

CONTEMPORARY ISSUES OF LAND USE AND WATER MANAGEMENT FOR AGRICULTURE IN BULGARIA

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Abstract

Protection of the agricultural land is a consistent goal of the Common Agricultural Policy. Regulated criteria for sustainable land use are a precondition for reconciliation of property interests with ecological issues. Bulgarian legacy from the inherent to socialism intensive agricultural production includes soil degradation processes, and from the recent Agrarian Reform – fragmented, small-sized and scattered land tenure that puts obstacles to modern and efficient agriculture. In this paper, an overview and structural analysis of the recent agricultural land use is made. The reasons for the inefficient irrigation and drainage management in relation to the existing legislation and ensuing land management processes are discussed. Data from recent national census and property counting have been processed. The analyses show unsustainable land management (around 9% of the agricultural land is unutilized and the total number of holdings has recently decreased with around 45%). There is great polarity in the agricultural ownership and land use (67% of the holdings – 0-1 ha sized - manage 10% of the utilized agricultural area (UAA) while only 2% of holdings - >50 ha sized - 84% of UAA). Location of land tenure and land arrays is inadequate to the technological parameters of the existing irrigation and drainage systems and this makes their functioning difficult. This, in combination with other exploitation problems contributes for only 20% efficiency of these systems. Physical, operational, organizational and pricing problems lead to low interest to irrigation. Actually, only 3.6% of UAA is under irrigation, although 15% of UAA is potentially irrigable. Further, around 82% of the agricultural land is subjected to water erosion. The yearly erosion varies with the type of land use and 51% of it originates from the fields. Considering the fertility of Bulgarian soils and the favorable for agriculture relief and climate conditions, improving land management is the key approach to create conditions not only for obtaining high agricultural production, but for complex solution of land use problems. First of all, an adequate legislation for establishment of middle size property and land consolidation, differentiated according to site topography, is needed. If so, proper mechanization and efficient irrigation will be applied, soil protection and landscape preservation activities will be allowed, and market and social benefits will be established.

Key words: land use, irrigation&drainage, legislation, management, Bulgaria

“Balancing consumption with sustainable supply” is the greatest challenge of nowadays (UNEP, 2014). The increasing population and the increasing demand for food put an inevitable issue for greater agricultural production. The counterpoint of applying intensive cultivation practices in order to obtain higher yields is maintenance of the natural resources in their original quality and viability. For the sake of life sustainability, main prerogatives of CAP 2014-2020 are the conservation of the environment and mitigation to climate change (Overview of CAP Reform; The CAP after 2013 – Public Debate). Protection of the agricultural land is a consistent goal. Regulated criteria for sustainable land use are elaborated for reconciliation of property interests with ecological issues. The main battle is fought for sustainable land use against land competition,

land use change, and land intensification (Cioloș, 2010).

A step to turning the agricultural territory into advantage of an EU member-country is reconciliation of globalization with country diversity. Bulgarian agriculture today has to match the interests of Bulgarian economy with EU global issues for food production. It has to find conformity of the national traditions in land use with the EU requirements of sustainable use of the natural resources and balanced territorial development. Agriculture in Bulgaria has for a long historical period been not only the basis of economics, but also of the whole society. Today, it is experiencing crisis. Since 2007 CAP is a determining factor for agricultural development of the country. Under its powerful stimulus for structural changes and creation of modern and competitive agricultural production, land

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utilization definitely prospered. In spite of that, the expected higher added value and the welfare of the farmers and the rural people has not been gained yet. Bulgaria has no reliable agricultural production. The agricultural production is not properly structured, its share of GDP is low – 7% per capita, the technological level is low.

An old approach to the actually old issue of sustainable land use is the spatial and land development planning. Historically, the regulation of this activity was subjected to the interests of the managing political order. The consolidated land use from the past, which was state controlled, hardly took care of the depletion of the natural resources, neither was considered private interests towards land. Spatial planning in agriculture today destined to put legitimate rules for long-term agricultural land use and to reconcile private and public interests in land use. Since the beginning of the democratic process, Bulgarian agriculture experienced many upheavals. The so called Land Reform turned agriculture into the only production sector in Bulgarian economy that had a decreasing share in GDP (Popov, Ivanov, 2012; Koteva et al., 2014). The main reason for that is the lack of state agricultural policy in the period when land was directly returned to the land owners. Land tenure was turned into a small-sized, fragmented and scattered one that put obstacles to large-scale mechanization, melioration and planning. There was low interest of the owners in utilizing of their land for agriculture. Land use was inefficient and uncontrolled. A lot of abandoned lands occurred.

The new stage for agriculture and agricultural land use in Bulgaria started with the pre-accession period and with the following EU membership. The tendencies of utilizing the agricultural land turned into positive. Nowadays lease holding is strongly developed, hence one can hardly see uncultivated lands but here come another kind of problems - legislative and following functional and profitable ones. Though spatial planning in agriculture is realized as profitable, it is still theoretically considered by the state and society. Voluntary land usage and agricultural practices in combination with small and fragmented holdings today lead to irrational use of land, low technological level of agriculture and low income from it. There are still large areas - legacy from the intensive agricultural production past - of degraded, saline and acid soils. There are also areas with disturbed by uncontrolled industrialization soils. EU and national subsidies are strong drivers for agricultural land use but is not always a common tool for settling problems in land competition. Joint provision of public and private goods is the main precondition for revision

of the state instruments, harmonized with those of CAP, for stimulating sustainable exploitation of the agro-eco-systems and for recognizing special planning as the basic one (National Strategy for Sustainable Development of Agriculture 2014-2020; National Strategic Plan for Rural Development 2007-2013).

Efficient agricultural special planning! – what is needed?:

- 1) information about the quantitative characteristics of the natural resources, such as land area, soils, water and environment;
- 2) information on infrastructural activities and availability of infrastructural networks that serve the agricultural production;
- 3) land use traditions of the regions,
- 4) knowledge of methodologies for resources management, considering near and far future changes of the environment,
- 5) reliable legislation and regulatory,
- 6) financing sources.

The goal of the paper is to make a review of the land and water resources for agricultural production in Bulgaria; to highlight land use planning and design of the structural elements of the agricultural territory; to point out gaps in Bulgarian legislation towards efficient land use and water management.

MATERIAL AND METHOD

Data from national agricultural censuses of the Ministry of Agriculture and Food (MAF) and National Institute of Statistics (NIS) have been processed. Data of scientific investigations in soil erosion are illustrated and presented.

The following methods of analysis were applied: systematic and comparative analysis; method of statistical groups, and expert assessment

Indicators analyzed are:

- *qualitative and quantitative indicators characterizing land and water resources for agriculture of the country*: permanent land use; structure of the agricultural area (AA), structure of the utilized agricultural area (UAA), structure of the agricultural area - by slope, by type of degradation processes, by susceptibility to sheet erosion and deflation; annual soil losses by water erosion per type of land use; structure of the irrigable area by type of irrigation; structure of the irrigated crops; available and used water resources; parameters of the available irrigation and drainage network; balance between caught and delivered water for irrigation;
- *parameters characterizing the structural condition of the farms* - relative value of holdings by UAA and by economic size; distribution of holding UAA by size of UAA, standard output distribution by economic size of the holdings and by farm type; dynamics of the number of holdings and average UAA size 2003-2005.

Expert assessment of some aspects of national legislation on land and water management in agriculture is presented.

RESULTS AND DISCUSSIONS

Land resources.

Various relief, soil and climate diversity over the country determine multiple food and beverage production. Geographically, land characteristics are the following: lowlands (0-200 m asl) - 32% of the total surface area, hills (200-600 m asl) – 41%, high lands – 25% and mountains (above 1600 m asl) – 2% (Geography of BG, 2002). Agricultural lands are situated up to 800 m asl hence 70% of land surface in Bulgaria has potential for agricultural production. Nowadays, the relative value of the agricultural area (AA (<http://faostat.fao.org>)) in relation to the whole surface area is 58.29% (6.42 mln ha) (*figure 1*). It is a high contribution to the AA of Central and Eastern Europe (EU CE) which average value is 50% (FAO, 2014). Forest area of the country is 34.74% (3.83 mln ha) - 4.74% higher than the average for EU CE; surface waters - 1.79%, and damaged territory – 0.23%.

Bulgarian AA under arable land, permanent crops and permanent pasture, which is the Utilized AA (UAA) (<http://appsso.eurostat.ec.europa.eu>) is 91.5% (*figure 2*). This completes 53.33% of the surface area of Bulgaria or 5.88 mln ha.

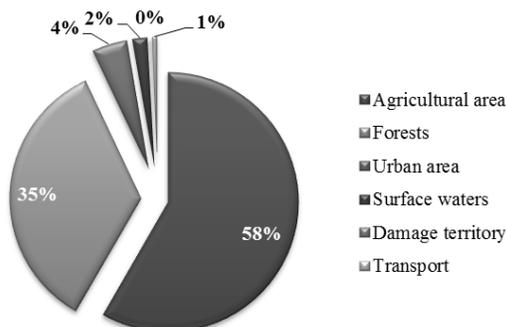


Figure 1 Permanent use of the territory of Bulgaria (Source: MAF, 2011)

Presently, agricultural land use is traditional. Since wheat and maize grain are still the strategic food crops, mostly field crops are being cultivated.

Further, land use is subjected to the up-to-date tendencies for energy crops growing for the purpose of bio-fuel production and substitution of fossil fuels with bio-fuels (with regards EU Directive for 20% usage till the end of 2020).

The specific soil and climate conditions allow production of highly qualitative fruits and vegetables.

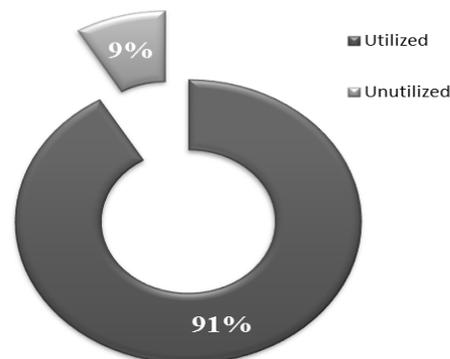


Figure 2 Structure of the agricultural area (Source: MAF, 2010)

Therefore the field cropping areas have the greatest share in AA: 50% are cropped with cereals and 30% - with industrial crops. The area with fresh vegetables is 10%, and with forage plants and fallow land – 3% each (*figure 3*).

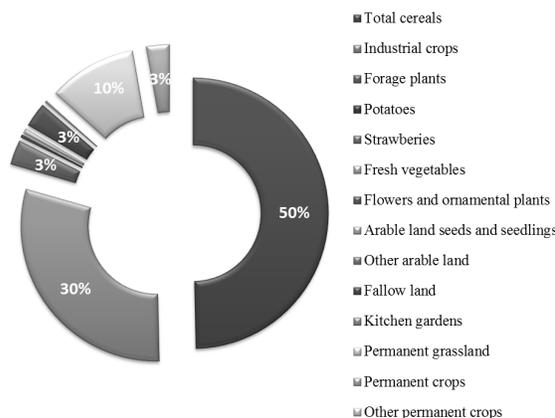


Figure 3 Structure of UAA (Source: MAF, 2010)

Quality of soils and soil degradation processes.

Bulgarian soils have one of the greatest potential in Europe for sustainable intensification of the agricultural production. They meet the requirements for high soil performance and high soil resilience (Blum, 2014). Therefore, when crops are selected correctly, according to soil fertility, climate impact and economic planning, crop yields are high and farming is efficient. The soil coverage in Bulgaria is characterized with a great variety due to sufficient diversity of soil forming factors (soil forming rocks, strongly uneven relief, varied bioclimatic conditions and anthropogenic activities) and has a mosaic structure. It includes 42 soil varieties, classified in 16 soil types (data of Soil Resources Agency (SRA)) (*figure 4*). They complete 21 of all 28 world soil groups. The greatest part of Bulgarian soils - 53.2% consists of deep and fertile soils; 39.3% of the soils are underdeveloped and

shallow; and around 7.5% of the territory has no soil cover (Valev, 2004).

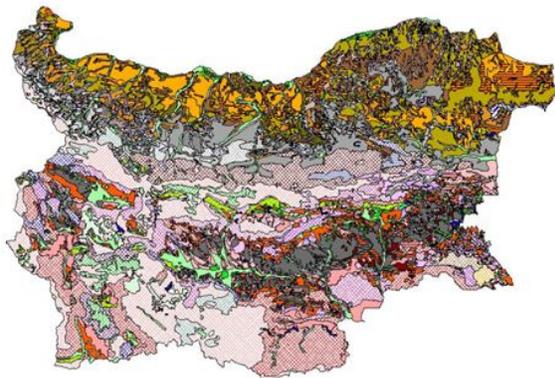


Figure 4 Soil map of Bulgaria (Source: Valev, 2010)

Soil quality is greatly dependent on topography. The greatest part – around 33% of AA is sloped to up 3%. For these areas are suitable all kinds of soil treatment directions and irrigation technologies. Significant disadvantage in the flat areas is their vulnerability to wind erosion.

Around 66% of AA is sloped >3%, including 18.6% with slopes 3-6% and around 35.2% - >6%. These slopes make these areas vulnerable to sheet water erosion (figure 5).

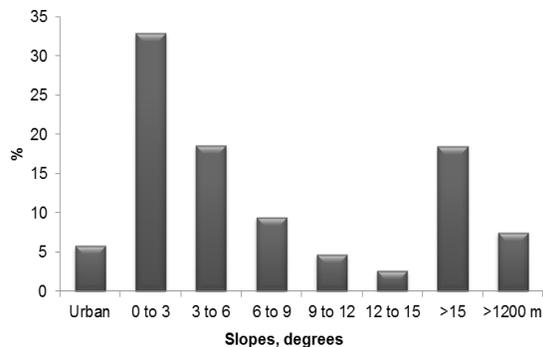


Figure 5 Distribution of the agricultural land by slope (Source: Ruseva et al., 2010)

As to Krumov et al., 2010, around 49% of Bulgarian soils are subjected to water erosion, while 18% - to wind erosion, 20% of the soils suffer from salinization, and 12% - from acidification. Soil compaction is spread over 18% of the soils (figure 6).

Ruseva et al., 2010 have established that the potential risk of sheet erosion for 26.4% of the territory of the country is >100 t/ha/y, for 16.2% - 40-100 t/ha/y, for 21% - 10-40 t/ha/y, and for 33.6% it is <20 t/ha/y. Actually, 52.8% of the affected soils are medium to strongly susceptible to sheet erosion (figure 7). The susceptibility to deflation is low – 68.3% of the territory has index I <125 t/ha/y (figure 8). Totally, 25.9% of the AA

has very low to moderate risk of erosion with soil removal < 20 t/ha/y, for 31.7% of AA the risk is moderate, for 19.5% - moderate to high and for 10.4% - high and very high with >100 t/ha/y removal of soil particles.

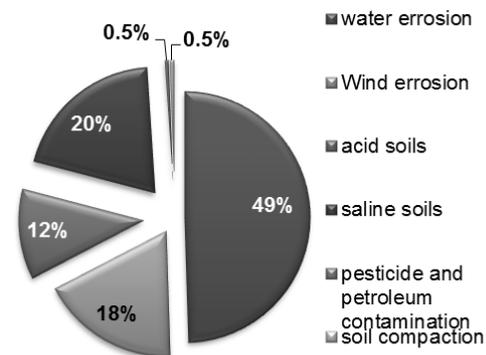


Figure 6 Distribution of the agricultural land by type of degradation processes (Source: Krumov et al., 2010)

The impact of land use on erosion can be seen on figure 9. Considering only the out-of-eligible-losses, 51% of the total soil losses are from the cropped fields, 33% is from grasslands, and 12% is from the permanent crops. (Mondeshka, 2006). This may be caused by:

- 1) disregarding the direction of tillage with slope;
- 2) improper grazing;
- 3) lack of soil prevention and protection activities, etc.

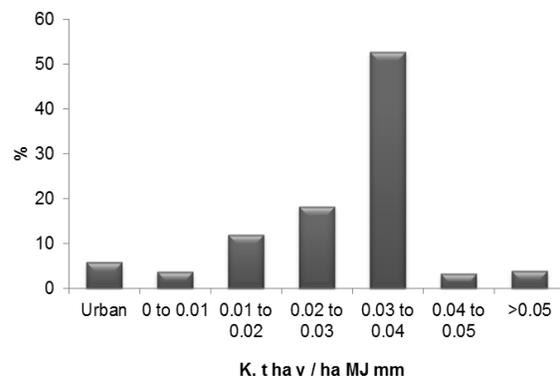


Figure 7 Tendency to sheet erosion of Bulgarian soils (Source: Ruseva et al., 2010)

Water resources.

Bulgaria has limited water resources, which are unevenly spread over the territory of the country. The yearly water availability per capita is twice smaller than that of Central Europe (<http://www.fao.org/nr/water/aquastat/main/index.shtm>) The poorest in water resources is the

northeastern part of Bulgaria, where predominantly autumn-winter cereals are cultivated.

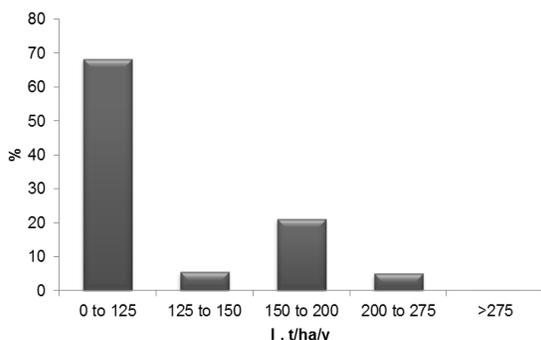


Figure 8 Tendency to deflation of Bulgarian soils (Source: Ruseva et al., 2010)

■ Field crops ■ Permanent crops
■ Grassland ■ Other agricultural land

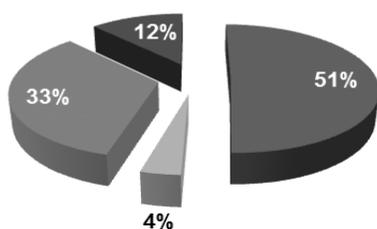


Figure 9 Annual soil losses caused by water erosion per land use type (Source: Mondeshka et al., 2006)

Around 60% of the country water potential is in southern Bulgaria and part of middle-west Bulgaria. The richest water resources, excluding the Danube River are concentrated in the southern mountain regions, while in the cultivated lands, located predominantly in the plains, in the hilly and low mountain lands, the water resources are less (Mondeshka et al., 2006). More than 75% of the water resources origin from the territory of the country (<http://www.fao.org/nr/water/aquastat/>). The risk of water stress is assessed as medium to low (<http://maplecroft.com/portfolio/mapping/>). The annual surface flow is 19.4 bil m³/y, and ground flow – 6.0 bil m³/y. The annual consumption is 68% of the available waters - 12.0 bil m³/y (<http://www.nsi.bg/bg/content/2541>). Bulgarian agriculture and agricultural practices are strongly dependent on the scarce atmospheric resources, which are unevenly distributed as over the territory of the country, so during the potential vegetation period. Irrigation is a recommended practice for obtaining high and sustainable yields. The results from climate scenarios (<http://meteorology.meteo.bg/>) provide for future climate warming and drought, hence irrigation practices will be more and more vital for agriculture.

Recently, farmers' interest in irrigation is very low. Water consumption for irrigation is only 0.6% of the total consumption. There are a number of physical, operational, organizational and pricing problems that put difficulties to irrigation practice. The heritage from the past is considerable: 252 irrigational systems constructed; 2209 dams; 6475 km open canal work (90% lined); 9269 km buried pipe network; 530 km derivational canals; 681 pump stations. The areas equipped are 0.740 mil ha, which is 12% of the existing UAA. Nowadays the potentially irrigable area is 0.54 mln ha (9.2% of UAA), but only 0.13 mln ha (2% of UAA) are actually irrigated (MAF, 2010). Currently, on 74% of the irrigated areas surface irrigation is mostly managed. Its network is cheap and technologically feasible. Drip systems are gaining momentum. They are applied to intensive crops as vegetable and permanent crops (figure 10).

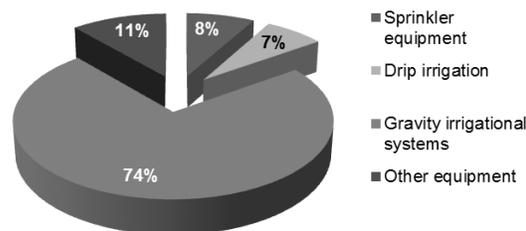


Figure 10 Irrigable area by type of irrigation (Source: MAF, 2010)

The crops that are mainly irrigated are the grain crops, followed by permanent and vegetable crops (figure 11). Crops like winter wheat and barley are sown on 60% of the irrigable areas, because of being easily managed. These crops have low sensitivity to water and are inefficient in the irrigated areas. Nowadays rehabilitation of the irrigational systems is needed. Canal network needs to be restored because it has been built in the 80s of the last century and in many places is already out of exploitation. Present land fragmentation doesn't fit to the functionality of the existing irrigation and drainage systems. Nor the cropping patterns take into consideration the technological units of those systems, which makes them inoperative. The water losses dependent on non-operability of the irrigational systems and bad functionality of the irrigational areas are shown on figure 12. By adding to these facts the one that the open and closed network has been violently robbed and damaged, the result is that the water conveyance efficiency of the irrigational systems is only 20% and the water application efficiency – 50%.

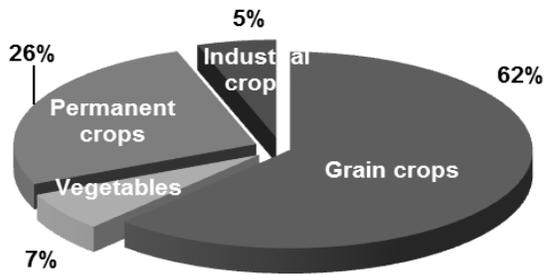


Figure 11 Structure of the irrigated crops (Source: MAF, 2010)

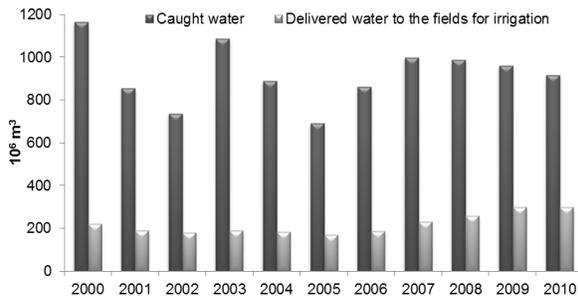


Figure 12 Balance between caught and delivered for irrigation water: (Source: NIS)

Drainage network suffers nearly the same problems like irrigation network. The drainage infrastructure consists of 254 km Danube River dikes, 2260 km prevention dikes, 3153 km river corrections, 5748 km drainage canals, 76 drainage pump stations, 11 retention dams. Every year, 0.153 mln ha need to be drained regularly. Nowadays drainage activities become very important under the impact of climate changes and the increasing number of flood events. The territory under the need of flood prevention is 0.166 mln ha (MAF, 2010). Drainage systems are badly maintained. Lots of drainage canals and veins are silted and need exemption from the clogging materials.

Structure of the holdings

The small-sized ownership on land puts obstacles to rational agricultural land management. The main purpose of the Land Reform of the 90-s of the last century was to recover the ownership of the agricultural lands in order to ensure social justice. Restoration of land property in its real size and land borders caused great fragmentation in land use and creation of a large number of small farms. This was the basis, on which the processes of transformation of ownership, land tenure and land use started. Twenty years later, the National Agricultural Census of 2010 reveals that the

dualistic model of agricultural production management still exists. It is seen on *figure 13* and *figure 14* that the greatest number of holdings - 67% - wield UAA of 0-1 ha size, but it is only 10% of the total UAA of the country. While only 2% of the holdings wield UAA of >50 ha size, but it is the greatest share of the total UAA - 84%.

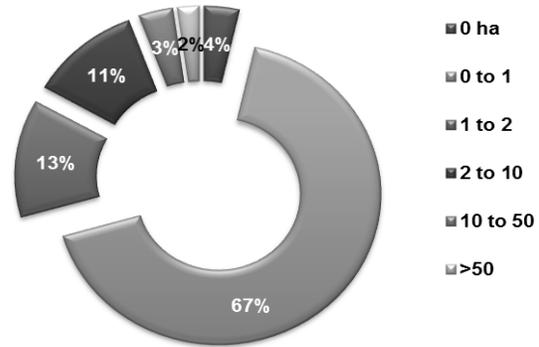


Figure 13 Distribution of holdings by UAA (Source: MAF, 2010)

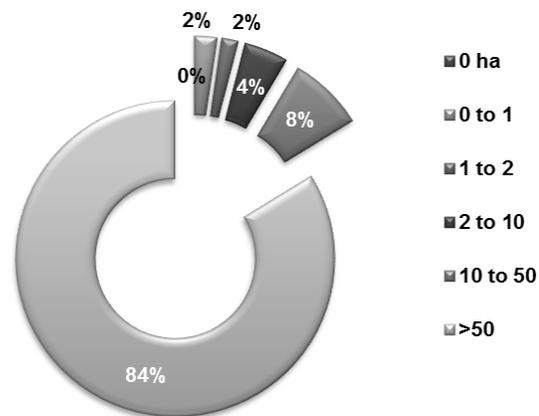


Figure 14 Distribution of holding UAA by size of UAA (Source: MAF, 2010)

Logically, the balance between the economic size of the holdings (*figure 15*, *figure 16*) is the same - 68.9% of the holdings have economic size less than 2 th EUR and generate only 9% of the standard output of agriculture, while the economic size of 0.4% of the holdings is greater than 250 th EUR and generate 42% of the output.

The processes of restructuring of land ownership and land use are greatly influenced by the political changes in Europe and are mainly connected with the membership of the country in EU. Main driver of land use in the past 2007-2013 CAP period is the policy of subsidizing farmers from EU funds (Pillar I). The pre-accession period and the period of newly established membership of Bulgaria bring a permanent tendency of consolidation of the holdings and land use. In

2007, the number of the holding is twice less than in 2003 (*figure 17*).

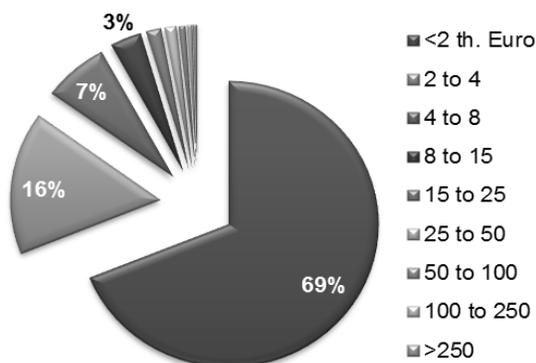


Figure 15 Holding by economic size (Source: MAF, 2010)

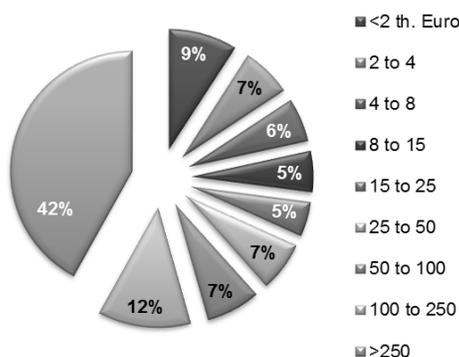


Figure 16 Standard output distribution by economic size of the holdings (Source: MAF, 2010)

The reduction is most intensive for the small holdings that yield up to 2 ha - almost twice, and the reduction of 2-5-ha holdings is 18%. The tendencies of the bigger holdings are positive. The group of 10-50-ha increases almost twice in number, the number of 50-100-ha holdings increases 1.5 times, while the large farms >100 ha increase with 36%. The average holding size increases from 4.4 ha to 10.1 ha, but is considerably lower than the average of EU-27, which is 179 ha. The main driver of the consolidation processes is the direct payments, regulated by CAP. In spite of the changes, the organizational structure of Bulgarian agriculture is strongly polarized - the small group of holdings dominates.

Modern Bulgarian legislative environment on land-use planning consists of a set of laws and regulations mainly governing ownership, environmental protection, and sustainable resources management. It is to greatest extent harmonized with European legislation but still

there are gaps that cause misunderstandings and discrepancies in land relations and land use.

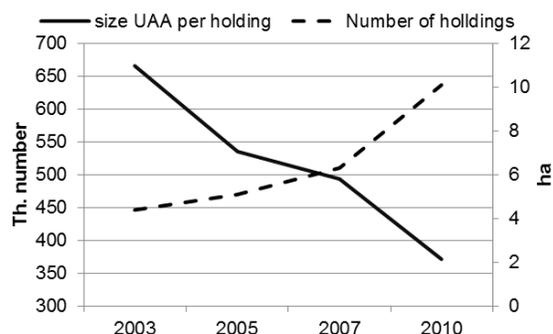


Figure 17 Dynamics of the number of holdings and average size UAA (Source: MAF, 2010)

The main output - 47% comes from field crop production, which characterizes agricultural production as extensive (*figure 18*).

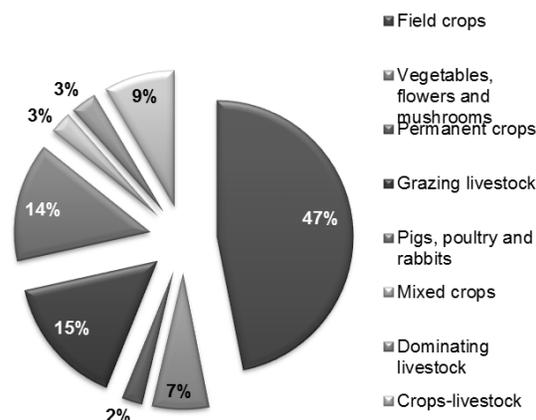


Figure 18 Standard output distribution by farm type (Source: MAF, 2010)

Bulgarian legislation and problems arising.

The state is required to ensure: mandatory for specifically targeted land use; optimization of the size of the property; protection of the owners' rights, yield and use of land; land protection; development of infrastructure; operation of a reliable system of payments related to land; and control over the turnover of land and land market. The state should maintain strict liability for violations of land legislation. The heritage from the Land Reform is that of partial land consolidation and lack of regulations for prohibition or restriction of further division of property by inheritance, partitions and sales. The complexity of the problem deepens with the fact that after the restoration of property, 1.5 million hectares of it, one fifth of AA (19.4%) is indivisible, but still the process of division is taking place. Bulgarian legislation provides a slow and tedious procedure

for priority buyer of land that can be easily circumvented - through donations, mortgages, change of status (only for agricultural land) and with no account of the economic viability of the priority buyer. The priority is not combined with the financial resources for buying land and guarantees for future profitable business. The fragmented property structure, the land ownership/land use structure, and the significant scattering of the properties hinder the development of agricultural production and decrease its competitiveness. Today, the relatively high level of concentration of land lease and land use compensates the unfavorable effects.

Land management over the past CAP period 2007-2013 was justified in terms of increased income. Other public goods like landscape protection, sustainability, and rural development were not considered. The new CAP now requires complex activities for achieving “green agriculture” and support for young farmers. It is expected to redirect land use to new priorities – such as environmental protection, development of viable farms, sustainable agricultural production and social development in the rural areas.

One of the biggest disadvantages of Bulgarian Law on Ownership and Use of Agricultural Land is that it gives unregulated freedom for choice of permanent land use for the owner’s tenure. There are no rules for compliance of the individual type of land use with the preferable or traditional land use of the cultivated areas, which in most cases is subjected to the specific environmental and economic conditions of the region. Thus it puts possible obstacles to consolidation of land use.

Another gap is that the Law on Ownership and Use of Agricultural Land guarantees a one-year term Agreement for the cultivated arrays while the requirement for receiving agro-ecological subsidies by EU is 5-year same-land tillage, including crop rotation. This puts a tenant who receives such subsidy in risky situation for paying penalties in case of withdrawal of a shortly contracted plot from his array under cultivation. The Law enables incorrect relations between the tenants themselves too.

There is no statutory restriction on the size of the rented area. This frees a large-scale lease holding. Presently, this is the reason for existence of monopoly in agriculture that has impact on land management and especially on the structure of the agricultural production making it inefficient as a whole. For this reason, the establishment of small and medium-sized enterprises is prevented and rural areas get depopulated.

There is another significant problem arising from a very liberal procedure for change of the primary use of agricultural land for construction purposes under the Law on Protection of Agricultural Lands. As a result, the agricultural area decreases. This process is most intensive after 2006. It is difficult nowadays to establish a balance between both compatible interests of society and business - conservation of the agricultural land and the growth of investments.

A step to sustainability in agriculture, land use and rural development would be creation of a Land Management Act, or at least Land Consolidation Act to regulate land use processes and contribute to optimization of land use. When land management activities, including land consolidation, are state supported and regulated, the trust of landlords and land users in the profitability of these activities for their private interests increase. Also their credibility to the public good of these activities enhances. In this sense, there were some recent changes in Law on Ownership and Use of Agricultural Land to a support of voluntary land consolidation by which to reduce the property fragmentation; to introduce better regulation of agreements on land use by increasing their transparency and improving the procedure for resolving disputes. Still there is no particular ordinance to regulate the terms and conditions for the preparation and implementation of plans in case of land use changes or consolidation of lands. The optimization of land management requires reliable legal regulation of land owner/land user relations, especially of the process of signing/termination of contracts. Presently, both sides have poorly protected rights on termination of contracts and Lease Act needs certain improvement.

Important questions that need their legislative decisions are those related to the structure of agricultural areas. The Law on Spatial Planning regulates the development plans, which task is to provide the overall structure of the municipalities, parts thereof or of individual settlements with their territories. In terms of agricultural land, however, their role is very limited. The agricultural area is solely determined but no structural activities are pointed out or recommended therein. There is no legislation and regulatory for spatial planning and design of the infrastructural elements in the agricultural territory. There is no even definition and specification for what is an agricultural land development plan except for its categorization as a specialized one in the Law of Spatial Planning. At the same time, agricultural land development plans are mentioned in different strategic and legal documents. The lack

of regulation for such evidently needed plans leads to adverse environmental and farming practices.

A tax system for land owing and land use has not yet been established.

Some of the gaps in water management for irrigation are: disparity between the programmes for the development of irrigation in the past and current economic policy of the country after 1989, leading to a mismatch between the parameters of existing irrigation systems and their current use in conditions of small and fragmented land tenure; inefficiency of the existing irrigation and drainage network due to the low utilization rate of existing irrigation systems; low efficiency of the systems, constructed according to irrigation technology with increased losses of water, resulting in incomplete recovery of the water resource; energy systems in which water prices are high; ineffective management model of irrigation and drainage; lack of strategy for the development of irrigation and drainage activities; insufficient investment for recovery, reconstruction and maintenance of irrigation infrastructure; difficulties in the establishment and operation of the irrigation associations; lack of monitoring for the irrigation systems. The accent of the new Programme for Rural Development, relevant to the Regulation (EU) No. 1305/2013 of the European Parliament and of the Council on Support for Rural Development by the European Agricultural Fund for Rural Development (EAFRD) and the Regulation (EU) No. 1306/2013 of the European Parliament and of the Council on the Financing, Management and Monitoring of the Common Agricultural Policy is on investments in tangible assets, including infrastructure, gives a new impulse for revision and revitalization of irrigation and drainage management.

CONCLUSIONS

Bulgarian agriculture has deep historical roots. It is, because of the favorable land, soil and water resources that ensure growing of diverse agricultural crops and practicing of different farming systems. Bulgarian soils have one of the greatest potential in Europe for sustainable intensification of agricultural production.

Presently, Bulgarian agriculture is extensive. There are several main reasons – lack of adequate state policy during the period of Land Reform to guarantee further consolidated land use; lack of legal mechanism for land ownership prevention from further fragmentation by inheritance, partitions and buys/sales transactions; improper management of land and water resources, land relationship and agricultural production. Therefore:

a dual agricultural structure is functioning – a relatively small number of large farms wielding significant part of the agricultural land and a large group of small semi-subsistent farms wielding a small part of the agricultural land; there is lack of legal certainty of land wielding with consequences for receiving EU subsidies for agricultural production; lack of state guarantee of market sell output with consequences for inefficient structure of the agricultural production; losses of GDP from inefficient use of the irrigation & drainage infrastructure and the relevant fields; great discrepancy between intentions and implementation of environmental protection in agricultural activities; and still deepening of depopulation of rural areas. CAP drivers of 2007-2013 and state legislation on land ownership and land use were ineffective to stimulate the development of the small and middle holdings and establishment of rational structure of the agricultural production.

In order to exploit the production potential of the country legal mechanisms for important activities should be developed. A fundamental one is regulation of land development planning which would guarantee sustainability of the agricultural and other economy sectors with interests towards land. This will contribute for crop growing which is adequate to the soil potential; proper usage of the existing infrastructure and construction of new one; environmental protection; increase of employment and income from agriculture; and finally development of rural areas and restoration of the natural status of Bulgaria as an agricultural country, famous for its high quality agricultural production. The real steps to improvement of legislation towards land are creation of legitimate grounds for: land ownership consolidation, transparency of land relationship, quick and fair procedures, and regulated spatial planning in agriculture. What the society and agricultural producers are vitally waiting for is a Land Management Act or at least Land Consolidation Act with Regulatory for implementation of the specific activities and generated land development plans.

Successful agriculture is an issue of proper land and water management. It can be developed only on proper land and water use. The key approach to that is by developing an adequate legislation - such one that would contribute for middle-size property establishment and for land consolidation, for proper mechanization and efficient irrigation, for soil protection and landscape preservation, for market and social benefits.

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