is required to obtain an integrated permit should in his possession manage at least 70% of manure and slurry, and only 30% he can sell. The basis for rational fertilization is an assessment based on chemical analysis of available nutrient content in the soil and pH. It is recommended that such analyzes were performed every 4-5 years. Doses of fertilizers should be determined individually for each field, including the current soil fertility and crop yield levels.

Large damages of soils in Poland occur as a result of floods. One of the tools to predict the size and extent of floods and thus to help reduce flood losses also in agricultural areas is recently completed National Information System Against Natural Hazard (ISOK). It is the first in Poland comprehensive information system, which contains full details about areas which can be flooded. In the system there is a database of infrastructure, which is specially designed maps showing areas subject to inundation by floods and where areas could be flooded in the event of disruption of embankments. The system contain also maps, which will be estimate of losses that may occur in the flooded area. In addition, the public becomes aware of the dangers meteorological phenomena such as high and low temperatures, fog, high winds, etc. The project ISOK is ready for widespread use to cover social, economic, cultural heritage and the environment against extraordinary risks, and decision support in the event of a serious event. ISOK informatics system is an effective tool for local authorities responsible for the preparation of development plans and will provide access to the most current data about phenomena that may affect the site. ISOK use the latest technology in the twenty-first century geodetic data acquisition and the assessment of risks from the use of mathematical models. The data contained in databases ISOK are available free of charge to any interested person, via a specially created website.

Polish legal regulations in the field of water management and environmental protection as well as recommendations of the EU Water Framework Directive clearly indicate that the management of water resources should apply the principle of integrated water management. This means the need to shape and protect water resources in terms of both quantity and quality, including both water purity and the ecological role of aquatic ecosystems. Current determinants require a new approach to water factor in rural development. First of all, the water should not be considered in isolation from spatial plans of the organization and management of habitats in rural areas. Water infrastructure in the catchment area should be considered in spatial planning, which include agricultural production area, areas of settlement, together with their technical infrastructure, as well as ecosystems, including water biotopes. All projects related to water management should take into account the experience gained from realized investments. Another factor that should be taken into account are environmental and climatic changes, as a result of which individual water balance factors may significantly change. Water management in future in Poland should be prepared for two scenarios:

- increasing air temperatures, less rainfall during the growing season, more frequent and longer periods without precipitation, and consequently diminishing water resources and increased risk of droughts occurrence;



- increased frequency of sudden heavy rainfall particularly during the winter, the greater the risk of flooding.

Currently, designed water systems should create the possibility of adapting to difficult predictable future changes in both water supply and water demand. They should also take into account future requirements regarding ecological status of waters. It can be concluded also that the most urgent goals of water management in rural area are:

- water supply for the rural population;
- meeting the water needs of plant and animal production;
- protection of aquatic ecosystems and valuable natural areas;
- protection against floods;
- increasing the availability of water for agrotourism and recreation.

Conclusions

Degradation of agricultural areas in Poland causes natural phenomena and anthropogenic activity. Natural phenomena are associated with extreme hydrological events (floods, water and wind erosion, droughts), while anthropogenic activity primarily causes pollution of environmental resources (water and soil), changes in mechanical, biological and chemical properties of soil, reduction of water resources and others.

The negative balance of organic matter in the soil causing loss of fertility and productivity is influenced by among others: simplified crop rotation, not using the cultivation of grasses or their mixtures with legumes, not using manure or the cultivation of catch crops for green manure.

Despite a number of implemented anti-erosion and consolidation projects, investment needs in this area are still very large.

The observed and forecasted climate changes increase the risk of extreme hydrological events causing flooding, floods, droughts and related processes in the form of erosion. The existing water infrastructure is currently unable to completely prevent these harmful events and requires very large financial expenses.

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Contacts:

Tomasz Stańczyk, Warsaw University of Life Sciences

Anna Baryła, Warsaw University of Life Sciences, Faculty of Civil and Environmental Engineering, Department of Environmental Improvement, Anna_Baryla@sggw.pl

Edward Pierzgalski, Forest Research Institute, IBL, edward_pierzgalski@sggw.pl





LEGAL FRAMEWORK FOR THE PROTECTION OF AGRICULTURAL LAND IN POLAND

Katarzyna JAGIEŁŁO¹, Agnieszka ZDANOWICZ¹

¹ Ministry of Agriculture and Rural Development

Abstract

The subject of the study is to present the legal framework for the protection of agricultural land in Poland. A natural resource, such as soil, which is an integral part of agricultural land, is very important for both food production and the prevention of climate change. In densely populated areas land is a scarce resource and therefore it should be managed effectively to be able to continue to meet the fundamental needs of civilisation related to access to food and a clean environment. In Poland, the protection of agricultural land is regulated in the Act of 3 February 1995 on the protection of agricultural and forest land (Dz. U. of 2017, item 1161). The Act includes legal tools for the preservation of agricultural land for food production for future generations. The main objective of the study was to analyse legal regulations regarding the protection of agricultural land in Poland, the rate of allocating land for investment purposes unrelated to agriculture and its exclusion from agricultural production. The study examined the issues of protection of agricultural land from the point of view of limiting the possibility of changing its purpose for non-agricultural and the use of legal instruments accompanying it. Financial and legal instruments resulting from the regulations included in the Act on the protection of agricultural and forest land were also analysed in detail. This study, in addition to describing legal regulations in the area of protection of agricultural land, will also present numerical data on the annual level of allocating land for non-agricultural purposes, land exclusion from agricultural production and financial resources for land protection. In addition, this study will show the trend taking place in the change in land use and demography in Poland.

Key words:

protection of agricultural land, use of agricultural land for non-agricultural purposes, fees for the exclusion of land from agricultural production, agricultural production space

Introduction

Rational use and protection of agricultural land are among the basic tasks of the state. Agricultural land is one of the most valuable resources of the Earth and it is classified among non-renewable natural resources, which is why it requires special protection. It needs to be emphasised that the properties enabling agricultural use of land are not universal, permanent and invariable. Due to the progress of civilisation, urbanisation processes and climatic change the resources of agricultural land are decreasing quite quickly, either as a result of changes in their purpose, degradation resulting in lower production properties or total devastation of the environment. Therefore, the management of agricultural land should take place in a balanced and rational manner. This means the use of agricultural land which will not cause its permanent loss for agricultural production (e.g. limiting the location of development or



exploitation of natural resources in areas of agricultural value) or deterioration of its quality as a result of negative impact of human activities. Therefore, meeting current housing, economic or energy needs should not take place at the expense of the agricultural production space and be an objective overriding food production and respect for the natural environment. Thinking about future generations, it is necessary to take such actions which will maintain the production function of the soil in the long-term. Improperly pursued policy regarding the use of available but limited resources of agricultural land may lead to a situation in which it will become more and more difficult to meet the food needs by future generations. Therefore, the use of this resource should not be left only to the laws of the market, which is primarily driven by the current economic effects. First and foremost, land management must take into account the principle of sustainable development. We should strive to maintain the balance in the environment which will be possible only if the agricultural land resources will be subject to detailed control.

In this context, it is important to monitor the area of agricultural land bearing in mind not only its surface aspect, but also the qualitative aspect. Noticing the threat following from the loss the area of agricultural land, already in the 1970s Poland created a comprehensive legal framework for protecting the land against its irrational investment. Regulations imposing the need to include protection of agricultural land in the investment process on all central and local authorities were introduced in 1971.

Materials and methods

The loss of agricultural land in favour of other branches of the economy is a common phenomenon throughout the world. The civilisation development of the society, the increase in the population, the expansion of industry and cities contribute to the systematic increase in the demand for land. Agricultural land is often treated not as the primary means of food production but as an investment area. The demand for agricultural land and its transfer to nonagricultural branches must be subject to control and take into consideration the real demand of the economy for new investment areas, taking into account the existing reserves. The phenomenon of a loss in the area of agricultural land used for agricultural production due to its development for industrial, housing or infrastructural purposes is observed in Poland annually. It seems that this phenomenon is inevitable. It is therefore important to provide legal instruments which will allow controlling this process and oblige authorities and the public to include the need to protect the environment and the production functions of agricultural land in their investment plans.

The basic task of protecting agricultural land in Poland is to preserve the agricultural production space in the best condition for future generations. The currently functioning legal regulations in this area distinguish three basic directions of protection of agricultural land:

- quantitative protection, consisting in limiting the allocation of agricultural land for non-agricultural purposes;
- qualitative protection, consisting in allocating primarily wastelands and land with the lowest production suitability for non-agricultural purposes;
- land reclamation, consisting in restoring areas damaged as a result of human activity mainly related to the extraction of natural resources the utility function.

The legal framework for the protection of land created in Poland, introducing administrative and economic restrictions, has the effect of slowing down the loss of agricultural land and preventing excessive fragmentation of open agricultural production space. The research was



based mainly on the data of Statistics Poland¹ and data collected by the Ministry of Agriculture and Rural Development. The research was based on data from the period from 2000 to 2017.

Results and Discussion

1 Demographic changes in Poland with particular emphasis on rural areas

According to data of Statistics Poland, as of 31 January 2017, the population of Poland amounted to 38,422 thous., including urban areas inhabited by 23,109 thous. people and rural areas by 15,324 thous. people (39.8% of Poland's population).²



Figure 1: Population according to the place of residence in 1981-2017

Data presented on the figure clearly indicates that since 1999 (14,562 thous., 38.1%), the number of population in rural areas has been increasing steadily, while the number of urban populations has been decreasing. Systematic growth in this area is largely caused by migrations from large urban centres to neighbouring rural areas (in this period, the number of residents of cities dropped by over 590 thous.). The consequence of this is the positive migration balance observed in rural areas since 2000 (annually, the inflow of population from cities usually exceeds the outflow of people from rural areas). In 2017, the balance was 25.9 thous.

According to the research carried out by Statistics Poland, a positive demographic trend in rural areas, leading to an increase in the number and share of the rural population in the total population, will continue by 2030. It is forecast that the number of the rural population will then increase over 250 thous. compared to 2016 and will reach the level of 15,567 thous. (in 2020 - 15,421 thous.), which will mean 41.9% of the total population (in 2020 - 40.4%). These forecasts indicate that investment pressure on arable land will continue to grow. The presented data is an important reason for taking a special look at the rationality of agricultural land management and monitoring of the loss of agricultural land.

2 Characteristics of land use in Poland and trends of changes.

The structure of land use is the main determinant of its socio-economic functions. Two forms of use dominate in Poland: agricultural land and forests (Jarosz, 2010).

Source: own study based on data of Statistics Poland

¹ Central body of <u>government administration</u> which collects and shares <u>statistical</u> information on the majority of areas of public life and some aspects of private life.

² Demographic Yearbook of Poland 2018, Statistics Poland.



Year	Total area (in thous. ha)	Agricultur al land (in thous. ha)	Forests (in thous. ha)	Developed and urbanised land (in thous. ha)	Land under water (in thous. ha)	Wasteland s (in thous. ha)
2000	31,269	18,537	9,094	2,009	833	499
2001	31,269	18,504	9,122	2,015	834	499
2002^{3}	31,269	19,183	9,167	1,490	642	497
2003	31,269	19,226	9,209	1,417	647	494
2004	31,269	19,207	9,214	1,458	646	494
2005	31,269	19,148	9,338	1,476	636	498
2006	31,269	19,099	9,389	1,491	637	493
2007	31,269	19,069	9,401	1,494	636	489
2008	31,269	19,025	9,463	1,511	638	487
2009	31,268	18,981	9,496	1,529	640	485
2010	31,268	18,931	9,531	1,550	640	482
2011	31,268	18,870	9,570	1,572	645	480
2012	31,268	18,825	9,600	1,590	646	479
2013	31,268	18,770	9,634	1,613	647	476
2014	31,268	18,716	9,658	1,635	649	475
2015	31,268	18,597	9,637	1,648	645	470
2016	31,268	18,621	9,715	1,678	649	470
2017	31,268	18,810	9,513	1,701	651	466

Table 1: Directions of using land in Poland in 2000-2017.

Source: own study based on data of Statistics Poland

The presented data shows that between 2002 and 2017, area of agricultural land decreased a total of about 370 thous. ha; in that period, the highest increase was noted in the area of forests of about 370 thous. ha and developed and urbanised areas (210 thous. ha).

According to projections, by 2030,⁴ the acreage of agricultural land in Poland will be characterised by a further downward trend. This situation is most noticeable in the case of areas directly adjacent to large urban centres (Warsaw, Krakow, Wrocław, Gdańsk) and is associated with the progressive processes of suburbanisation, including the sprawl of cities beyond their administrative borders and the progressive urbanisation of rural space. The process of "economic suburbanisation," the effect of which is the allocation of large areas, in particular along main communication routes, for development of commercial, industrial or warehouse functions, is taking place parallel to the housing suburbanisation. Limiting the area of agricultural land can lead to an increase in concentration and intensity of agricultural production. Due to the above-mentioned projected trends, closer attention should be paid to the need for rational use of agricultural space.

³ In line with the changes in the regulations regarding the register of land and buildings in 2002, area of agricultural land includes land under buildings, land under ponds and ditches, as a result the utilised agricultural area has increased since that year.

⁴ Projections made by the Institute of Soil Science and Plant Cultivation – National Research Institute, the Institute of Agricultural and Food Economics – National Research Institute, the Plant Breeding and Acclimatisation Institute – National Research Institute, the National Research Institute of Animal Production.

3 Soil conditions in Poland

Soils in Poland are characterised by a significant diversification of production potential which results from the spatial variability of the land form, soil cover, precipitation and temperature. The soil quality classification⁵ of agricultural areas in Poland was carried out in the 1960s and 1970s. Nine classes of arable land are distinguished in the Polish quality classification system: I, II, IIIa, IIIb, IVa, IVb, V, VI, and 6 classes of grassland: I, II, III, IV, V, VI.

Class I soil – the best arable soils. These are soils the most abundant in nutrients and easy to grow on. High yields can be achieved on them without much expenditure, even with average agricultural culture. These soils are suitable for the cultivation of all crops, in particular sugar beet, wheat, alfalfa, rape, red clover, for growing vegetables and planting orchards.

Class II soil – very good arable soils. Their composition and properties are similar to class I, but they are located in less favourable terrain conditions and for this reason yield of plants grown on this soil may be lower than in class I.

Class III soil (a and b) - good and medium arable soils. In comparison with class I and II soils, they have worse physical and chemical properties. They are characterised by a large fluctuation in the water level depending on precipitation.

Class IV soil (a and b) - average arable soils. Yield of plants on these soils are markedly lower than on soils of the higher classes, even if they are maintained in a good arable culture. The yields largely depend on the amount and distribution of precipitation.

Class V soil – poor arable soils. This class includes low-fertile soils, stony or sandy soils with a low level of humus. They are poor in organic substances.

Class VI soil – the poorest arable soils. An attempt to grow plants on soils of this class carries a high risk of obtaining very low yields.

Class VIz – unsuitable for field cultivation – suitable only for afforestation – is also distinguished. These soils have a very low level of humus.

Soil cover in Poland forms a mosaic system: soils of medium-quality classes (IVa and IVb) and poor and very poor soils dominate (V and VI), the most fertile ones being only 3.21% (soils I-II).



Figure 2: Characteristics of soils in Poland

Source: own study based on data of the Head Office of Geodesy and Cartography⁶

⁵ The soil quality classification is an agricultural system of division of soil into classes specifying its value in use (Dictionary of Polish language https://sjp.pwn.pl/slowniki/bonitacja.html, access on 11 March 2019).

⁶ Central government administration body for geodesy and cartography.



The presented information clearly shows that Poland is characterised by average quality of soils which is why the protection of agricultural land places great emphasis on limiting the allocation of agricultural land with the highest production quality for purposes other than agricultural. A reflection of the fact that the land with the highest productivity is an important national asset are the provisions of the Act on the protection of agricultural land which entrusts the competence related to the protection of the highest quality land to the central body – the Minister of Agriculture and Rural Development. Such a placement of the decision on the allocation of agricultural land for non-agricultural purposes allows a global and objective look at the investment planned by the local authorities.

4 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 (Radecki, 1995).

5 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.

6 Tools for the protection of agricultural land.

A. 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.⁷ 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).⁸ 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

⁷ The local spatial development plan is an act of local law adopted in the form of a resolution of the commune council, specifying the purpose, conditions for land management and development, as well as the location of public purpose investment. It is the basic document shaping spatial development in Poland.

⁸ Commune head, mayor – executive body of the lowest-level local government unit, i.e. commune.

marshal⁹ who, within 30 days of submitting the application by the commune head (mayor), encloses his/her opinion and sends it to the Minister.

One should bear in mind that the legislator provided for two cases in which the consent of the Minister of Agriculture and Rural Development for changing the use of agricultural land being utilised agricultural area of classes I-III is not required. They concern agricultural land:

- located within the administrative boundaries of cities, and
- agricultural land meeting the following criteria cumulatively:
 - at least half of the surface of each compact part of the land is included in a compact settlement area;
 - located at a distance of no more than 50 m from the border of the nearest building land;
 - located no more than 50 meters from a public road;
 - its area does not exceed 0.5 ha.

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.

The provisions of the Act indicate the following among the main principles which should be applied by all authorities:

- article 3(1)(1) which states that the protection of agricultural land consists, among others, in limiting its allocation for non-agricultural or non-forestry purposes, and
- article 6(1) stating that primarily land marked in the land register as wastelands, and in the absence thereof other land with the lowest production suitability, can be allocated for non-agricultural and non-forestry purposes.

These rules 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. This statement is the main and basic premise to submit an application to the Minister of Agriculture Development for allocating agricultural and Rural land for non-agricultural purposes.

When assessing the legitimacy of allocating agricultural land for the proposed development indicated by the applicant, such as: single-family housing, service, production and service, and technical infrastructure, the Minister of Agriculture and Rural Development, based on documents provided with the application, analyses, among others:

- the quantity and quality of agricultural land in a concrete commune which allows assessing whether there are real possibilities of locating the new buildings on land of weaker classes or on land already designated for non-agricultural purposes in previous planning procedures which allow its development and meeting economic and housing needs of the local community;
- location of the land specified in the application in relation to the agricultural production space and development of land adjacent to it which allows assessing whether the proposed investment will interfere in the open agricultural production space, causing its fragmentation or not;
- demographic changes which allow determining the real demand of the commune for next investment areas.

⁹ Province marshal – executive body of the highest-level local government unit, i.e. province.



Figure 3 The area of agricultural land of classes I-III covered by applications for the allocation in relation to agricultural land of class I-III to which the Minister of Agriculture and Rural Development consented (2000-2017).



Source: own study based on data collected by the Ministry of Agriculture and Rural Development

Analysing the data depicted in Figure 3, we can observe that the largest areas of agricultural land of classes I-III were covered by applications in 2002-2009. It should be explained here that this situation was caused by the change of the spatial planning system in Poland, which is closely related to the procedure of allocating agricultural land of classes I-III for non-agricultural purposes. Since 2011, the area included in the applications has remained at a stable level of around 8,000 ha. Regarding agricultural land in relation to which consent was given to allocate it for non-agricultural purposes, there is certain regularity with regard to the area covered by the application. The largest area of agricultural land was allocated for non-agricultural purposes in 2003-2006, then in 2007-2015 it remained at a stable level from 4,000 ha to 5,000 ha. A significant decrease in this area occurred in 2016 and in 2017 – 2750 ha and 2425 ha, respectively (50% compared to 2007-2015).

B. 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"¹⁰ 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.

 $^{^{10}}$ Exclusion of land from production is understood as the beginning of land use other than agricultural or forestry (Article 4(11) of the Act on the protection of agricultural and forest land).



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**¹¹ (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.





Source: own study based on data collected by the Ministry of Agriculture and Rural Development

The following obligations are related to the exclusion of agricultural land of classes I-III from production:

- **payment of charge** a one-time payment for permanent exclusion of land from production;
- payment of annual fees fees for use of land excluded from production for non-agricultural or non-forest purposes amounting to 10% of charges paid in the event of permanent exclusion – for 10 years, and in the case of non-permanent exclusion – for the period of this exclusion, no longer than for 20 years from the exclusion of this land from production;
- remove the upper layer of topsoil and use for the purpose of improving the utility value of the humus layer of soil from agricultural land of classes I, II, IIIa, IIIb, III, IVa and IV as well as from peat bogs.

The amount of the charge and annual fees follows directly from the Act on the protection of agricultural and forest land and depends on the type of soil, the quality class and the method of use.

 Table 2 Amounts for the calculation of costs for excluding agricultural land from production

Arable land and orchards		Meadows and pastures		
class	charge (in EUR ¹²)	Class	charge (in EUR)	
made of soils of mineral and organic origin				
I 101,669		M & ps I	101,669	

¹¹ District governor – a middle-level authority of the local government unit, i.e. district.

¹² EUR 1=PLN 4.3



II	88,123	M & ps II 84,046	
IIIa	74,557	M & ps III 67,779	
IIIb	61,001		
	made of soils	of organic origin	
IVa	47,445	M & ps IV	40,667
IVb	33,890	M V	33,890
V	27,112	Ps V	27,112
VI	20,334	M & ps VI	20,334

Source: Act on the protection of agricultural and forest land.

In each particular investment, the level of fees is determined by the district governor in the decision allowing the exclusion of agricultural land from production. The obligation to pay them arises since the actual day of investing (usually it is the moment of geodetic determination of investment in the field). The necessity of obtaining a decision permitting the exclusion of land from production and the obligation to incur the related costs is very often an important factor determining the change of location of the investment.

It is also extremely important to support measures related to the improvement in the quality of agricultural land and restoration of land lost for production. In order to provide funds for this purpose, funds from fees related to the exclusion of land from production (charges, annual fees and fines for illegal exclusion of land from production) are directed to a special account held by the provincial self-government. These funds are a kind of special fund for financing the protection of agricultural land.

The analysis of the annual report on the implementation of the provisions of the Act on the protection of agricultural and forest land for 2017^{13} showed that from the total amount of approximately EUR 33.6 thous.¹⁴ the largest amount of funds was allocated for the construction and modernisation of access roads to agricultural land – approx. EUR 30.3 thous. In total, 1388 km of such roads were built and commissioned on a national scale. Successively, there were investments for small retention, including construction and renovation of water reservoirs – approx. EUR 1.23 thous. The amount spent on research of agricultural crops obtained in protection zones and the necessary documentation and expert analyses in the field of protection of agricultural land was about EUR 0.74 thous. The remaining funds in the amount of approx. EUR 2.1 thous. were used for the purchase of measuring and IT equipment along with software and for the fertilisation of about 3,000 ha of soils with low production value.

Fees for the exclusion of agricultural land from production are kind of prices paid for the irretrievable loss of this land which in practice can be classified as non-renewable natural resources. This instrument, as a financial burden, somehow forces potential investors to manage the agricultural production space reasonably, thus reducing the pressure on the environment.

Support for housing construction and public purpose investments

¹³ The provisions of the Act on the protection of agricultural and forest land oblige district governors to submit reports to the Minister of Agriculture and Rural Development on, *inter alia*, determined charges, annual fees, every year.

¹⁴ EUR 1=PLN 4.3



Taking into account the historical conditions of location of settlement units on the best land and the need to support housing, the Act on the protection of agricultural land introduced an exemption from the costs of excluding land from production for such investments. Based on Article 12a of the Act, housing construction investors are exempt from the obligation to pay charges and annual fees:

- up to 500 square meters in the case of a single-family building;
- up to 200 square meters for each flat in the case of a multi-family building.

The provisions of the Act also introduce facilities for public investment. In the case of public purpose investment and public utility investment in the area of education, culture, religious worship, health care and social welfare, if an investment serves to meet the needs of the local community and concerns the enlargement or establishment of a cemetery, as well as investment aimed at achieving public goals, if the area of land subject to exclusion does not exceed 1 ha, the province marshal may redeem all or part of charges and annual fees.

Fines for illegal exclusion of agricultural land from production

The Act on the protection of agricultural and forest land also introduces a system of sanctions for illegal exclusion of land from agricultural production in the form of:

- double charge in the case of illegal exclusion of land not meant for purposes other than agricultural in local spatial plans, and
- charge increased 10% in the case of agricultural land allocated for non-agricultural purposes in the local spatial development plan but invested without a decision allowing its exclusion from production.

C. 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 entities obliged to the reclamation are the following:

- if the person causing the loss or limitation of land use value has been determined this person;
- if the person causing the loss or limitation of land use value has not been determined or if the land has been devastated or degraded as a result of a natural disaster (e.g. flood) or land mass movements – district governor with regard to agricultural land, director of the national park with respect to agricultural and forest land located in the area of a national park, forest administration body in relation to forest land.

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.

In the situation of conducting activity giving rise to the obligation of reclamation by several persons, the Act does not provide for a joint obligation of reclamation, but divides it into each person according to the scope of activity.

The Act also provides for a different date for beginning the reclamation. It concerns areas of predicted subsidence of land as a result of mining operations. Then the owner can apply for the reclamation before the land degradation occurs.

Decision in reclamation matters is issued by the district governor who is obliged to consult the following entities before issuing it:

- mining authority in relation to mining operations;
- forest administration or national park authority in relation to land with a planned forestry reclamation;
- commune head (mayor, president of the city).

The obligation to reclaim land arises from the moment of issuing an administrative decision. Decisions in matters of reclamation and management specify:

- the degree of limitation or loss of utility value of land, determined on the basis of two separate assessments of experts;
- the person obliged to reclaim land;
- the direction and date of reclamation;
- recognising the land reclamation as completed.

At the same time, it should be noted that the reclamation of agricultural land after activities involving the extraction of minerals is carried out as it becomes completely or partially useless or useless for a specified period to conduct economic activity and ends within 5 years of resigning from this activity. In addition, people obliged to reclaim land, each year until 28 February, notify the district governor about changes in the land subject to reclamation which took place last year.

After completing the reclamation work, the district governor, after consulting the mining authority, forest administration or national park, as well as the commune head, mayor, city president, and field inspection with the participation of the applicants and the entity supervising the reclamation work, recognises the land reclamation completed in the form of a decision.

Conclusions

Due to development of civilization and progressing urbanisation, pressure on the agricultural production space is increasing. For this reason, legal mechanisms which give the possibility of state control over this phenomenon are so important. In Poland, measures to limit the loss of agricultural land and preserve it to ensure the country's food security are carried out on the basis of the provisions of the Act on the protection of agricultural and forest land. These measures 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. An investor who wants to invest on the highest quality land must face high fees and, in the cases specified by law, the need to develop the top humus layer. These mechanisms are aimed at effectively discouraging potential investors from developing highest quality land, which is the foundation of agricultural production, for non-agricultural purposes.

As shown by the analysis, the area of agricultural land of classes I-III in the case of which the Minister of Agriculture and Rural Development agrees to non-agricultural use is systematically decreasing year by year. In 2018, it amounted to around 2050 ha. When



analysing each submitted application aimed at obtaining consent for the allocation of agricultural land for non-agricultural purposes, the Minister of Agriculture and Rural Development pays particular attention to using for non-agricultural purposes first land less useful for agricultural production and investment reserves held by local governments in the form of land which already has non-agricultural status. In order to manage space rationally, and not only in agriculture, it is advisable that the new buildings be located as a continuation of already existing investment and to fill the gaps between buildings, so that single, scattered buildings are not created, resulting in the fragmentation of space. Such dispersion of buildings also involves the need to provide the necessary technical infrastructure for servicing built-up areas, which in turn results in the loss of additional land valuable for agricultural production.

The indicated legal instruments included in the Act on the protection of agricultural and forest land allow stating that the existing solutions of legal protection of agricultural land provide a satisfactory degree of protection offered.

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Contacts:

Katarzyna Jagiełło, Ministry of Agriculture and Rural Development, Land Management Department, Department of Protection and Shaping of Agricultural Production Space, phone: 22 623 41, fax: 22 623 14 33, katarzyna.jagiello@minrol.gov.pl

Agnieszka Zdanowicz, Ministry of Agriculture and Rural Development, Land Management Department, Department of Protection and Shaping of Agricultural Production Space, phone: 22 623 41, fax: 22 623 23 05, agnieszka.zdanowicz@minrol.gov.pl





HOW AGRICULTURE AFFECTS WATER QUALITY? A KEY STUDY FROM POLAND

Agnieszka BUS¹, Agnieszka KARCZMARCZYK¹

¹Warsaw University of Life Sciences, Faculty of Civil and Environmental Engineering, Department of Environmental Improvement

Abstract

The impact of agriculture on water quality is an international and undeniable problem. Inadequately selected periods and dose of fertilizer application, disordered wastewater management in rural areas have a significant impact on the state of water resources. The aim of the study is to present the cause and effect analysis of agricultural water pollution on the example of Poland and indicating the possible methods for preventing water pollution. The assessment of the impact of agriculture on the quality of water resources has been based on the Pressure-State-Response (PSR) framework promoted by the Organisation for Economic Cooperation and Development (OECD). Factors affecting the quality of water in rural areas were identified and presented. Also, the current state of surface water quality in Poland was presented. A review of the methods used to limit and reduce the nitrogen and phosphorus losses from diffuse sources of pollution is also presented.

Key words

agriculture, pollution, surface water quality, water protection, preventions

Introduction

An important environmental problem both worldwide and in Poland is the state of water quality. The main process threatening the quality of surface water worldwide is eutrophication, which is defined as the enrichment of water with biogens (phosphorus and nitrogen), causing accelerated growth of algae and higher forms of plant life, as a result of which undesirable disturbances of biological relations in the water environment and deterioration of the quality of these waters occur. The low state of surface water quality leads to the extinction of more sensitive species of plants and animals, which adversely affects the quality of ecosystems and can lead to their degradation and, consequently, to a reduction in economic and social use. Water eutrophication was most often connected with standing water, i.e. lakes or dam reservoirs, currently the problem of eutrophication affects not only stagnant waters, but also low flow waters (small watercourses and drainage ditches) and the Baltic Sea. In the contamination of the Baltic Sea waters from Poland, the largest share is diffuse pollution that state 35.7% and 46.5% of total phosphorus and nitrogen, respectively (HELCOM 2018b). The impact of agricultural on water quality is significant, difficult to limit and remove from the environment. It is estimated that in the case of agricultural, phosphorus outflows to surface waters of 1 kgP·(ha·yr)⁻¹ are common, higher outflow (> 2 kgP·(ha·yr)⁻¹) is observed in the case of exhaustion of soil sorption capacity (McDowell et al., 2007). The average load of phosphorus and nitrogen washed annually from arable land in Poland is estimated at 0.4 kgP·ha⁻¹ (Ulén et al. 2013) and 3.53 kgN·ha⁻¹ (Sapek et al. 2004). As a result



of agricultural activity, the global number of eutrophication cases recorded in 2008-2011 in marine ecosystems increased by 87%, and by 2050 the number of lakes with oxygen deficits in water may increase by up to 20% (EEA 2015).

The aim of the study is to present the cause and effect analysis of agricultural water pollution on the example of Poland and indicating the possible methods for preventing water pollution.

Material and Methods

The impact of agriculture on the surface water quality has been assessed on the Pressure-State-Response (PSR) framework promoted by the Organisation for Economic Cooperation and Development (OECD) for its environmental reporting. The PSR framework (Figure 1) was based on the concept of causality that human activities exert Pressures on the environment, which can induce changes in the state - quality of natural resources. Society responds to these changes through environmental, governance, economic and sectoral responses (policies and programmes). Highlighting the cause-effect relationships can help decision makers and the public see how environmental, economic, societal and other issues are interconnected (Devotes, 2014).

Poland is located in the Central Europe at the basin of Baltic Sea (99.7% of area). The country is inhabited by 38 million people that makes it the most populated country in the Baltic Sea basin. Agriculture used areas constitutes 60% of Poland territory. Poland is characterized by a large variation in the annual amount of atmospheric precipitation from values below 500 mm (in Kujawy and Wielkopolska) to values above 1000 mm per year (in the Tatra Mountains). The Polish river network consists mainly of the Vistula and Oder Rivers with their tributaries. The area specific total nitrogen load discharged from the Vistula River basin varied from 146 to over 5000 kg·km⁻² and the mean total nitrogen concentration was 2.130 mg·dm⁻³. In case of total phosphorus, the respective load varied from 8.4 to 138 kg·km⁻² and mean total phosphorus concentration was 0.262 mg·dm⁻³ (Helcom, 2018).

The impact of agriculture on water quality was determined only in relation to nitrogen and phosphorus, as the main factors determining the process of water eutrophication.



Figure 1. Pressure-State-Response framework

Source: OECD, 1993



Results and Discussion

1 Pressures

Agricultural activity affects significantly from all branches of the national economy on the natural environment, especially for water resources. The main pressures affect on water quality are non-balanced fertilization and underdeveloped sewage management.

Figure 1 shows the consumption of nitrogenous and phosphate in mineral fertilizers per 1 ha of agricultural land (calculated as a pure component), generally nitrogen fertilizers are used more often in agricultural activity than phosphate ones. The average nitrogenous and phosphate fertilizers consumption during 10 years is rather stable and equaled 74 ± 5 and 24 ± 2 kg per ha, respectively.





Source: GUS 2019

Natural fertilizers is another group of fertilizers that contribute to soil fertilization and maintenance of humus, and also positively affect stopping and more effective distribution potassium and phosphorus. However, violations rules of stocking animals in relation to area of fields intended for fertilization leads to "over-fertilization", especially slurry and can contribute to surface water and groundwater pollution. Figure 3 shows the consumption natural fertilizers on farms agricultural farms during the marketing years 2009/2010-2017/2018. In case of natural fertilizers, the highest consumption is in case of solid manure (average 48 ± 9 million Mg). The consumption of liquid manure and slurry are on similar level, and averages value equaled 12 ± 3 and 11 ± 3 million m³, respectively.

Often, in arable areas are also created diffuse pollution, identified directly with the living activity of people. In 2017, 11.5 million people in Poland were not connected to collective systems of receiving wastewater contaminants (GUS 2017), and the unitary load of phosphorus emitted in human metabolism products is about $1.6 - 1.8 \text{ gP} \cdot (\text{P} \cdot \text{d})^{-1}$ (Wind, 2007).





Figure 3. Consumption of natural fertilizers on farms (in the mass of goods)

The ratification by Poland of Council Directive 91/271/EEC concerning urban wastewater treatment and the resulting implementation of the National Program for Municipal Sewage Treatment (NPMST) (2003) positively contributed to the reduction of point pollutants in agglomerations with PE> 2000. The organization of water and sewage management were implemented by putting new sewage treatment plants into operation, modernizing the existing ones and extending the water supply and sewage network. As a result of NPMST implementation, the percentage of rural population connected to the sewerage network increased from 18 in 2004 (GUS 2005) to 42 in 2017 (GUS 2017). Also, there is seen a decreasing number of septic tanks with increasing number of sewage treatment plants (Figure 4) as a way of wastewater management in rural areas.



Figure 4 Domestic systems for sewage disposal in rural areas in Poland

Source: GUS 2018



2 State

The evaluation of the status of the water bodies of rivers and artificial dam reservoirs in 2010-2015 was based on the ordinance of the Minister of Environment on the method of classification of the surface water bodies and environmental quality standards for priority substances (Journal of Laws of 2014, item 1482). According to this evaluation, out of examined 1672 bodies of water, 89% was classified to bad condition. The rest, 11% was classified as a good one (IMGW 2016). As a European Union member Poland was obliged to achieve a good ecological status of all waters by the end of 2015 which is required by ratification of the Water Framework Directive (2000/60/WE). Unfortunately, in case of Poland most of water bodies do not met that requirements.

3 Responses

Responding to surface water pollution by agriculture are preventive actions that should be applied in the agricultural areas as close as possible to the source of pollution. Due to the area of pollution formation and difficulties in their identification, the estimation of non-point and diffuse pollution are limited. In this case, the "end of pipe" technologies are not applicable due to the significant territorial spread and individual discharge of relatively small pollutant loads. The possible prevention methods against surface water pollution are presented in the figure 5.

In case of nitrogen, there is a Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources, commonly referred to as the nitrates directive, obliges European Union Member States to take measures to prevent the penetration of nitrogen compounds into surface and underground waters. The Directive contains code of good agricultural practice which concerns mainly suitable doses and dates of fertilization and storage of natural fertilizers. Unfortunately, there is still no legal regulations for phosphorus. However, the requirements contained in the Nitrates Directive also apply indirectly to phosphorus.

One of methods to prevent water quality are vegetated buffer strips (buffer zones) that are located along watercourses in agricultural areas partly due to their relative ease of establishment and arguably their small footprints and maintenance costs (Kieta et al. 2018). The vegetated buffer strips are surfaces cover by plants that are designed to treat and slowing down the flow from adjacent surface. Such filters function by slowing runoff velocity and allowing sediments and other pollutants to settle and by providing some infiltration into underlying soils.

In order to more effectively reduce nitrates, vegetated buffer strips can be supported by denitrifying walls. Such a solution in the form of a highly effective vegetated buffer strips is aimed at reducing the concentration of nitrates dissolved in water flowing into the zone, which during the flow through the wall denitrify to gas forms (Izydorczyk et al. 2015). The lifetime of the denitrification wall filled with pine sawdust is estimated at around 15 years (Schipper and Vojvodic-Vukovic, 2001).

Other methods pointed to reduce the subsurface and surface runoff are constructed wetlands for agricultural runoff (Vymazal and Březinová, 2015) and small farm reservoirs (Mioduszewski 2012) that accumulate biogenic pollutants, cleaning up the water thanks to the presence of macrophytes plants. What is more, such wetlands and reservoirs increase the water retention in the agricultural landscape, increase biodiversity and improve the microclimate.

The solutions dedicated to remove phosphorus are mainly based on reactive materials. Such materials have the ability to remove selectively certain substances by sorption or precipitation



process. Reactive materials used to remove phosphorus from the aqueous environment should contain calcium, magnesium, iron or aluminum (Klimeski et al. 2012, Vohla et al. 2011). Reactive materials may be used in a form of filters located directly in the watercourse (for example Suspended Reactive Filters (SRF) Karczmarczyk and Bus, 2017), at the water bank in a form of different box filters (Penn et al 2012) or as a supporting element for P removal of constructed wetlands (Bus and Karczmarczyk, 2017). In this way, the phosphate pollution is directly remove near the place of appearance. The effectiveness of such solutions depended mainly of reactive materials filling the filter, hydraulic properties of the material and water retention time on the filter (Vohla et al. 2011). Other way to use reactive materials to reduce the diffuse pollution is reactive barriers. To protect water bodies, the barriers should be placed in the way of potential subsurface and surface runoff to protect fragile water ecosystems against degradation should be implemented at the most pollution emitting sub-basins to protect water bodies (Izydorczyk et al. 2015, Bus et al. 2019a).





Also, reactive materials may be used as a filtration medium for the removal of phosphorus from wastewater as a supporting P removal element (Bus et al. 2019b, Kholoma et al. 2016, Jóźwiakowski and others 2017). Such solutions are desirable because of the efficiency of phosphorus removal in septic tanks or individual systems for wastewater treatment rarely exceeds 40% (Kholoma et al. 2016).

Conclusions

The PSR framework may be used as a tool of identification the causes and effects of negative impacts on the environment. Diffused pollutants due to the area of their impact are very difficult to identify and remove as environment. In case of Poland that 60% of area is covered by rural areas, the surplus of nitrogen and phosphorus flowing into surface water is significant. However, it have to be remembered that the removal of biogenic pollutants from the environment is a long-term process and requires not only a change in the approach to the protection of water resources, but also financial outlays. Systematic actions and a holistic



approach to the problem of surface water pollution by agriculture, carried out in the most exposed areas, should bring tangible and positive results.

Summary conclusions

The three step Pressure-State-Response framework may be use as a method of identification the impact of water quality from agriculture in Poland. In this way, the pressures of water quality related to rural areas are were identified as a insufficiently ordered wastewater management and lack of sustainable fertilization. Those results in a low state of surface water quality. The wide range of methods to prevent the degradation of surface water by agriculture has been presented as a tools of water quality improvement. –

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Contacts:

Agnieszka Bus, Nowoursynowska 159, 02-787 Warsaw, Poland, agnieszka_bus@sggw.pl

Agnieszka Karczmarczyk, Nowoursynowska 159, 02-787 Warsaw, Poland, agnieszka_karczmarczyk@sggw.pl



1 Annex – CONFERENCE PROGRAM

CENTRAL EUROPEAN INITIATIVE ON AGRICULTURAL LAND PROTECTION -CEILAND

April 3rd - 5th, 2019

SUA Congress Centre, Tr. A. Hlinku 38, 949 76 Nitra

3. April 2019			
09:00-09:20	Registration		
09:20-09:30	Welcome speech		
	Lucia Palšová, coordinator of the project		
	Ivan Takáč, Vice-Rector of SUA in Nitra		
	Oľga Roháčiková, Dean of FESRD, SUA in Nitra		
09:30-16:30 Co	nference will be moderated by Lucia Palšová		
09:30-10:00	Martin Illáš, presentation and discussion		
	Ministry of Agriculture and Rural Development of the Slovak Republic,		
	Slovakia		
10:00-10:30	Volker Stöppler, presentation and discussion		
	Federal Ministry of Food and Agriculture, Germany		
10:30-11:00	Attila Szinay, presentation and discussion		
	Ministry of Agriculture, Hungary		
11:00-11:30	Agnieszka Zdanowicz, presentation and discussion		
	Ministry of Agriculture and Rural Development, Poland		
11:30-11:40	Coffee break		
11:40-12:10	Franci Avsec and Gašper Cerar presentation and discussion		
	University of Novo mesto; Cooperative Association of Slovenia, Slovenia		
	Chamber of Agriculture and Forestry of Slovenia, Slovenia		
12:10-12:40	Peter Hancvencl, presentation and discussion		
	Retired minister plenipotentiary (agricultural and environmental affairs)		
	at the Austrian embassies in Prague, Bratislava and Warsaw – Austria		
	and the Czech Republic		
12:40-13:00	Discussion		
13:00-14:00	Lunch		
14:00-14:30	Philippe Haymoz, presentation and discussion		
	Former lawyer of the direction of the Agricultural Institute of the State of		
	Fribourg, Grangeneuve, Switzerland		
14:30-15:00	Radek Jurčík and Petr Marada, presentation and discussion		
	Mendel University in Brno, Czech Republic		
	Mendel University in Brno; Owner of agriculture company, Czech		
	Republic		
15:30-16:00	Davor Romić, presentation and discussion		
	Former Minister of Agriculture; University of Zagreb Faculty of		
	Agriculture, Department of Soil Amelioration, Croatia		


16:00-16:30	Francesco Riccioli, presentation and discussion				
	University of Pisa, Italy				
19:00	Dinner				

4. April 2019							
09:00-13:00 Conference will be presided by Pavol Bielek							
09:00-09:30	Margherita Brunori and Antonio Manzoni, presentation and						
	discussion						
	Sant'Anna School of Advanced Studies, Italy						
09:30-10:00	Marija Romić, presentation and discussion						
	University of Zagreb Faculty of Agriculture, Department of Soil						
	Amelioration, Croatia						
10:00-10:30	Bernd Hallier, presentation and discussion						
	European Retail Academy, Germany						
10:30-11:00	Coffee break						
11:00-11:30	Gabriella Bánhegyi, presentation and discussion						
	University of Pannonia, Georgikon Faculty, Hungary						
11:30-12:00	Pavol Bielek, presentation and discussion						
	Slovak University of Agriculture in Nitra, Slovakia						
12:30-13:30	Lunch						
13:30-	Multifunctional farm, Podkylava						

Contact:

Slovak University of Agriculture in Nitra Faculty of European Studies and Regional Development Tr. A. Hlinku 38, 949 76 Nitra

https://ceiland.uniag.sk

tel.: +421 37 641 5080 e-mail: ceiland@uniag.sk

Conference administration

<u>Registration:</u> Ing. Veronika Dalkovičová Ing. Zuzana Lazíková

Organizing Committee: Ing. Floriš Norbert Ing. Zuzana Bohátová, PhD. Mgr. Veronika Straussová Ing. Bc. Ina Melíšková

Further Information:

veronika.dalkovicova@uniag.sk xlazikova@is.uniag.sk

norbert.floris@uniag.sk zuzana.bohatova@uniag.sk veronika.straussova@uniag.sk xmeliskova@is.uniag.sk



2 Annex - PRESENTATIONS

Slovakia

Agricultural Soil and Agricultural Land: Problems and Challenges in Terms of Legal Regulation

International Scientific Symposium & Conference on "Central European Initiative on Agricultural Land Protection" April 2-5, 2019 Slovak University of Agriculture in Nitra, Slovakia. <u>www.ceiland.uniag.sk</u>

Mgr. Martin Illáš © 2019 Ministry for Agriculture and Rural Development of Slovak Republic

Scope and Purpose

two senses of protection:

- physical protection of the agricultural soil
- legal protection of the agricultural land as an object of legal relations

technical description focused on identification of the basic terms, relations, problems, goals and challenges and possible legal or legislative solutions



- public discussion misconception and misuse of terms
- especially

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- agriculture soil / agriculture land
- state territory / state ownership
- food security / food selfsufficiency

Basic terms and relations (II.)

Agricultural soil

- part of the environment
- horizontal phenomenon horizontal layer
 - part of the earth's surface (pedosphere)
 - basic means of production but unlike capital or work
 - non-renewable, non-repairable, nontransferable
 - cannot be object to ownership



Basic terms and relations (III.)

Agricultural land

- = agricultural land estate
- portion of earth's surface determined by the parcel line and covered with agricultural soil
- can be an object to ownership
 - types arable land / permanent grassland / garden / orchard / vineyard / hop-field

Basic terms and relations (IV.)

Ownership

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- basic human right perpetual and irrevocable
- belongs to any natural person or legal entity
- contains right to dispose, to hold and usufruct

Usage or usufruct

- right to use and right to derive profit from the thing
- can be transferred to user or tenant

Basic terms and relations (V.) <u>State territory</u>

part of the earth's surface + space above and below it, where state exercises its sovereignty and determines rules

does not mean the state property

State sovereignty

right of the state to determine the rules

Both cannot be endangered by private ownership of land

Basic terms and relations (VI.)

Commodity

- = object of ownership
- object of property transfer and trade
- commodity cannot be agriculture soil
 - is not a separate and autonomous thing
- commodity is agricultural land
 - it is an object of ownership



Basic terms and relations (VII.)

Market

- system of relations where the exchange of commodities takes place
- is essentially open and free
- object of market
 - ≻is not agricultural soil
 - ➢is agricultural land

Basic terms and relations (VIII.)

Farmer

- person operating on agricultural soil
- producer or processor of primary products
- can be
 - natural person / legal entity
 - undertaker / non-undertaker
 - owner / user of agricultural land

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Basic terms and relations (IX.)

Food safety

- ability to provide enough food for population
- essential role of state
- irrelevant from which source the food is acquired – domestic / foreign sources
 - Food self-sufficiency
- ability to ensure food safety at a local / regional / national level from domestic sources

Basic terms and relations (X.)

Legal and economic environment

- legal and economic set of rules
- national level
 - Constitution and other acts and laws
- international level
 - 🕨 UNO, WTO, EU, EEA



Problems identification (I.)

Loss of agricultural soil

- change of agricultural land for other purposes than agriculture
 - other types of land / overgrowing with forests / abandoning / degradation
- change may be
 - temporary / permanent
 - intentional / spontaneous
 - irreversible / reversible
- main reason growth in other sectors of the economy (building industry and transport)

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Problems identification (II.)

- Low price of agricultural land
- Low competitiveness of domestic <u>farmers</u>
 - Inequality in land-market
 - agri-land price Ø 0,85 €
- expensive for domestic farmer
- cheap for non-agricultural / foreign entities
- solvent buyer may offer any price
 - slightly higher / even lower than market price



Problems identification (III.)

Landgrabbing

• is represented in two ways

concentration of the agricultural landownership and outflow of the land-ownership

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Problems identification (IV.)

Concentration of ownership of agricultural land

- accumulation of agricultural land into the hands of a small number of owners, especially non farmers
- about 30 entities own together up to 300 thousand ha
- result
- inequality in distribution of land ownership
- deformation of land prices and rent prices

Problems identification (V.)

Outflow of the land-ownership out of SR

- dominant position of foreign buyers of agricultural land in land-market
- mainly form Netherlands, Denmark, Austria
- only empirical data and estimates: from 30 to 150 thousand ha including ownership and rent in Ø ratio 1:3 + regional differencies
- result same as by concentration
 - + outflow of the produced capital out of SR
- domestic farmers are negatively affected
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Problems identification (VI.)

Risk of concentration in the agri-food complex

- agricultural-food complex
- grades of agri-food chain (producer + processor + supplier + seller) may get concentrated in one legal entity or in a group of connected legal entities
- result:
- Smaller or domestic farmers either liquidate or become dependent on dominant entities
- crisis of domestic food production and collapse of food self-sufficiency

Problems identification (VII.) <u>Fragmentation and complexity of land</u>

ownership (1)

- duplicity of land-registry:
 - "C register" binding new parcellation often without real ownership
- "E register" non-binding old parcellation but real-owned and transferred

ownership-fragmentation itself

- >1.9 million ha of agricultural land
- 4.5 millions of parcels
- One parcel Ø 0.4 ha
- One parcel Ø 11 co-owners (extreme 3100)
- One owner Ø co-owner of 20 parcels

Fragmentation and complexity of land ownership (2)

- trend of fragmenting parcels or ownership share down to the minimal 2000 m² limit
 - persisting ownership of the unknown owners
 held in by the state administrators
 up to 300 thousand ha

Despite the negative consequences, the ownership fragmentation and complexity is a natural barrier to outflow of land-ownership and to the concentration of land-ownership.

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Problems identification (VIII.) <u>Complexity and non-clarity of relations in</u>

usage of the agricultural land

- 95 % of farmers manage rented agricultural land, not the owned land
- farmer doesn't need to own the land needs only to use it (to farm)
- farmer is dependent on the availability of rentable land and price of rent
- at least 8 different titles of land-use
- more than 45 mil. potential relations of landuse (compare 5.44 million of inhabitants in SR)

Problems identification (IX.) Risk of concentration of land-use

- accumulation of agri-land usage in hands of a small number of dominant farmers as tenants on large area of agri-land rented from a large number of land owners
- similar mechanism as by concentration of ownership
- total number of farmers 17 thousand
- round 700 of them users of 80 % of land
- analogically direct payments and other financial aid
- basic limit of profitable farming 150-200 ha

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Problems identification (X.)

Inequalities between European Union member states

when joining the EU in 2010, the "new" member states had to agree only with 40 % share of the payments in agriculture compared to the "old" member states

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Goals and challenges

- increasing the agricultural soil protection
- strengthening the domestic agri-food complex
- increasing the competitiveness of domestic farmers in the agricultural land market
- easier and straightforward farmers' access to agricultural land use,
- stopping the concentration of agri-land ownership,
- stopping the outflow of agri-land ownership
- ensuring the food self-sufficiency



Possibilities of legal solution (I.)

Rationalization of land-ownership

- reform the fragmentation limits
 - > increasing the limits
 - prohibition in certain cases
- liquidation of ownership of the unknown owners
 - more flexible disposal with this property by the state administrator
 - risk of further landgrabbing
- land consolidation universal solution
- 25

Possibilities of legal solution (II.)

Rationalization of land-use

- land consolidation
- reducing the existing types of usage-titles
- rental contract only by decision of the majority of the co-owners
- register of the land-use relations



Possibilities of legal solution (III.)

Agricultural-soil protection as a public interest (1.)

- obligatory fee for any change of the agriland to other type of land without any exceptions
- instead of remissions of the fees should be only reducing of the fee
- in specified cases total prohibition on change

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Agricultural-soil protection as a public interest (2.)

- changes primarily on
 degraded soils
 - on the sites with old environmental burdens
- industrial and urban building primarily in > urban areas,

Pold unused industrial sites,

degraded soils,

Sites with old environmental burdens



- support of environmental and rational practices in cultivating the agricultural land for example
- balks and alleys as windbreaks and water retention,
- Ieave waterlogged and unproductive areas as natural refuges for the organisms
- ploughing across the fall line of slope

Possibilities of legal solution (IV.)

Modelling the ownership and agriculture land market (1.)

- area limits of the land ownership maximum possible area of owned agri-land
 - different for natural person / natural person as undertaker / legal entity / group of interconnected legal entities
- system of pre-emptive rights
 - For tenant or neighbouring owner risk of further landgrabbing
 - For public entities (state, municipalities)

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Modelling the ownership and agriculture land market (2.)

- other possible measures
- obligation of majority co-owner to buy out the minority shares -prevention of their devaluation
- Imitation or prohibition of depositing the agricultural land as a non-monetary deposit into a business company
- ➢obligation of the owner to ensure (not to manage) management of the agricultural land

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Possibilities of legal solution (V.)

Collective action of farmers

- collective sharing the risks and benefits of smaller or domestic farmers as owners or users of agricultural land
 - cooperatives, sales associations, venture funds, sector-organizations ...

as initiative protection against all demonstrations of the landgrabbing and against the inequality in the market



Conclusion (I.)

realising the goals requires to eliminate several obstacles:

hin national law

≻in EU law

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Conclusion (II.)

Constitutional obstacles

Constitution of SR

- <u>guarantee</u> ownership right in maximum volume only with several exceptions of public interest
 - does not allow to
 - limit the size of land owned
 - give preference of acquisition to some entities
 - prohibit non-monetary deposit of land into a business company



Conclusion (III.)

International legal obstacles – EU (1.)

EU law

- does not allow restrictions in the agricultural land market
- protects common market of EU with principles of
 - Free movement of capital
 - Freedom of establishment
- prohibition of not allowed state aid

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International legal obstacles – EU (2.)

- **European Commission recomands:**
- pre-emptive right of the tenant
- price regulation of the agricultural land
- transfer tax
- uniform conditions of access to the agricultural land market
- minimum rent duration



International legal obstacles – EU (3.)

European Commission started • <u>infingement</u> against "new" member states which apply more strict regulation than recommended

- <u>Conform</u> example Germany
 problem not solved
- Extremely strict regulation France
 > no infringement

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International legal obstacles – EU (4.)

European Parliament

 recommends all those measures which apply the "new" member states, i.e. which are refused by European Commission



Conclusion (V.) General strategies

It is necessary to • adopt political and ideological concept / long-term strategy > preserving cultural landscape > right of state and its inhabitants to protect from the negative effects of free market

- common EU regulation
- public support

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Thank you for your attention



Towards a new paradigmas of soil protection policy

andl or from protection of agricultural potentials of soils to another soil functions protection as well

by

Pavol Bielek Slovak University of Agriculture in Nitra





Central European Initiative on Agricultural Land Protection, International Scientific Conference, Nitra 2nd – 5th April 2019

What is the problem?

 in spite of (1) good knowledge base (soil surveys, soil maps, databases,...)
 (2) adopted many national and international legal documents related to soil (national, EU,OECD,UN,...documents)

(:) in fact still (3) we are not satisfied with soil protection situation !!!

What is the reason of that counter-productive relationship?

- Is our knowledge base not correct?
- Are our legal documents not right?
- Are legal documents feasibly enforced in practice?

- Are we enough skilfull to realize all what is needed?

And what about another problems? We can discuss about it...

Soil functions concept acceptance could be helpfull.

soil functions significantly changed hierachy of soil perception ...soil functions started to be as a new paradigm of soil understanding...because

traditional priorities of soil for agricultural and forest production have been extended also on another potentials as follows (acc. EU R/92/8):

- 1. Biomas production (not only food and wood productions!!!).
- 2. Filtering, buffering and transforming actions for the protection of the environment.
- 3. Ecological habitat and genetic reserve.
- 4. Physical medium for socio-economic activities.
- 5. Source of raw materials.
- 6. Cultural heritage.
- 7. Carbon reservoir (added into the proposal of the Framework Directive on Soil).
- 8. Water reservoir (added into the proposal of the Framework Directive on Soil).



And what is the problem more?

instead of soil functions acceptance we still adopt all main legal, practical, subsidiary, economy and other principles of soil protection

mainly on soil protection related to agricultural and forest production

simply

we still are saving our soils preferably only as producers of food and wood

Is correct this approach? Of course, No!

because

most of soil functions are more important for us as food and wood production, mainly if we are speaking about smaller regions and territories

For example

look at the situation in Slovakia

most of all official legal principles of soil protection policy are established on using of 9 specific groups of soils presented in soil information system on all over the Slovakian territory

Every group have been created as category of

soil suitability for agricultural production mainly using information as climate regions, parent ground soil types group slope of fields including exposition depth and stoniness of soil profile soil texture



Example of of information source about soils of Slovakia



Codes of the Soil-Ecological Units in Slovakia



The system was developed about 40 years ago

for financial subsidiary system of agriculture with aim to provide financial support of farmers with respect to production potential of farming land.

Simply: farmers with poorer soils received more subsidies and vice versa on the base of mentioned agricultural approache less fertile soils now are more suitable for sealing that more fertile soils. Is it correct? Yes.

but it is without respects of another soil functions in nature and society

First step of soil functions acceptance in soil protection practice in Slovakia is

Amendment No. 57/2013 to the Act 220/2004 on soil protection bringing the new tax for sealing of

vineyard soils

as cultural heritage of Slovakia (tax 40 - 100 Euros per m²) (it is acceptance of soil function number 6 of EU R/92/8)

But more examples would be fruitful to adopt!



Would be useful to extend it on protections of another easy applicable functions of soils:

- as water reservoir
- as soil limits for human life in small areas of soil (with respect of carrying capacity of soil)
- as buffer zones against another natural resources threats (against erosions, floods, land slides)
- as national concerns in social and cultural development (specific regional policies)
- as measure in brown field policy implementation (protection of surrounding soils)
- as protection measure because of excellent agricultural and/or ecological soil parameters (according specific parameters for every region)
- as preference soils offered to support the reasonable sealing policy

It is not problem in Slovakia to identify those soils or areas using of GIS. But! Methodology is necessary to develop.

Thank you for your attention



Slovenia



CENTRAL EUROPEAN INITIATIVE ON AGRICULTURAL LAND PROTECTION

AGRICULTURAL LAND PROTECTION IN SLOVENIA

Dr. Franci Avsec and Gašper Cerar, Slovenia Nitra, 3 April 2019

CONTENTS

1 INTRODUCTION: SLOVENIA, ITS AGRICULTURE AND AGRICULTURAL LAND 2 BASIC LEGAL FRAMEWORK AND SOME MEASURES OF AGRICULTURAL LAND POLICY

- 2.1 Legal and economic protection of agricultural land
- 2.2 Use and cultivation of agricultural land
- 2.3 Legal transfer of agricultural land

2.4 Soil protection

2.5 Agricultural operations

2.6 Some tax measures related to transfer of agricultural land and agricultural operations

2.7 Rural landscape protection

3 CONCLUSION



SOME BASIC DATA ABOUT SLOVENIA, ITS AGRICULTURE AND AGRICULTURAL LAND

Indicator	Value	Indicator	Value		BASIC CHALLENGES
Population	2,076,598	Share of forests in	58%		 high scarcity and fragmentation of the agricultural land, high share of areas with limited possibilities for agricultural activity (86 % of the total surface) and maintaining diversified and relatively well preserved environment in a good
Area	20,273 km2	total area			
GDP per capita	27,506 USD	Share of utilized	23,5%		
Share of agriculture in total added value	2.1%	agricultural area in the total surface	(EU: 40%)		
Share of agriculture in total employment	7.4%	Share of arable land in the total UAA	35.6% (EU: 59.6%)	7	
Number of agricultural holdings	69,902	Percentage of 37.9% territory under (EU: 18.2%) Natura 2000 network	,902 Percentage of 37.9% territory under (EU: 18.2%)	4	
Average farm size	6.9 ha			condition.	

Constitutional protection of agricultural land:

»... special conditions for utilisation of land in order to ensure its proper use« and »special protection of agricultural land« are provided by the law (Art. 75 of the Constitution of the Republic of Slovenia)

LEGAL AND ECONOMIC PROTECTION OF AGRICULTURAL LAND

Agricultural land: land suitable for agricultural production, which the spatial planning documents of local communities designate as areas of agricultural land and classify,

in accordance with generally prescribed criteria

and based on expert basis prepared by a professional organisation for each municipality, in two areas:

- (1) areas of permanently protected agricultural land and
- (2) other agricultural land areas.

Local comunities are obliged to plan development projects:

- 1) first on the land of non-agricultural use,
- 2) If this is not possible, such projects are planned in the area of other agricultural land,
- 3) lastly, on the area of permanently protected agricultural land, starting with the land of lower quality (rating).

Economic instrument (since 1973): compensation due to change of purpose of agricultural land.



Decree on areas for agriculture and food production that are of strategic importance to the Republic of Slovenia. 2016: types and subtypes of strategic areas



USE AND CULTIVATION OF AGRICULTURAL LAND

The owner, tenant or other user of agricultural land is obliged:

- to cultivate agricultural land as a good manager,
- to prevent the overgrowing of agricultural land,
- to use farming methods, suitable to the land and its location, in order to prevent soil compaction, erosion and pollution, and to ensure sustainable land fertility.

The compliance is controlled by the agricultural inspection which is authorized to impose on user appropriate measures, afterwards the transfer of the land to the management of National Fund of Agricultural Land and Forests.







LEGAL TRANSFER OF AGRICULTURAL LAND

- 1. Protected farms: prohibition of division in case of succession and legal acts inter vivos with certain exceptions
- Pre-emption right of several classes of entitled persons: (1) co-owner, (2) a farmer who owns adjacent land (neighbour), (3) tenant of the agricultural land offered for sale, (4) other farmer, (5) agricultural organisation or individual entrepreneur (6) National Fund of Agricultural Land and Forests (on behalf of the Republic of Slovenia)
- 3. Restrictions relating to potential donees in case of contractual donation of agricultral land
- 4. Prohibition to create new co-ownership shares through sale and certain donation contracts
- 5. Prohibition of division of agricultural land after its commassation

AGRICULTURAL OPERATIONS

- Exchange of agricultural land
- · Rounding-off
- Commassations
- · Meliorations
- · Irrigation systems





TAX MEASURES

Real property transaction tax

- 2 % on value of real estate
- · exemptions for some agricultural operations

Inheritance and gift tax

- 5 39 % on value of inheretence or gift
- · exemptions for family members, farmers

Personal income tax

• 0 – 25 % on value of capital gain



SOIL PROTECTION

ALA: fertile soil is "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".

Most soil in Slovenia is generally rich in organic matter and not polluted.

Rural development programme of the Republic of Slovenia 2014-2020:

- M01 Transfer of knowledge and information activities
- M04 Investments in physical assets
- M10 Agri-environment-climate payments
- M11 Organic farming



RURAL LANDSCAPE PROTECTION

Agricultural land is decreasing due to the sealing and overgrowing of agricultural land



Rural development programme of the Republic of Slovenia 2014-2020:

- M06 Farm and business development
- M07 Basic services and village renewal in rural areas
- M13 Payments to areas facing natural or other specific constraints
- M19 Support for LEADER local development

CONCLUSION









CURRENT AND FUTURE CHALLANGES IN AGRICULTURAL LAND USE AND SOIL PROTECTION IN CROATIA

Marija Romić¹, Mario Njavro², Davor Romić¹

¹ University of Zagreb Faculty of Agriculture, Dept. of Soil Amelioration,

² University of Zagreb Faculty of Agriculture, Dept. of Management and Rural Entrepreneurship



Contents

- Introduction
- Methodology
- Soil protection policy in Croatia
- Resource-use efficiency and expectations on the national level
- Legislative framework of land policy and land management
- Conclusions

Croatia



Introduction

CURRENT STATE AND TRENDS

1. Resource-use efficiency and expectations on the national level

2. Land resources, the way we currently use land in Croatia

3. Transformative changes in agri and food system are required in Croatia

4. Key challenges that need to be addressed if we are to succeed in making land resources management sustainable

AVAILABLE LAND RESOURCES

Total area of the Republic of Croatia 56,594 km²

Total agri. land

2.638.044 ha

Abandoned agri. land 746.735 ha

UAA

1.891.309 ha Arable land

1.116.331 ha





Izvor/Source: **Romić D. i sur. 2015.** Utjecaj poljoprivrede na onečišćenje površinskih i podzemnih voda u RH.



Agricultural Area



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Farm structure in Croatia

- Used agricultural area
 - 1,024,397 ha (2012)
 - 1,167,130 ha (2017)

• 154 000 farms

- 96,8% family farms,
- 1,5% companies,
- 1,3% registered as craftsmen
- Average farm 7,3 ha divided into 8.5 plots



Lorenz curve of land distribution

Source: Farm Structure Survey

Objectives of the paper

- Describe trends in land-use, resource issues and research responses that are being observed in Croatia
- Discuss the impacts of past and current policies and regulations related to agricultural land use and management in Croatia
- Explain the role of land use inventory, national land management system and soil and land suitability assessment in comprehensive planning and policy-making



- Geo-spatial tools in combination with focused field studies were used for land resources inventory
- Policy analysis is based on literature research and comparative analysis between the theory of land policies and Croatian practice described in the legislative acts and existing researches.

RESOURCE-USE EFFICIENCY AND EXPECTATIONS ON THE NATIONAL LEVEL




OPTIMALISATION OF LAND USE POTENTIAL ON NATIONAL LEVEL-LIMITATIONS



Dynamic rural transformation and uneven demographic expansion



Uneven intensity of land resources usage



Problem of differentiation of agricultural land and forest



Climate change affects disproportionally Croatian regions

Comprehensive approach to sustainable soil and land management





GOVERNANCE FOR SUSTAINABLE LAND MANAGEMENT AND SOIL PROTECTION

AIMS

- Land consolidation
- Plans and actions: construction, forestry, biodiversity, soil, water, climate
- Full use of land resources
- Agricultural land market
- Development of rural financial market

Policy issues

Law on Agriculture determines objectives and measures of agricultural policies

Land Policy Measures?

Law on agricultural land (2018) (17th version since independence).

- governs maintenance and protection of agricultural land,
- · changes of use and charges,
- rules of use of state land and land fund

Annulled Agency for Agricultural Land



- Consolidation of agricultural and forest land
- Increasing the efficient use of water in agriculture and adapting to climate change
- Soil erosion prevention and increasing of soil fertility and soil organic matter
- Conservation of landscape and biodiversity
- Maintenance of continuity of agricultural production in areas with natural and specific limitations for agriculture and
- Restoring the agricultural potential of the mined land.

Rural development measures

- Measure 04 **Investments in physical assets** with sub-measure 4.1. support for investments in agricultural holdings (total budget of 226 million euros) and operation Proper manure management.
- · Sub-measure Support for investments in infrastructure
 - Investments in public irrigation backbone infrastructure (about 100 million euros) and Land consolidation (32 million euros).
 - Land consolidation
- Measure 05 Restoring agricultural production potential damaged by natural disasters and catastrophic events
 - sub-measure 5.2 Support for investments for the restoration of agricultural land and production potential damaged by natural disasters, adverse climatic events and catastrophic events and operations
- IAKS measures:
 - 10 (agri-environment-climate),
 - 11 (organic production) and
 - · 13 (Payments to areas facing natural and other specific constraints



WHAT ARE WE SEEKING IN LAND RESOURCE MANAGEMENT?

- 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
- Changes 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
- 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.

CONCLUSIONS

- ✓ Important changes in the natural resource management
- ✓ Facing/mitigating the impact of natural disasters increasing in number and intensity along with the climate change-related extreme weather events
- Current rural transformation in Croatia affects land use, agricultural and forest production systems, employment and migration
- ✓ Call for effective national governance systems, evidence-based and well targeted policy responses
- ✓ Identification/engagement of key stakeholders especially those who are politically weak and voiceless to ensure outcomes that are both workable and legitimate
- ✓ Increased spreading on research and development, promote innovation for sustainable national resource management and improve in general rural livelihoods





Thank you!

Questions? Comments?



Effects of agricultural support?

 From 2005. to 2017. total subsidies >6 bilion Euro or in average >0,5 bilion Euro annually

All the effects of the applied policies have to me measurable - decrease in livestock production





Import to Croatia



Izvor: DZS















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Foto: D. Romić 2014.







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Foto: D. Romić 2015.











ONEČIŠĆENJE TLA TEŠKIM METALIMA I DRUGIM POTENCIJALNO ŠTETNIM TVARIMA/SOIL CONTAMINANTS





Source: Halamié J., Miko S. (Eds.) 2009. GEOKEMIJSKI ATLAS REPUBLIKE HRVATSKE. HGI

Source: Romié M. i sur. (2013) PROSTORNA VARIJABILNOST TOKSIČNIH METALA U POLJOPRIVREDNIM TLIMA HRVATSKE. Projekt MZO



Hungary

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Agrárminisztérium

Hungarian legislation on the acquisition of agricultural and forestry land

Dr. jur Attila Szinay Deputy State Secretary for Legal Affairs Ministry of Agriculture of Hungary



The land as a natural resource

- In Hungary the natural resources (lands, forests, mining assets, etc.) make up 35% of national wealth. Lands total up to 75% of natural resources. Lands give 26% of national wealth.
- Land is a scarce resource.
- Hungary: 9.3 million hectares
- Total land area: 7.5 million hectares
- Agricultural area: 5.5 million hectares
- Arable lands: 4.5 million hectares





Ownership, possession and holding structure The ownership structure















Land titles (hectares) 2014



The problems of the Hungarian land owning structure

- 1. 8.6 million hectares of lands in 3.9 million pieces in Hungary. The average size is 2.2 hectares.
- 2. 2.8 million landowners in Hungary have 6 million hectares.
- 3. 1.8 million owners rent their land.
- 4. Dual land structure





The goals of the new Land Circulation Act

- 1. To eliminate the discrimination between the citizens of the EU Member States and the Hungarian citizens based on their nationality;
- 2. Land can be owned only by the person who actually cultivate it, and it is not available for the investors who do not perform agricultural production activity;
- 3. To prevent the entry into force of illegal contracts ("pocket contracts");
- 4. To promote the small and medium farms, the new agricultural structure based on family farming, reducing the large agricultural holdings;
- 5. To keep the local population;
- 6. To promote animal husbandry.



The tools of the Land Circulation Act

- 1. Official approval of the acquisition of the right of ownership and the right of use. In the authorisation procedure of land acquisition the local land committee has a veto right;
- 2. Agricultural or forestry land can only be owned by farmers and can only be used by farmers or agricultural companies;
- 3. Personal activity from the land owner;
- 4. The pre-emptive right and the pre-emptive use right;
- 5. The maximum allowed size of land holding and all land held in possession.





The procedure

- 1. The purchase offer of the land accepted by the owner shall be incorporated in a contract.
- 2. The contract shall be notified by the owner to the persons eligible to pre-emptive rights: the notary publishes the contract for 60 days.
- 3. Holders of the pre-emptive rights are entitled to make a legal declaration on accepting the contract or waiving their pre-emptive rights within a 60 days limitation period.
- 4. The notary sends the documents to the agricultural administrative authority for approval of the sale.
- 5. The local land committee shall give an opinion to the authority whether it supports it or not. An appeal can be submitted to the local government.
- 6. The authority examines whether the conditions of the acquisition are met. The authority establishes the rank of the persons who have pre-emptive rights, and approves the contract with the first in the rank.
- 7. The acquisition can be recorded in the land registry.

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Personal conditions

The ownership right of the land may be acquired by resident natural persons and citizens of Member States who are **farmers**.

Legal entities are not capable of acquiring land.

The conditions of the farmer status:

- resident natural person or a citizen of a Member State,
- registered in Hungary,

• professional qualification in agriculture or forestry or certified to have at least three year agricultural experience.





The conditions relating to the agricultural company:

• legal person or an unincorporated organisation with a seat in a Member State,

• registered by the agricultural administrative authority,

• primary activity is an agricultural or forestry activity pursued continuously for at least three years,

• more than half of its annual net sales must come from agricultural or forestry activity,

• has a manager who has a professional qualification in agriculture or forestry or has at least three year agricultural experience.



Against the speculation

Land can be owned only by the person who actually cultivates it, and it is not available for the investors without agricultural production activity.

The person acquiring the land shall make a declaration to cultivate the land himself/herself, and not to transfer the right of use to other persons.

The reason of these rules is to prevent the speculative land purchases. The land is a not renewable resource which has limited availability. Investment without agricultural production can raise the prices of land without proper reason and can prevent the farmers to acquire more lands. The rise in the price has the effect of increasing the leasing fee and it raises the costs of production and the price of foods.





Pre-emptive rights, pre-emptive use rights

With exercising his/her pre-emptive right the person can enter into the contract.

There is no obligation to exercise this right, only a possibility exists. The person who has this right shall accept all conditions of the contract without any modification.

The reason of the pre-emptive rights is to ensure land consolidation and concentration. Only local farmers have this right in order to concentrate lands close to the residence of the farmer.

The definition of the local farmer requires three year local residence according to the Accession Treaty.



Maximum allowed size of land holding and all land held in possession

The maximum allowed size of landholding is 300 hectares, according to the previous act and historical traditions in Hungary.

The maximum allowed land held in possession is 1200 hectares in which the ownership and the lands used by any title must be counted together. As an exception it is possible to acquire 1800 hectares in 3 cases:

- in order to produce feed for animal husbandry,
- to establish isolation zone in order to ensure seed production,
- for a cooperative if it leases the land from his members.







The infringement procedure

- 1. Ban on the acquisition of ownership by legal persons
- 2. Requirement on professional qualification or practical experience for farmers
- 3. Not recognised professional experience gained in other Member States (partially soved)
- 4. Self-farming obligation
- 5. Treatment of entrant farmers (solved)
- 6. Lack of clear evaluation criteria in the prior approval of sales contracts (partially solved)
- 7. Lack of effective judicial review against decisions of the agricultural administrative body (solved)
- 8. Maximum duration of lease contracts in case of plantations (solved)



- The chain of ownership.
- The legal person has an owner.
- This owner can also be another legal person.
- This creates a possibility for the natural person being the final beneficiary of the legal person to avoid easily the requirements regarding the maximum allowed size of land holding and all land held in possession through a chain of ownership, taking the possibility of other local farmers to have access to land.
- Selling the ownership interest of a legal entity, there is no change in the ownership of the land.
- It prevents farmers having pre-emptive rights to exercise them.

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Requirement on professional qualification or practical experience for farmers

- The knowledge (savvy) for personal cultivation in order to provide professional agricultural production.
- This can ensure the increase of the quality of agricultural production and thus the competitiveness of the products, the rational utilization of the available land, the maintenance and development of rural communities, and the environmentally conscious farming activity.
- Food safety reasons: professional qualification requirements also appear in the production of primary products.



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The requirement of personal cultivation

AGRÁRMINISZTÉRIUM

- Preventing speculative land acquisition.
- Land prices begin to rise: the price of land is not determined by output achievable from it; instead, a virtual market comes into existence where the prospective yield of the investment determines prices.
- Market entry difficult for new actors, limits to existing market actors' further development.
- Investors tend to view land as a capital element: trust that land prices will rise in the future so they can sell it at a higher price at later stage, meanwhile generating revenue through rent.
- Rental rates cause the continued diversion of capital out of agriculture, which adversely influences producer competitiveness and the population retention capacity of rural areas.







Compliance with the principles of objectivity and legal certainty during the official authorization procedure

- Commission: a Member State has the right to introduce prior authorization procedure for the acquisition of agricultural land.
- The procedure should based on previously known criteria, it does not delimit the right of discretion.
- A system of prior authorization based on previously unknown aspects raises very serious concerns regarding the proportionality of the restriction.
- The person acquiring the land should not be required to provide those data and facts which can be checked through official records.



Thank you for your attention!



International Scientific Conference, Nitra, Slovakia, April 2019



Threats on the quantity of the utilized agricultural area

- Abandonment
- Land conversion
- Disasters (natural, industrial)





Threats on the quality of the utilized agricultural area

- (non-exhaustive list)
 - Exploitation (intensive cultivation)
 - Climate change
 - Scarcity of water, drought
 - Use of chemicals
 - Rising energy costs
 - EROSION, and other degradation
 - Lack of knowledge, research
 - Aging agricultural population
 - Lack of legislation or adequate implementation of it.



Climate Change, Agriculture, Water, and Food Security: What We Know and Don't Know

Foundations for the sound use of farmlands on macro level

- Knowing what you have: the characteristics of the agricultural area of Hungary
- Knowing the farms in your country – farm structure analysis
- Regulation of land acquisition, land lease and land use – legislation analysis

WITTILL

INILL







Changes in the agricultural area between 1945-2017 (1000 ha)

Year	Arable land	a Kitchen garden	Orchard	Vineyard	Grassland	Agricultural area total	Arable land % of agricultural area	Agricultural are% of total area
1945	5567,1	115,1		215,4	1600,7	7498,3	74,2	80,6
1995	4715,9	90,2	93,9	131,3	1148,0	6179,3	76,3	66,4
2005	4513,1	95,9	102,8	86,0	1056,9	5854,8	77,1	62,9
2015	4331,7	80,5	92,2	80,6	761,5	5346,4	81,0	57,5
2017	4334,3	47,3	93,4	73,4	803,8	5352,3	81,0	57,5

Source: HCSO, 2017, edited

Production and non-production are	ea distribution in Hungary between	1945-2017
	(1000 ha, %)	

Year	Agricultural area	Forest land	Reed	Fish Pond	Production area	Agricultural area % in production area	Non- product ion area	Non- production area % in total area
1945	7498,3	1115,5	28,8	••	8642,6	86,8	649,7	7,0
1995	6179,3	1762,9	41,3	27,0	8010,5	77,1	1292,5	13,9
2005	5854,8	1836,4	62,0	33,8	7787,1	75,2	1516,3	16,3
2015	5346,4	1939,3	65,4	36,4	7387,6	72,4	1915,8	20,6
2017	5352,3	1939,7	41,5	37,1	7370,6	72,6	1932,8	20,8

Source: HCSO, 2017 edited









Arable land prices in Hungary, 2017 (euro/ha)

Region	Below 17 GC/ha	17-30 GC/ha	Over 30 GC/ha	Average
Pest	3521,4	3926,3	5789,4	4066,4
Central Transdanubia	3652,7	4786,9	5726,0	4297,9
Western Transdanubia	3246,2	4467,0	4727,4	4260,1
Southern Transdanubia	<mark>3743,6</mark>	4562,1	5946,3	4551,1
Northern Hungary	2308,1	<mark>3289,9</mark>	<mark>3955,4</mark>	2991,7
Northern Great Plain	3546,3	<mark>5146,2</mark>	<mark>10425,6</mark>	4407,5
Southern Great Plain	3389,2	4730,3	6878,9	4949,2
Hungary total	3334,5	4636,8	6879,2	4367,8

Source: HCSO, Agricultural land prices and rent in 2017





Farm structure – where are the family farms?







First land reform results, 1945-1947

Size category of holdings	Number and hole	distribution of lings	Tota	l area	Average size of holdings (ha)
	number	%	1000 ha	%	
0-2,9 ha	991 803	60,1	1661,4	17,9	1,7
3-5,8 ha	388 093	23,5	1960,6	21,1	5,1
5,9-11.5 ha	175 364	10,6	1613,5	17,3	9,2
11,6-28,8 ha	71 054	4,3	1363,2	14,7	19,2
28,9-57,6 ha	14 855	0,9	749,3	8,1	50,5
57,7-115 ha	5 522	0,3	413,3	4,4	74,8
116-575 ha	4028	0,3	780,9	8,4	193,9
576-1725 ha	503	0,0	459,8	4,9	913,8
1726 ha-	91	0,0	297,5	3,2	3268,1
Total	1 651 313	100,0	9 299,5	100,0	5,6

Source: Lacka S: A földterület és a földhasználat alakulása 1945 és 1947 között, 1996

FARM STRUCTURE – Where are the family farms? 1945-1947, 1949-1990





Farm structure in 1987

	Number of farms	Utilized area (1000 ha)	Utilized area (%)	Average area (ha)
Production cooperatives	1 245	4912,5	75,7	3877
State farms	130	1 039,8	16	7138
Households utilizing agricultural land	1 497 725	533,7	8,3	0,35

Farm structure – now third intervention, 1990-







Farm structure changes 1991-2016 (farm number, 1000)

Year	Agricultural enterprises	Private holdings	Total
1991	2,6	1 395,8	1 398,3
2000	8,4	958,5	966,9
2003	7,8	765,5	773,4
2005	7,9	706,9	714,8
2007	7,4	618,7	626,1
2010	8,8	566,6	575,4
2013	8,1	473,9	482,0
2016	8,9	415,8	424,7

Source: HSCO, Agriculture in Hungary, 2010 (Agricultural census), Farm Structure Surveys 2013 and 2016 - edited

	Size category of UAA used by farms	Agricultural (num	enterprises ber)	Private h (num	oldings ber)
	(hectare)	2013	2016	2013	2016
	< 0,10	32	26	81 292	54 396
	0,10-0,14	12	15	27 974	23 943
	0,15 - 0,19	13	18	56 374	36 208
	0,20 - 0,49	63	82	95 947	65 907
	0,50 – 0,99	80	129	32 908	24 585
Hungarian	1,00 – 1,99	216	348	34 552	32 449
farm structure	2,00 – 2,99	212	286	19 697	18 770
hy size	3,00 – 3,99	153	228	12 997	12 610
category	4,00 – 4,99	156	211	9 335	9 647
between	5,00 – 9,99	602	730	24 953	26 604
	10,00 - 19,99	721	760	19 435	19 161
2013-2016	20,00 – 49,99	998	979	14 847	15 015
	50,00 - 99,99	724	772	5 864	6 411
	100,00 - 199,99	764	788	3 050	3 521
	200,00 - 299,99	463	491	1 297	1 355
	300,00 – 499,99	467	499	348	530
	500,00 - 999,99	574	647	63	103
	1000,00 -2 499,99	477	462	3	3
Source: HCSO Farm Structure Surveys of 2013 and	2500 ≤	112	61		_
2010 - eureu	Összesen	6 839	7 532	440 934	351 219





Number of managers according to their age, 2013 (1000)

	All managere	Ma	inagers on family	farms of any type		Man	agers on non-fami	ly farms of any ty	/pe
	on farms	Of all ages	Less than 35 years	35–64 years	65 years or over	Of all ages	Less than 35 years	35–64 years	65 years or over
EU-28 (*)	10 683.6	10 271.6	604.2	6 401.2	3 266.1	415.4	40.4	322.1	52.
Belgium	37.8	32.6	1.3	24.3	7.0	5.1	0.2	3.9	1.
Bulgaria	254.4	247.0	15.6	138.8	92.6	7.4	0.7	6.0	0.
Czech Republic	26.2	22.8	1.0	16.1	5.7	3.4	0.2	2.9	0.
Denmark	38.8	35.3	0.9	25.4	9.0	3.6	0.1	3.1	0.
Germany	285.0	269.9	18.5	233.8	17.6	15.1	1.0	13.1	1.
Estonia	19.2	16.8	1.0	10.1	5.7	2.4	0.5	1.8	0.
Ireland	139.6	138.4	8.6	93.1	36.7	1.2	0.1	0.8	0.
Greece	709.5	705.3	36.6	447.9	220.9	4.2	0.3	2.5	1.
Spain	965.0	852.2	29.7	524.2	298.3	112.8	6.0	83.3	23.
France	472.2	342.5	29.3	260.3	52.9	129.7	12.4	111.7	5.
Croatia				1		3.1	0.5	2.5	0.
Italy	1 010.3	985.1	43.2	547.7	394.2	25.2	2.5	16.2	6.
Cyprus	35.4	34.7	0.5	20.1	14.0	0.8	0.1	0.6	0.
Latvia	81.8	80.2	3.9	51.9	24.4	1.6	0.2	1.2	0.
Lithuania	171.8	169.3	9.4	102.0	57.9	2.5	0.3	1.8	0.
Luxembourg	2.1	1.9	0.2	1.5	0.3	0.2	0.0	0.1	0.
Hungary	491.3	481,5	29.3	304.5	147.7	9.9	0.9	7.9	1.
Malta	9.4	9.3	0.4	6.6	2.3	0.1	0.0	0.1	0.
Netherlands	67.5	62.0	1.8	46.6	13.6	5.5	0.2	4.7	0.
Austria	140.4	134.1	14.8	108.0	11.3	6.3	0.6	5.0	0.
Poland	1 429.0	1 422.5	173.0	1 112.4	137.1	6.5	0.6	5.4	0.
Portugal	264.4	250.3	5.5	115.9	128.9	14.1	1.0	9.6	3.
Romania	3 629.7	3 601.1	161.8	1 953.1	1 486.2	28.5	10.2	17.5	0.
Slovenia	72.4	72.1	3.4	50.4	18.3	0.2	0.0	0.2	0.
Slovakia	23.6	20.7	1.6	14.2	4.9	2.9	0.3	2.4	0.
Finland	54.4	50.8	4.3	41.3	5.2	3.7	0.3	3.0	0.
Sweden	67.2	61.7	2.6	39.9	19.2	5.5	0.4	4.2	1
United Kingdom	185.2	171.1	6.1	110.6	54.5	14.0	1.1	10.7	2
Norway	43.3	41.9	33	33.1	5.5	13	0.1	11	0



COLLISION WITH EU LAW

Legislation and land

Act LV. of 1994 on Land:

NO for foreign and corporate agricultural land acquisition.

Purchase up to 300 ha (6000 GC) for Hungarian natural persons.

Foreign natural and legal persons can lease up to 300 ha.

Hungarian natural persons can lease up to 300 ha. Hungarian legal persons can lease up to 2500 ha.

Legislation and land

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

Land purchase: farmers only (and only natural persons)

Farmer:

- Has qualification in farming,
- or has been pursuing agricultural activity for at least 3 years (proof!).
- Or have at least 25 per cent share and serve in personal capacity in an agricultural enterprise registered in Hungary

European Commission says no for qualification requirements.

Opinions?

Derit; Provident and the second seco

COLLISION WITH EU LAW?


Legislation and land

- Act CXXII of 2013 on the Trade of Agricultural and Forest Land
- Purchase up to 300 ha (farmers....) Self-farming obligation
- Lease up to 1200 or 1800 ha (farmers and companies)
- European Commission: disproportionate restriction prohibit companies from buying land

European Commission says no for self-farming obligation



Legislation and land

- Act CXXII of 2013 on the Trade of Agricultural and Forest Land
- price ceiling on agricultural land (20 year income generating capacity)
- Unless major reasons...?.





Legislation and land

- Act CXXII of 2013 on the Trade of Agricultural and Forest Land
- Difficult pre-emption rights, ranking
- Land Office is to authorize the land sale contract after considering the position of the Hungarian Chamber of Agriculture on the potential purchasers, pre-emption right holders.
- There is no appeal against the administrative act of the Land Office concerning the authorization of the sales contract. The court in administrative-law action cannot change the decision of the land authority, only can order its repeated procedure



Legislation and land

- Act CXXIX of 2007 on Land Protection
- LAND USER
- Land utilization obligation (production or not)
- Land conversion (notification or authorization)
- apply soil protective cultivation methods
- Many activites require authorization





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Germany

International Scientific Symposium & Conference on "Central European Initiative on Agricultural Land Protection" April 2-5, 2019 Slovak University of Agriculture, Nitra

Agricultural Land Protection in Germany

Bundesministerium für Ernährung und Landwirtschaft Volker Stöppler Desk Officer 423 "Coordination and Strategy of Directorate-General 4, Agricultural Markets, Soil Markets" Tel.: +49-3018529-3390 E-mail: <u>volker.stoeppler@bmel.bund.de</u>

Content

- Key figures for German agriculture
- Soil Protection in Germany
- German Land Market Current Situation
- Legal Framework of the German Land Market
- Conclusions

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Key figures for German agriculture



Germany, how is the land used? (2016)



Overall territory of Germany: 100% (35.7 million ha)

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EVER FEWER FARMS MANAGE EVER MORE LAND

Soil Protection in Germany

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Agricultural Land Protection

- is vital / essential
- of outstanding importance for World Food Security and Global Wealth

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DIE WELTWEITE BODENDEGRADATION



Source: FMFA August 2018, Welternährung verstehen – Fakten und Hintergründe

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Loss of agricultural land in GERMANY





- 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 nonrenewable limited resource.



Soil – General Statement

 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.

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Soil protection objectives

Qualitative soil protection

Quantitative soil protection

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Soil protection objectives

- <u>Qualitative soil protection</u> 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).



Soil protection objectives

- <u>Quantitative soil protection</u> 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.

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Germany: Legal Framework for Soils

National and regional laws as well as the European policies and rules protect our soils.

- 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 a raw material, for commercial or residential use, for active recreation or for environmental and social development



Germany: Legal Framework for Soils

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)

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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.

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The principles of Good agricultural practice

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







Current situation



What boost prices for agricultural land?





Area loss for urban sprawl and infrastructure:		- 1.050.000 ha (1991 – 2016¹);		
More losses for th	e benefit of			
	Wood-Area ²	+ 285.000 ha;		
	Water-Area ²	+ 59.000 ha;		
	Protected Landscape ²	+ 417.000 ha;		
Total:	2	> 1.500.000 ha;		

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What boost prices for agricultural land?

Area losses for renewable energy

- Open area solar plants needs 83 x more area than wind energy for the same energy production;
- Area loss through facilities 2004 2016: 1,5 ha / Tag in germany
- Area losses since 2017: 10 ha / Tag in germany (incl. compensation measures);
- Projects done > 90 % not from farmers



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What boost prices for agricultural land?

- Buyer: wealthy investores out off the region;
- manageable land size, but strong price effect;
- Use: Lease of land to regional based farmers;
- Reason: safe investments of assets; background: Euro-crises and low inerest rate policy of the central banks



- ECB buys government bonds from March 2015 – September 2018;
- 2.55 trillion €-Programm; up to 80 billion € / month;
- "Glut of money" from ECB also effects the property market;

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Current situation: Consequences for rural areas



- 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;
- less participation in the life of the region;

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Current situation: Agricultural policy objectives



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LEGAL FRAMEWORK OF THE GERMAN LAND MARKET

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Land Market in General

· No restrictions to buy or sell 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 EU rules – free movement of capital, no discrimination against foreigners)

- paying property taxes (municipality tax)
- Environmental law, Law of Construction and Zoning, Agricultural law, Forest law; e.g. Restricted area for industrial-, housing investment, natural protection areas etc.

Special case: Law on Property Transaction

- Regional authorities (Rural Development Institutions) have the right to interfere into the transaction using their pre-emption rights (not into the price setting process)

- similar regulation for land lease

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LEGAL FRAMEWORK OF THE GERMAN LAND MARKET

- Double Role of the State:
- Market participant/land owner like everyone no distinction between state or privately owned land
- providing legal framework for the real property market to guarantee a functioning and healthy land market
- Legal Basis:
- 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,
- Art. 19 laws may not unduly interfere with the substantial contents of constitutional rights, principle of proportionality



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National regulations in Germany

Laws

- 1) Grundstückverkehrsgesetz (1961 German Land Transactions Act)
- Landpachtverkehrsgesetz (1986 German Farm Lease Transactions Act)
- 3) Reichssiedlungsgesetz (1919 German Reich Settlement Act)

Content

- Giving priority to farmers over non-farmers under certain conditions (for example, need of land
- Pre-emption rights for farmers
- No unprofitable downsizing of individual plots
- No speculation (> 150 %)

Legal competence

- Federal law until 2006
- Länder law since 2006

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Dynamism, Framing and Standards: Challenges and Opportunities for Land Protection in CEE



by Prof. Dr. Bernd Hallier European Retail Academy





Introduction:

Economics of Farming, Climate Change, Sustainability Goals, Smart Farming, Total Supply Chain, Vertical Integration of Standards



- 1. New Economic Challenges for Agriculture
- 1.1 Socialism versus Market Economy
- 1.2 RFID, Smartphones and QR-Codes
- 1.3 Risk factors





- 2. Holistic Trias of Economics, Ecology and Ethics
- 2.1 Sustainability in a closer sense
- 2.1.1 Food Losses
- 2.1.2 Water Waste/Spoiling
- 2.1.3 Mono-culture versus Bio-diversity



2.2 Ethics2.2.1 Food Security : a split of rich and poor2.2.2 Sustainable Cities and Communities2.2.3 Landscape Protectors/Rangers





- 3.0 Selected Standards within the Total Supply Chain
- 3.1 Globalgap
- 3.1.1 History
- 3.1.2 Certification



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GLOBALG.A.P.

SLOBALG.A.P MEMBERS	
RODUCER AND SUPPLIER MEMBERS	
AGAP AGAP Carmel Sure Agrofa	
TANK MAR MACK BLUE SADES Blue Whate	BRANA V CAPISPAN Cargill CLIRENT CENT
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3.2 Tracing/Tracking





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3.4 IFS International Feature Standard as an evaluation system for audits



3.5 ISO International Standardization Organization Examples : Packaging by ISO-modules







3.6 Circular Economy UN Goals for 2030 / returnables, reduction of waste/ plastic



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3.7 Barcoding3.7.1 History of Product Identification3.7.2 The Bar-Code3.7.3 Internet of Things (IoT)







1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996

Transparent Customer



FREQUENT SHOPPER PROFILE

Store Number:000123Card Number:654321	DATE FIRST SHOPPED : DATE LAST SHOPPED :		09/11/90 04/11/91	
JANE Q. SHOPALOT 67 ATLANTIC AVENUE MANASQUAN NJ 08736	Month: Purchases	APR	MAR	FEB
SSN: 999-99-9999 ISSUE DATE09/10/90 ISSUE STATUS INITIAL	GROCERY DAIRY MEAT PRODUCE	42.76 7.25 17.35 20.20	146.23 31.97 81.60 50.62	213.82 39.99 88.79 76.24
People in houshold= 4People under age 18= 2Owner of any pets= dogMarital Status= marriedAge of person= 34	DELI SEAFOOD FROZEN LIQUOR FLORAL Total \$ TOTAL TRIPS	13.45 30.75 12.60 .00 12.50 156.86 2	26.47 .00 26.88 .00 .00 363.77 5	43.86 .00 33.04 .00 36.94 532.68 6

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Conclusion

- "holistic" instead of "ceteris paribus"
- land protection as a "tool" against climate change



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Land Protection needs TeamSpirit



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THANK YOU!

Speaker:

Prof.Dr.Bernd Hallier European Retail Academy http://cms.berndhallier.de www.european-retail-academy.org

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AGRICULTURAL LAND PROTECTION IN POLAND legal framework



Katarzyna Jagiełło

Agnieszka Zdanowicz

§

Poland

THE MAIN OBJECTIVE OF THE STUDY

- trend taking place in the change in land use and demography,
- > analyse legal regulations in the field of agricultural land protection in Poland,
- financial and legal instruments resulting from the regulations included in the Act of 3 February 1995 on the protection of agricultural and forest land,
- data on the annual level of allocation to land for non-agricultural purposes, land exclusion from agricultural production and financial resources for land protection.









SOIL CHARACTERISTIC

Soil cover in Poland forms a mosaic system. Soils of medium-quality classes (IVa and IVb) and poor and very poor soils dominate (V and VI), the most fertile ones being only 3.21% (soils I-II).



A BRIEF HISTORY OF LAND PROTECTION IN POLAND

- 1. The first legal act was <u>Resolution No. 198 of the Council of Ministers of 12 July 1966 on the</u> protection of utilised agricultural area. This act was mainly concerned on land reclamation.
- 2. Another legal act dedicated solely to the issues of reclamation was <u>Resolution No. 301 of the</u> <u>Council of Ministers of 6 September 1966 on the reclamation and development of land</u> <u>transformed due to the exploration and exploitation of minerals</u>.
- 3. <u>Act of 26 October 1971 on the protection of agricultural and forest land, and land</u> <u>reclamation</u>, which included comprehensively not only reclamation of agricultural land, but also protection of agricultural and forest land.
- 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.
- 5. Act of 3 February 1995 on the protection of agricultural and forest land, which is still valid.

CURRENT RULES IN THE FIELD OF AGRICULTURAL LAND PROTECTION

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 relating to the rules 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 degradation and devastation processes 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.


MAIN TOOLS FOR THE AGRICULTURAL LAND PROTECTION 1. The procedure for the allocation to agricultural land for nonagricultural purposes. 2. Exclusion of land from agricultural production (payment of charge, payment of annual fees, remove the upper layer of topsoil and use for the purpose of improving the utility value poorer soil quality). 3. Reclamation of agricultural land. THE PROCEDURE FOR THE ALLOCATION OF AGRICULTURAL LAND FOR NON-AGRICULTURAL PURPOSES The local spatial development plan The permission of allocation to the best quality Minister of Agriculture agricultural land for non-agricultural purposes WHAT MUST BE TAKEN IN ACCOUNT BY MINISTER TO ASSESS THE DESIRABILITY OF ALLOCATION OF AGRICULTURAL LAND FOR NON-AGRICULTURAL PURPOSES ? 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. The provisions of the Act indicate the following among the main principles which should be applied by all authorities: the protection of agricultural land consists in limiting its allocation for nonagricultural or non-forestry purposes, and 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. The best quality agricultural land can be used for other purposes only if there is no other way to made the investment, which should be demonstrated in detail and convincingly by the applicant.



THE PROCEDURE FOR THE ALLOCATION OF AGRICULTURAL LAND FOR NON-AGRICULTURAL PURPOSES

The Minister of Agriculture and Rural Development, based on documents provided with the application, analyses, among others:

- the quantity and quality of agricultural land in a commune which allows assessing whether there are real possibilities of locating the new buildings on land of weaker classes or on land already designated for non-agricultural purposes in previous planning procedures,
- location of the land specified in the application in relation to the agricultural production space and development of land adjacent to it which allows assessing whether the proposed investment will interfere in the open agricultural production space, causing its fragmentation or not;
- demographic changes which allow determining the real demand of the commune for subsequent investment areas.

Conducting these analyzes allows the Minister to take rational decisions in this regard.

THE PROCEDURE FOR THE ALLOCATION OF AGRICULTURAL LAND FOR NON-AGRICULTURAL PURPOSES - **EXEPIONS**

The legislator provided for two cases in which the permission of the Minister of Agriculture and Rural Development for changing the use of agricultural land classes I-III is not required.

- 1. Agricultural land is located within the administrative boundaries of cities (urban areas).
- 2. Agricultural land is an enclave in non-agricultural investment, i.e. agricultural land meeting the following criteria cumulatively:
 - at least half of the surface of each compact part of the land is included in a compact settlement area,
 - · located at a distance of no more than 50 m from the border of the nearest building land,
 - located no more than 50 meters from a public road,
 - its area does not exceed 0.5 ha.

The area of the best quality agricultural land covered by applications for the allocation in relation to agricultural land of class I-III to which gets the Minister of Agriculture and Rural Development permission









EXCLUSION OF LAND FROM 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 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.

MONITORING OF THE AREA OF AGRICULTURAL LAND OF CLASSES I-III EXCLUDED FROM PRODUCTION



EXCLUSION OF LAND FROM PRODUCTION - OBLIGATIONS

The following obligations are related to the exclusion of agricultural land of classes I-III from production:

- ✓ payment of charge a one-time payment for permanent exclusion of land from production;
- payment of annual fees fees for use of land excluded from production for non-agricultural or non-forest purposes amounting to 10% of charges paid in the event of permanent exclusion – for 10 years, and in the case of non-permanent exclusion – for the period of this exclusion, no longer than for 20 years from the exclusion of this land from production;
- demand the removal of valuable topsoil in cases of conversion of agricultural land in order to increase the fertility of other soils or to further the reclamation of degraded land somewhere else.







€

EXCLUSION OF LAND FROM PRODUCTION - CHARGES

The amount of the charge and annual fees follows directly from the Act on the protection of agricultural and forest land and depends on the type of soil, the quality class and the method of use.

Arable land and orchards		Meadows and pastures	
class	charge (in EUR)	class	charge (in EUR)
	made of so	ils of mineral and organic	origin
300	101,669	M & ps I	101,669
11	88,123	M & ps II	84,046
IIIa	74,557	M & ps III	67,779
IIIb	61,001		
	made	of soils of organic origin	
IVa	47,445	M & ps IV	40,667
IVb	33,890	M V	33,890
v	27,112	Ps V	27,112
VI	20.334	M & ps VI	20.334

1EUR =4,3 PLN

EXCLUSION OF LAND FROM PRODUCTION

Fees for the exclusion of agricultural land from production are kind of prices paid for the irretrievable loss of this land. This instrument forces potential investors to manage the agricultural production space reasonably, thus reducing the pressure on the environment.

The annual report on the implementation of the provisions of the Act on the protection of agricultural and forest land for 2017 showed that:

- ✓ in 2017: was collected approximately EUR 35.8 thous., was spent approximately EUR 33,6 EUR,
- ✓ the largest amount of funds was allocated for the:
- $\checkmark\,$ construction and modernisation of access roads to agricultural land approx. EUR 30.3 thous.
- ✓ small retention, including construction and renovation of water reservoirs approx. EUR 1.23 thous.
- ✓ research of agricultural crops obtained in protection zones and the necessary documentation and expert analyses in the field of protection of agricultural land was about EUR 0.74 thous.
- ✓ The remaining funds in the amount of approx. EUR 2.1 thous, were used for the purchase of measuring and IT equipment along with software and
- ✓ for the fertilisation of about 3,000 ha of soils with low production value.

EXCLUSION OF LAND FROM PRODUCTION - EXCEPTIONS

Based on Act on the protection of agricultural and forest land - housing construction investors are exempt from the obligation to pay charges and annual fees:

- > up to 500 square meters in the case of a single-family building,
- > up to 200 square meters for each flat in the case of a multi-family building.

The provisions of the Act also introduce facilities for public investment.

In the case of public purpose investment and public utility investment in the area of education, culture, religious worship, health care and social welfare, and concerns the enlargement or establishment of a cemetery, as well as investment aimed at achieving public goals (but area does not exceed 1 ha) the province marshal may redeem charges and annual fees.



FINES FOR ILLEGAL EXLUSION OF AGRICULTURAL LAND FROM PRODUCTION

The Act on the protection of agricultural and forest land also introduces a system of sanctions for illegal exclusion of land from agricultural production in the form of:

- > double charge in the case of illegal exclusion of land not meant for purposes other than agricultural in local spatial plans, and
- charge increased 10% in the case of agricultural land allocated for nonagricultural purposes in the local spatial development plan but invested without a decision allowing its exclusion from production.

INVESTMENT PROCESS ON THE HIGHEST QUALITY AGRICULTURAL LAND (CLASSES I-III)



RECLAMATION OF AGRICULTURAL LAND

Provisions of the Act obliges person causing the loss or limitation of land use value to 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,
- $\checkmark~$ rebuilding and building the necessary roads.



RECLAMATION OF AGRICULTURAL LAND

According to *The Act on the protection of agricultural and forest land* the person causing the loss or limitation of land use value bears the costs associated with the reclamation of this land



RECLAMATION OF AGRICULTURAL LAND

If the person causing the loss or limitation of agricultural land use value has not been determined or if the land has been devastated or degraded as a result of a natural disaster (e.g. flood) or land mass movements

 reclamation is carried out by the district governor using funds remaining at the province marshal's disposal, coming from fees for excluding agricultural land from production





RECLAMATION OF AGRICULTURAL LAND

The obligation to reclaim land arises from the moment of issuing an administrative decision.

Decisions in matters of reclamation and management specify:

- the degree of limitation or loss of utility value of land, determined on the basis of two separate assessments of experts;
- the person obliged to reclaim land;
- the direction and date of reclamation;
- recognising the land reclamation as completed.

Reclamation of agricultural land after activities involving the extraction of minerals is carried out as it becomes completely or partially useless or useless for a specified period to conduct economic activity and ends within 5 years of resigning from this activity.



International Scientific Conference, Nitra, Slovakia, April 2019





Switzerland

2

CEILAND Central European Initiative on Agricultural Land Protection Conference in Nitra, Slovakia, 2 – 4 April 2019

protection of agricultural land some measures in Switzerland

Philippe Haymoz former lawyer of the direction of the Agricultural Institute of the State of Fribourg, 1725 Grangeneuve

Central European Initiative on Agricultural Land Protection, Nitra, 2 – 4 April 2019 • Some measures in Switzerland 1

language, sources

- English is not an official language of the Swiss Confederation.
 So the used translations are provided for information purposes only and have no legal force.
- # = the ordinal number of the Act or Ordinance figuring in the Classified compilation of Federal law, who contains the law actualy in force.
- access by the official portal of the Confederation, opc, <u>www.admin.ch</u>
 Federal law (Droit fédéral/Bundesrecht)



used abreviations without a definition in the text

3

Δ

•	AS	=	Amtliche Sammlung =	
			Official Compilation of Federal Legislation	
•	BBI	=	Bundesblatt = Official Federal Gazette	
•	e.g.	=	exempli gratia = for example	
•	FA	=	Federal Act = Bundesgesetz	
•	ff	=	fortfolgende = and the following	
•	FCD	=	Federal Council Decision = Bundesratsbeschluss	
•	FR	=	Canton of Fribourg, Kanton Freiburg	

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Federal law and/or rules of the Cantons ?

 some federal acts give the framework with more or less rules of coordination in the hands of the Confederation and the Cantons are assigned to decide in own competence (e.g. spatial planning) or assure in a certain autonomy (e.g. agriculture) the application or the execution in their territories



it is yours or mine ? that is the eternal question!

 in other purviews the Cantons have the own whole, exclusive responsability

e.g. **Protection of natural and cultural heritage**, Federal Constitution Art. 78

 the present contribution will be focused on the federal lawlevel only !

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Popular initiatives and Referenda

- the Confederation
- also as all Cantons guarantee
- the Popular initiatives
- and Referenda
- finally the Communes ensure also their votation
- lucky and tricky !



measures of protection of agricultural areas and land

the public law <u>and</u> the private rigth, both are needed for

- complementary measures
- optimal solutions
- best results

to protect agricultural areas and land !

Central European Initiative on Agricultural Land Protection, Nitra, 2 – 4 April 2019 • Some measures in Switzerland

sources: public law I

- Federal Constitution of the Swiss Confederation of 18 April 1999, Cst, #101
- Federal Act of 7 October 1983 on the Protection of the Environment (Environmental Protection Act, EPA), #814,01



Cst Art. 73 Sustainable development

The **Confederation and** the **Cantons shall endeavour to achieve a balanced and sustainable relationship between nature and its capacity to renew itself** <u>and the demands placed on it by the population</u>. !

Central European Initiative on Agricultural Land Protection, Nitra, 2 – 4 April 2019 • Some measures in Switzerland

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Cst Art. 74 Protection of the environment

- ¹ The Confederation shall legislate on the protection of the population and its natural environment against damage or nuisance.
- ² It shall ensure that such damage or nuisance is avoided. The costs of avoiding or eliminating such damage or nuisance are borne by those responsible for causing it.
- ³ The Cantons are responsible for the implementation of the relevant federal regulations, except where the law reserves this duty for the Confederation.

Central European Initiative on Agricultural Land Protection, Nitra, 2 – 4 April 2019 • Some measures in Switzerland 10



Environmental Protection Act, EPA

Art. 1 Aim

¹ This Act is intended to protect people, animals and plants, their biological communities and habitats against harmful effects or nuisances and to preserve the natural foundations of life sustainably, in particular biological diversity and the fertility of the soil.

² Early preventive measures must be taken in order to limit effects which could become harmful or a nuisance.

Art. 2 Polluter pays principle

Any person who causes measures to be taken under this Act must bear the costs.

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Central European Initiative on Agricultural Land Protection, Nitra, 2 – 4 April 2019 • Some measures in Switzerland

sources: public law II

- Federal Act of 22 June 1979 on Spatial Planning (Spatial Planning Act, SPA), # 700
- Federal Act of 20 March 2015 on Second Homes (Second Homes Act, SHA), #702
- initiative against the urban sprawl/spreading, to change the Cst, vote of 10 Februar 2019

Cst Art. 75 Spatial planning

¹ The Confederation shall lay down principles on spatial planning. These principles are binding on the Cantons and serve to ensure the appropriate and economic use of the land and its properly ordered settlement.

² The Confederation shall encourage and coordinate the efforts of the Cantons and shall cooperate with them.

³ Confederation and Cantons shall take account of the requirements of spatial planning in fulfilling their duties.

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Cst Art. 75*a*¹ National Land Survey

¹ The National Land Survey is the responsibility of the Confederation.

² The Confederation shall issue regulations on official surveying.

³ It may issue regulations on the harmonisation of official information relating to the land.

¹ adopted by the popular vote on 28 Nov. 2004, in force since 1 Jan. 2008 (FCD of 3 Oct 2003, FCD of 26 Jan. 2005, FCD of 7 Nov. 2007; AS **2007** 5765; BBI **2002** 2291, **2003** 6591, **2005** 951).



Cst Art. 75b¹Second homes²

¹ No more than 20 per cent of the total stock of residential units and the gross residential floor area in any commune may be used as second homes. ² The law shall require communes to publish their first home percentage plan and a detailed report on its implementation every year.

¹ adopted by the popular vote on 11 March 2012, in force since 11 March 2012 (FedD of 17 June 2011, FCD of 20 June 2012; AS 2012 367; BBI 2008 1113 8757, 2011 4825, 2012 6623). ² with transitional provision.

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Popular initiative against the Urban sprawl

- the swiss electorate voted on the 10 Februar 2019 on the popular initiative to change the Cst «Stop urban sprawl – for sustainable urban developpement (urban sprawl initiative)»
- refused by all Cantons and 63.7 % of the voters



SPA Art. 3.2 lit. a: planning principles,

an example

Art. 3 Planning principles

- ² The countryside must be preserved. In particular:
- a.¹ sufficient areas of <u>suitable arable land</u>, in particular <u>crop rotation areas</u>, should be <u>reserved for agriculture</u>
- 1 in force since 1 May 2014

Central European Initiative on Agricultural Land Protection, Nitra, 2 - 4 April 2019 • Some measures in Switzerland

SPA 3.2 lit. a.: e.g. Canton Fribourg

- as illustration : more information on the official portal of the Canton Fribourg / Freiburg
- www.fr.ch > sol > _www > files > pdf 51

FR = 10% of the agricultural production of Switzerland

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FR: distribution of areas, surfaces

Geiil

•	Canton FR in total	167'000 ha
•	agricultural areas	76'000 ha
•	pastures	16'000 ha
•	forestry areas	45'000 ha
•	buildings & infrastructures	14'000 ha
•	others	16'000 ha

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sources: public law III

- Federal Act of 1 October 2010 on Water Retaining Facilities (Water Retaining Facilities Act, WRFA), #721.101
- Federal Act of 24 January 1991 on the Protection of Waters (Waters Protection Act, WPA), #814.20



Cst Art. 76 Water

¹ The Confederation shall within the scope of its powers ensure the economic use and the protection of water resources and provide protection against the harmful effects of water.

² It shall lay down principles on the conservation and exploitation of water resources, the use of water for the production of energy and for cooling purposes, as well as on other measures affecting the water-cycle.

³ It shall legislate on water protection, on ensuring appropriate residual flow, on hydraulic engineering and the safety of dams, and on measures that influence precipitation.

Central European Initiative on Agricultural Land Protection, Nitra, 2-4 April 2019 * Some measures in Switzerland

Cst Art. 76 Water

⁴ The Cantons shall manage their water resources. They may levy charges for the use of water, subject to the limits imposed by federal legislation. The Confederation has the right to use water for its transport operations subject to payment of a charge and compensation.

⁵ The Confederation, in consultation with the Cantons concerned, shall decide on rights to international water resources and the charges for them. If Cantons are unable to agree on rights to intercantonal water resources, the Confederation shall decide.

⁶ The Confederation shall take account of the concerns of the Cantons where the water originates in fulfilling its duties.

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Environmental Protection Act, EPA

Art. 1 Aim

¹ This Act is intended to protect people, animals and plants, their biological communities and habitats against harmful effects or nuisances and to preserve the natural foundations of life sustainably, in particular biological diversity and the fertility of the soil.

² Early preventive measures must be taken in order to limit effects which could become harmful or a nuisance.

Art. 2 Polluter pays principle

Any person who causes measures to be taken under this Act must bear the costs.

Central European Initiative on Agricultural Land Protection, Nitra, 2 – 4 April 2019 • Some measures in Switzerland

sources: public law IV

- Federal Act of 29 April 1998 on Agriculture (Agriculture Act, AgricA),#910.1
- Ordinance of 23 Oktober 2013

 on Direct Payments in the Agriculture
 (Direct Payments Ordinance, DPO), #910.13

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Cst Art. 104 Agriculture

¹ The Confederation shall ensure that agricultural sector, by means of a sustainable and market oriented production policy, makes an essential contribution towards:

a. the **reliable provision** of the population with foodstuffs;

b. the **conservation of natural resources** and the **upkeep of the countryside**;

c. decentralised population settlement of the country.

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Cst Art. 104 Agriculture

² In addition to the self-help measures that can reasonably be expected in the agriculture sector and <u>if necessary in derogation from the principle</u> <u>of economic freedom</u>, the Confederation shall support farms that cultivate the land.

³ The Confederation shall organize measures in such a manner that the **agricultural sector fulfils its multi-functional duties**. It has in particular the following powers and duties:

Cst Art. 104 Agriculture

a. **supplementing revenues** from agriculture **by** means of **direct subsidies** in order to achieve of fair and adequate remuneration **for the services provided**, **subject to proof of compliance with ecological requirements**;

b. encouraging by means of economically advantageous incentives methods of production that are specifically near-natural and respectful of both the environment and livestock;

c. **legislating** on **declarations of origin**, **quality**, **production methods and processing procedures** for foodstuffs;

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Cst Art. 104 Agriculture

d. protecting the environment against the detrimental effects of the excessive use of fertilisers, chemicals and other auxiliary agents;

e. at its discretion, encouraging agricultural research, counselling and education and subsidise investments;

f. at its discretion, legislating on the consolidation of agricultural property holdings.

⁴ For these purposes, the Confederation shall provide both funds <u>earmarked</u> for the agricultural sector <u>and</u> general federal funds.

Cst Art. 104a Food security

In order to guarantee the supply of food to the population, the Confederation shall create the conditions required for:

a. safeguarding the basis for agricultural production, and agricultural land in particular;

b. food production that is adapted to local conditions and which uses natural resources efficiently;

c. an **agriculture** and **food sector** that **responds to market requirements**;

d. cross-border trade relations that contribute to the sustainable development of the agriculture and food sector;

e. using food in a way that conserves natural resources.

Central European Initiative on Agricultural Land Protection, Nitra, 2 – 4 April 2019 • Some measures in Switzerland 29

AgricA Art. 70 ff Direct Payments

Direct payments

as compensation for the <u>public services</u> provided by the farmers

requirements, conditions according to

- the articles 70 ff of the law, the Agriculture Act and
- the provisions of the Ordinance, the Ordinance of 23 Oktober 2013 on Direct Payments in the Agriculture (Direct Payments Ordinance, DPO), #910.13



AgricA Art. 70 Direct Payments: subsidies

Direct payments include subsidies for:

- farmland
- ensuring supply
- biodiversity
- quality of the landscape
- production systems
- efficient use of ressources
- bridging measures

Central European Initiative on Agricultural Land Protection, Nitra, 2 – 4 April 2019 • Some measures in Switzerland

AgricA Art. 46 Maximum stock levels

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Art. 46 Maximum stock levels

¹ The Federal Council may stipulate **maximum stock** levels for each farm for various livestock species.

² If various livestock species are kept on a farm, the sum of the individual percentage shares of the relevant maximum stock levels may not exceed 100 per cent.

AgricA Art. 46 Maximum stock levels

³ The Federal Council may allow exceptions for: a.federal experimental farms and the agricultural research institutes, the poultry husbandry school in Zollikofen and the Swiss Testing Station for Fattening Performance and Carcass Quality in Sempach;

b. ¹ farms that feed pigs with by-products issued from milk and food processing, thereby fulfilling disposal management tasks in the public interest that are of regional significance.

¹ amended by No I of the FA of 22 March 2013, in force since 1 Jan. 2014 (AS **2013** 3463 3863; BBI **2012** 2075)

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AgricA Art. 78 ff Social support measures for farmers

Art. 78 Basic principle

¹ The Confederation may provide funds to the cantonal authorities for support for farmers.

² The cantonal authorities may grant farmers support for their farm in order to alleviate or prevent financial hardship incurred through no fault of their own or due to changed economic circumstances.¹

³ Intervention through federal funding is conditional on appropriate financial participation by the cantonal authorities. Any contribution from third parties shall be taken into account.

¹ amended by No I of the FA of 22 June 2007, in force since 1 Jan. 2008 (AS **2007** 6095; BBI **2006** 6337).

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AgricA Art. 87 Structural improvements

- Art. 93 Beitragsgewährung
- Art. 99 weitere Werke
- Art. 100 Landumlegungen
- Art. 101 Investitionskredite
- Art. 102 Verbot der Zweckentfremdung & Zerstückelung

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AgricA Art. 113 ff: Federal Research

• Agricultural Research

Ordinance of 23 May 2012 on the Agricultural Research (**OAR**), #915.7

- AgricA 114: Agricultural Research Stations
- today : Agroscope
- in **Posieux FR**, Changins & Reckenholz

Swiss National Stud, in Avenches

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Cantonal research, advice, formation

• Advice in agricultural domains

Ordinance of 14 November 2007 on the agricultural and rural-domestic Advice (Agricultural Advice Ordinance), #915.1

Professional Formations + #412.10

such the : Agricultural Institute of the State of Fribourg, 1725 Grangeneuve

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Ordinance of Agricultural Terms

- Ordinance of 7 December 1998 on the agricultural terms and the acknowledging of forms of entreprises (Agricultural Terms Ordinance, ATO), #910.11
- compilation of terms in agriculture law





 Federal Act of 4 October 1991 on Forest (Forest Act, ForA), #921.0

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Cst Art. 77 Forests

¹ The Confederation shall ensure that the forests are able to fulfil their protective, commercial and public amenity functions.

² It shall lay down principles on the protection of the forests.

³ It shall encourage measures for the conservation of the forests



ForA Art. 1 Aim

- ¹ This Act is intended to:
- a. conserve the forest in its area and spatial distribution;
- b. protect the forest as a near-natural community;
- c. ensure that the forest can fulfil its functions, in particular its protective, social and economic functions (forest functions);
- d. promote and maintain the forestry sector.
- ² It is furthermore intended to contribute to the protection of human life and important material assets against avalanches, landslides, erosion and rockfall (natural events).
- ForA Art 25 Alienation and division
 FARLR

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ForA Art. 29 ff: Training, Advice, Research, Data Acquisition

WSL = Wald, Schnee und Landschaft Swiss Federal Institute for Forest, Snow and Landscape, 8903 Birmensdorf

WSL-Institute for Snow and Avalanches Research,

7260 Davos-Dorf

and satellites

researches for example on biodiveresity, natural hazards, drougth, alpine permafrost, snow & ice 41

Source: Private Right

- Federal Act of 4 October 1991 on Rural Land Rights [FARLR], #211.412.11
- Ordinance of 18 November 1992 on Official Cadastral Surveying, # 211.432.2

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Ordinance Official Cadastral Surveying

Art. 1¹Definition and purpose

¹ Official cadastral surveying as defined in Article 950 of the Swiss Civil Code consists of the surveying work approved by the canton and by the Confederation for the establishment and maintenance of the land register.

² The data of official cadastral surveying is geospatial reference data that is used by the federal authorities, the cantons and the communes, as well as industry and commerce, <u>academic and scientific institutions and the general public to obtain geographical information</u>.

¹ amended in accordance with No. I of the Geoinformation Ordinance of 21 May 2008, in force since 1 July 2008 (AS **2008** 2745).

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FARLR: transfer of ownership

Transfer of ownership of property rigths

by

• Alienation (sale, donation, exchange), FARLR 40 - 57

and

 Succession (different inheritance rights), FARLR 11 - 39

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FARLR: what? object

- fond situated in the agricultural zone, area, FARLR 2.1
- and ordinary not in the building area
- serving to the agricultural production
- surface, a minimum only, FARLR 2.3
- farm (aggregate of estates, with buildings), sufficient important (min 1 SWF*) and performing, FARLR 7
- or all other estates, FARLR 6
- * Standard work force, SWF, FARLR 7.1



FARLR: what? other restrictions

- Real division and Dismembrement are forbidden, FARLR 58
- transfer by alienation
 need an official permission, FARLR 66.1

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FARLR: who? entitled persons

Principle of **priorities**:

- from the own family <u>and</u> self-cultivating, FARLR 9, EV (<u>farm</u>), 2xEV (<u>estate</u>)
- extern of the family <u>but</u> self-cultivating, TW
- 3. conditionned others, TW, FARLR 62, 64, 65



LARLR 9: self-cultivating person

- the purchaser / receiver must dispose of all physically and intellectual needed aptitudes for the activities as successfull farmer, FARLR 9
- societies, only if the main activity is the farm

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Art. 73 ff FARLR : how to finance? prize, value, loan

- Indebtedness, rules against
- Lending limit, 135 % of the EV in total, FARLR 73
- Earning value, EV, FARLR 10
 official value instructions
- Traffic worth, TW
- obligatory official Price control, FARLR 61
- against forbbiden excessive price, FARLR 63, 66
- Voluntary auction forbidden , FARLR 69
- Entitlement to profits, FARLR 28 ff



Italy

CEILAND Conference Nitra 2 – 5 April 2019

PROTECTION OF AGRICULTURAL LAND IN ITALY

Margherita Brunori – Università di Milano

Antonio Manzoni - Scuola Superiore Sant'Anna

PROTECTION OF AGRICULTURAL LAND IN NORTHERN ITALY

- 1. What threatens agricultural land in Italy?
- 2. Normative framework for the protection of agricultural land in Italy
- 3. A case study: the Groups for the acquisition of Land
- 4. Conclusions: the Commons' perspective





International Scientific Conference, Nitra, Slovakia, April 2019

PROTECTION OF AGRICULTURAL LAND IN NORTHERN ITALY

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- Land loss and consumption: + 54 km2 in 2017
- Farmland concentration
- Land abandonment and ageing of rural population
- Hydrogeological disturbance and desertification

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Land Governance, Management and planning Soil protection Landscape protection Protection against excessive land consumption

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Agrobiodiversity protection



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Protecting the commons: collective land rights and use rights

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Measures for land access and contrast to land abandonment: the land banks


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Limits to soil consumption?

- · Economic and ethical objectives
- How a GAT is created and how does it work?
- GAT legal features
 - Land as a common: the "tragedy of the commons", scarce and non-renewable goods
 - Holistic approach
 - Intergenerational justice
 - Community
 - "Diffuse ownership": re-defining goods according to their functionality to the exercise of fundamental rights. (Rodotà Commission, 2008)
 - Recent Italian initiatives:
 - Popular legislative proposal (2019), re-launching the work of the Rodotà Commission 2008;
 - Mentioned legislative proposal against land consumption (Daga, 63/2018).





Protection of agricultural land in Italy: some case studies

Riccioli F., Di Iacovo F., Moruzzo R.

University of Pisa Department of Veterinary Science - Rural Economics section

> Central European Initiative on Agricultural Land Protection April 2-5, 2019 Nitra Slovakia

Background

is strictly related to ag



and forest activities

very low or negative economic balance

Uncertain production

High management costs

Land degradation Soil pollution Desertification processes



International Scientific Conference, Nitra, Slovakia, April 2019









Tools to support – Case Study #1 Organic and integrated farms in Tuscany

72,686 farms in Tuscany

4,055 organic and integrated (5.6%)

adopting organic or integrated farming practices



reduce the environmental impact of agricultural practices (i.e. Nitrates)

Land protection Tools to support



Tools to support – Case Study #1 Organic and integrated farms in Tuscany

Legislative background

Europe Water pollution by nitrates from agricultural sources is clarified by - Nitrates Directive 91/676/ EEC

Tuscany the Nitrates Directive has been implemented through - Legislative Decree 152/99

- Legislative Decree 152/06

RDP - Agro-environmental measures





Land protection Tools to support

Tools to support – Case Study #1 Organic and integrated farms in Tuscany

Considering that the <u>trend of policy</u> strategies is toward a reduction of monetary resources

RDP Programme	Euros (Total)	Measure	Reduction
2000-2006	206,913,140	6.1, 6.2	450/
2007-2013	138,000,000	214a1,214a2	43%
2014-2020	114,800,000	11, 10.1.2	17%

Tools – Specific subsidies

Farms that provide greatest economic efforts "deserve (higher) subsidies"

Land protection Tools to support

Using spatial multicriteria analysis, integrated and organic farms were classified according to their <u>geographical locations</u> and their <u>release of nitrates</u> into the soil.



nd International Scientific Conference, Nitra, Slovakia, April 2019



Conclusion

Tools to support – Case Study #1 Organic and integrated farms in Tuscany

Tools – Specific subsidies

Farms' classification could help decision makers choose the right allocation of future resources.



International Scientific Conference, Nitra, Slovakia, April 2019





Tools to support – Case Study #2 Protected area in Sicily

Soil's degradation processes originating from both natural characteristics and anthropic activities.



Land protection

Tools to support

Desertification processes

Land protection Tools to support



Tools to support - Case Study #2

Protected area in Sicily

Legislative background

National Program for the fight against drought and desertification, promoted by the CIPE (Ministerial Committee for Economic Programming) December 21, 1999 - reforestation measures

Sicily

Adoption of 2 reforestation programs related to

- RDP 2007-2013 measure 223, Reg. CE 1698/2005
- RDP 2014-2020 sub-section 8.1, Reg. UE n. 1305/2013

nd International Scientific Conference, Nitra, Slovakia, April 2019



Land protection Tools to support



Tools to support – Case Study #2 Protected area in Sicily



encourages public decision makers to invest more in RDP programs

Tools – Adequate subsidies

Considering "real value" of areas non-market functions = new incomes



COII









Discount rate Year 1% 2% 3% 4% 5% 6% 8% 7% 2035 690.90 841.38 1,022.66 1,240.66 1,815.95 1,502.36 2,191.10 2,639.14 2055 843.03 1,250.24 1,847.04 2,718.45 3,986.20 5,824.01 8,478.88 12,300.92 57,334.08 2075 1,028.66 1,857.80 3,335.96 5,956.46 10,576.59 18,678.39 32,810.60 2095 1,255.16 2,760.59 6,025.12 13,051.33 28,062.83 59,904.13 126,966.67 267,231.70 1.245.555.48

Carbo stock

2115 1,531.53 4,102.09 10,882.03 28,597.06 74,459.04 192,120.65 491,320.97 Table 4 Sensitivity analysis of the recreational function (values expressed in euro/ha)

Year	Discount rate							
	1%	2%	3%	4%	5%	6%	7%	8%
2035	391.75	477.08	579.87	703.48	851.87	1,029.68	1,242.40	1,496.45
2055	478.02	708.91	1,047.31	1,541.42	2,260.26	3,302.34	4,807.71	6,974.89
2075	583.27	1,053.41	1,891.56	3,377.44	5,997.15	10,591.05	18,604.31	32, 509. 65
2095	711.70	1,565.31	3,416.37	7,400.38	15,912.23	33,966.93	71,992.83	151,526.10
2115	868.41	2,325.97	6,170.35	16,215.15	42,219.87	108,936.53	278,589.52	706,256.67

Conclusion

Land protection

Tools to support

Tools to support - Case Study #2

Protected area in Sicily

Tools – Adequate subsidies

To consider the "real (current and future) value" of areas encourages public decision makers to invest more in RDP programs





International Scientific Conference, Nitra, Slovakia, April 2019





Czech Republic









OUR SCOPE:

- Management of Agricultural Land owned by the State
- Sustainable Development of Rural Areas
- Adaptation to Climate Change

"Guarantor of the implementation of landscape development measures"









Management of Agricultural Land Owned



 Land Lease – accent on sustainable farming



State Land Office | Prague, Czech Republic | www.spucr.cz

4







Management of drainage and irrigation systems







Sustainable Development of Rural Areas

Land Consolidation Process •

- Multifunctional tool for sustainable landscape development.
- Process spatially and functionally arranges the land and creates ٠ new cadastral map.
- The only tool in Czech Republic solving rural landscape in a complex • way, including realization of common facilities.









International Scientific Conference, Nitra, Slovakia, April 2019



Soil Mapping (estimated pedologic-ecological unit)



Geil

https://www.spucr.cz/bpej/celostatni-databaze-bpej



Foundation for price estimation of agricultural land and many analysis

10 State Land Office | Prague, Czech Republic | www.spucr.cz

306









Adaptation to Climate Change



Mendel

University in Brno



Monitoring and Prediction of Drought www.intersucho.cz



System works for Czech Republic, Slovak Republic and Central Europe

State Land Office | Prague, Czech Republic | www.spucr.cz

www.intersucho.cz









Protection of Agricultural Land

Case Austria

International Scientific Symposium & Conference on "Central European Initiative on Agricultural Land Protection"

Walter Seher (Author) & Reinfried Mansberger (Speaker), BOKU Vienna

Land Use in Austria



- Agriculture and forestry are the dominant land use types
 - 38% are agriculture, 47% are forests (Austrian Statistics, 2011)
 - Differences between agriculture and forestry in terms of land use regulations: strong legal position of the Austrian Forest Act
- Agriculture influences spatial development
 - Management of cultural landscapes
 - Farmers' property rights on land



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The Challenges



- Conversion from agricultural land to building land ('land take')
- Soil sealing
- Urban sprawl or housing sprawl (in terms of scattered development)



Source: Provincial Government of Vorarlberg, cited by Vetter, 2013

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Land Take



Expansion of residential areas and construction sites is the main cause for the shrinkage of **agricultural areas**, forests and natural areas.



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Land Take





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Causes for an Increase in Land Take (1)



Increase in average living and housing area per capita .



Increase in average housing area per capita and in population

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Causes for an Increase in Land Take (2)



 Increase in land-intensive building types, e.g. shopping centres



Causes for an Increase in Land Take (3)



- Increase in traffic areas
- Structural and land use changes in farming: land owner interests to increase land values by getting land zoned as building land
- Municipal financing is based on number of inhabitants and number of employees: incentives for municipalities to zone building land, competition between municipalities
- Limited effectiveness of spatial planning instruments

Many **local decisions** lead to undesirable consequences from a **regional perspective**, like high amounts of **land take** and **urban** (housing) sprawl.

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Arguments	for	Lan	d-Sa	aving
Developme	nt (1)		



- Sustainability requests land-saving development
 - Soil is a limited and a hardly renewable resource
 - Goal of the Austrian Strategy on Sustainable Development 2010: land take of max. 2,5 ha/day
- Providing sufficient farming land, food security
 - Additional demand for renewable natural resources and energy;
 "The return of land resources" (Sieferle, 2007)
 - New competition on undeveloped land

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Arguments for Land-Saving Development (2)



- Climate change: mitigation and adaptation
 - Soils store CO₂, soil sealing reduces storage capacities
 - Open space land resources are also important in climate change adaptation



Source: Weber et al., 2008

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Arguments for Land-Saving Development (3)



Protection against natural hazards

- Open space areas are important for flood retention
- Housing sprawl raises protection costs and potential damages



Source: IRUB

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Arguments for Land-Saving Development (4)



- Ensuring biodiversity
- Economic aspects
 - Housing sprawl raises public infrastructure costs, e.g. water, energy
 - Commercial development outside of core cities reduce land values in central areas



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Land-Saving Development – Planning Strategies (1)



- Use potentials of internal development:
 - Use of vacant buildings and interior undeveloped building land
 - Reuse of industrial or commercial brownfields



Source: Village Renewal Tyrol cited by BMLFUW, 2012

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Land-Saving Development – Planning Strategies (2)



Intensification of Regional Planning

- Limitation of local development by regional growth boundaries
- Integration of different soil functions into planning (based on evaluations of soil functions)
- To expand spatial planning on threedimensional soil system



Source: Provincial Government of Lower Austria, 2007

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Land-Saving Development – Planning Strategies (3)



- Intensification of Regional Planning
 - Integration of agricultural soil qualities in regional planning
 - Agricultural priority zones in regional planning programmes



Source: www.raumplanung.steiermark.at, 2.11.2015

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Agricultural Zoning – Goals



- Formulation of sound and transparent agricultural land demands in spatial planning processes
- Counter-strategy to the widespread procedure of dealing with agriculture as a residual area in spatial planning processes
- Preventing conversion of high value agricultural land into building land: no (municipal) zoning of building land in agricultural priority zones (displayed in regional planning programmes)
- Maintaining contiguous agricultural areas

Wytrzens, 1994, Grießer, 1999

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Agricultural Zoning – Indicators



- Natural conditions
 - Soil quality
 - Altitude
 - Exposition
- Cultivation conditions
 - Slope
 - Extension of contiguous agricultural
 - Suitability for specific crops (e.g. orcharding, viticulture)

- Other indicators
 - Relevance for landscape image
 - Touristic or recreational relevance
 - Ecological importance
 - Importance for natural hazard mitigation

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Agricultural Zoning Example





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CENTRAL EUROPEAN INITIATIVE ON AGRICULTURAL LAND PROTECTION

The Faculty of European Studies and Regional Development of the Slovak University of Agriculture in Nitra organized an international conference entitled Central European Initiative on Agricultural Land Protection (CEILAND) on 3 - 5 April as part of an international project supported by the European Union.

It was held under the auspices of the dean doc. Ol'ga Roháčiková and was attended by representatives of the Ministries of Agriculture, Chambers of Commerce and representatives of academia from ten countries (Germany, Austria, Italy, Slovenia, Slovakia, Hungary, Poland, Switzerland, Croatia and the Czech Republic).

The main objective of the event was to discuss, exchange experiences and valuable information on the possibilities to qualitatively improve the management of agricultural land protection in Central European countries - with consequent impact on other European regions, as well as on the possibilities to ensure the sustainability of agricultural land in the context of agri-environmental and food European policy and increase awareness of land value for civil society, especially within the EU.

The speeches and discussions showed that the issue of soil protection is increasingly not only a technical but also an economic, social, and environmental problem. Therefore, it has proved very useful to combine legal and technical views on the issue.

"The individual presentations showed that the problems of agricultural land protection, which concern all countries of Central Europe, are mainly of a legislative and technical nature. In case of technical reasons, focus should be on the scope. Considering soil protection, it can be a field or a farm, provided that the owner takes care of the land. However, this approach is very simplified as soil protection is closely related to water protection. Therefore, "water and soil protection" is often used as a single term. Last but not least, the protection of soil is also related to the protection of the environment and living conditions. The protection plan is thus more complex because it involves not only economic but also social legal and environmental aspects. The interests of communities as well as animals and nature should also be taken into account, which would be an integrated plan for the protection of rural areas. "

Individual presentations as well as the discussion could be watched online, which was used by more than one hundred people.

The project coordinator was doc. JUDr. Lucia Palšová, PhD. from the Department of Law. In addition to the conference, the project will also include:

- a collection of posts,
- the report on the protection of agricultural land in Central Europe,
- didactic material for teaching on the protection of agricultural land,
- collect information on the conservation status of agricultural land in Central European countries and
- strengthening cooperation among stakeholders.



Jean Monnet Projects - CEILAND (Central European Initiative on Agricultural Land Protection)

Topic of the project: Central European Initiative on Agricultural Land Protection No.: 600441-EPP-1-2018-1-SK-EPPJMO-PROJECT Decision no: 2018 - 1766 / 001 – 001 Coordinator: doc. JUDr. Lucia Palšová, PhD. Project realization: 1.9.2018 - 31.8.2019 Web: <u>ceiland.uniag.sk</u>

> Proceeding Volume from International Scientific Conference Central European Initiative on Agricultural Land Protection

> > Editors: doc. JUDr.Lucia Palšová, PhD. Ing. Zuzana Lazíková

Department of Law, Faculty of European Studies and regional development, Slovak University of Agriculture in Nitra, Slovakia

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