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# Czech pre-accession agricultural policy and utilisation of agricultural land<sup>1</sup>

## Česká zemědělská politika v předvstupním období a využívání zemědělské půdy

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**Abstract:** The paper is oriented on the particular part of the pre-accession agrarian policy of the Czech Republic regarding land utilisation. It recapitulates the analytical background of the policy and the visions related to the Czech agriculture in the future and utilisation of the farm land. The main attention is paid to the European Model of Agriculture as the basis of the Czech Agricultural Strategy and to the policy measures supporting realisation of this model the Czech Republic. In the conclusion, threats and opportunities associated with the realisation of the European Model of Agriculture and the first experiences of EU countries are defined.

**Key words:** pre-accession agrarian policy, land fund, European Model of Agriculture

**Abstrakt:** Příspěvek je zaměřen na vztahy předvstupní agrární politiky ČR k využití zemědělského půdního fondu. Rekapituluje analytické pozadí politiky a možné vize zemědělství ČR a využití zemědělské půdy. Pozornost je věnována Evropskému modelu zemědělství jako základu strategie zemědělství ČR a opatření politiky k realizaci tohoto modelu v podmínkách ČR. Závěrem jsou uvedena rizika a příležitosti spojené s realizací Evropského modelu zemědělství, včetně prvních zkušeností zemí EU.

**Klíčová slova:** předvstupní agrární politika, půdní fond, Evropský model zemědělství

### INTRODUCTION

The Czech agro-food sector has been preparing for the EU accession. The entry into the EU has become a main "driving force" for agricultural policy makers. Nevertheless, the preparation for the EU accession hides many problems, the solution of which would be necessary for the Czech agro-food sector regardless the entry. From this point of view, the entry into the EU becomes an accelerator of the needed changes and the progress.

In 1998, after the establishment of the new social democratic government, the works on a new agricultural policy, which would integrate the programme declaration of the government and would prepare conditions for the adjustment of the Czech agro-food sector to more demanding conditions in the EU, have been initiated by the government. The works concurred positive results of the conceptual studies, which were prepared under the Ministry of Agriculture in 1995–1997 and which gathered tens of top professionals of many fields.

The pre-accession policy was prepared up to the spring of 1999 and went through the Environment Impact Assessment procedure during 1999. In January 2000, after

some amendments, the policy was accepted by the government, however, without its financial framework.

As a matter of fact, the pre-accession policy has started to function as a general framework and background for other pre-accession procedures and documents, e.g. the National Programme for the Adoption of *acquis*, the Position Document (for the preparation of future negotiations with the EU), the Implementation Strategy (as a ministerial plan of actions related to *acquis*), the Rural Development Plan (for the SAPARD supports), the Economic Strategy for EU Accession (government 1999), etc.

The paper is oriented on a particular part of the pre-accession policy, on land utilisation. In part 1, the paper recapitulates from this point of view the analytical background of the policy: a SWOT analysis of the present Czech agriculture and visions related to the Czech agriculture in the future, discussed during the preparation of the policy. In part 2, the paper describes the vision selected for the strategy, based on the European Model of Agriculture (EMA). Part 3 presents the measures and institutions of the policy supporting the realisation of the selected vision. Part 4 is oriented on the discussion of risks and opportunities of the strategy, together with

<sup>1</sup>The paper was prepared for the seminar of the RIAE Prague "Farm land use in the context of CR accession to EU". 16–20 October 2000, Špindlerův Mlýn, Czech Republic.

some first experiences from the EU countries with the realisation of the EMA.

## 1. PARTIAL ANALYSIS OF THE PRESENT CZECH AGRICULTURE AND VISIONS OF AGRICULTURE

### SWOT analysis

The pre-accession agricultural policy issues from versatile analyses of the development of the agro-food sector during the reform in the context of the general reform of the national economy. The analyses cover all decisive aspects of the sector. Let us concentrate only on the aspects related to land market and land utilisation.

#### STRENGTHS

- a good background as a historical heritage for the state administration of the land utilisation, e.g. land registration - cadastral system, soil classification system (BPEJ in Czech), to some extent also the system of administrative prices of land;
- relatively (compared with other sectors) good progress in farm restructuring; emerging medium and large-scale farming of individual farmers (300–600 ha in size) with labour, land and capital adjustments;
- the growing importance of organic farming and bio-products (almost 3% of agricultural area; two thirds of production exported).

#### WEAKNESSES

- general soil and climatic conditions for farming (two thirds of agricultural land in less productive areas) compared with a very high share of arable land in agricultural land (about 72%, with only a small decrease during the reform period);
- lower efficiency of the state management and administration, including an obsolete technical and know-how equipment of the state monitoring, testing and controlling institutions and too centralised administration;
- the unsustainable farm sector, heavily indebted by the "three generations of debts" (pre-reform credits, transformation debts, new credits through the Support and Guarantee Farm and Forestry Fund);
- lower pressures of consumers and a lower sensitivity of producers to environmental issues and to proper production practices;
- continuing barriers on input markets impeding the restructuring of farms, particularly on land market (discrepancy between ownership and usage of land, land tax paid by users, problems with physical identification of plots, uncompleted privatisation of the state land, uncompleted land consolidation).

#### OPPORTUNITIES

- looking for niches on the market: regional and geographically protected products, products of organic farming;

- agriculture producing bio-energy and other agricultural products for non-food use;
- agriculture producing environmental goods and services, including landscape and rural heritage maintenance;
- utilisation of the EU pre-accession supports (SAPARD, PHARE) for modernisation and diversification of firms;
- higher concern of consumers to environmental and rural issues.

#### THREATS – RISKS

- an extreme prolongation of the date of the entry into the EU;
  - failures in the implementation of food safety, quality, animal welfare and environmental standards (creating barriers for exports to the EU countries after the accession and leading only to local market opportunities);
  - failures of the state in the implementation of institutions required for the EU pre-accession supports;
  - the abandonment of land, agricultural production and consequently even villages: risks of the deterioration of landscape and the depopulation of rural areas.
- Besides this, land utilisation is strongly influenced by the competitiveness of the Czech agro-food sector.

#### Visions and goals supported by the Czech pre-accession agricultural policy

The forthcoming date of the EU accession and the growing problems in agriculture and rural areas have finished a long-term "sleeping" of the society with respect to the fate of the Czech agriculture and have provoked many discussions among farmers, professionals and politicians. There are permanent and ever growing discussions on a long-term orientation of the Czech agriculture, which type of the Czech agriculture would be the most viable and profitable under the EU conditions. From the discussions and also from the previous studies, it is possible to classify four main visions reflecting "future pictures" of the Czech agriculture. Each vision, reflecting a particular type of land utilisation and leading to different types and amounts of supports, is promoted by different interest groups (and political parties as well). The short characteristics of the visions are as follows:

##### Vision A – EXPANSION

Czech agriculture is mainly oriented on the expansion of the traditional agricultural production. Expected surpluses are exported, largely with subsidies. The vision is supported by the majority of producers, represented especially by the Agrarian Chamber. The vision forms also a background for the programme declaration of the Czech Social Democratic Party and its government after the 1998 elections. The vision penetrates into current official documents for the EU accession (see e.g. the required national quotas for milk of 3.1 bill. litres and sugar of 500 000 tonnes presented in the Position Document for the EU accession, highly exceeding in case of milk the level of

production in the last years). The majority of land is consequently used for the „traditional” agricultural production.

#### Vision B – LANDSCAPE

Czech agriculture is in a balanced way oriented on the production of “traditional” and “non-traditional” agricultural commodities and on the production of environmental goods and services. The environmental goods and services, based particularly on extensive farming practices, are provided largely in the less favourable areas covering up to 50% of the present agricultural land. The vision is supported more by “moderate” politicians, by some representatives of farmers and by environmentalists and ruralists.

#### Vision C – NATURE

Czech agriculture is located only in regions with better soil and climatic conditions, it means on about 40% of the present agricultural area. In these regions, the traditional and intensive agricultural production is provided. The remaining part of the agricultural area is gradually afforested or converted into a “wild nature”. The vision is supported by strict liberals or by ecologists.

#### Vision D – WATER

Czech Republic is the basin and the watershed of many waterflows reaching several seas (Baltic, Northern, Black Sea). About 20% of the present agricultural area belongs to the protected areas of the natural accumulation of water. Czech agriculture is more oriented on the water economy, it means on the production of clear water for households and industry. Owing to the trans-boundary dimension of the Czech water economy, it is possible to consider “export activities” in this field. In an extreme situation, the whole or a larger part of the Czech agricultural area is declared as the “nitrate sensitive area”. Beside this, agriculture is involved in retention systems protecting regions from floods (as a consequence of catastrophic floods in the recent years).

## 2. CZECH AGRICULTURE AND THE EUROPEAN MODEL OF AGRICULTURE

The pre-accession agricultural policy openly declares that the European Model of Agriculture (EMA) is the leading vision for the Czech agriculture under the EU conditions. The European Model of Agriculture is very closely related to the B – LANDSCAPE vision. However, the acceptance of the model requires further discussions and explanations among politicians, professionals and in the public.

A broader informal definition of the EMA, based on Mr. Fischer’s declarations, is oriented on three main pillars:

- extension of farming in the agricultural area of a country as much as possible;
- multifunctional role of agriculture;

– links between agriculture and rural development.

In spite of many disputes among the EU countries, it is evident that each country should look for its own interpretation and implementation of the EMA. In case of the Czech Republic, the EMA vision is interpreted under the pre-accession policy as follows:

- the development of a competitive, intensive, but environment-friendly agriculture, particularly in the more favourable regions, it means on approximately 50% of the agricultural area;
- the development of extensive agriculture (based pre-vaillingly on cattle or sheep breeding), oriented on environmental goods and services, particularly in the less favourable regions, it means on approximately 50% of the agricultural area;
- diversification of agriculture on production for the non-food (especially bio-energy) use of agricultural products (up to 20% of agricultural area) and on the non-agricultural activities in villages;
- participation of agriculture in rural development.

The land utilisation under the “Czech” EMA vision is quite clear, but requires a short explanation. Except Less Favourable Areas (LFA), which can be identified with “less favourable regions” for this time and where extensive farming is required, there is no explicit idea to split the Czech agricultural area strictly and geographically into two main regions: intensive (“productive”) and extensive (“non-productive”) ones. An extensive or environment-friendly farming can be provided anywhere, depending on given “opportunity costs” of a farm, locality, etc. In other words, the concept of multi-functionality is open for the whole agricultural area.

The second remark relates to agricultural production: it should be noted, that even less favourable regions would be in reality productive regions. Only a relatively small part of land of the worst quality (about 300 000 ha) could be converted into woodland, wetland, wild nature or long-term set-aside without agricultural production.

## 3. MEASURES AND INSTITUTIONS SUPPORTING THE EMA IN THE PRE-ACCESSION AGRICULTURAL POLICY

The pre-accession agricultural policy consists of two stages: the stage REVITALISATION (1999–2001) and the stage ADAPTATION (after 2001). The orientation of the policy on the EMA vision is described for the latter stage. There is a question regarding especially the following direct measures and institutions:

- market organisations:
  - arable crops: compensation payments based on historical (1995–1999?) yields; set-aside with the possibility to grow crops for non-food use on it;
  - milk: distribution of production quotas; regulation of quota transfers between LFA and non-LFA;
  - beef and sheep: upper limit for animal density on farms; extensification premiums.

- LFA payments (for definition of LFA see other papers): direct payments for farms in the non-competitive areas, in which agriculture (and consequently rural living) would be in long-term abandoned;
- environmental services: the system of agro-environmental programmes and schemes EKO-0 – EKO-4;
- modernisation and diversification of farms: interest subsidies and state guarantee on credits for modernisation and diversification; grants for young farmers; supports on afforestation;
- general services: supports on research, extension services, education, informatics, land consolidation, etc.;
- institutions: intervention agency (the Agricultural Intervention Fund), the Support and Guarantee Farm and Forestry Fund, IACS, FADN, etc.

Starting with the environmental services presented in the list of measures, there is a possibility to utilise the EU support (SAPARD – see other papers).

## DISCUSSION

To conclude, it seems to be useful to recapitulate some risks and opportunities linked with the realisation of the EMA and LFA. There is a question of particularly the following aspects:

- The attack from the side of the USA and other (exporting) countries: According to these countries, the EMA is only a disguise for the EU protectionism. The position of these countries is penetrating into the ongoing WTO round. The problem directly relates to the EU compensation payments under the “blue box” measures, which should be discussed and gradually abolished, or changed into the “green box” measures and other kinds of decoupled payments, respectively.
- The need to transform LFA payments from pure social payments “for existence” into payments “for a demanded (environmental) activity”. LFA are productive areas in reality and the growing surpluses of production are also results of this fact. Following the EU Regulation 1257/1999 (rural development) and its implementing Regulation 1750/1999 under the Agenda 2000, the EU countries have to work out their Rural Development Plans, including LFA payments. The plans presuppose the high degree of subsidiarity, so each country has an op-

- portunity to prepare its plan – following the general EU regulations – according to its national interests and conditions. The main change would be the change from mainly headage – to area-based payments.
- Whilst the EMA accepts the replacement of production supports with agri-environmental payments in intensive regions, it is not easy to find the right balance of supports in LFA with broader biological and landscape values. On the one hand, it is necessary to maintain incentives for appropriate production activities (e.g. to avoid overgrazing) and, on the other hand, to preserve environmental incentives. Maintaining this concept can be described as a “wide and shallow” approach compared with a “deep and narrow” approach to the management of agri-environmental schemes with specific conservation objectives.
- The new LFA payments should become a possible mechanism to address a wide range of rural and nature conservation issues. Utilising the EU and own financial sources, each country should make its own choice, which will lead to variations between countries. Farmers should respect environmental standards, including the Good Farming Practices. The new phenomenon is modulation of payments depending on the size of farms. LFA payments, agri-environmental and extensification schemes have also another effect: they are able to conserve agricultural land to be prepared for the intensive utilisation, if need be (growing demand, climatic changes, regional disasters, etc.).

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# Agricultural land policy, farm operating and farm structures in France<sup>1</sup>

## *Politika hospodaření s půdou, struktura zemědělských podniků ve Francii*

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**Abstract:** Farming depends mainly on the use of the ground and the land property plays an essential role in its operation and its organisation. In XIX century, the right of ownership was defined in France as the right "to enjoy and to use the things in the absolute way" and allowed the private appropriation and thus the fodder revolution and the increase in the productivity of the agriculture which is resulted. But its too absolute nature appeared an obstacle with the modernisation of agriculture. Gradually, several regulations of land use and land market were introduced in France with the objective to support the modernisation of the farms, while maintaining a family character. This land policy related on the organisation of the relations between the landowners and the farmers, on the control of the surface area growth of the farms and on the control and the organisation of the market of the agricultural land. The tenant farming status ensures a right of indefinite renewal of the farming lease, guarantees a great freedom of investment for the farmer and limits the amount of the rent. The right of the land transfers and the action of the SAFER, the administrative control to farm and that of the transfer of the rights to produce, are organised to avoid the existing viable holdings being divided, to improve the situation of those which are viable or can become it, while discouraging the extensions exceeding the limits of the family farm.

**Key words:** agricultural land policy, farm operating, farm structures, France, regulations of land use, land market, landowners, tenant farmers, land property, Land planning, Rural Settlement

**Abstrakt:** Hospodaření je závislé výrazným způsobem na využívání půdy, pozemkové vlastnictví zde hraje klíčovou roli. Politika využití půdy ve Francii je podmíněna statutem nájemce a regulacemi růstu velikosti zemědělských podniků : podporují se rodinné typy hospodaření. Statut nájemce zabezpečuje obnovu nájemního poměru, garantuje volnost v investování a limituje výši nájmu. Převod držby, intervence SAFERu a administrativní kontroly hospodaření jsou organizovány takovým způsobem, aby nedošlo k dělení držby, aby se vylepšila situace podniků, a aby se zabránilo rozšíření výměry rodinných farem za únosnou mez. Hospodaření závisí na využití půdy, půdní držba je základem hospodaření. Od 19. století je vlastnické právo ve Francii definováno jako právo užívání věci v absolutním smyslu, přímé vlastnictví potencovalo nárůst produktivity v zemědělství. Ovšem toto příliš absolutní chápání vlastnictví se ukázalo na překážku modernizaci zemědělství. Postupně se realizovala některá opatření s cílem podpořit modernizaci zemědělských podniků při zachování rodinného charakteru. Tato politika je založená na organizaci vztahů mezi vlastníky a uživateli, na řízení růstu výměry podniků a na organizaci trhu s půdou.

**Klíčová slova:** strategie hospodaření se zemědělskou půdou, struktura farem, Francie, regulační opatření pro užívání půdy, trh s půdou, vlastníci, nájemci, územní plán, venkovská sídla

### THE RELATIONSHIP BETWEEN LANDOWNERS AND TENANT FARMERS REGULATED BY THE STATUTE OF THE TENANT FARMING

To guarantee the stability of the farmer during the life of its investments, the statute of the tenant farming in 1946 provided that the lease should be concluded for minimum duration 9 years. In the term, the renewal of this lease can be refused with the farmer only under very precise conditions expressly envisaged by the law, only

when the landowner wants to take again the field to operate the farm by himself or to make it operated by one of his descendants. In this case, it is necessary that he warns his tenant farmer eighteen months in advance of its intention not to renew the lease. Thus a tenant farmer, having a landowner who is not a farmer, can be assured that his lease will be automatically renewed until his retirement. The tenant farmer can also give his lease up to a descendant. The main case of uncertainty for the tenant farmer is, when the field is sold: if the buyer is a farm-

<sup>1</sup>The paper was prepared for the seminar of the RIAE Prague "Farm land use in the context of CR accession to EU". 16-20 October 2000, Špindlerův Mlýn, Czech Republic.

er, this one can operate the fields himself at the end of the lease. In this case and to prevent that the sale threatening the economic continuity of the farm, a right of pre-emption was granted to the farmer. This right is not a simple priority right of purchase, but gives to the tenant farmer the possibility of being substituted, at the prices and conditions notified, by a possible purchaser. This right thus makes it possible to ensure the continuity of the farm, and is at the same time a measurement of encouragement for the tenant farmers to become owners of the grounds which they work.

But, if despite these guarantees of security which the statute gave to the tenant farmer, this one must leave the farm on which he had made investments not totally recouped, it was then envisaged that he is paid a compensation for these improvements. The entitlement of this compensation is related to the establishment of an inventory of fixtures at the entry and at the exit and to the authorisation which must give the landowner to carry out the improvements giving right compensation. However, in the event of refusal of the landowner, it is possible for the farmer to resort to a special jurisdictional court which decides supremely.

The statute of the tenant farming had initiated an agricultural policy which supported the farm by restricting the rights of the non-farmer landowners. During the last forty years, the agricultural policy was marked by the reinforcement of the rights of the farmer to the detriment of the rights of the landowner. The holding of the tenant farmer benefits in priority by the profit of productivity.

First of all, the perennality of the holding of the tenant farmer was better and better guaranteed by regulating more and more precisely the requirements so that the landowner can take again the rented farm only if he operates it himself. He must take the part effectively and permanently with work and satisfy the conditions of abilities or professional experience.

In 1970, there were instituted the long-term leases of 18 and 25 years, in order to accentuate the stability of the tenant farmer, and tax advantages were granted to encourage the landowners to conclude this kind of lease.

Then the freedom of investment was more and more widely guaranteed to the tenant farmer, with the corollary to get back for part of his investments at the end of lease, in case of non-renewal. From 1967, improvements, which consist in improving durably the ground and entail an increase of the potential of production of the ground by more than 20%, can be made by the tenant farmer without preliminary license of the landowner. Besides, some investments (improvement of the buildings of farm, collective organisation of drainage, irrigation or improvement of grounds) are authorised, except when the landlord convinces the court that he has serious and justifiable motives of opposing these improvements. In 1975, the possibilities of investment for the farmer without preliminary license of the landlord are widened: the only investments which require this preliminary license are plantations, constructions for animal production and

those where the depreciation period exceeds by more than 6 years the duration of the lease. Generally, compensations due to the outgoing tenant farmer are based on the book value of improvements (up-to-date expenses reduced by economic depreciation).

As regards the mechanism of fixing the price for farm rents, until 1995 the price for farm rents had to be fixed according to the quantity of agricultural produce and was indexed by this fact to the price of the agricultural produce. Since 1995, consecutively of the reform of the Common Agricultural Policy of 1992 which ended in a decline of the price for farm produces and in an increase of direct compensation premiums paid to the farmers, the price of farm rents is fixed henceforth out of money. It is indexed on a departmental index of the farm rents which takes into account the evolution of the average agricultural income. A prefectorial order fixes the brackets inside which the amount of the farm rent must be included, which cannot thus be freely negotiated between the landowner and the tenant farmer.

Lastly, the Statute of the Tenant Farming introduces a new court to arbitrate the conflicts between landowners and farmer: the Special Court of Rural Leases. These courts consist of five judges: the judge of authority as a president and two landlords and two tenant farmers elected by their peers for the duration of five years.

#### **THE AIM OF THE FAMILY FARM WITH 2 AWU (ANNUAL WORK UNITS) AND THE IMPLEMENTATION OF A POLICY OF STRUCTURES**

Two agricultural laws of 1960 and 1962 set the fundamental principles which guided the implementation of the agricultural policy in France for 40 years. In the context of strong rural migration, these laws defined a model of family farm, known under the name "holding with two AWU", with the aim, on one hand, to encourage departure of farmers having too small structure of production to be able to modernise their holding, and on the other hand, to direct the released areas towards the farmers who correspond to the aimed model. It is the question of encouraging the development of sufficiently productive farm to allow remuneration of labour and capital by a rate comparable with that of the other branches of economy: the development of the agricultural companies is thus in accordance with the rationality of the market economy. But at the same time, it asserted the will to promote family farms. So, these laws established two thresholds: a threshold of viability, surface area below which holdings are isolated from the benefit of the development aids to agriculture, and a superior threshold of surface area beyond which their development is discouraged. Thus there are set up measurements supporting the land release by the old farmers (supplementary pension) or by those who have too small areas (help in the change of professional activity). The farm entrance of the young

farmers and the modernisation of farms are encouraged on the condition of having average structures of production, which is sufficient to provide a minimal income to the family workers, but which does not exceed certain thresholds of acreage. Thus, the enlargements must initially strengthen average family farms rather than to allow the development of large-scale structures of production. To this purpose, a land use control is set up and incentive measures are taken to facilitate farm entrance or development of exploitations able of getting modernised quickly.

Land use control rests at the same time on the control of farm extension and on the right of pre-emption of the "Land planning and Rural Settlement Companies (SAFER)". The control of extension of farms supposes an authorisation to operate if the increase of a holding carries the surface of this one beyond a ceiling defined by department or natural area and fixed by order. This authorisation to operate is granted by the prefect after opinion of a representatives departmental committee of the agricultural profession and the administration. It is not enough to become an owner of the ground, or to rent a ground, to be able to operate it. It is also necessary to have this authorisation. It is about a specific right which we can compare with the license to build essential to the development of a ground to be built. In the departments where the farmers union is well organised, where the land use demand is generally strong, the existence of this regulation certainly dissuaded and sometimes slowed down the concentration of land areas for the benefit of the largest farms. However, this regulation alone did not allow to prevent the creation of very large farms, in particular in the case of farm enlargements by farm area transfers within the family, which were excluded from this control. Since 1999, the family enlargements are also subject to the control of structures. The control of structures was strengthened in 1980. In every department, a local guiding plan of agricultural structures (SDDS) is established. This document provides the foundations of a departmental policy as regards control of the evolution of the structures of farm, and motivate the decisions in this field.

In 1984, the dairy quotas were introduced. The European regulations indicated then that the producers, who had engaged in a program of modernisation and development of their dairy farm, had priority for the attribution of additional dairy references. In France, the many references released by the dairy out-goer schemes and the quotas siphoned on the quotas transfers for the benefit of the departmental reserve were awarded priority to the young farmers who settled and to the beneficiaries of a plan of modernisation. Additional attributions of the dairy quotas concerned a measurement of accompaniment of the aids allotted to the farmers who settled or were engaged in a plan of modernisation.

The reform of the CAP of 1992 also creates the individual rights to premiums: premiums for the maintenance of the herd of suckler cows and sheep annual premium. These schemes were accompanied by the creation of a

national reserve managed on a departmental scale. Since the quotas of production were introduced, the policy of structures alone was no more able to control the economic growth of the farms: the economic dimension of the farms could increase by obtaining production rights without direct link with extension of farm areas. If the SDDS fixes the orientation as regards structural policy, no document gave the orientation at the departmental level as regards reallocation of the production rights.

In 1995, the aim of the law of Modernisation of Agriculture Industry is to adapt the structures of French agriculture to the new challenges of the world commercial competition. It is a question of combining this requirement of competitiveness with the characteristics of the family farms. A new departmental commission of orientation of agriculture (CDOA) is created and has a role of consistency and co-ordination of the various instruments of the agricultural policies, whatever the origin of these instruments. The members of this commission are persons in charge of the agricultural professional organisations and public authorities. By the control of the land size of the farms, by the attribution of the grants to the farm entrance and farm modernisation, by the management of quotas and rights to premiums, each CDOA has a great freedom to direct the structures of the farms towards a given type which it wishes to privilege (farm-target) (Berriet-Sollic, Boion 1999).

The CDOA have in load the drafting of a departmental agricultural project (PAD) which fixes the departmental political orientations and the rules of its decision. The PAD must give a global and prospective vision of agriculture integrating employment, agricultural produces markets, land planning and environment. Its drafting is also an occasion to evaluate the strength and the weaknesses of agriculture, taking into consideration objectives considered to be priority.

#### **THE CONTROL OF THE LAND MARKET BY THE LAND PLANNING AND RURAL SETTLEMENT COMPANIES (SAFER)**

The second facet of land control resulting from the law of 1962 is the right of pre-emption granted to the SAFER. Any project of arable land sale must be notified to the SAFER. This notification must precisely indicate the nature of the ground the sale of which is anticipated, the selling price and the identity of the purchaser. If the purchaser is the tenant or a member of the close family of the seller, the SAFER is not allowed to use its right of pre-emption. In other cases, the SAFER can replace the purchaser regarding the prices and conditions fixed in the notification. The seller cannot then refuse the sale with the SAFER. If the SAFER considers that the price is too high, it can ask the courts for a price adjustment. In this case, the seller can refuse the sale with the SAFER at the price fixed by the court, but he cannot sell at a higher price to any other possible purchaser. This possibility of

pre-empting by requiring a price adjustment aims to avoid raising of land prices such as might prevent a farmer with middle standard incomes from acquiring the land. Any pre-emption of the SAFER must be justified, because it benefits by this right to achieve goals laid down by the law. These aims are in priority of young farmers entering the farm or the reinstatement of farmers whose landowner refused the renewal of the lease. In second priority, the SAFER can pre-empt for enlarging of small-scale farmings or to maintain family farms.

The SAFER can keep the land areas it bought during maximum 5 years. When it resells these land areas, it must inform very largely (display in town hall, notification in the local newspapers) all the potential candidates about the purchase by indicating the price, the nature and the location of the land to be sold. A technical committee, composed of persons in charge of agricultural professional organisations and representatives of the ministries of Agriculture and Finances, examines the candidatures and chooses a purchaser by taking account of the sets of priorities fixed by the law. The land areas must be allotted to the candidates able to ensure farm operating with the greatest chances of success. The technical committee takes specially notice of the financial capacities and the professional competence of the candidates. The technical committee must justify its decisions and inform the rejected candidates of its choice reasons.

## CONCLUSION

The first aim of the land policy in France since 1945 was to support the development of family farms able to be modernised and thus improve the total productivity of French agriculture. In this way, the too small-scale farms with low financial capacity were discouraged: the government aid was reserved to the farmers with sufficient professional competence, on middle-sized family farms. The statute of the tenant farming ensured the stability of the tenant, which enabled him to invest. The limitation of the amount of the rent made it possible to the farmers to preserve the benefit of their investments.

In order to support the middle-sized family farm, a policy of structures was set up from 1960. The right of ownership is affected by the new concept of right to operate created in 1960, then from 1984 by the appearance of the rights to produce. The management of these new rights is ensured at the departmental level by the representatives of the farmers under the control of the administration. This collective management ensures a very strong implication of the farmers around the common challenges and allows adaptability to the local plan of the national rules. It causes greater effectiveness, but led to a strong diversity of the practices between departments. Certain departments tolerate non-respect of the control of the structures, and thus a fast growth of the farmed area of the large farms, because the representatives of the farmers prefer economic freedom of competition. In other departments, the professional persons in charge wish to

support the middle-sized family farm and fix very strict rules: low threshold to ask for the authorisation of farm operating, strong rules of priority to acquire land areas sold by the SAFER or to obtain new rights to produce.

From the point of view of the economic analysis, i.e. the study of the rules of resource allocation, the French policy that we have just described is based on two essential principles, equality and solidarity. The principle of equality is delimited on one side by the threshold of viability and on the other side by the ceiling of enlargement beyond which an authorisation is needed. The concept of economic viability, which leads to the exclusion of the too small-scale farms, reserves the benefit of this policy for the producers having a capacity with the competition of the market considered to be sufficient. But, at the same time, the play of commercial competition is reduced by the braking of the growth of the too large sized farms.

The definition of new rights, right to operate and right to produce, is accompanied by a form of collective and non-commercial distribution. The group of the farmers is interdependent in collective detention of these rights and distributes them between its members while taking care to respect the principle of equality. The system of prevention of the area enlarging and taking away the rights to produce in discredit of the largest farms, plays in favour of the small farmers (viable or potentially viable) and of the young farmers who settle on the land. The resource allocation aims thus to the internal cohesion of the group of middle-sized family farmers, and to its perpetuation, which is a characteristic of the solidarity economy, and not of the market economy.

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# Long-term trends in the land use changes in the Czechia and their societal driving forces in 1845–2000<sup>1,2</sup>

## *Dlouhodobé trendy změn využití půdy v Česku a jejich hybné síly 1845–2000*

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**Abstract:** This article provides a general overview of the major land use changes in Czechia over the past 150 years with focus on societal forces driving these changes. Though economic development is seen as having key impact on land use before 1945, under communism (1948–1989) the importance of political decisions was crucial. The post-war period is analysed in greater detail as this was the era of the most significant landscape changes. The most recent period encompassed the return to market conditions which results in the environmentally desirable land use changes.

**Key words:** land use, historical development, agricultural land fund, Czechia

**Abstrakt:** Tento článek podává přehled o změnách ve využití půdy v posledních 150 letech, zvláštní důraz je kladen na společenské příčiny, souvislosti a důsledky těchto změn. Před rokem 1948 klíčovým faktorem ovlivňujícím využití půdy byly ekonomické aspekty, zatímco v komunistickém období (1948–1989) byla rozhodující politická rozhodnutí. Poválečné období je detailně analyzováno, neboť právě toto období zapříčinilo nejvíce změn v krajině. Období po roce 1989 je charakterizováno návratem k tržním podmínkám, což sebou nese pozitivní změny ve smyslu ekonomickém i environmentálním.

**Klíčová slova:** využití půdy, historický vývoj, zemědělský půdní fond, Česko

## INTRODUCTION

The changes in the land use reflect the periods of social and economical development, including political development (it is valid especially for the former communist countries) and physical-geographical development including the environmental changes. They are results of long-term interactions between society and nature. The present structure of land resources of the CR was influenced by the historical interactions between society and nature. These interactions could be also measured, relatively accurately, by the means of changes in the land use.

## SOURCE OF USED DATA AND RESEARCH DATA-BASE

Our article presents some of the results of the long term research and its database created during the implementation of the project of the Grant Agency of the CR "Land

Use/Cover Change: development, connections, perspectives" including results of the previous projects.

The data sources and methodology of database design were described elsewhere (Bičík, Jeleček et al. 1996; Bičík 1995). The data of acreage of the land use categories in the cadastral units were taken from the Central Land Archive of the Survey and Cadastres (1845, 1948), from the Department of the Central Database of the Czech Land Survey Office in Prague (1990, 2000), the aggregate data for the CR are also from other resources. The information for the cadastre units were linked in 30% of cases because of time comparability, about 10 000 basic regional units (ZUJ) were created for the whole territory of Czechia. The average extent of the cadastre unit is about 609 hectares, average extent of ZUJ is 780 hectares. For every district and seven former provinces, 30 GIS tables, maps, graphs were created. In 2000, the colour GIS cartograms of changes of areas and proportions of land use in the categories for ZUJ were printed. These maps, as the basis of our analysis and interpretation, will be also presented. In the next future, they will be published on the CD ROM disks.

<sup>1</sup>This article is output of the project of the Grant Agency of the CR No. 205/98/1184 "LUCC: Development, consequences, perspectives"

<sup>2</sup>The paper was prepared for the seminar of the RIAE Prague "Farm land use in the context of CR accession to EU". 16–20 October 2000, Špindlerův Mlýn, Czech Republic.

Table 1. Proportion of selected categories of land use in the Czechia 1845–2000 (in %)

Year	OP	TK	TTP	ZP	LP	JP
1845	48.2	1.1	17.6	66.9	28.8	4.3
1897	<b>51.6<sup>1)</sup></b>	1.5	14.2	67.3	28.9	3.8
1929	50.6	1.5	13.4	65.5	30.0	4.5
1948	49.9	1.9	12.9	64.7	30.2	5.1
1961	42.7	2.6	12.6	57.9	32.7	9.4
1970	42.1	2.7	11.8	56.6	33.0	10.4
1990	41.0	2.9	10.5	54.4	33.3	12.3
2000	39.3 <sup>2)</sup>	3.0	12.0	54.3	<b>33.4</b>	<b>12.3</b>

Note: 1) **Bold face** = the highest proportion since 1845 till 1999  
 2) *Script* = the lowest proportion since 1845 till 1999

Abbreviation: OP = arable land; TK = permanent cultures, TTP = permanent grassland; Lo = meadows; Pa = pastures; ZPF = agricultural land fund; LP = forest areas; VP = water areas; ZaP = built-up areas; OstP = remaining areas (roads, railroad, areas of manipulation etc.); JP = other areas (VP + ZaP + OstP)

### THE PRINCIPAL HISTORICAL TRENDS IN THE DEVELOPMENT OF LAND USE STRUCTURE SINCE FIRST HALF OF THE 19 CENTURY TILL THE END OF THE 20 CENTURY

In many studies, we are dealing with these problems from different points of view (see the list of literature and the references to other works). At present, we are aiming at the synthesis of these aspects and a deep interpretation of the created database which captures almost all basic societal forces, reasons, continuities, consequences of the changes of used land of the CR and in some cases also on the regional levels.

Table 2. Changes in acreage in the Czechia 1845-1948-1990-2000 (in 1 000 hectares and %)

Land use category	Periods							
	1845-1948		1948-1990		1990-2000		1845-2000	
	ha	%	ha	%	ha	%	ha	%
OP	108	2.8	-704	-17.9	-134	-4.2	-730	-19.1
TK	59	65.6	76	51.0	11	4.9	146	162.2
Lo	-17	-2.3	-142	-19.8	89	15.5	-68	-9.3
Pa	-355	-54.0	-47	-15.5	29	-0.1	-373	-56.7
ZPF	-205	-3.9	-817	-16.0	-5	0.2	-1 076	-19.3
LP	103	4.5	247	10.4	5	0.2	355	15.6
VP	-24	-33.3	3	6.3				
ZaP	39	84.8	41	48.2	4	3.2	84	182.6
OstP	41	18.1	526	197.0				
JP	56	16.3	570	142.5	0	0	626	182.0

Abbreviation see Table 1

In this contribution, the changes in the land use are evaluated by the indicator of average yearly changes (in ha and %) in time periods, that coincides with the basic stages of the historical development in our country. The data used here come from the conclusion for time periods defined by the years 1882, 1897, 1921, 1929, 1961, and 1970, especially Jeleček 1995. The principal trends in the use of the areas of the Czechia for the last 160 years and three different time stages are following (see Table 1 and 2, Figure 1). The summarised data for the Czechia for 1845, 1948 are taken from other sources and consequently certain approximations were made for table evaluations. In 1845, the total acreage of the present CR was

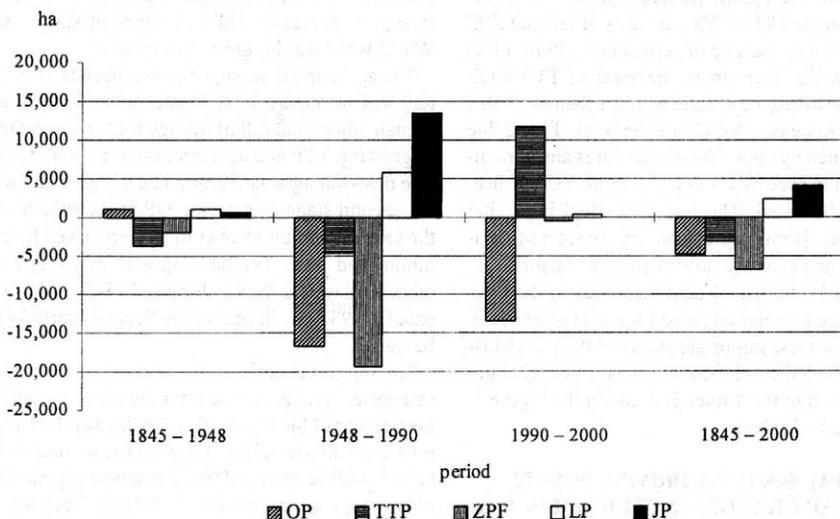


Figure 1. Average yearly changes in acreage in the CR in 1845–2000

Table 3. Average yearly changes in acreage of land-use categories in Czechia (in ha)

Land use category	Period			
	1845–1948	1948–1990	1990–2000	1845–2000
OP	1 049	-16 762	-13 400	-4 867
TK	-573	1 809	1 100	973
Lo	-165	-3 381	-8 900	-453
Pa	-3 447	-1 119	-2900	-2 487
ZPF	-1 990	-19 425	-500	-6 847
LP	1 000	5 881	500	2 367
VP	-233	71	.	.
ZaP	379	976	400	560
OstP	398	12 524	.	.
JP	544	13 571	0	4 173

Abbreviation see Table 1

7.932 million hectares and the decreasing character was sustained till the post-1948 period, at present there are 7.886 million hectares. The principal trends follow:

1. The proportion of forest area (LP) and other areas (JP) increased, mostly in the last fifty years; the increase of JP stopped after 1990.
2. The proportion of permanent grassland (TTP) was steadily decreasing till the end of the eighties of 20 century, than it started to increase
3. The proportion of arable land (OP) was increasing till the end of 19th century with the top of 51.6%, then it has been decreasing till the present time, mostly after 1945 (1948–1961), especially in the mountain boarder regions. The highest decrease occurred in 1948–1990. The proportion of the OP is the highest of all categories.
4. The proportion of agriculture land (ZPF) was steadily decreasing with the highest decrease also in 1948–1990. For whole period 1845–2000, the area of OP and ZPF diminished by 1/5, the area of permanent cultures (TK) and JP increased three times, the areas of TTP diminished by one third (the pasture by more then one half), forest areas increased by 1/6 of the total. The arable land diminished by appr. 700 000 hectares and agricultural land diminished by 1 million hectares, 335 000 hectares were afforested. The rest diversified into other types of areas. Both phenomena are considered environmentally and economically as positive factors.

The changes in the use of land resources of the Czechia areas in the researched period are characterised in the important and less important stages of the Czech history since 1845 by the indicator of average year changes in hectares, given in the Tables 3–5 and in the Figure 1, built according to Table 4.

#### THE PRINCIPAL SOCIETAL DRIVING FORCES AND LAND USE CHANGES IN PERIOD 1845–1948

Comparing the periods 1948–1990 and 1990–2000, the development in this period is very modest. Table 5 gives

Table 4. Average yearly change in acreage of main categories in Czechia in 1845–2000 (in ha)

Land use category	Period			
	1845–1948	1948–1990	1990–2000	1845–2000
OP	1 049	-16 762	-13 400	-4 867
TTP	-3 611	-4 500	11 800	-3041
ZPF	-1 990	-19 425	-500	-6 847
LP	1 000	5 881	500	2 367
JP	544	13 571	0	4 173

Abbreviation see Table 1

different picture revealing two periods of bigger changes. They are clarified in Bičík and col.1996, Jeleček 1990,1995, Bičík, Jeleček, Štěpánek 2000. The beginning of the capitalist production way and its quick evolution enabled by the 1848/49 revolution (serfdom abolition, labour market force tree development, evolution of the agricultural revolution, impact of industrialisation) started extensive development from the beginning, marked by the enlargement of arable land area (enabled by the elimination of the fallow), that finished at the eighties of the 19 century.

Only the enlargement of arable land could meet the growing demand for food, due to the bigger proportion of the non-agricultural part of population. Bigger investments were inserted in the plots with bigger profitability guarantee, in the more fertile plots or in the plots close to market or with better accessibility. There were the elements of technological revolution in agriculture as seed cultivation, mechanisation, artificial fertilisers, new energy resources – internal combustion motor, electricity (Jeleček 1981). The changes ceased to be dramatic, OP started to decrease. The development started with the World War I was bigger and dramatic.

The agricultural boom in the first decade of the 20 century was not apparent, the impact of the World War I, lack of man labour and fall of foreign trade caused the period of growing TTP and acceleration of the OP diminution. The post-war agrarian reform had a bigger impact, when the second stage of growing OP areas were noticed, in the case of land given over to farmers. Even forest areas diminished then. The development in 1929–1948 was modest, as well as the whole period 1845–1948. If we had data for 1938, the impact of the Second World War could be traced.

The biggest changes in the acreage of individual land categories were provoked after the second world war, by the transfer of the Czech (Czechoslovak) Germans as the political outcome of the results of the second world war, later it was the policy of the communist regime. Because of the population transfer, 3 millions hectares of land became the state property, about one thousand farms, especially in the boarder areas, were eliminated, the percentage of arable land diminished, TTP and forest areas

Table 5. Average yearly changes in acreage for land categories in the CR during the nine time periods in 1845–1999 (in 1 000 ha)

Land use category	Period								
	I	II	III	IV	V	VI	VII	VIII	IX
OP	7.35	-0.33	-11.46	19.63	-1.71	-43.46	-5.00	-4.70	-13.40
TK	0.73	-0.06	-0.71	2.63	1.21	4.31	0.89	0.60	0.97
Lo	-0.86	-0.06	2.63	-8.00	0.54	-2.00	-5.89	-3.15	-0.45
Pa	-6.35	-0.27	-0.42	-7.75	-1.83	-0.01	-1.67	-1.65	-2.49
ZPF	0.97	-0.73	-9.96	6.50	-1.79	-41.08	-11.67	-8.90	-6.85
LP	0.32	0.20	7.13	-14.25	1.29	15.31	2.89	1.10	2.37
VP	-0.78	0.00	0.79	-1.88	0.04	.	.	-0.05	.
ZaP	0.13	0.27	.	.	.	.	.	0.70	0.56
OstP	-0.78	0.40	.	.	.	.	.	6.95	.
JP	-1.32	0.66	4.67	-7.50	1.79	26.00	8.89	7.60	4.17

Period: I = 1845–1882; II = 1882–1897; III = 1897–1921; IV = 1921–1929; V = 1929–1948; VI = 1948–1961; VII = 1961–1970; VIII = 1970–1990; IX = 1990–2000

Abbreviation see Table 1

increased (Štěpánek 1992). Border mountain areas close to Slovakia did not face such dramatic changes but also there the OP decreased and the TTP increased, because the population moved into the industrialised areas of the valleys of Morava, Bečva, Odra and Váh (in Slovakia) rivers.

#### THE PRINCIPAL SOCIETAL DRIVING FORCES AND CHANGE IN LAND USE IN 1948–1990

After 1948, the development went through different domestic and foreign economical and social conditions, established in 1948. In the boarder regions with Germany and Austria, these conditions were reinforced by the consequences of the population transfer. It caused the decrease of OP especially in the mountain areas but also in the fertile areas, decrease of TTP in the fertile areas and increase in the mountain areas where the acreage of the forest land increased. There showed a typical phenomenon in the growth of the built-up areas, opening of quarries in the mining areas, the houses constructions and transport works. The biggest changes took place in the boarder areas in 1948–1961.

Besides the specific driving force caused by population transfer, there were other specifics – extensive socialistic industrialisation of the economy and collectivisation in agriculture with the application of the equalising payment non-respecting the legitimacy of creation and functioning of ground rent (Jeleček 1981, 1990). In 1948–1961, the arable land decreased by about 516 thousand hectares (16%), agricultural land by 534 thousand (10.5%). These changes represented 70 respectively 50% decrease of these categories in the whole period 1845–2000.

The boarder mountain areas were not suitable for large-scale production farming, in the areas along the iron cur-

tain the farming was not possible and consequently the forest type of farming was used or pasture farming and animal large-scale production (the Tachov district).

It brought about the increase of TTP and forest areas. In the CR in total, the TTP decreased. These changes had positive environmental aspects – see the report of Jeleček or Bičík, Štěpánek 1994. On the other side, in the fertile regions of north Bohemian coal basin, there showed the loss of the ZPF as a consequence of coal-mining and related industrial activities (Bičík 1998).

#### THE PERIOD 1990–2000: THE RETURN TO THE ECONOMIC FACTORS AND IMPLEMENTATION OF ENVIRONMENTAL FACTORS

##### The development in the Czech Republic

The historical societal changes at the end of 1989 enabled the functioning of the market mechanism in the economy and functioning of the land rent in the agriculture. In our country, there is more unrestrained space than in the EU countries where the subsidy policy supports the landscape maintaining are utilised. The economic forces is becoming a principal driving force of the changes in land use, comparing with the EU it was influenced by the restitution of the land property, by the agricultural co-operatives transformation and by the privatisation of the state farms. As a consequence of the Association Agreement of the CR with the EU, the market is unlimitedly influenced by the import of the subsidised products.

These principal changes in the character and in the intensity of the societal driving forces had important impact on the character and intensity of changes in land use in the Czechia. The proportion of OP diminished steadily, its decrease was the second-biggest since 1845

(Table 5), the area of forest is slowly increasing even in the flat regions. The main positive change is the reverse and intensive trend of the TTP evolution. Its proportion increased intensively (1990–2000, by 118, 000 hectares, 14.2%). If earlier the TTP was considered as a resource of potential arable land and later resource of afforestation, now due to the convenient subsidy policy of the ministry, the non-fertile arable land has been transferred in the TTP land (before it happened only in 1921–2000, Table 5).

### In the context of the EU evolution

Comparing with the EU, the subsidies in the CR are low and often not used in the agricultural production. As a consequence of this factor and the whole situation after 1990, the increase of impact of natural conditions in general is apparent (caused also by the low consumption of the fertilisers) and also a bigger impact of land use is visible.

The agriculture production has been dominating activity in the whole Europe for centuries, but with the industrial revolution it lost its important position from the point of view of its share in the national product and employment. Two hundred years of industrial revolution proved that the agriculture as food producer starts to lose its dominant position even in the use of land resources.

As 20 years ago the endeavour to use every square meter for agriculture production was preponderating, in the last years agriculture took progressively a quite different role. The EU countries are trying to change, by means of Common Agricultural Policy (CAP), the subsidy policy and progressively leave the present model of the guaranteed prices for purchase of the agricultural production.

The new attitudes of understanding apprehend the agriculture in a wider way – not only as a food producer but also a participant factor in the maintaining of the cultural landscape. It starts with many environmental functions including the greenery preservation. This trend is adequate to the determination of extensive and ecological production. The agricultural production will be more open to the non-agricultural activities and will serve not only as a food producer but also as a countryside stabilisation.

### CONCLUSION

The decisive societal driving forces with the biggest impact on the land use are the following (ranked by priority):

- Events and processes caused by the World War II, transfer of German population, elimination of market economy, forty years of communism, partition of world and Europe, the iron curtain.
- Periodical character of economy till the World War II, geo-political and geo-economical changes of the Czechoslovakia, resp. Czechia after 1948 and 1989, restoration

of capitalism after 1989 and opening of the Czech economy to the external influences.

- Incidence of the elements and aspects of the industrial and agricultural revolution in the 19th century and their transformation into the technological and scientific revolution and after 1945 in the technological and scientific revolution in the economy, industry, and especially in the agriculture.
- Political and social events and processes as land reform after 1918, the impact of long agrarian crisis in the eighties and nineties of the 19th century and the Great Depression in the thirties of the 20th century, collectivisation and nationalisation of agriculture in 1948–1989.
- The state agricultural policy including subsidy policy, changes of the legal system in the area of holdings and land ownership, ZPF protection law since the sixties, restitution, privatisation and transformation of agriculture after 1989.
- Impact of the World War II.

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# Tax encumbrance of agricultural land in the SR and in the EU countries<sup>1</sup>

## Daňové zaťaženie poľnohospodárskych pozemkov na Slovensku a krajinách EÚ

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**Abstract:** Development of the assessment including its specific feature used for the agriculture has been marked by several changes till now. To increase the economic efficiency of the assessment was the main purpose of these changes. During 1993–1998, a large number of arrangements was realised within the framework of the assessment reform in order to respect the natural and biological specificity of the agriculture. In spite of these arrangements, some of questions have remained without solution yet. It regards mainly specification of the tax base and the adjustment of the percent rate for the arable land, pastures and meadows.

**Key words:** tax encumbrance, tax reform, tax system, tax arrangement, land tax

**Abstrakt:** Vývoj daňového zatížení včetně specifických zemědělských instrumentů prošel řadou změn. Hlavním záměrem bylo zvýšit ekonomickou účinnost zatížení. V letech 1993–1998 se realizovala spousta úprav v rámci reformy, se záměrem respektovat přírodní a biologická specifika zemědělství. Přes provedené úpravy zůstaly některé otázky nevyřešeny. Jedná se hlavně o specifikování daňové báze a o úpravy výše daňového zatížení pro ornou půdu, pastviny a louky.

**Klíčová slova:** daňové zatížení, daňová reforma, daňový systém, daňová soustava, pozemková daň

## INTRODUCTION

The materialised tax reform, implemented in Slovakia in 1993, represents the tax system compatible with the systems of the EU. The complex evolution of the tax system including the specificity of agriculture underwent many changes with the purpose to enhance the efficiency of the tax system. The important change which is closely related to tax system was to separate the fund financing from tax system and introduction of VAT. The tax arrangements are not only the summarisation of the single taxes but are also mutually interconnected to avoid double taxation. During 1993–1996, the series of measurements took place with the aim of respecting natural and biological specificity of agriculture. Nevertheless, some problems have not been solved yet. The direct taxes are the principal taxes in agriculture in the extent of tax volume, primarily the land tax as a contribution to the budget of municipalities. From the point of view of tax encumbrance, special attention is paid to the methodological approach to the tax formulation and tax re-thinking.

## TAXATION OF AGRICULTURAL LAND

The new tax system brought about the principal changes especially for the agricultural production. Since 1993, the tax is imposed on all agricultural land including the plots with the tax relieve in the previous period (land in inferior natural conditions). The new tax system contained the aspect of neutrality and parallel encompassing of the lowering of direct taxes (income tax) and increase of indirect taxes. For entrepreneurial subjects in farming, the measures, aiming to decrease the tax burden, were applied. In the fiscal legislation, the following measures were applied:

- tax-free period (income tax) for five years since the date of new farm registration, set prior 1995
- the tax arrangement for property shares coming from the transformation of the agriculture co-operatives (in production)
- lowering the rate from 1% to 0.75% of the official price of the plot (in case of arable land, hop gardens, vineyards, orchards), 0.25% of the official price for permanent grassland, forests, ponds, water areas

<sup>1</sup>The paper was prepared for the seminar of the RIAE Prague "Farm land use in the context of CR accession to EU". 16–20 October 2000, Špindlerův Mlýn, Czech Republic.

- free of charge system for the plots belonging to the national park areas, protected areas, nature reservations, protected zones with the 3rd or 4th degree of protection, zones of water resources protection
- the payment calendar adapted to the natural cycles of the agricultural production

### THE RATE OF LAND TAX AND PROPOSALS FOR ITS ADJUSTMENT

Among the direct taxes, the land tax makes 58.2% of the total tax burden. It is assessed as a percentage of the land price calculated from the soil evaluation ecological units (BPEJ) on the land. After implementing land price in 1991, the rate of land tax was 1% for arable land, orchard, hop gardens, and 0.75% for permanent grassland. In 1994, the given rates for arable land, orchards, vineyards, hop gardens decreased to 0.75% and to 0.25% for permanent grasses. The rate was fixed uniformly for the better and worse natural conditions.

The total tax volume was SK 625 449 thousands in 1999. The average land tax per hectare of arable land was SK 393.65 and per hectare of permanent grass it was SK 31.34. The highest land tax in the most productive regions of Slovakia was SK 667 in the district Dunajská Streda, SK

667 in the district Galanta and SK 618 in the district Bratislava II. The lowest tax burden per hectare was in regions with worse natural conditions, in the district Dolný Kubín SK 16, in the district Gelnica SK 17, in the district Čadca SK 18 (Table 1).

Even if the land tax rate diminished, its level is still non-proportionally high especially for the land in the sub-marginal conditions. In the VUEPP Green Paper, the series of measures were proposed to adjust the land tax but they were never implemented. The following proposal is the most realistic:

The diminishing of land rate in case of arable land from 0.75% to 0.50% of tax base. The rate for permanent grassland should stay the same but in case of the price SK 5 000–20 000 per hectare, tax should be eliminated.

Diminishing of tax burden on arable land	
Acreage of arable land in Slovakia to 31. 12. 1999	1,521,000 ha
Average price of arable land per ha in 1999	SK 50 487
Total price of arable land	SK 79,832,727,000
Land tax of arable land, rate 0.75%	SK 598,745,000
Land tax of arable land , rate 0.50%	SK 399,164,000
<b>Impact of proposed rate on tax gain</b>	<b>SK -199,581,000</b>

Table 1. Acreage, average price, land tax by land price category (SCP) – 31. 12. 1999

SCP	Acreage			Average price in SK			Land tax in SK		
	pp (ha)	op (ha)	ttp (ha)	pp per ha	op per ha	ttp per ha	total	op per ha	ttp per ha
01	45 986	3 962	42 024	5 595	6 776	5 484	777 490	50.82	13.71
02	64 442	5 611	58 831	6 465	10 654	6 066	1 340 473	79.90	15.16
03	70 525	10 737	59 788	7 527	12 137	6 699	1 978 754	91.03	16.75
04	71 224	12 891	58 333	8 460	13 801	7 279	2 395 827	103.51	18.20
05	68 388	14 671	53 717	9 544	15 827	7 829	2 792 730	118.70	19.57
06	69 462	14 138	55 324	10 584	17 800	8 740	3 096 355	133.50	21.85
07	211 731	69 050	142 682	13 023	19 310	9 980	13 560 181	144.83	24.95
08	192 038	80 060	111 978	17 171	23 360	12 745	17 594 709	175.20	31.86
09	69 876	37 599	32 276	20 232	25 117	14 541	8 256 104	188.37	36.35
10	173 909	100 977	72 932	23 208	29 032	15 145	24 747 646	217.74	37.86
11	176 032	120 015	56 017	27 681	32 267	17 856	31 544 364	242.00	44.64
12	214 859	166 029	48 830	32 859	36 429	20 718	47 891 439	273.22	51.79
13	112 242	92 778	19 464	38 118	41 146	23 683	29 783 100	308.59	59.21
14	74 001	64 084	9 917	42 959	45 619	25 773	22 564 730	342.14	64.43
15	84 897	76 495	8 402	49 275	51 396	29 964	30 116 257	385.47	74.91
01–15	1 699 612	869 096	830 515	22 519	32 852	11 706	238 440 159	246.39	29.26
16	138 662	131 710	6 952	58 566	59 568	39 577	59 530 396	446.76	98.94
17	139 715	134 926	4 789	69 876	70 834	42 883	72 193 615	531.26	107.21
18	184 656	179 544	5 112	80 523	81 466	47 387	110 305 996	610.99	118.47
19	150 150	146 825	3 325	89 380	90 285	49 401	99 831 366	677.14	123.50
20	60 096	58 996	1 100	101 022	101 715	63 867	45 181 231	762.86	159.67
16–20	673 278	652 001	21 277	77 596	78 660	44 988	387 042 604	589.95	112.47
Total SR	2 372 889	1 521 097	851 792	38 146	52 487	12 537	625 482 762	393.65	31.34

pp = agricultural land; op = arable land; ttp = permanent grassland

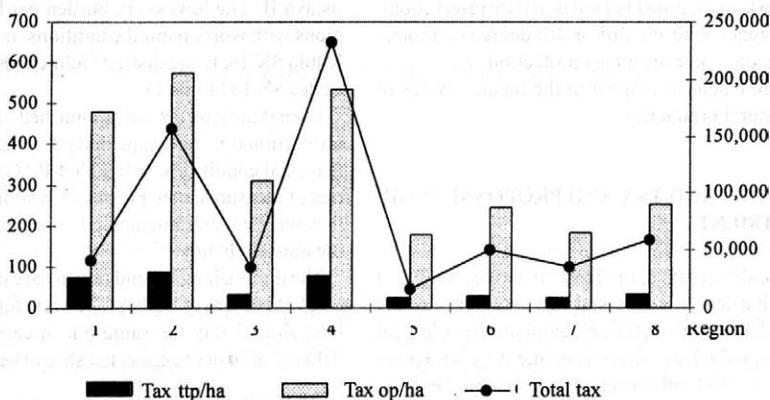


Figure 1. Land tax in regions of the SR to 31. 12. 1999

Regions: 1 = Bratislavský, 2 = Trnavský, 3 = Trenčianský, 4 = Nitranský, 5 = Žilinský, 6 = Banskobystrický, 7 = Prešovský, 8 = Košický

ttp = permanent grassland, op = arable land

Acreage of permanent grass in the SR by 31. 12. 1999	852,000 ha
Average per hectare price of permanent grass in 1999	SK 12, 537
Total price of permanent grass	SK 10,681,524,000
Acreage of permanent grass with per hectare price 5,000–20, 000 SK per ha	670,000 ha
Acreage of permanent grass with per hectare price over 20,000 SK	182,000 ha
Total price of permanent grass with per hectare price 5,000–20,000 SK	SK 8,331,589,000
Total price of permanent grass with per hectare price over 20,000 SK	SK 2,349,935,000
<b>Land tax of permanent grass with per hectare price 5,000–20,000</b>	<b>SK 20,829,000</b>

The diminishing of land tax rate of arable land and the elimination of land tax in the most inferior conditions would have impact also on the tax burden for the areas of better natural conditions and parallelly in the case of worse natural condition, on the abolition of the regional repartition of financial resources (system subsidies due to worse regional conditions and land tax). The impact on the budget of municipalities would reach SK 200 millions.

#### LAND TAX IN SELECTED EU COUNTRIES

Tax paid from land and buildings is the oldest tax burden. It did not demand an extended tax system or special administration.

The tax basis in the EU countries is not fixed uniformly. In the fiscal legislation, there are various criteria, for example the market value of land or building or the unique value given by the legal disposition. The market value has the character of current price and is linked to inflation or to speculations. This value is difficult to calculate, namely in cases when the local circumstances have to be respected. The rules are not fixed, in real life it means a deliberate interpretation of the market price. To avoid this situation, sometimes the unique value of land or buildings is introduced.

#### Germany

There is the tax burden in case of built-over lots, lots, buildings. Free of tax burden are: state, local authorities, churches, charity organisations and, under certain conditions, also the newly constructed apartments.

Unified price of agricultural enterprises is the basis for land tax calculation, the fiscal office fixes the tax basis and the result is communicated to the municipalities which publish the tax announcement. One quarter of the total tax has to be paid by 15.2, 15.5, 15.8, 15.11.

There are two decisive factors for the tax calculation:

- the tax specific number deduced from the unified price of agricultural enterprises,
- the tax rate fixed by each municipality

The tax specific numbers represent 6% of unified price for agricultural and forest enterprises, for land 3.5%, for land close to the family houses for one family for first 75,000 DM of unified price it is 2.6%, for the remaining price it is 3.5% and for land belonging to two family houses it is 3.1%.

The rate of land tax is between 100–1,000% of the tax basis (usually between 180–300%).

The tax basis is the value of cadastre-denominated income. The cadastre value is defined by the rate of six years rent and is steadily actualised. The value of farm buildings is calculated on the base of sale price or purchase costs. The rate varies locally and is yearly updated.

### Italy

In Italy, the tax is collected from the built-over plots, plots for agricultural purposes and from the plots under the construction. The tax basis is derived from the cadastre or from market value. The rates differ locally and the average rate is 4–7%.

### Austria

The appreciation of land is done in the same manner as in Germany. The evaluation committee fixes the field number and number of meadows and pastures, on its basis the profit specific number is calculated. The profit specific number, adjusted by reductions and surcharges factors (interior and exterior transport situation etc), defines the enterprise specific number. This number is multiplied by the parameter – cadastral profit (cadastral profit is given by the appreciation law). By multiplying the surface of the enterprise in hectares we find the price of the agricultural enterprise, which is the base for the appreciation procedure.

The real estate tax is fixed by the local government and comes from the real estate value and the rate about 0.8%

is imposed. Besides it, the free land with the price over 200,000 shillings undergoes the federal taxation in the level of 1%. Both taxes are paid quarterly by 15 February, 15 Mai, 15 August, 15 November of the current year.

### The Netherlands, Great Britain

In the Netherlands and in Great Britain, the land tax is not paid.

### CONCLUSION

We suppose that in the future the administrative price will stay as the basis for the level of land tax.

The fact that the percentage level of the tax is fixed uniformly regardless of the concrete natural and production conditions shows the methodological insufficiency of its fixation. The subjects, farming in the worse conditions, have an non-proportional tax burden comparing to those farming in the better conditions. Consequently, it will be necessary to re-think the existing system of land taxation, namely to differentiate between the plots in better and worse natural conditions, or in the case of plots in sub-marginal conditions, to eliminate the tax burden.

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# Use of land information system VÚPOP Bratislava for the subsidy policy in agriculture<sup>1</sup>

*Využitie informačného systému o pôde VÚPOP v podpornej a dotačnej politike rezortu pôdohospodárstva SR*

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**Abstract:** Operational information system is not one-shot affair, but it is a process of gradual building up and improvement. Already existing UNIX-system with ARC/INFO together with PC versions ARC/INFO is a basis of modern information system and GIS in the VUPOP. After some innovation, this software basis is a platform for wide spectrum of GIS applications necessary for Earth surface analyses, ecological analyses and modelling. The pedological information system is kept and permanently updated by the Soil Science and Conservation Research Institute. During the last 15–20 years, the conditions for linkage of the pedological information system with the systems of other institutions (e.g. Research Institute of Economics of Agriculture and Food Production, Land Register) were created. The GIS is earth related, it introduces a lot of different professional information linked with many organisations. From this, a requirement of content and terminological unification follows. Linkage of the base system, database and methodology makes it possible for user to use the professional data of soil information system. It is a significant component of other possible applications.

**Key words:** subsidy policy, information system

**Abstrakt:** Funkční informační systém není jednorázovou záležitostí, je proces postupného dotváření a aktualizace. Základem moderního informačního systému a GISu ve VÚPOPu byl již existující UNIXovský systém s ARC/INFO spolu s PC verzemi ARC/INFO. Na tomto softwarovém základě byla vytvořena řada GIS aplikací nezbytných k analýzám zemského povrchu, ekologickým analýzám a modelování. Pedologický informační systém je udržován Ústavem pro výzkum a ochranu půdy. Během posledních dvaceti let se vytvořily podmínky pro propojení pedologického informačního systému se systémy jiných institucí (např. Výzkumný ústav zemědělské ekonomiky a ochrany půdy). GIS je systém orientovaný k zemi, přichází se spoustou informace od mnoha institucí, odtud pak pramení snaha po metodologickém ujednocení obsahu a terminologie: jednota základního systému, databází a metodologie usnadní uživatelům využití dat o půdě jako významné součásti dalších možných aplikací.

**Klíčová slova:** informační systém, dotační politika

## LAND INFORMATION SYSTEM

Land Information Systems are based on the information obtained by the research in the terrain or by sampling of the laboratory processing.

In past, the land data, presented mainly in the maps, came from parameters easily distinguished in the process of terrain research and easily implemented into the map in the form of map units (grain, depth of soil, mould content, profile morphology etc). By the modern means these maps have been transferred (in the digitalised shape) into the information system as conventional maps.

Beside the map related information, the information system must include also database information about the qualitative soil parameters. This data enable the cogni-

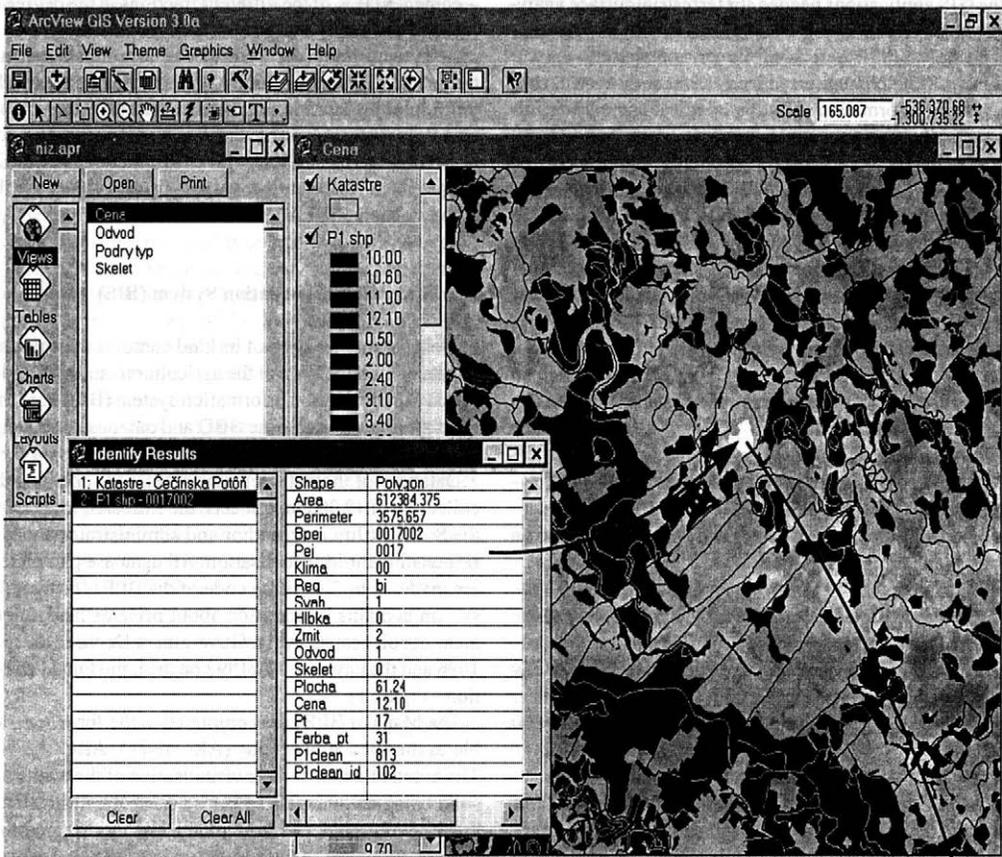
tion of their mutual relations in the frame of computerised information system.

The creation of functioning land information system is not one-shot affair, it is a process of gradual steps. Information system is never perfectly done – finished, the users emit new claims for new functions. It is necessary to enclose it in the system and actualise it progressively.

## PRESENT SITUATION OF THE GIS IN THE VÚPOP

The UNIX-system with ARC/INFO software connected to the PC version of ARC/INFO is the base of the modern land information system and the GIS in the VÚPOP. This software base supports wide spectrum of

<sup>1</sup>The paper was prepared for the seminar of the RIAE Prague "Farm land use in the context of CR accession to EU". 16–20 October 2000, Špindlerův Mlýn, Czech Republic.



AREA	PERI-METER	P1 CLEAN	P1 CLEAN ID	BPEJ	PT	FARBA_PT	PEJ	KLIMA	REG	SVANH	HLBKA	ZMIT	ODVOD	SKELET	PLOCHA	CENA
150163.047	4625.242	800	1419	0018003	L	L	L	L	L	L	L	L	L	L	15.52	?
233234.375	3542.413	801	317	0018003	18	31	0018	00	bj	1	0	3	2	0	23.32	9.60
5676.625	372.407	802	774	0032052	32	33	0032	00	bj	1	2	2	6	23	0.56	3.70
933897.500	4704.290	803	1399	0002005	02	11	0002	00	bj	1	0	5	2	0	93.39	9.70
32621.875	920.406	804	1252	L	L	L	L	L	L	L	L	L	x	L	3.26	?
148559.375	2074.136	805	1013	L	L	L	L	L	L	L	L	L	x	L	14.86	?
552271.875	3179.826	806	890	0018003	18	31	0018	00	bj	1	0	3	2	0	55.22	9.60
503300.000	6756.770	807	788	0014082	14	13	0014	00	bj	1	2	2	6	23	50.33	4.10
1855079.750	11897.054	808	435	0002002	02	11	0002	00	bj	1	0	2	2	0	185.51	9.70
29376.625	3380.247	809	223	0017002	17	31	0017	00	bj	1	0	2	2	1	29.37	12.10
216721.875	2593.532	810	338	0019002	19	31	0019	00	bj	1	0	2	2	1	21.67	12.10
432997.500	4836.903	811	225	0001001	01	11	0001	00	bj	1	0	1	6	0	43.30	3.60
153409.375	1765.329	812	103	0018003	18	31	0018	00	bj	1	0	3	2	0	15.34	9.60
612384.375	3575.657	813	102	0017002	17	31	0017	00	bj	1	0	2	2	1	61.24	12.10
501436.500	3843.276	814	475	0014082	14	13	0014	00	bj	1	2	2	6	23	50.14	4.10
32543.750	772.787	815	1251	o	e	o	o	o	o	o	o	o	x	o	3.26	?
1169421.875	5516.368	816	796	0017002	17	31	0017	00	bj	1	0	2	2	1	116.94	12.10
3005434.500	11928.146	817	787	0020003	20	21	0020	00	bj	1	0	3	2	0	260.54	9.40
316112.500	2876.753	818	1398	0003003	03	11	0003	00	bj	1	0	3	2	0	31.61	8.00
1193659.375	7036.929	819	1183	0001001	01	11	0001	00	bj	1	0	1	6	0	119.37	3.60
41319.750	5026.859	820	330	0001001	01	11	0001	00	bj	1	0	1	6	0	41.32	3.60
114548.875	1270.535	821	1522	0035001	35	31	0035	00	bj	1	0	1	6	0	11.45	4.30
65598.875	1582.828	822	0	0032062	32	33	0032	00	bj	1	2	2	6	23	6.55	3.70
304120.625	3217.205	823	722	Zlele KJasy-Meslovce	1	1	1	1	1	1	1	1	x	1	30.42	?
101200.000	2050.956	824	1728	0035001	35	31	0035	00	bj	1	0	1	6	0	10.12	4.30
153706.750	1574.331	825	1572	0036002	36	31	0036	00	bj	1	1	2	3	1	15.37	8.00
721465.625	4900.823	826	790	0018003	18	31	0018	00	bj	1	0	3	2	0	72.15	9.60
362718.750	2665.919	827	622	0002002	02	11	0002	00	bj	1	0	2	2	2	36.27	9.70
216800.000	2520.045	828	220	0024004	24	21	0024	00	bj	1	0	4	5	0	21.68	5.70
322634.375	3403.902	829	1851	0036006	36	31	0036	00	bj	1	0	5	2	0	32.26	10.00
7586.875	518.742	830	1387	e	e	e	e	e	e	e	e	e	e	e	1.57	?
178000.000	1976.032	831	1393	0036042	36	31	0036	00	bj	1	1	2	3	2	17.80	8.50

Figure 1. Example of Land Information System Database in ARC/VIEW GIS

the GIS applications needed for terrestrial surface analysis, ecological analysis and simulation.

In the VÚPOP there is a following database:

- PC-AISOP computerised land information system containing information about pedological and agrochemical soil properties coming from soil sampling (17 000 samples)
- ČMS-Poda: contains data of the monitored parameters of the forest and agricultural soils of the whole Slovakia (288 samples)
- Monitoring SVD: contains the monitored soil parameters of the region of the waterworks Gabčíkovo-Žitný ostrov
- The database BPEJ – digitalised maps of evaluated soil ecological units

The quantity of map outputs, based on above mentioned databases, were created.

*The collection of digitalised maps:*

- Digitised model of relief of the Slovakia 1 : 200 000
- Soil map of the Slovakia in scale 1 : 400 000
- Maps of evaluated soil ecological units (BPEJ) in scale 1 : 5 000 (12 000 map sheets)
- Soil map of the Žitný ostrov region in scale 1 : 100 000
- Map of the production of dry mass of phytomass of the Žitný ostrov region in scale 1 : 50 000
- Map of typological-productive parameters of the Žitný ostrov region in scale 1 : 50 000
- Soil maps of the regions of the Slovakia in scale 1 : 50 000

#### AISOP COMPUTERISED LAND INFORMATION SYSTEM

The important part of the land information system is the database – information about important soil parameters taken from 17 000 soil analysis. Information concerns all soil types and subtypes of the agricultural land in the Slovak Republic from the point of view of

- mould content and its quality
- content of the single grain fractions
- soil reactions
- content of carbonates
- sorption capacity

- content of P, K of the different fractions in the degree of its admission by the plants on the land planes.

At present time, the transfer of these databases into the MS ACCESS environment is completed, as well as the terminology adaptation on the new morphological classification system to enable the data from the complex soil research completed in 1960–1970 to be part of the VÚPOP geographical information system comparable with the new databases (ČMS-P, Geochemical atlas).

#### Soil Evaluation Information System (BIS)

Most complex system of its kind contains the complex results of classification of the agricultural land of the Slovakia. Soil evaluation information system (BIS) contains the classification database BBD and database of the digitised maps of the evaluated soil ecological units – BPEJ.

Database of the digitised maps BPEJ SR contains the collection of 12 000 map sheets, the Research Institute of the Soil Fertility is its author and administrator and it is responsible for its actualisation. All database parameters are made of the 7 position code of the BPEJ, further, the system contains information about price of land, alignment of soil groups by the Government Decree No. 152/1996 and the Law No. 307/1992 on the Land Fund Protection. (Figure 1)

The Maps of BPEJ are completed in the form accessible to the special programs (ARC/INFO, ARC/VIEW). The automatic link and the visualisation of the evaluated soil ecological units into purpose categories as well the creation of graphical output interpretations are possible (Figure 2)

- maps of soil types
- soil sorts
- soil erosion
- soil classification
- soil-ecological regions

The soil evaluation database as the information basis is beside the BPEJ maps the most important part of the information system. The database contains information about all the soil properties identified by the BPEJ code

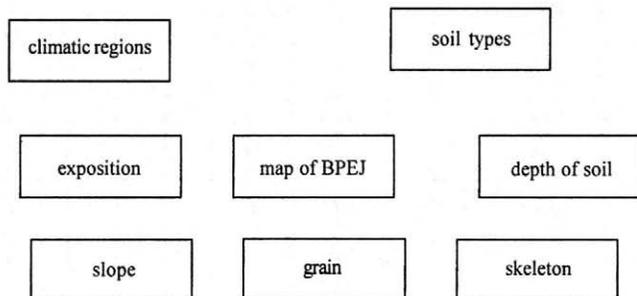


Figure 2. Schedule of the output formation from information system based on the soil quality units (BPEJ)

(climate, soil type, sketch, depth of soil, gradient, exposition related to cardinal points, grain), the database key elements are users, cadastral units, communes and higher units of the state administrative structure.

Information system (database) of the soil monitoring is a part of state soil monitoring and contains data observed in five-year interval. The database contains data in the three standard depths of the soil profile containing the information about content and quality of mould, parameters of the physical properties and the structure, volume of the active carbonate etc. At present, there is the information of the first 5-year period elaborated in the shape of overview maps of the degree of contamination, number of cadastral units and acreage of contaminated soil. (Soil monitoring of the SR – present situation of the monitored properties, 1997).

The whole system is based on the network of monitored places; it means, soil gauges cover all the most represented soil types, all kinds of use and their occurrences in the all regions of principal contamination.

The basic network of monitoring in Slovakia is composed of 650 areas (on the agricultural, forest land and on the land located above forest line), i.e. 312 on the agricultural land and 338 on the forest land. During the broadly based research, the data from 195 297 production areas were gathered in the five year period (1991–1995).

The subject of monitoring are properties with the following aspects: assumption of progressive changes related to degradation process as soil contamination, acidification, salination, changes in the volume and quality of mould and in the volume of nutrients, evolution of the erosion, changes in the physical properties of soil, and changes of the other properties.

Monitoring of the soil properties started 6 years ago; now there are interesting results about all monitored soil properties. They were given to interested people and especially to the state administrative.

## USE OF THE GIS IN THE PROCESS OF SOIL EVALUATION IN THE SR

At present time, the soil information system is used for the evaluation of the land resources based on the Decree No. 928/1999-100, herewith the cadastral units belonging to the less favorite area from the agricultural point of view are set and level for farming is fixed.

The soil classification database is concrete part of present system of subsidy and taxation for the subjects that use it for agricultural purposes. In the case of user changes and changes of boarder of used land, the new calculation of average price based on the price of evaluated soil ecological units is performed. During the process of actualisation, the co-ordination with owners and users is important, they have to report any changes in the boarder of farmed land, changes of plant categories of arable land in permanent grass, liquidation of vineyards etc.

The base for the calculation of the average price of land resources of the agricultural subjects are processed in the database of the soil evaluation information system of VÚPOP. The basis data generate the input information for the average soil price calculation.

In the last years, the number of new subjects working on the agricultural land is increasing and consequently the subject exchanges as well as the plant group changes are increasing. So the soil database for classification as well as the digitalised maps BPEJ are actualised.

The use of soil evaluation information system for price calculation is an example of direct use of BPEJ data in the subsidy policy in the agriculture. The table, graphical output, map output for evaluation purposes are other potentiality of usage.

Based on the BPEJ information system about soil, other maps were created:

- erosion of agricultural soil caused by water and wind
- soil classification in Slovakia
- disposition to solidification
- land price
- energy yield of land in Slovakia
- productive potential of agricultural land.

For all map outputs, the elaboration for different levels of state administration (region, province, district) is possible, it is a base for different kind of protective measures as anti-erosion policy, protection against solidification, soil preservation, barrier against use of agricultural land for non-agricultural purposes.

Soil information system elaborated and actualised by the Research Institute for Soil and Soil Protection is the unique system containing lot of information about soil and related data. Due to the evolution in the last 15–20 years, the conditions for mutual linkage with the systems of other institutions were created (Institute of Agricultural Economics, Cadastre).

On conclusion, we can say that Soil Information System of the VÚPOP yields a huge spectrum of possibilities in the land protection and use of land in the area of Ministry of Agriculture and other ministries.

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# Land market related to land consolidation in the CR<sup>1</sup>

## Trh s půdou ve vztahu k pozemkovým úpravám v ČR

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**Abstract:** The development of land market as well as land consolidation depend on the prosperity of the Czech agriculture. Because of the long-term non-profitability of the Czech agriculture, the land market has not developed. Land consolidation, after the initial period of very fast development connected to land restitution, is stagnating at present as the supply of finances dwindles. In this contribution, there are stated the conclusions of selective investigation into market prices of land. Subject of market are predominantly small size plots of land for non-agricultural purposes with higher prices. Large plots of land for agricultural purposes are bought minimally, and their market price is lower than the official price. The land consolidation assumed sale of state land and, in a somewhat longer time perspective, also the proposed legal act on land transaction, due 2003. This legal act will regulate the sale of land to foreigners.

**Key words:** land consolidation, land market, land fund, market price

**Abstrakt:** Rozvoj trhu s půdou jakož i pozemkových úprav je závislý na prosperitě českého zemědělství. Vzhledem k tomu, že české zemědělství je dlouhodobě ztrátové, rozvoj trhu se nerozvíjí. Pozemkové úpravy po počátečním prudkém rozvoji v souvislosti s restitucí půdy v současné době stagnují, resp. zdroj finančních prostředků se snižuje. V příspěvku jsou uvedeny závěry z výběrového šetření tržních cen půdy. Převážně se prodávají a nakupují pozemky o malých výměrách za vyšší ceny pro nezemědělské účely. Pozemky o velkých výměrách pro zemědělské užití se nakupují minimálně, přičemž tržní cena je nižší než úřední cena. K rozvoji trhu s půdou mohou přispět pozemkové úpravy, předpokládaný prodej státní půdy a z hlediska časového horizontu 2003 i připravovaný zákon o nakládání s půdou. Tento zákon vymezi možnosti prodeje půdy cizozemcům.

**Klíčová slova:** pozemkové úpravy, trh s půdou, půdní fond, tržní cena

### LAND MARKET AND MARKET PRICE

Despite of the advanced legislative readiness, the market with agricultural land for agricultural use is for all the practical purposes stagnating. Out of the entire agricultural land resources of the CR, only about 0.21% of agricultural land is purchased and sold annually. This contrasts with the situation in the developed countries of the EU, where there is annually bought and sold about 1.0% of agricultural land (Table 1).

According to the investigation of the RIAE Prague, it can be estimated that in the years 1993–1999, there was sold about 65 thousand ha of land. The land marked is

not an exclusive domain of farmers. There are other contenders that purchase agricultural land for family use, recreation, subsistence, speculative purposes or for the development in either near or remote future. Finding out the real purpose of a land purchase is not easy. In the everyday praxis, agricultural land can be transferred without problems into non-agricultural one. Labelling land as agricultural does not necessarily mean that it will be really used as such. Market with plots of agricultural land is growing up principally in the areas, where buyer has a chance to change agricultural land into building plot, specially in the vicinity of big city agglomerations and in recreational areas. The most frequently purchased

Table 1. Purchases and sales of agricultural land in the CR as a percentage of the total land resources in 1993–1999

Land market	1993	1994	1995	1996	1997	1998	1999	Total 1993–1999
Percentage of total land resource	0.17	0.22	0.20	0.20	0.29	0.21	0.12	1.5

Source: RIAE Prague (VÚZE Praha), 2000

<sup>1</sup>The paper was prepared for the seminar of the RIAE Prague "Farm land use in the context of CR accession to EU". 16–20 October 2000, Špindlerův Mlýn, Czech Republic.

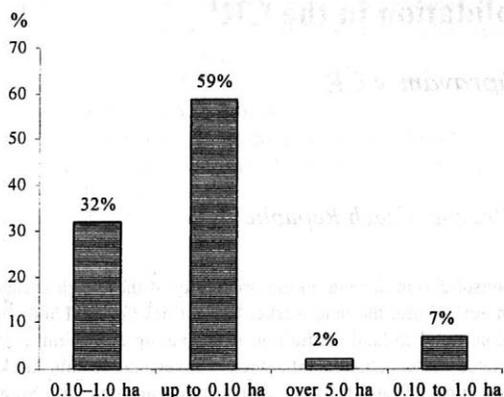


Figure 1. Number of sales according to the area of sold land in %

plots of land do not exceed 0.10 ha. The least purchased plots of land are the ones with an area of more than 5.0 ha, mostly for commercial farming use (Figure 1).

The average market price of sold agricultural land in the period of 1993-1999 was about KC 26.21/m<sup>2</sup>. Market price differs according to the size of sold plots. The following diagram shows that the price difference of smaller and bigger plots of land has increased. While the market price of the plots of land over 5 ha increased by only 28%, the price of plots under 1 ha increased nearly four times.

In comparison with the EU countries, the market prices of agricultural land are low in the Czech Republic. If the market price of land for agricultural use is best represented by the prices of plots over 5 ha, then in 1999 the price of agricultural land in the CR was about 1,300 ECU per 1 ha. In Germany (Bavaria) it was 18,000 ECU/ha, in Italy 11,000 ECU/ha, in England 5,800 ECU/ha.

The causes of the underdeveloped agricultural land market are economical, technological and organisational:

- generally low profitability of agricultural production causes the disinterest in enlarging farm area by land purchase,
- indebtedness of agricultural enterprises and the lack of financial resources lead to postponement of land purchase in cases, where it is desirable,
- banking sector is unwilling to finance purchases of agricultural land,
- considerable plot fragmentation of land from the standpoint of ownership; consolidation of plots of land through land consolidation is slow,
- problem of simplified registration of plots of land - plots of land are not marked out in the terrain and they are frequently inaccessible
- predominant mass-production character of agricultural land use (co-operatives and commercial companies farm more than 74% of agricultural land resources) does not provide economic reasons for acquisition of land and keeps the rents low,
- restitution has not been finished yet; by 12. 31. 1999, there are still 8,457 unfinished restitution cases; restitution of church land and Jewish property has not even started,
- lack of psychological phenomena - there is no strong feeling of land ownership, land ownership is not considered an indicator of success,
- planned sale of about 500 thousand ha of state land has barely started.

Land consolidation, sale of state land and legislative measures in the field of real estate sale and land protection could contribute to the development of land market (Figure 2).

## LAND CONSOLIDATION

The process of restitution culminated in 1994-1995. By December 31, 1999, there were finished or nearly finished 96% of restitution cases, encompassing about 1,600,000 ha of agricultural land resources. Most restituted try

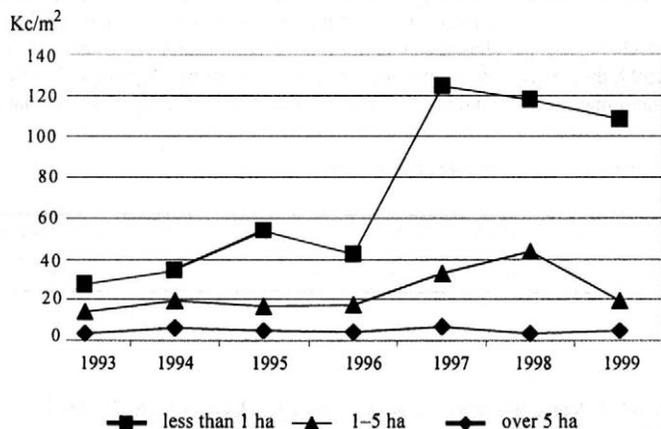


Figure 2. Market prices of plots of land according to size categories

either to sell their plots of land or to lease them to people who would actually farm them. Only a smaller part of restitutions started to farm by themselves.

Owners of plots i.e. private farmers were entitled to farming on owned or leased plots of land that was made better accessible by the simple land consolidations which do not deal with ownership relationships to land. The total of 19,227 simple land consolidations on 309,000 ha of agricultural land were implemented by the end of 1999. By January 1, 2000, another 800 simple land consolidations have been started. By December 31, 1999, together with the complex land consolidations under way, it was made possible for 32,365 independent farmers (IF), i.e. 89% of all agricultural subjects in CR, to farm. Independent farmers use 25% of agricultural land resources of the CR with the average area 36 ha per one farm. These independent farmers are the potential buyers of agricultural land and the exclusive buyers of the plots of land owned by state. Purchases of agricultural land from restitutions or state by independent farmers will cause a significant outflow of capital from agriculture into cities, where there live the most of the land owners who sell or lease plots of land. For these reasons, it will be necessary to facilitate access to credit for purchase of plots of land.

The complex land consolidation solves ownership rights to plots of land, transportation infrastructure, access to land and protection of agricultural land.

By the end of 1999, the total of 94 complex land consolidations were finished. Out of this number, 44 were finished in 1999 on the total area of 28,000 ha of agricultural land. The Central Land Office of the Ministry of Agriculture of CR together with district land offices quantify the overall need of complex land consolidations up to the year 2010 for about 3,500 cadastral areas with the total area of 1,252,000. i.e. 16% of the entire area of the CR and 16% of the agricultural land resources of the CR, respectively. Each year, there should be new starts of complex land consolidations in 270 cadastral area. Until 2010, financial resources in the total amount of about KC 46 bill, i.e. KC 3.6 bill annually, are necessary for this purpose. In 2000, only the sum of about KC 650 mill., i.e. 18% of the optimal need, was actually provided. For the lack of financial means, the completion of complex land consolidations now in evidence goes far beyond the year 2010. This will hinder even more the development of land market and conserve the monopoly of large scale of farming of co-operatives and business companies, which defies the EU trends. This state of affairs can be to a considerable degree changed only by the foreign capital inputs. This aim could be sped up by the Land Management Act, now in the initial stages of preparation.

#### **INFLUENCE OF THE CURRENT AND DRAFTED LEGISLATION ON LAND MARKET AND LAND CONSOLIDATION**

In 1999, the Act No. 95/1999 Coll. "On the conditions of transfer of agricultural and forest land from the state

ownership to other persons" was passed (further only Land Sale Act). This Act creates the conditions for sale of agricultural land owned by state and under the management of land resources authorities. This Act allows land acquisition only by natural persons who are the citizens of the Czech Republic and live permanently in the country. To other natural persons or legal entities, this law does not implicate the claim to transfer of agricultural and forest plots of land from state i.e. it does not allow them to buy the plots of land owned by the state.

At present, the area of state owned land and the land under the management of the Land Fund of the CR is 830 thousand ha. Out of this area, 200,000 ha are reserved for sale in the cadastral areas (there is about 2,600 cadastral areas) where the consolidation and allocation proceedings are not yet finished. These plots of land will be probably released for sale no sooner than after 2006, if the necessary financial means are secured. Approximately 100,000 ha should be transferred to persons entitled by the Land Act.

Contrary to the previous concepts, there is no land left for the implementation of public and ecological measures during the implementing of land consolidation. Already now, this situation is causing considerable problems in the process of both simple and especially complex land consolidation. District land funds of the CR allow the exchange of their plots of land only reluctantly and in some cases not at all. They are waiting for the time, when the plots of land are sold to new owners, who will be allowed to dispose of their newly acquired plots of land freely. Yet another problem is caused by the fact that the Land Fund of the CR, in the competence of which the sale of state land is, is not willing to finance the measures to the full extent of the Act on Land Consolidation but only in the same share as other land owners. This considerably hinders the whole process of land consolidation. In difference with the legislation in the CR, in the EU countries there is the area necessary for public measures in the process of land consolidation which is bought out from land owners by the state. This is also one of the ways how to stimulate the land market – to buy out agricultural land for the public and ecological measures for market prices by the state. Unfortunately, this institute does not exist in the CR. Before finishing privatisation and selling out all the land belonging to state, it will be necessary to evaluate the EU system and to amend the current legislation along these lines. For this purpose, it would be possible to use the current intent of the Act No. 219/1995 Coll., as amended.

Under the Government Decree No. 570 from September 6, 1999, the Czech Republic is to create a qualitatively new law which will secure the proper treatment of land as natural resource of the country. This new legislation should use the non-discriminatory, but also admissible discriminatory measures and at the same time to anchor the limits of land acquisition by foreigners, which is so far regulated by the Foreign Currency Act, which is to be revoked by the day of the CR admission to the EU. The

basic condition for selling and buying land will be the permanent stay in the Czech Republic. The proposed way of legal adaptation should be more just, it should give equal treatment to persons with permanent stay regardless of their citizenship. Everything beyond this framework should be amended by a statute making it possible for the Land Fund of CR to buy agricultural land for public purposes in the cadastral areas where the complex land consolidations are under way and where there is shortage of land owned by state or municipalities and for market prices customary in the region. As far as legislation is concerned according to the above mentioned Government Decree in the realm of land management after longer way, there is a legislation process under the way at the Ministry of Environment after a longer break concerning the newly conceived Act on Land Protection. This Act should create an appropriate legal frame for anchoring the non-discriminatory measures for handling land and for implementation of the limitation which would prevent its

damage and unreasonable diminution. This legal act should contain the limitations, which would prevent speculative land purchases for other than agricultural use efficiently.

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# Preparation of the government regulation for subsidies in agriculture in accordance with the EU regulations<sup>1</sup>

*Příprava nařízení vlády ČR k podporám v zemědělství v souladu s předpisy EU*

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**Abstract:** In 2001, the legal base for qualification of less-favoured areas (LFA) and compensatory allowance will get closer to the EU regulations. There is the basic change in the delimitation of mountain areas, other LFA, small areas affected by specific handicaps for the Czech Republic according to the criteria of the Council Regulation No. 1257/1999. The conditions for the claim for compensatory allowance and the method of payments were established. This article describes the approved CR criteria for LFA, the methods for qualification of the less-favoured areas, geographical determination of LFA on the map of CR and the principle for compensatory allowance payment.

**Key words:** Government Decree, agricultural subsidies, less-favoured areas, permanent grasslands

**Abstrakt:** V roce 2001 se právní základ pro zařazení do méně příznivých oblastí (LFA) a pro finanční kompenzace (kompenzační platby) přiblíží k pravidlům Evropské unie. Základní změnou je vymezení horských oblastí, ostatních LFA, malých oblastí s handicapem specifickými pro Českou republiku podle kritérií uvedených v dekretu Rady č. 1257/1999. Podmínky žádosti o kompenzační příspěvek a způsob platby byly stanoveny. Tento článek popisuje schválená kritéria České republiky pro LFA, metody pro zařazení do méně příznivých oblastí, zeměpisné vymezení LFA na mapě ČR a principy pro platby kompenzačního příspěvku.

**Klíčová slova:** nařízení vlády, podpory v zemědělství, méně příznivé oblasti, trvalé travní porosty

## INTRODUCTION

In the frame of the CR preparation for the admission into the EU, a gradual harmonisation of the CR legislation with that of the European Union is under way. In compliance with this process, the Ministry of Agriculture decided to adjust the current system of subsidies for other than productive functions of agriculture, landscape maintenance and support programs for the less-favoured areas offered in 2000 in compliance with the Government Decree No. 334.

For the new delimitation of the less-favoured areas, the preliminary results of the project NAZV ČR no. EP 9397 that is currently under way in the VÚZE Praha (RIAE Prague) were utilised. For the chosen variant of the geographically delimited less-favoured areas, the researchers of the VÚZE Praha worked out also the proposition of compensatory allowance payments.

## METHODOLOGY OF ESTABLISHING LESS-FAVOURLED AREAS OF THE CR

The conditions and criteria of the European Union for providing subsidies for the less-favoured areas and the

areas with ecological limitations are contained in the Chapter V of the Council Decree No. 1257/99/EC. These criteria are not strictly quantified. It is left to each country to tailor them to its conditions and information sources, and to justify them to its people and to the EU representatives. It is the EU that will grant contributions for subsidising the less-favoured areas.

First, the Government of the CR Decree No. 334 and the Council Decree No. 1257/99/EEC were analysed for mutual conformity and contradictions. The European Council Decree No. 1257/1999 has a much wider scope than just the simple support of farmers. Its purpose is to define the general framework for support of sustainable development of the countryside and it is also the extension of the regional development programs. It contains such instruments as early retirement, better processing of products, training, starting up activities of young farmers, etc. The EC Decree No. 1257/99/EC, as opposite to the CR regulation, defines the aims of subsidies and the ways to assure the actual fulfilment of those aims. The problems of LFA are contained in the chapter V, according to which the receiver of subsidies pledges to carry on agricultural activity in LFA for 5 years. At the same time, he must uphold the stipulated rules of the

<sup>1</sup>The paper was prepared for the seminar of the RIAE Prague "Farm land use in the context of CR accession to EU". 16–20 October 2000, Špindlerův Mlýn, Czech Republic.

proper agricultural practice that are considerate to the natural environment and lead to the conservation of countryside. The Government of the CR Degree No. 334 treats the support for less-favoured areas by adding points to programs. While LFA is defined by the official price of land in the Czech Republic, the criteria used in the EU are natural, social-economic and demographic. A lot of the rules used in the CR already roughly comply with the requirements of EU, e.g. the definition of support receivers or the practice of granting support based on area, not according to the unit of production.

The next step was to establish the criteria for the Czech Republic that will be used for delimitation of less-favoured areas. The basis for this was the wording of the articles 18, 19 and 20 of the EC Decree No. 1257/1999, overview of the criteria currently used in particular member states of the EU and the experience acquired during the ongoing research of these problems and in consultations with the professionals and specialists from neighbour EU countries (Austria, Germany).

At the meeting of the working group composed from the representatives of the Ministry of Agriculture and research institutes VÚZE, VÚMOP, the following criteria for the delimitation of less-favoured areas and the areas with ecological limitations were approved:

Mountainous regions (Article 18 of the EC Decree No. 1257/1999)

- Elevation higher than or equal to 600 m (regardless of gradient) characterised by the climatic regions 8 and 9
- Elevation 500–600 m (with the slope over 7 degrees) and concurrently with slopes over 7 degree on the area

larger than 50% of the agricultural land in the cadastral area.

Other less-favoured areas (Art. 19 of the EC decree No. 1257/1999)

- Presence of land with low productivity according to BPEJ (soil evaluation ecological unit).
- Low productivity of natural environment according to land productivity, expressed in points.
- Under-average density of population.

Areas with specific limitations (Art. 20 of the EC Decree No. 1257/1999)

- Contamination by hazardous elements.
- Undermined areas
- Areas affected by drought

Areas with ecological limitations (Art. 16 of the EC Decree No. 1257/1999)

- Protected landscape areas of the 1st and 2nd zone, National Parks.

The total of 9 variants were calculated, assigning the particular cadastral areas of the CR to one of the areas, i.e. mountain areas, other less-favoured areas, areas with specific limitations, areas with ecological limitations and areas not listed as less-favoured. Land productivity less than 35, 36 or 38 points was used as an alternative criterion. Land productivity is an integral indicator of the climatic and economic-ecological conditions. Not so long ago, the term gross annual rent effect of plant production was used as an indicator of land productivity. The land productivity in the CR is as follows:

minimal productivity	-2,500 CK/ha	= 6 points
average productivity	2,482 CK/ha	= 42.2 points
maximal productivity	10,750 CK/ha	= 100 points

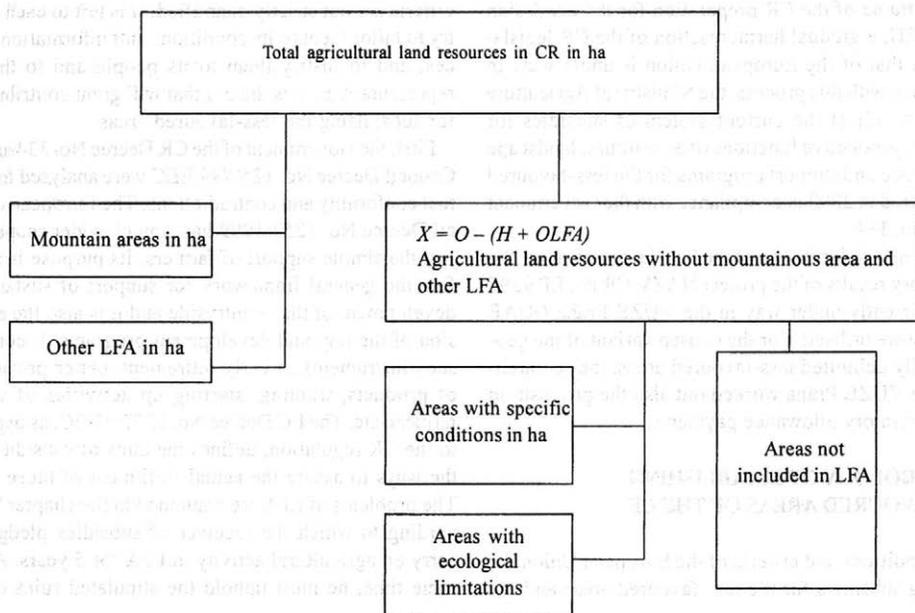


Figure 1. The diagram of alternative solutions

The level of 35 points represents 58.4% of average land productivity in the CR, 36 points are 70.5% of average and 38 points level is 74.5% of the CR average. Alternatively, the inclusion of demographic criteria of population density less than 70 and less than 100 per km<sup>2</sup> was under consideration, while the average population density in the CR is 131 people per km<sup>2</sup>. In the EU, also the areas with decreasing population density, which are predominantly dependent on agricultural activity and the continuing decline of which could endanger viability of the area and its continuing settlement, are classified as other less-favoured areas. So far, there are no information resources in the Czech Republic making it possible to use these criteria.

The variants differ not only by the overall area of LFA (from 43% of total agricultural land area to nearly 60% of the total agricultural land area), but also by the territorial distribution of LFA. After inclusion of the population density criteria, the areas in the vicinity of big municipalities and the densely populated regions of northern Bohemia with the land of low productivity do not comply with the LFA requirements.

Alternative solutions to the low productivity of natural environment according to land productivity in the cadastral area were worked out, see diagram (Figure 1).

As follows from the diagram, when cadastral area complied with the criteria for the area with specific conditions and with ecological limitations and at the same time with mountainous or other LFA criteria, it was included into the mountainous or other LFA category. The reason for it was the wording of Article 21 of the EC Decree 1257/1999, according to which the overall area of the other specific areas together with the areas with ecological li-

mitations cannot exceed 10% of the area of the particular country. What is more, the EU does not recognise the national rules and regulations for protected areas, national parks etc., but it is guided by the global European standpoint and it grants allowances for economic loss for this European network only.

#### GEOGRAPHICAL DELIMITATION OF THE LESS-FAVOURED AREAS IN THE CR

As a base for the delimitation of less-favoured areas for 2001, the Ministry of Agriculture adopted the alternative, in which the land productivity lower than 38 points regardless of the population density of the region is a criterion for determination of other LFA. The demographic criteria will be used at the time of admission of the CR into the EU. Until then, the information about population density of the agriculturally active part of the population of the regions and especially about its decrease will be gathered and analysed. In total, 55.42% of agricultural land resources (ALR) are included into LFA. 4.03% of the ALR are the areas with ecological limitations.

Table 1 shows the total area of the less-favoured areas in the CR (without Prague).

For the purpose of the differentiation of compensatory contributions, the areas were divided the following way (Table 2).

Mountainous area H1 over 600 m makes up most of the mountainous area category (436,876 ha, 10.2% ALR). Most cadastral areas in other LFA have the average land productivity up to 34 points (1 308 230 ha, 30% ALR).

Table 1. The area of the less-favoured areas in the CR

Indicator	H	O	S	E	LFA +E	N	Total
Area of agricultural land in ha	533 430	1 684 724	155 319	172 498	2 545 971	1 71 5191	4 261 162
% from the area of ALR	12.45	39.34	3.63	4.03	59.45	40.05	99.50
Number of cadastral areas	2 049	5 683	373	440	8 545	4 421	12 966
% from cadastral areas	15.67	43.46	2.85	3.36	65.34	33.80	99.14

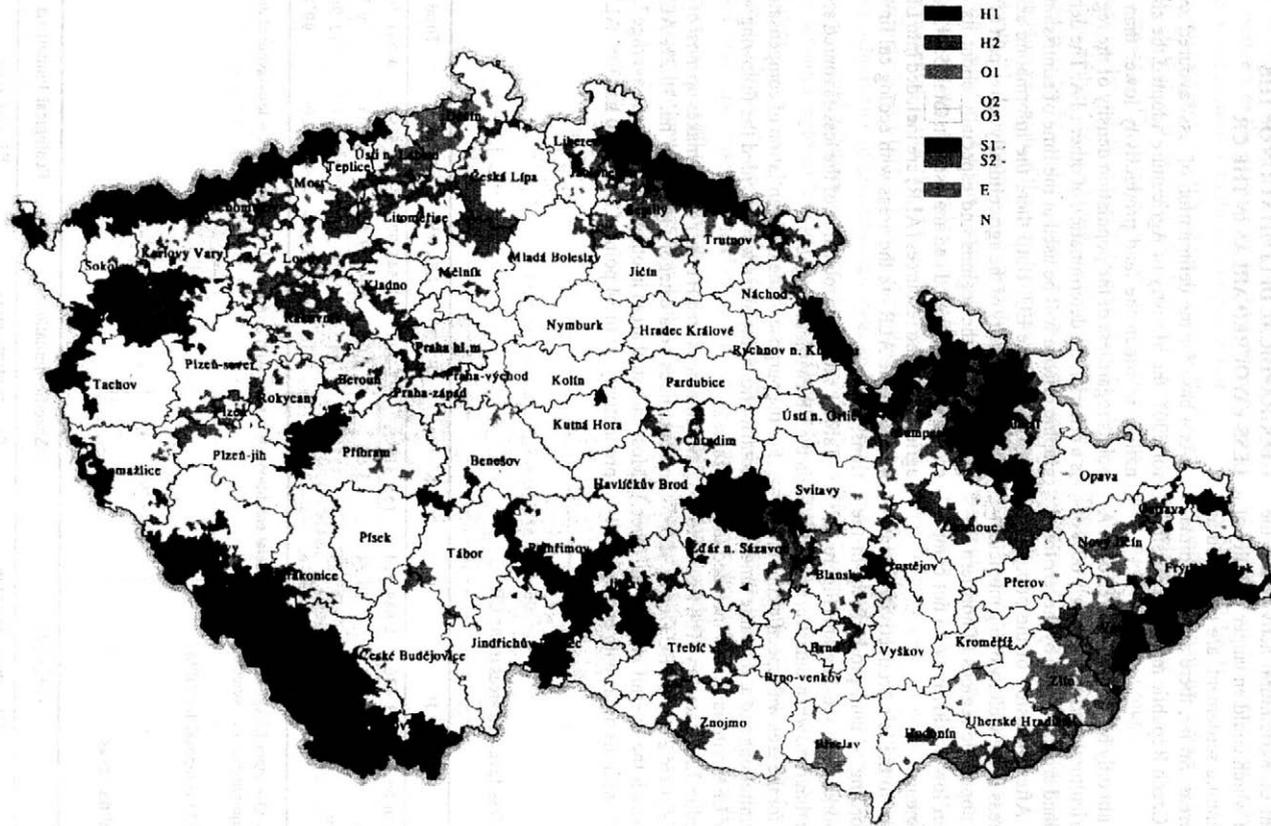
Note: H = mountain areas, O = other LFA, S = areas with special conditions, E = areas with ecological limitations, LFA = less-favoured areas, N = area not fulfilling requirements of exclusion

Source: VÚZE Praha, 2000 (proposal for OPM)

Table 2. The structure of the areas

Mountainous LFA	Other LFA	Specific limitations	Ecological limitations
H1 – above 600 m	O1 – up to 34 points	S1 – contamination	E1 – 1st zone
H2 – 500–600m, inclined	O2 – 34–37 points	S2 – undermined	E2 – 2nd zone
		S3 – drought	E3 – third zone

Source: VÚZE Praha, 2000 (proposal for OPM)



Map 1. Less-favoured areas in the Czech Republic

H1 – Mountain area of the altitude higher than 600 m; H2 – Mountain area of the altitude 500–600 m and slopes over 7°; O1 – Other LFA – index of productivity of land lower than 38 and slopes over 7°; O2 – Other LFA – index of productivity of land lower than 34; O3 – Other LFA – index of productivity of land 34–38; S1 – Specific handicaps – undermined; S2 – Specific handicaps – dry place; E – Environment protection areas; N – Non -LFA areas

Most areas with specific limitations are made up of areas endangered by drought (182 973 ha, 3.48% ZPF).

Distribution of LFA in the CR is schematically represented in the enclosed map (Map 1).

#### TERMS OF PAYMENTS IN THE LESS-FAVORABLE AREAS

The help for the less-favoured areas and for the areas with ecological limitations will be provided in the form of compensatory contribution per 1 ha of farmed land or permanent grassland on arable land. The subsidy is offered to natural persons or legal entities, farming on at least 5 ha of farmland. The applicant pledges to use the mode of farming conforming to the principles of proper farming, considerate to environment. In the less-favoured areas, as a condition, the intensity of animal husbandry must be 0.3–1.5 of big cattle unit (VDJ) per ha of the total farmland used by the applicant. The share of pigs and poultry cannot exceed 50% of the total animal population (VDJ). In the case of farming on large areas in the specially protected areas or in protective zone of water resources with exception of protective zone of the 1st degree, the condition is 0.15–1.0 of big animal units per ha of farmland. The share of pigs and poultry cannot exceed 30% of the total population.

Payments will be given for 1 ha of permanent grasslands and permanent grasslands on arable land. This measure is to support the rational grassing in the areas that are less suitable for farming and to stimulate the development of production activity considerate to environment. The overall sum of funds designated for less-favoured areas is CK 1.8 billion. At present, it is impossible to make 5 year contract with farmers who are farming in less favoured areas (as is customary in the EU countries), for under the law on state budget (The State

Budget Act), the financial means for subsidies are subject to the annual parliamentary authorisation and because of that, they can differ from year to year. Budgetary reality and the difference in economic performance between the CR and the EU render impossible the use of minimal payments of EURO 25 per ha as stipulated by the EC Decree 1257/1999/ECC.

As long as the total resources of budgetary chapter of the ministry, designated for the programs of help and support under the proposed government decree, will not make it possible to pay the proposed rate of compensatory contributions, the ministry will lower all rates proportionally.

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# The problems of agricultural entrepreneurial activity in less favorable areas (LFA) in CR<sup>1</sup>

## *Problematika zemědělského podnikání v méně příznivých oblastech (LFA) v ČR*

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**Abstract:** The European agriculture underwent many reforms and changes. Great effort was expended to enhance production, productivity of labor and intensity of production. This was due to increasing demand for food in Europe. The consequences of this are overproduction, full market and increasing problems with agrarian market. What is more, society has to pay for damages caused by the irresponsible and sometimes even unscrupulous way of farming. Europe realized quickly this fact and implemented programs for environmental protection. For the first time in history, there were subsidies for the decrease in production. There is a discussion in our country about the EU Decree No. 1257/1999 Coll., on assistance to countryside development in less favorable areas. The Decree supposed the observation of the ways of farming that preserve the landscape and environment. The observation of the rules is strictly monitored by the EU countries and institutions and their violation is subject to sanctions. The information from the CR indicate that the average values of potential LFA show difficult production conditions but maximal values suggest, that in many enterprises, radical structural changes are necessary. These changes should be related to enterprise economy and employment. The farmer should consider all positive and negative factors and consequently take an adequate decision.

**Key words:** less favorable areas (LFA), agricultural entrepreneurial activity, agriculture, European Union, agricultural production

**Abstrakt:** Evropské zemědělství prošlo mnoha reformami a změnami. V důsledku zvyšování poptávky po potravinách v Evropě bylo věnováno velké úsilí zvyšování výroby, produktivity práce a intenzity výroby. Důsledkem tohoto procesu jsou nadměrná výroba, přeplněné trhy a narůstající problémy s zemědělským trhem. Kromě toho musí společnost platit za škody zaviněné neodpovědným a někdy dokonce bezohledným způsobem hospodaření. Evropa tento fakt brzy rozpoznala a tak byly vyhlášeny programy na ochranu životního prostředí. Poprvé v historii se také objevily subvence na snižování produkce. Program, o kterém se v naší zemi diskutuje je dekret Evropské unie č. 1257/1999 o pomoci rozvoji venkova v méně příznivých oblastech. Tento dekret předpokládá dodržování zemědělských praktik které chrání krajinu a životní prostředí. Dodržování těchto režimů je striktně monitorováno členskými státy EU a jejichmi institucemi a v případě jejich porušení jsou stanoveny sankce. Z informací za ČR vyplývá, že průměrné hodnoty potenciální LFA ukazují obtížné výrobní podmínky ale maximální hodnoty ukazují, že v mnoha podnicích jsou nezbytné radikální strukturální změny. Tyto změny by měly mít vztah k hospodaření podniku a zaměstnanosti. Zemědělec by měl zvážit všechny pozitivní a negativní faktory a vyvodit z nich odpovídající rozhodnutí.

**Klíčová slova:** méně příznivé oblasti (LFA), zemědělské podnikání, zemědělství, Evropská unie, zemědělská výroba

### **HISTORICAL DEVELOPMENT OF CZECH AGRICULTURE**

From the time immemorial, destiny of the human race is closely connected with agriculture and countryside. For more than a thousand years now, farmers are not only producing food for the rest of the population, but they are also looking after the countryside, shaping its appearance and environment. Gradually, a cultural landscape with its meadows, pastures, fields, forests, fish ponds,

grows and gardens was formed by the never ceasing labor of generations of peasants, giving rise to the typical Czech country with its regionally distinctive character of architecture and polymorphous structure of settlements, lifestyles and traditions.

In the course of this long process, agriculture underwent many reforms and changes. Especially in the last fifty years, agriculture achieved bigger acceleration of its technological progress than in any time in its long history. As Europe required more and more food, big effort was

<sup>1</sup>The paper was prepared for the seminar of the RIAE Prague "Farm land use in the context of CR accession to EU". 16-20 October 2000, Špindlerův Mlýn, Czech Republic.

dedicated to achieving higher production, labor productivity and production intensity. As a result of this, agricultural production grew considerably in a relatively short time. Unfortunately, this also led to overproduction, overfilled markets and problems with agrarian trade. In CR, the number of people that can be supported by one farmer increased from 4.3 in 1937 to 39.1 in 1995. On the other hand, society is now paying for damages caused by irresponsible and sometimes even unscrupulous ways of farming. European nations became fairly quickly conscious of this reality and implemented the programs for the protection of nature and environment. Also, for the first time in its history, EU began to offer subsidies and premiums for environmental protection, ways of farming considerate to nature, and the lowering and restructuring of production.

### THE PROGRAM OF ECONOMIC AND SOCIAL REFORM IN EUROPE

The European Union declared the program of economic and social reform of the European agrarian policy and farming. The purpose of the program can be condensed into these points:

- The protection of land, water and air, minimization of infiltration of nitrate and other harmful substances into surface and underground water, prevention of emissions of harmful gases.
- The preservation of productivity of land and implementation of anti-erosion measures.
- The preservation of genetic variety of plants and animals.
- The shaping and keeping of cultural landscape by preservation and renewal of its typical elements, including the objects of folk architecture
- The preservation of agricultural production activity on the entire area of agricultural land, if possible.
- The support of considerate and ecological farming.
- The production of quality foodstuff.
- The adjustment of the intensity of production to particular area, including local extensification
- The launching of regional markets and support of their further development.
- The creation of framework for adequate standards of living for farmers and country people.
- The inclusion of all sectors of rural space.

The programs of European Union are mandatory for each member state. The countries that are applying for membership must also pay attention to these programs, for after becoming the full members, they will apply to them in full force. That's why it is very important to take full advantage of the preadmission period for gradual fulfillment of the conditions required by aforementioned programs.

One of such programs, currently under thorough discussion in our country, is the Decree of the Council of European Union No. 1257/1999 Coll., On supporting development of countryside through the European Ori-

tation and Warranty Fund for Agriculture, especially the part pertaining the Chapter V, which delimits the less favorable areas (LFA) and the areas with ecological limitations.

The support for these areas has the following aims in view:

- To ensure the permanent use of agricultural land and to preserve a viable rural community.
- To preserve rural landscape.
- To preserve and strengthen permanently sustainable modes of farming and at the same time to respect the requirements of environmental protection.
- To sustain agricultural activity in the areas with ecological limitations.

To achieve these targets, it requires honoring the stipulated regimes of farming, which in their way are limiting the modes of farming and the concentration of production. Honoring of these regimes is very closely monitored by both particular member states and EU. The sanctions and penalties for their violation are very severe.

By the aforementioned Decree, there are included among less favorable areas (LFA):

- Mountain areas (they are characterized by very limited possibilities of land use and by considerable increase of costs of farming, which is caused by high elevation, steep sloping or the combination of both factors).
- Other less favorable areas (other LFA) are: Areas in danger of complete cessation of agricultural use of land, but where the protection of countryside is still necessary. They are characterized by land with low productivity suitable mainly for extensive animal production, considerably lower production as a result of low productivity of natural environment and at the same time with low or decreasing density of population that is mostly dependent on farming.
- Areas affected by specific disadvantages (areas, where the agricultural activity should be preserved as a means to environmental protection and preservation of rural area).

An intensive work on delimitation of less favorable areas is currently under way. More than nine alternative calculations were already elaborated, and still more are in preparatory stages. Some of them were submitted to professional public for evaluation. This sparked discussion about suitability of particular criteria; agricultural enterprises are being compared and there are efforts to include more area into this category. But the inclusion of agricultural enterprise into the LFA category is only a beginning. The next step is to follow the rules resulting from this status. The specific rules for the CR agriculture were not established in full extend yet, but general rules stipulated by the decree are revealing enough.

### THE TRENDS IN CZECH AGRICULTURE

The trends in Czech agriculture do not fundamentally differ from the trends in Europe. There are of course differences in absolute dimensions. The totally fundamen-

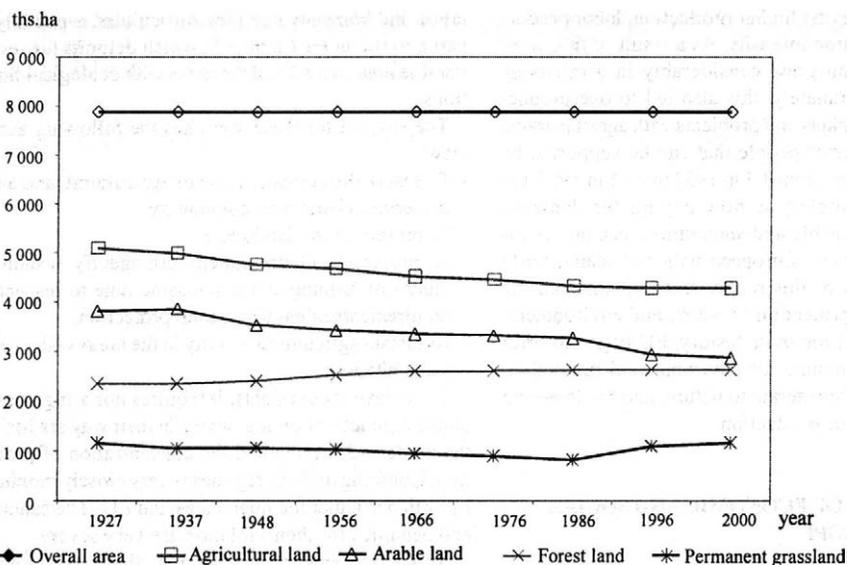


Figure 1. The evolution of land-resources structure in the CR

tal problem stems from the past development, when types of ownership and legal forms of agricultural enterprises were distorted by force. During that time, salaried employment prevailed over labor relations based on ownership. The consequences of this state of affairs are still strongly influencing agricultural activity in areas with worse production conditions.

In the evolution of overall land resources, there is a steady decline of both agricultural and arable land area.

In comparison with 1927, present area of agricultural and arable land shrunk by 16% and 19% respectively. For the year 2000, if we take the statistically shown category "other permanent forage crops (OPFC) on arable land" – which are basically meadows not yet transferred to permanent grassland (PG) – out of "arable land" category, then the area of arable land shrinks by as much as 25%.

In 2000, the PG share in agricultural land is practically the same like in 1927. In 1927, the share was 22.9% while

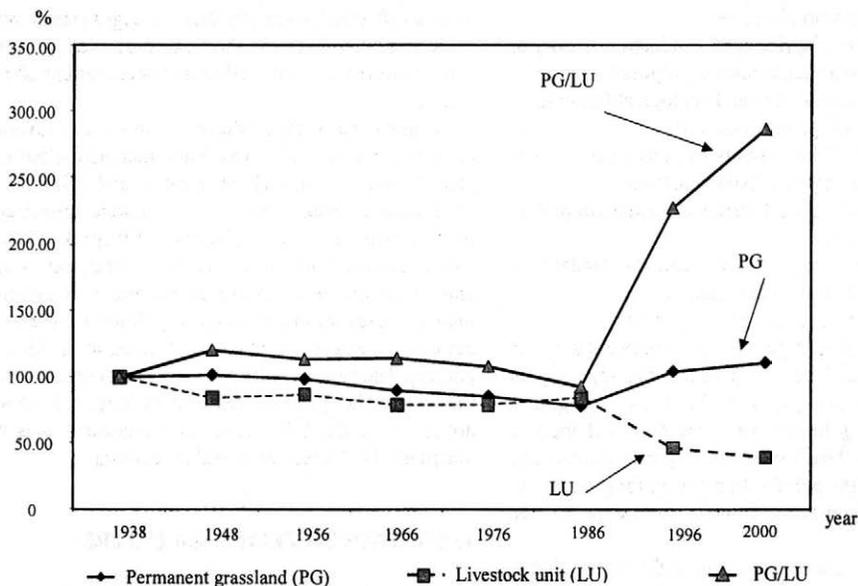


Figure 2. Evolution of permanent grassland (PG) and the animal population

in 2000, it was 22.2%. If we add to the area of PG in 2000 the area of OPFC in 2000 the overall area will be 27.4%. In absolute numbers it makes 1,167 thousand ha in 1927 and 950 thousand ha in 2000 (1,172 thousand ha if we add OPFC and PG). After the steep lowering of the PG area in 1960 - 1990, it now got slightly above the level of 1927. It can be assumed, that this process will continue in connection with concrete local land-climatic and economic conditions (Figure 1).

Besides changes in plant-growing, there were also drastic changes in the cattle breeding. After 1990, the cattle population was reduced precipitously (1930 = 100%, cattle 1990 - 103.1%, 2000 - 48.3%, cows 1990 -

64.8%, 2000 - 33.4%). This fall is the most pronounced in the mountain and foothill regions. This situation can be illustrated by chart Figure 2.

### PRESENT SITUATION OF FARMING IN LFA

The aforementioned changes project themselves into LFA differently. In this case we are not trying to delimit LFA exactly, but with regard to the conditions stipulated by EU for farming in these areas highlighting the situation which existing in these so far alternatively delimitated areas.

Table 1. The criteria of LFA

Area of LFA and ecological limitations	Criteria	Kind of limitation
Mountainous	> 600 m above sea level, 500-600 m above sea and > 7° slope	Short season of growth, lower production, worsened and costly farming
Other LFA	Very low productivity area < 34 productivity points Low productivity area > 34 and < 38 productivity points	Non favorable land conditions, limited production potential, lesser than average productivity of farming
Specific LFA	Contamination of soil by heavy metals, undermining, dry season during the season of growth longer than 22 days	Higher cost of farming, lower yields and quality of production
Ecological limitations	Ecological limitations resulting from Act No. 114/1992 Coll. on Nature and Landscape Conservation	Limited structure of plant production lower doses of fertilizers and chemical protection, limits on animal production and on intensification measure

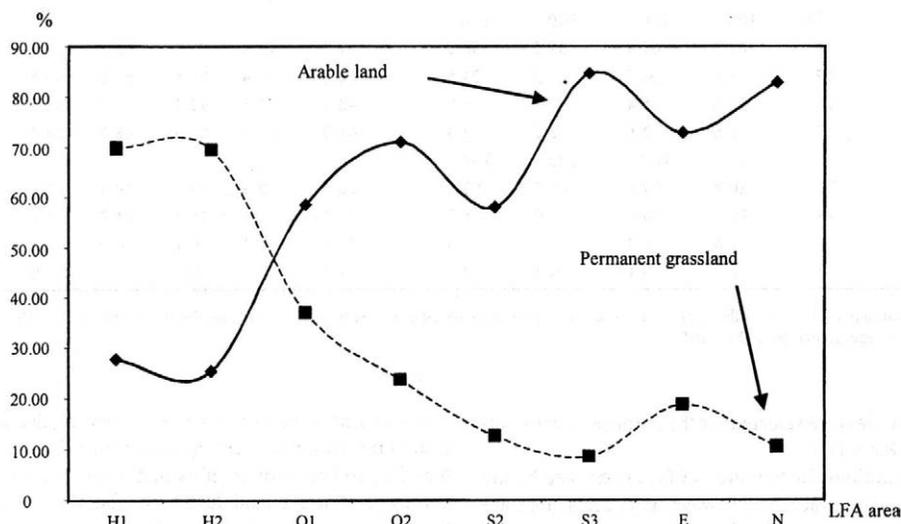


Figure 3. Relation of arable land (AL) and permanent grassland (PG) to less favorable areas (LFA)

M - mountainous LFA; O - other LFA; S - specific limitations; E - ecological limitations; N - not included in LFA

Table 2. Share of arable land by areas of LFA

LFA area	% arability in LFA	% arability	% arability (AL-OVP)	> 20% in LFA areas			
				% arability	max (AL-OVP)	% arability	max
M	12.52	40.29	27.29	38.40	73.70	24.40	68.20
O	39.54	67.95	61.41	68.00	83.60	61.70	80.60
LF	59.75	63.75	56.39	63.70	87.00	56.40	85.10
N	40.25	84.96	82.96	85.00	92.30	83.00	91.40
OCR	100.00	72.29	67.09	72.30	92.30	67.10	91.40

M – mountainous LFA; O – other LFA; LF – areas of LFA with specific and ecological limitations; N – not included in LFA; OCR – overall CR; AL – arable land; OVP – other permanent forage plants on arable land

Table 3. Classification of districts by share of agricultural land in LFA

% of ZP in districts in LFA total	No. of districts	% of ZP in CR	% of AL in CR	% of PG in CR	% of PG +OVP in CR	% arability without OVP			% arability		
						group average	min	max	group average	min	max
OCR		100	100	100	100						
75–100	34	43.6	38.3	63.5	64.1	55.6	14.9	76.3	63.5	25.5	82.5
50–75	17	22.9	22.7	23.8	23.2	66.8	44.6	85.4	71.5	52.7	87.5
25–50	10	12.9	14.5	6.5	6.3	79.2	63.5	88.5	81.5	70.0	89.2
0–25	15	20.6	24.5	6.2	6.5	84.0	65.9	91.4	86.1	67.6	92.3
LF		100	100	100	100						
75–100	34	65.0	62.6	71.2	71.8	53.0	14.1	81.3	61.4	23.1	84.3
50–75	17	24.2	25.1	22.1	21.5	60.3	32.7	82.9	66.0	43.1	85.4
25–50	10	7.3	8.2	5.0	4.9	49.6	52.2	84.7	71.2	53.4	86.0
0–25	14	3.4	4.1	1.6	1.8	60.7	26.1	88.4	75.8	38.4	90.0
O		100	100	100	100						
75–100	34	67.1	67.4	67.5	68.1	61.3	16.4	79.5	68.2	28.9	83.7
50–75	17	25.0	24.7	25.3	24.5	61.5	35.4	80.6	67.0	39.5	83.6
25–50	10	5.3	5.4	5.0	5.0	42.9	41.5	92.1	68.8	48.0	92.4
0–25	12	2.6	2.6	2.2	2.3	61.0	83.5	83.5	68.7	38.4	86.8
M		100	100	100	100						
75–100	31	80.8	79.7	81.7	82.1	26.2	0.3	68.2	39.7	7.7	73.7
50–75	14	16.3	16.9	15.9	15.7	30.2	2.5	76.3	41.7	5.2	80.1
25–50	7	2.6	3.3	2.1	2.0	44.4	1.2	70.1	50.9	1.2	76.1
0–25	2	0.2	0.1	0.3	0.3	9.3	2.0	10.1	9.3	2.0	10.1

M – mountainous LFA; O – other LFA; LF – areas of LFA with specific and ecological limitations; OCR – overall CR; OVP – other permanent forage plants on arable land

The criteria were selected for the purpose of this comparison (Table 1):

The conditions for farming in LFA established by the European Union accent the ways of farming, that are apart of other things friendly to landscape and environment and lead to lowering of the costs to the regionally justifiable level. In the most of cases it means enlargement of PG areas which means enhancement of share of cattle breeding and animal husbandry that takes advantage of types of growth typical for this areas. If we take a

closer look at the data on land use, we can see, that a great deal of the agricultural enterprises in the LFA areas feature the percentage of arability that points to rather bigger usage of arable land despite the fact that according to criteria, these areas belong to disadvantaged ones. For example, districts with more than 20% of agricultural land in mountainous LFA have the average arability of 38.4%, out of it maximally 73.7%. If we distract from arable land the area of other grows on arable land, about which we

can assume that it is not-transferred PG, then these numbers are 24.4% or maximally 68.2% (Table 2).

From the additional analysis of the areas falling under LFA and sorted by district, it is evident, that the structure of land and the production pattern of most enterprises conforms to particular customs and experience of the district, without taking into account particular farming conditions. The data in the following chart are sorted into 4 groups in conformity with the percentage (%) of agricultural land included in LFA, and areas with specific and ecological limitations.

Classification of districts by the share of agricultural land included in LFA and in areas with ecological limitations in district is shown above (Table 3).

## CONCLUSION

The data show, that average share of arability in % in LFA areas points to more or less worsened farming conditions due to natural, land, climatic and economical cha-

acteristics. On the other hand, the maximal values of arability in some agricultural enterprises hints on the necessity to implement number of rather radical structural changes before applying for subsidy stipulated in NR 1257/1999. It can be expected, that these changes will be reflected in the performance of the enterprise and in employment. More detailed specification of conditions for granting of subsidy commit enterprises to the adjustment of regimes of farming, production technology, ways of fertilization and protective agents application, density of animals (especially cattle) etc. At the same time, the applicant for subsidy pledges to carry on agricultural activity in the less favorable area by proper and considerate way for at least five years from receiving first installment of the granted compensatory allowance. The inspections of compliance with these rules and regulations by member-state of the European Union are regular, frequent, rigorous and without compromise. For these reasons, every farming subject should give careful consideration to both negative and positive aspects of its commitment in order to make the responsible decision.

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# Agricultural export related to land use<sup>1</sup>

## *Vztah aktivního zahraničního obchodu s agrárními produkty k využití zemědělské půdy*

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**Abstract:** The general condition for active participation of the Czech agrarian sector in the international market will improve moderately in the next five years, the market situation will ameliorate, the prices of the main agrarian commodities will increase. The impact of the growth of the world population, accelerated urbanisation, relative and absolute global decrease of the available agricultural land, reduction of the natural resources of food, limited and relatively decreasing water resources, could be partly eliminated by proliferation of the genetically modified species, but the positive market factors will prevail. Growth of income in the developing countries of Southeast Asia and South America will have important impact on the evolution of demand for agrarian products.

**Key words:** import-export, agrarian products, agricultural land, agrarian market

**Abstrakt:** Obecné podmínky pro aktivní účast českého agrárního sektoru na mezinárodním trhu se v příštích pěti letech budou mírně zlepšovat, konjunkturální situace bude příznivější, ceny rozhodujících agrárních komodit porostou. Vliv růstu světové populace, pokračující a akcelerující urbanizace, relativní i absolutní globální úbytek disponibilní zemědělské půdy a redukce přirozených zdrojů obživy, stejně jako omezené a relativně se snižující zdroje vody limitující rozvoj agrární produkce v oblastech s půdními rezervami mohou být sice částečně eliminovány rozšiřováním geneticky modifikovaných odrůd, přesto budou perspektivně na mezinárodním agrárním trhu konjunkturálně pozitivní faktory převládat. Významný vliv na růst světové poptávky po agrárních produktech bude mít v rostoucí míře zvyšující se koupěschopná poptávka, akcelerující vlivem přírůstků důchodů obyvatelstva v rozvojových zemích, zejména v Jihovýchodní Asii a Jižní Americe.

**Klíčová slova:** zahraniční obchod, agrární produkty, zemědělská půdy, agrární trh

### BASIC TREND

The share of developing countries in the world production with agricultural products and technological unpretending products especially of vegetable origin will increase, also as a consequence of the quicker implementation of GMO. Their share in global consumption will also increase, if in a lower rate.

On the international market, the tendencies for further liberalisation will not take place, only very apparent aspects of protectionism and aggressive subsidy export policy will be avoided. The prospective of the liberal international agrarian market is not realistic. The character of the problem shows that the protective and budget support will be given to the basic non-processed agricultural products. For those products, the cost and price differences between developing producer countries and industrial developed countries will increase.

The competitiveness of the Czech agrarian raw materials in the international market will decrease. The production cost will increase (limited disponibility of the

agricultural land, increase of demand for land, lower flexibility of reaction on conjunctural conditions in the international market, higher dependency of crop on weather).

In the case of the Czech agriculture, if the reasonable agrarian policy is applied, the non-prospective production will be eliminated (sensibly, respecting the economical, ecological and regional needs) and production of the perspective products with strong position in the international agrarian market and with adequate domestic consumption will be supported.

With regard to the present development of the external agricultural trade, showing non-desirable tendencies in the commodity structure, will urgent need the application of new instruments of agrarian policy that are going to be approved. These instruments will be targeting the increase of the proportion of products with higher level of value added in the spectrum of agrarian export and relatively facilitate the import of raw materials. The increase of negative balance of the agrarian foreign trade is due to long term changes of commodity composition of our foreign trade. In the export, the share of the raw material

<sup>1</sup>The paper was prepared for the seminar of the RIAE Prague "Farm land use in the context of CR accession to EU". 16–20 October 2000, Špindlerův Mlýn, Czech Republic.

grows rapidly and, on the contrary, in the import there grows the share of expensive products with high added value. As a consequence of this tendency, quite contra productive from the point of view of necessities and possibilities of our national economy and undesirable from the point of view of dominant and future trends in the international agricultural-food market, is a fact, that in the last years, for one imported mass unit we need to export two units. The average export price is half of import price. Also the real exchange relations are deteriorating with all consequences for agrarian sector.

To offer in the international market the products with high degree of added value or to export the work and invention is rational and perspective direction, in principal it can change the deteriorating parameters of participation of the Czech agrarian sector in the international market and it can harmonise the conditions of our access in the EU. The majority of developed European countries, in regard of above mentioned tendencies of the international market, have implemented numerous measures to support the exportation of finished products with high added value.

If the correct instruments of agrarian policy succeed to regulate the tendencies in the commodity composition of our agrarian export (from non processed raw materials to the finalised sophisticated food products), then the value of agrarian export will ameliorate even in the case of a decrease of used land and the permanent positive balance in our agricultural-food foreign trade will be achieved.

## **PRICE CHARACTERISTICS OF CZECH AGRARIAN EXTERNAL TRADE**

The information following the long-term evolution of the Czech agrarian foreign trade signals the need of these instruments. For example, the role of commodity composition of the export is evident from the point of view of price development of the agrarian foreign trade. For example, if in 1999 the agrarian export makes the average kilogram price in the same level as in 1998, CZK 16.6 per kilo, then the export would be by 15.5 billion higher (CZK 52 540.4 million) and the foreign trade deficit would not reach CZK 23.7 billion but only CZK 8.18 billion. If the average price per kilo of the Czech agrarian export in 1999

is at the same level as in 1997, CZK 19.6 per kilo, then the value of export would be CZK 62.04 billion and our agrarian foreign balance trade would be 1.3 billion surplus.

If we are able to increase average price of export in the same level as average import price increased, by CZKC 0.60 per kilo (from CZK 21.7 per kilo to CZK 22.3 per kilo for import, or from CZK 19.6 per kilo to CZK 20.2 per kilo for export), then the Czech agrarian export will reach CZK 63.9 billion in 1999 and there would be 3.21 billion surplus.

The evolution of the export volume of comparing with physical volume of import is very typical for the changes of commodity composition.

The export of food products (CN IV), therefore the products with higher added value, diminished in 1994–1999 by 526.5 thousand tons (index 1999/94 = 70), import of these products increased by 446.1 thousand tons (index 1999/1994 = 151). Parallely the physical volume of export of raw materials and half-finished products (CN II, vegetable products) increased by 847 thousand tons (index 1999/1994 = 201), but the physical volume of import of this section increased only by 52.7 thousand tons (index 1999/1994 = 105).

From 1997 until 1999, that is in the three last years the mass of our agrarian export increased by 1142.6 thousand tons which is by 57%, parallely the value diminished by CZK 2448 million, that is about 6.2%. Parallely the mass of import diminished by 55.3 thousand tons (2%), but the value increased by CZK 797 million it's by 1.3%.

The given data show the dimension of reserves of our agrarian sector and sub optimal use of domestic vegetable production that is processed abroad. This non-processed production is due to surplus of offer of raw materials sold to the competitive subjects abroad, the prices for them are advantageous and therefore the competition to our exporting companies is supported.

A gradual modification of commodity composition of agrarian export from higher to maximal proportion of processed items with high added value cannot only enhance the employment in the regions, enhance the image of the Czech agrarian export on the international market, ameliorate the balance of foreign trade and profit of producers, diminish the mass of transported products and transport costs, but also it can enhance the effects of farming.

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# Characteristics of land ownership and land utilization structure ten years later economic-social changes in Hungary<sup>1</sup>

## *Charakteristika vlastnické a uživatelské struktury zemědělské půdy v Maďarsku deset let po sociálně-ekonomických přeměnách*

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**Abstract:** In Hungarian agriculture, due to the economic-social transformation, the private ownership of the land and the assets of production necessary for its cultivation have been established, while the organization structure of large-scale farming has also survived and co-exists with small-scale private farms increasing in their numbers. Innumerable contradictions with unfavourable economic effects have emerged from the separated privatization of the land and the assets of production, the unprecedented fragmentation of the land and the separation of land ownership and land utilization. It is the country's basic interest to ease these tensions, which hinder competitiveness, as soon as possible, with special regard to the EU accession. During the preparation for the accession, the establishment of EU conformity and the enforcement of interests based on country characteristics are equally important.

**Key words:** land ownership, land utilization, transformation, individual farms, structure of land, Hungary

**Abstrakt:** Díky ekonomické a sociální transformaci bylo v maďarském zemědělství znovu vytvořeno soukromé vlastnictví půdy a produkční faktory nezbytné pro hospodaření, přičemž současně přetrvává i organizační struktura velkovýrobního hospodaření a koexistuje se zvyšujícím se počtem malých soukromých farem. Oddělením privatizace půdy a ostatních produkčních faktorů se projevilo řadou protikladných důsledků s nepříznivým ekonomickým efektem, bezprecedentní rozdrobeností pozemků a separací vlastnictví půdy od jejího užívání. Jedním ze základních zájmů země je proto zmírnit co nejdříve tlaky, které brzdí růst konkurenceschopnosti, a to zejména vzhledem ke vstupu do EU. V rámci předvstupní přípravy je neméně důležitá harmonizace s normami EU a prosazení zájmů založených na specifických podmínkách země.

**Klíčová slova:** vlastnictví půdy, užívání půdy, transformace, soukromé farmy, struktura půdy, Maďarsko

### BRIEF HISTORICAL SUMMARY OF LAND OWNERSHIP AND LAND UTILIZATION

Hungary has favourable potentials for agricultural production (soil quality, climatic conditions and terrain configurations) in international comparison as well. 70% (6 million hectares) of the total area of 9.3 million hectares (93 thousand km<sup>2</sup>) of the country is under crop. The ratio of agricultural area (plough-land, garden, vineyard, orchard, grassland), similarly to Denmark, is outstandingly high compared with other European countries. This ratio is around 50% in other countries. The index of the degree of agricultural land supply per one hundred persons exceeds the European average (45 hectares/100 persons) by 35% in Hungary, and also, regarding the area of arable land per agricultural employees, we are only preceded by Denmark, Sweden and France.

In Hungary – resulting from the area ratio and favourable potentials – land ownership and the consequent

farm structure have always been central and politically motivated issues. This is verified by the three land reforms of the past half-century, contradictory in their aims.

As a result of the *first land reform* of 1945–1948, a lot of *small-scale farms* and relatively large state farms were formed on the 15 per cent of the arable land).

Later the individual farmers – not of the free will of them – were forced to establish co-operative farms. This process had been finished by 1962, when 90 per cent of the total arable land were covered by large-scale farms. The size of the large-scale farms was gradually increased after that time, due to mainly to the mergers. The small-scale farms, however, were not fully eliminated, and they gave about 35 per cent of the total production, mainly in animal husbandry and horticulture. The small-scale farms worked mostly in integration with the large-scale farms. From the end of the 1960s till mid-1980s, there was a rapid development in Hungarian agriculture. Its results, regarded as significant even by international standards,

<sup>1</sup>The paper was prepared for the seminar of the RIAE Prague "Farm land use in the context of CR accession to EU". 16–20 October 2000, Špindlerův Mlýn, Czech Republic.

were established by the co-operation of 1500 large-scale farms and nearly 1,5 million small-scale agricultural producers.

At the beginning of the 90s, during the economic and social transformation having taken place in the period of economic standstill, a return to private ownership and farming based on private ownership were considered as a possible remedy for the problems. A significant part of them is still unsolved even today, nearly a decade after the transformation. Consolidation is being urged by this protracting crisis itself, but the necessity of tasks is further emphasized by the advancing EU accession.

### CHARACTERISTICS OF LAND OWNERSHIP AND LAND UTILIZATION AFTER THE TRANSFORMATION

In Hungary before the transformation, 32% of the land was cultivated by state farms, 61% by production co-operatives and 7% as partly leased, partly privately owned land by small-scale producers in part-time (Figure 1.) Beyond the approximately 7% privately owned land of small-scale producers, 35% of the jointly cultivated land belonged to co-operative members. Therefore, essentially, beside the dominance of large-scale land utilization, state, co-operative and private ownership were also present which appeared in the large variety of forms of farming and their mutually favourable system of co-operation.

The main features of the changes in the land ownership structure were the following:

- In the process of transformation and ownership changes, the circle of those entitled to land ownership enlarged significantly irrespective of whether they are connected to agriculture or whether they want to pursue agricultural production on the land transferred into their ownership. The ownership of a significant part of the land was transferred to a layer of owners having only indirect connections with agricultural production or no connection at all.

- In the process of the ownership transformation the ownership of the land and the ownership of the non-land assets necessary for cultivation were also separated. Part of the new owners has merely the land and no assets of production. On the other hand, the other part does not have enough land to operate existing means of production. It is easy to see that the formation of the combination of the means of agricultural production today is more than incidental but it is by all means expensive which has a very unfavourable effect in economic phase already deficient in capital.

- The changes, therefore, have created the dominance of private land ownership corresponding to the practice of the European Union, but they have also formed a farm structure more fragmented than any so far which has also been accompanied - unlike previously - by the separation of land ownership and land utilization. These phenomena - beyond causing technical-technological, nature protection and economic anomalies - hinder permanent and realistic observations of utilization circumstances, although it should be an indispensable condition of the foundation of decisions regarding the agricultural sector as well as of the more and more pressing preparations for the EU accession.

The changes in the ownership structure have developed an approximately 86% share of private land ownership. 12% of the land remained the property of economic organizations (permanently state-owned organizations, nature protection territories, national parks), while the ratio of territories belonging to the transformed co-operatives can be estimated at 2% (Figure 2.). Owing to the delays and other deficiencies of ownership and land registration these ownership ratios are based on different estimates (Tóth, Varga 1995, 1996; Tóth 2000; Ady, Dorgai, Szijjártó, Tóth 1997) agreeing in their results.

This fact is to be handled with reserv due to methodical changes of statistical observations and the lack of exact registration. This is also justified by our representative examinations carried out in the past years, since the question is what can be qualified as private farming under the present circumstances? The lands registered

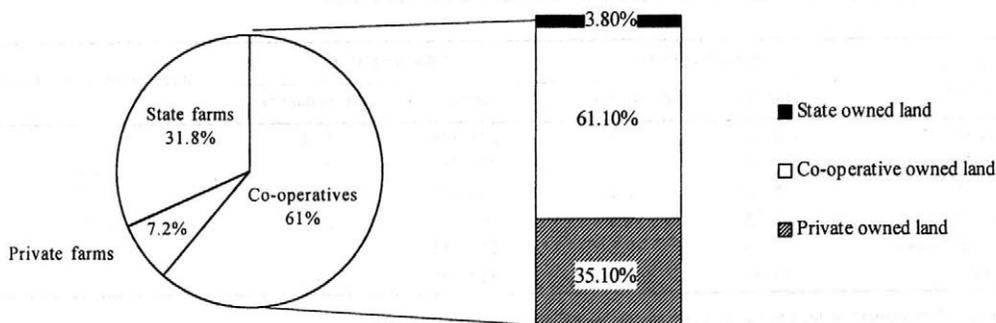
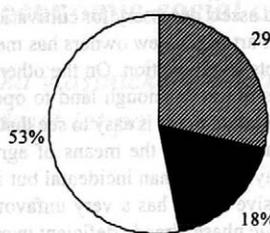


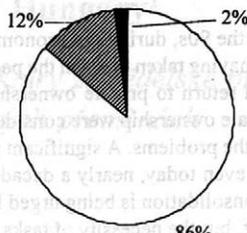
Figure 1. Land use and land ownership structure in Hungary, 1989

Land use



- Companies
- Transformed co-operatives
- Private farms

Land ownership



- Private owned land
- State owned land
- Cooperative owned land

Figure 2. Land use and land ownership structure in Hungary, 1999

as such or the actual privately cultivated area? The question is especially justified considering the fact that after the transformation of the land ownership structure, there are 1.2 million land owners in Hungary, 96% of whom with an area of less than five hectares and within them, one million with less than one hectare. The number of those owning an area of 100–300 hectares can be estimated at a mere few hundreds. For a determinant majority of owners, their land would not provide safe existence even if they wanted to or were able to farm. For them, therefore, the solution is leasing or joint cultivation of the land.

The shift towards private farming can undoubtedly be explained by the fact that the suppression (intentional ousting) of co-operative farming due to the lack of other work opportunities and livelihood induced (forced) more and more owners to cultivate their lands which are suitable to meet only basic needs in most cases. Farms belonging to this category decrease the negative effects of employment and social tensions on societal scales as

well. Their future and survival, therefore, is of vital importance on social and individual levels as well.

We have no precise knowledge of land ownership and utilization, we can only rely on information based on representative surveys. According to the register of the Central Statistical Office of 1994 on economic structure, out of 1675 thousand households pursuing agricultural activity, 1201 thousand (72%) reached economic-size<sup>2</sup>. The fragmentation of the lands used by private farms is well demonstrated by the data of Table 1.

81.4% of private farms used an area of less than one hectare in 1994, while their share was merely 16.8%. The average area of the farms belonging to this category was only 0.2 hectare which hardly exceeded the lower threshold of estate-sized households. 16.9% of private farmers were cultivating an area of between 1.1 and 10.0 hectares which came to 41.7% of the total area of private farms. The average area of the farms of the two categories is 2.9 hectares which shows the predominance of

Table 1. The structure of individual farms in term of the land they use in Hungary, 1994

Farm size (hectars)	Individual farms		Total land area		Average farm size, hectares
	number	distribution %	hectars	distribution %	
1 or less	978 101	81.4	231 665	16.8	0.2
1.1–5.0	173 182	14.5	378 912	27.4	2.2
5.1–10.0	28 723	2.4	198 303	14.3	6.9
10.1–50.0	18 922	1.6	359 588	26.0	19.0
50.1 and more	2 087	0.1	214 737	15.5	102.9
Total	1 201 015	100.0	1 382 205	100.0	1.2

Source: Development of food production and processing industry, CSO, 1995

<sup>2</sup>According to the prevailing regulations of statistical data collection a household is qualified estate-sized if it has an agricultural territory of at least 1500 m<sup>2</sup>, a plantation of at least 800 m<sup>2</sup> and livestock corresponding to one animal unit.

production units under 5 hectares. 1.7% of the farms have areas larger than 10 hectares and within them the ratio of farmers cultivating an area larger than 50 hectares is a mere 0.1% with a share of 15.5%. *The average area of private farms was 1.1 hectares in 1994*, as opposed to the 0.5 hectare of 1991. The measure and pace of concentration, despite the increase of the average area, is more than annoying considering also that the average farm size in EU member states was 17.5 hectares in 1995, but even in Greece, Italy and Portugal, characterised by the predominance of small farms an average farm size 4–8 times larger than Hungary has developed.

The characteristics and contradictions of land utilization are supported by Table 2. from another point of view. The measurement categories of land utilization separated according to cultivation sectors warn of the formation and existence of 'bipolar' farming.

It is easy to see that farming organizations are dominated by the presence of large production units (above 300 hectares), while the share of the other two area categories – except for the vine-fruit cultivation sector – is basically negligible. In the circle of private farmers the 'opposite' can be observed. This form is characterized by a 74–75% dominance of farms under 30 hectares.

Among private farms, medium-sized farms represent 20–25% which point to the presence of farms capable of commodity production and development. In connection with this statement, however, it is not clear to what extent these data reflect the reality, since the area ratios are mainly based on estimates.

Considering the breakdown of land utilization by farm size, we can claim safely that this farm structure – assuming that land ownership and use co-exist as well as that

agricultural production is the only source of income – does not provide the majority of owners with the means of living.

Small farms that have both the desire and the ability to grow have the same single perspective everywhere: producing for the market and entering the competitive sector. When designing forms of subsidy for these small farms, what must be realistically considered first and foremost is whether they indeed have a change to grow and to survive in a competitive environment. If the answer is yes, capital concentration must be promoted, small farms must be enabled to increase their resources (land and production equipment) while, on the other hand, it must be verified that they do indeed have the required capabilities (start-up capital, expertise etc.).

We believe that today in Hungary the conditions are either not given or extremely limited for this trend of concentration to become the general rule. In Hungary, because of the lack of other means of survival, the owners of small farms serving only as a subsidiary source of income have no other choice but to keep their farms, while they hardly have any chance to expand or develop their businesses. The situation is very similar in EU member states, where – despite the fact of incomparably more funds available for subsidies than in Hungary – small farms are shut down in massive numbers.

Hungary cannot afford to shut down masses of small farms within a short period of time. The reasons are social and societal. Consequently, the state must act as a social welfare care provider. At the same time, the future of these farms is an issue to be addressed and managed also from the aspect of agricultural production. At the same time, rationalization of production must be promot-

Table 2. The structure of lands by different types of farms according to size

Name	The share of			The share of		
	large-	medium	small-	large-	medium	small-
	sized farms, %					
	economic associations			private farmers		
1995						
Plough-lands	95.6	4.3	0.1	2.0	23.8	74.2
Vineyards, orchards	76.1	22.2	1.7	0.6	4.4	95.0
Grasslands	97.8	2.1	0.1	4.6	21.4	74.0
Agricultural areas	95.7	4.2	0.1	2.3	21.9	75.8
Forests	98.9	1.0	0.1	0.7	8.2	91.1
Arable lands	96.6	3.3	0.1	2.2	20.5	77.3
1998						
Plough-lands	96.0	3.1	0.9	2.4	25.3	72.3
Vineyards, orchards	70.3	25.1	4.6	0.4	9.8	89.8
Grasslands	97.1	2.6	0.3	4.7	26.5	68.7
Agricultural areas	95.9	3.3	0.8	2.6	24.5	72.9
Forests	97.0	2.6	0.4	1.3	17.1	81.6
Arable land	96.2	3.1	0.7	2.5	24.0	73.6

Source: Corresponding volumes of the Agricultural Statistical Yearbook, CSO

ed also among small farms that are not viable on their own and are not competitive because of their size. In our view the following options are available to choose from:

- we promote their growth support farm concentration among those who have the necessary capabilities, that is, we help them enter the competitive sector;
- we support land selling and "farm shut down" whenever it leads to the development of more viable production units, or;
- we provide separate support for those subsidiary farms that are not even interested in survival on their own, provided they willing to join modernization process based on voluntary cooperation ("joining forces") in production and sale, or even in processing.

If we take a realistic look at Hungary's situation today, the third version - joining forces or cooperation - is indeed a viable solution, and, all things considered, it is undoubtedly the cheapest method of small farm modernisation. We believe that this method is also the most cost-efficient and effective way for the state to exercise its function as a social welfare care provider.

After the political and economic transformation of the 1990's, agricultural production in Hungary, yet another time, had to assume social responsibilities, and even to a larger extent than in previous decades. However, because of the necessity to preserve the financial balance of the country, this can only be a realistic objective if the competitive sector is strengthened. After the adoption of the statutory regulations concerning the conversion of agricultural cooperatives and the privatisation of state farms, the institutional structure of Hungarian agriculture mostly loosened or broke up. However, the distribution (reallocation) of agricultural assets and the compensation of former landowners through land redistribution rarely created the ownership and farm size necessary for the birth of independent, self-sustaining, viable farms. Today, about one and a half million small landowners exist, most of them retired and/or urban citizens, who partly let their small lands on lease, partly produce for their own consumption.

Besides the diminishing of the farm sizes due to farm partitioning, rural unemployment in Hungary is about to reach the level of the 1930's. At the same time, rural population bears an increasing load. Despite the fact that the productivity and profitability of their work as well as the level of the social benefits they receive are by far under the average of the Hungarian society as a whole, 100 active earners support 250 to 280 persons. By today, the idea that agriculture could play a primary role in employment policy has proven quite an obvious misconception. Further, it is also obvious that the earlier rates of employ-

ment of the sector cannot be reinstated, and, in fact, sectorial rates of employment will continue to decrease. While household farming and part-time small-scale production for subsistence may be able to provide some sort of basic livelihood for the rural population, it is entirely unsuitable for making a living independently, let alone for stepping into the place of the society social welfare care provider system.

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## Některé poznatky trhu se zemědělskou půdou v okrese Znojmo

V zemědělském půdním fondu okresu Znojmo (tab.1) jsou nejrozšířenějším půdním typem černozemě (47,81 %), které se nachází nejčastěji na spraších v Dyjsko-svrateckém úvalu ve východní části okresu. V rámci černozemí výrazně převažuje černozem typická, která se tu nachází převážně na rovinách. Proto má rozhodující část černozemí v tomto okrese základní cenu dle vyhlášky č. 127/1999 Sb. vyšší než 10,00 Kč/m<sup>2</sup>. V západní části, v Jevišovické pahorkatině, na ně navazují hnědozemě (21,55 %) a luvizemě (2,63 %) na spraších, smíšených svahovinách a sprašových hlínách. I v rámci hnědozemí výrazně převažuje subtyp „typická“. Nachází se, kromě rovin, i na mírných sklonech, proto je zde větší rozsah základní ceny. Kambizemě (16,04 %) jsou mozaikovitě rozmístěny v západní části území převážně na zvětralinách rul. Rovněž v případě kambizemí výrazně převažuje subtyp „typická“. Kambizemě se často nachází v členitém terénu, což vede k podstatným rozdílům v ceně. 6,87 % fluvizemí a 2,71 % černic je soustředěno v nivě Dyje a Jevišovky. Téměř

rovným dílem jsou zastoupeny subtypy „typická“ a „glejová“.

Pouze 7,71 % představují zamokřené půdy, z nichž jen 1,31 % jsou půdy trvale zamokřené. Převládají středně těžké půdy (79,93 %) převážně hlinité (tab.2).

Komplikovanější podmínky pro zemědělskou výrobu jsou na západě v oblasti Bítovské pahorkatiny. Východní polovina okresu má nadmořskou výšku do 300 m n.m., západní část se zvedá až nad 400 m n.m. Výšková členitost reliéfu okresu je malá.

Tab. 3 charakterizuje okres Znojmo z hlediska způsobů využití půdního fondu. Výměra vinic řadí okres na 3. místo a výměra ovocných sadů na 4. místo v ČR. Je zde velmi vysoká (8,13 Kč/m<sup>2</sup>) průměrná cena dle BPEJ. Velmi vysoký, 3. v ČR, je též podíl zornění, naopak okres má nejnižší podíl zatravnění ploch v ČR. Nizký je podíl zalesnění. Podíl zemědělské půdy řadí okres na 7. místo v ČR, ale na 1. místo na Moravě a ve Slezsku.

Tab. 1 Struktura zemědělského půdního fondu okresu Znojmo z hlediska zastoupení půdních typů a subtypů

Půdní typ, subtyp	Plocha (ha)	Podíl zemědělského půdního fondu (%)	Hlavní půdní jednotky (2.a 3. znak kódu BPEJ)	Základní cena podle BPEJ (Kč/m <sup>2</sup> )
1. Litozem	210	0,19	38	1,09–3,01
2. Regozem	518	0,46	21, 37	0,91–3,59
3. Rendzina	48	0,04	18	1,64–4,56
4. Černozem	55 511	47,81		
4.1. Černozem typická	47 385	40,67	01	9,42–12,44
4.2. Černozem arenická	1 099	0,96	05	4,25–8,08
4.3. Černozem pelická	1 615	1,42	06, 07	3,81–9,65
4.4. Černozem hnědozemní	4 147	3,65	02	8,24–13,06
4.5. Černozem černicová	1 204	1,05	03	9,43–13,50
4.6. Černozem solončakovaná	61	0,06	není uvedeno	není uvedeno
5. Černice	3 080	2,71	60 až 63	3,90–13,11
6. Hnědozem	24 721	21,55		
6.1. Hnědozem typická	23 138	20,16	10 až 12	3,82–12,54
6.2. Hnědozem luvizemní	1 395	1,23	43, 46	2,86–9,28
6.3. Hnědozem pseudoglejová	188	0,17	42, 45	4,25–9,93
7. Luvizem	2 980	2,63	14 až 16	3,10–10,61
8. Kambizem	17 391	16,04		
8.1. Kambizem typická	15 402	13,48	29, 32, 33	1,67–7,88
8.2. Kambizem arenická	77	0,06	21	1,59–3,59
8.3. Kambizem luvizemní	1 809	1,59	32	1,67–4,37
8.4. Kambizem pseudoglejová	103	0,91	23, 25, 26, 50	1,75–7,23
9. Pseudoglej	508	0,45	44, 47, 54	1,97–7,39
10. Glej	1 408	1,24	64 až 72	0,79–5,95
11. Organozem	16	0,01	65, 69, 72, 74	0,75–2,26
12. Fluvizem	7 797	6,87		
12.1. Fluvizem typická	3 534	3,11	55 až 57	3,29–11,31
12.2. Fluvizem glejová	4 206	3,71	58, 59	5,64–11,34
12.3. Fluvizem solončaková	57	0,05	není uvedeno	není uvedeno

Tab. 2 Struktura zemědělského půdního fondu okresu Znojmo z hlediska zastoupení půdních druhů

Skupinové označení půdních druhů	Plocha (ha)	Podíl zemědělského půdního fondu (%)
1. Lehké půdy (písčité až hlinitopísčité)	1 7671	15,57
2. Středně těžké (písčitohlinité až hlinité)	9 0721	79,93
3. Těžké půdy (jílovitohlinité až jílovité)	5 094	4,49
4. Rašeliny	16	0,01

Tab. 3 Struktura zemědělského půdního fondu okresu Znojmo z hlediska způsobů využití

Orná půda	Vinice	Zahrady	Ovocné sady	Louky	Pastviny	Zemědělská půda	Lesní půda	Vodní plocha	Zastavěné plochy
ha									
104 168	2 428	2 070	1 964	1 258	1 609	113 498	35 181	3 073	2 225
Ostatní plochy	Celková výměra	Počet zemědělců na 100 ha zemědělské půdy	Počet zemědělců na 100 ha orné půdy	Průměrná cena dle BPEJ	Podíl zornění	Podíl zatravnění	Podíl zalesnění	Podíl zemědělské půdy	Podíl vodních ploch
ha		osob/100 ha		Kč/m <sup>2</sup>			%		
9709	163686	5,35	5,83	8,13	91,78	2,53	21,49	69,34	1,88

Tab. 4. Struktura respondentů dle velikostních skupin

Velikostní skupina	Počet respondentů nakupujících	Rozsah průměrné ceny v Kč/m <sup>2</sup>	Počet respondentů prodávajících	Rozsah průměrné ceny v Kč/m <sup>2</sup>
do 1 hektaru	4	5,50–11,43	4	5,08–11,28
do 5 hektarů	6	5,50–11,80	2	7,64–11,70
do 10 hektarů	4	7,51–11,70	-	-
nad 10 hektarů	3	5,08–11,43	-	-

V okrese Znojmo bylo provedeno setření u 69 občanů zabývajících se zemědělskou výrobou v souvislosti s problematikou půdy. Z výše uvedeného počtu respondentů jich 19 v letech 1997–2000 prodalo či nakoupilo zemědělskou půdu (jedná se prakticky pouze o půdu ornou). Celkový nákup půdy pro zemědělskou výrobu představoval 124,1 ha orné půdy. Celkový prodej představoval 5,62 ha orné půdy. Tab. 4 uvádí strukturu respondentů podle velikostních skupin nakupované či prodávané půdy a rozsah jejich průměrné ceny dle katastrálního území.

Z tabulky je patrné, že 4 respondenti půdu nakupovali i prodávali. Z provedených nákupů půdy pro zemědělské účely lze usuzovat, že někteří soukromí zemědělci mají již určitou představu o svém vlastnictví půdy a hospodaření na ní v intencích srovnatelných s informacemi z Evropské unie. Je zajímavé, že je nakupována i půda ve větších velikostních celcích nad 10 hektarů. Ve výše uvedené tabulce to představuje pro 3 respondenty celkem 69 ha orné půdy. Je nutno ovšem uvést, že naprostá část půdy obhospodařovaná v našem souboru je soukromými zemědělci pronajímána. Procento pronájmu zeměděl-

ské půdy k půdě vlastněné ve vybraném souboru zemědělců představuje 91,86%.

Podstatná je ovšem cena, za kterou se půda nakupuje a prodává. Celkové výsledky vypovídají o tom, že půda je nakupována za 53 % průměrné ceny dle katastrálního území. To samozřejmě svědčí o velmi vysoké nabídce půdy na jejím trhu. Půda však jako výrobní faktor, ale i nemovitost bude dle prognóz s přibližováním se k EU svoji cenu strategicky zvyšovat.

Závěrem je nutno uvést, že se jedná jen o dílčí průzkum, ale uvedené údaje zřejmě ukazují na cenové poměry spíše obecného charakteru a signalizují i snad určité tendence zaznamenávající přibližování se k EU.

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