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ROLE OF CAP GREENING IN FARMERS` DECISION-MAKING

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ABSTRACT
CAP Greening is an important part of the sustainable development of scarce resources, conservation of habitats and species diversity. The aim of the study is to examine the role of mandatory requirements resulting from the CAP greening for farm development and environmental conservation. Analysis of available literature data on the CAP greening direct payments was conducted in order to highlight environmentally friendly agricultural practices. The results show that climate and environmentally friendly agrucultural practices are set out in three groups as follows: crop diversification, maintenance of permanent grassland and maintaining minimum 5% of the farming's area as ecological focus areas. In conclusion, farmers should consider these activities during the decision-making process at farm level and have to comply with the mandatory requirements of cross-compliance.

Key words: farmers, direct payments, greening, cross-compliance, CAP

INTRODUCTION

Common agricultural policy (CAP) Greening is the main change introduced by the 2013 reform. The payments rules and requirements for agricultural and environmental farming practices make the system of direct payments more environmentally friendly. The CAP Greening is an important part of the sustainable development of scarce resources, conservation of habitats and species diversity. CAP Greening aims to ensure that all European Union (EU) farmers who receive income support have a positive impact on the environment and the climate as part of their farming activity. The aim of the present study is to analyse the role of CAP greening in establishing climate and environmentally friendly farming practices.

MATERIALS AND METHODS

There is presented a literary review of CAP Greening. Also, it is analysed CAP Greening requirements for the present period 2014-2020 and the future period 2021-2027. There is presented conclusions survey conducted by the BIOGEA project: Testing BIOdiversity Gain of European Agriculture with CAP Greening (1). The BIOGEA project researches the impact of land use change on Green Blue Infrastructure (GBI) in the agricultural landscape. Through policy analysis on the EU and national level and biological monitoring and modelling in six case study areas in 3 Member States (Germany, Spain and Bulgaria), the impacts of policy on GBI and GBI on biodiversity are examined. The survey were carried out on period May-June 2018 at two case study regions in Bulgaria: Western Stara Planina and Plovdiv-Pazardzhik region. The survey was conducted with 44 farmers from the two case study regions. Type of farming in the first region is extensive pasture, forests, small patches arable. Its change drivers and threats are abandonment and conversion to forestry, climate change leading to fewer days of snow cover and higher incidence of flood events. Type of farming in the second region is arable, pasture, permanent crops, forests. Its change drivers and threats are intensification to monocultures, industrialisation and urbanisation including water pollution, tourism pressures.

Since the early 1990s, Common agricultural policies have encouraged farmers to produce

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agricultural products and environmental services through specific public support. Among these policies in France in 1999, farmers were encouraged to maintain the natural landscape (2). Farmers should not only produce food but also protect the landscape in agricultural lands. Maintaining the landscape is a mission that runs against previous standards for farming.

In the years before Bulgaria's accession to the EU, national laws and standards were harmonized with the vast EU legislation. The principles of eco-management introduced in 2008 include rules for protecting and improving the environment, preserving traditional varieties and breeds, biodiversity and animal welfare (3). Due to the lack of readiness for implementation of these rules by state institutions, nutrient losses in the soil, loss of biodiversity, negative impact on the landscape elements, soil degradation conditions were established. Such practices were widespread in Bulgaria.

In literature, growing criticism of intensive agricultural practices that lead to deterioration of natural resources and biodiversity loss gradually lead to an increase in environmental constraints on farming activities through the introduction of the CAP Greening (4). The aim was to protect sensitive areas of the environment, improve the quality of groundwater, develop and maintain organic farming and reduce pesticide use.

CAP Greening makes the system of direct payments more environmentally friendly. Farmers using land in a sustainable way, taking care of natural resources as part of their day-to-day actions, have the opportunity to benefit financially through direct green payments, introduced into CAP pillar I as a part of the Single Area Payment Scheme. The CAP Greening aims to ensure that the activities of all EU farmers receiving income support have a positive impact on the environment and the climate as part of their farming activity. Green direct payments in Bulgaria is introduced as 1st of January 2015 and refer to each calendar year for which the payment application is submitted.

Greening as a tool of the CAP is designed to encourage farmers to protect habitats and biodiversity on their farmland. Conservation of biodiversity depends on farmers`decision and the good practices that they apply in the farms`management. These decisions are also linked to increasing specialization and intensification of production in some areas, leading to the abandonment of farmland. This adversely affects biodiversity, which has a negative impact on soil, climate and water, but also puts at risk the long-term production potential in the agricultural sector.

There are climate-friendly and environment-friendly agricultural practices that contribute to the CAP's goal of greening direct payments (5). The three groups of practices are crop diversification, the maintenance of permanent grassland, including traditional orchards where fruit trees are grown in low density on grassland, and the maintenance of at least 5% of farm holdings as ecological focus areas (EFA). These are the actions that farmers have to take into account when deciding at the farm level and which must conform to the mandatory requirements of cross-compliance (10).

The crop diversification requirements apply to farms with arable land of between 10 ha and 30 ha, which must have at least 2 different crops and the main crop must not cover more than 75% of the arable land. Farm with arable land of more than 30 ha must have at least 3 different crops, the main crop must not cover more than 75% of the arable land and the two main crops should not be more than 95% of the arable land.

An important feature is that the requirement for diversification does not apply when more than 75% of the arable land is used for the production of grasses or other grass feeds, is fallow land or is the subject of combining these uses, provided that the remaining arable land (i.e., not used for these purposes), does not exceed 30 ha. The requirement for diversification does not apply also when more than 75% of the agricultural area is permanent grassland, is used for the production of crops under water or is subject to the combination of these uses provided that arable land not used for these purposes does not exceed 30 ha. The requirement for diversification does not apply in two more cases when the arable land on the farms is up to 10 ha and when the applicant is a beneficiary under the small farmers scheme.

The requirement to maintain permanent grassland follows some important prohibitions which farmers have to comply with. The permanent grassland under the "permanent

grassland" layer as well as ecologically sensitive permanent grassland falling within NATURA 2000 areas must not be plowed and transformed according to the Agricultural Producers Assistance Act in Bulgaria. The objective of the EFA is to preserve and improve the biodiversity of farms. Together with the requirements of greening direct payments, they are part of the applied CAP aimed at sustainable management of natural resources, including biodiversity. Farmers receive incentives payments through area for the implementation of practices that have a beneficial effect on biodiversity. Farmers should decide on the choice of EFAs, based on a list of the elements of the EFA defined by each Member State (in this case, Bulgaria). This list (according to Ordinance 3/2015, amend 2017) covers the characteristics and features of the landscape, which are directly aimed at biodiversity.

In the literature CAP Greening is described by the inclusion of arable land and meadows that affect plant breeding and livestock farms (6). Grain crops, vegetables and fruit farms have been found to have a small share of the EFA, which has an overall impact on Greening. This also applies to the size of farms where many small farms are exempted from the CAP Greening requirements, especially from crop diversification and maintance of EFA.

In relation to the above, there is a horizontal requirement in Bulgaria, which stipulates that Single Area Payment Scheme eligible are farms with an area of at least 0,5 ha and minimum plot size of 01 ha (programming period 2014-2020). In this sense, small farms are also eligible, which implies their liberation from the requirements of the CAP Greening.

Bulgarian Ministry of Agriculture and Food (6-8) had chosen EFA and landscape features that were directly geared to biodiversity in 2015, but in 2017 they were changed as follows **(Table 1):**

Table 1. *EFA modification in Bulgaria at programming prerion 2014-2020*

Landsclape elements	**2015**	**2017**
Ecological focus areas	Fallow land	Fallow land
	Terraces	-
	Buffer strips	-
	Strips along forest edges (no production)	Strips along forest edges (no production)
	Areas with short rotation coppices	Areas with short rotation coppices
	Areas with catch crops or green cover	Areas with catch crops or green cover
	Areas with nitrogen fixing crops	Areas with nitrogen fixing crops
Features elements	Hedges and wooded strips	Hedges and wooded strips and Trees in lines
	Trees in lines	
	Trees in groups and field copses	Trees in groups and field copses
	Isolated trees	-
	Field margins	Field margins
	Ponds	-
	Ditches	-

Source: Developed by Bulgarian Ministry of Agriculture and Food data, Application manuals. Direct payments. Campaign 2015-2017 (7-9)

The list of landscape elements and features was amended by the Bulgarian Ministry of Agriculture and Food in 2017, removing the terraces, buffer strips, individual trees, ponds and ditches, with the group of hedges being merged with the trees in lines.

According to the European Commision` report at EU level, the percentage of farmers declared by the EFA is almost twice as high as the required 5% at farm level. The three main EFA are linked to productive or potentially productive areas. The most commonly reported types of EFA in 2015 are those related to productive or potentially productive agricultural areas: Areas with nitrogen fixing crops (37,4%); Areas with catch crops or green cover (33,2%); Fallow land (25,9%).

The most commonly declared areas in Bulgaria are fallow land, areas with catch crops or green cover and area with nitrogen-fixing crops.

Eurepean Commision` report identifies the factors that influence the farmers' decision-making on the type of EFA. They fall generally in the following three categories:
1) economic factors that stimulate farmers to choose the cheapest and most productive type of EFA. A survey conducted for the BIOGEA project (1), has established that farmers apply the practices that are closest to their own practice. Analytical data also shows two types of EFAs that farmers most often choose. These are fallow land, nitrogen-fixing crops (most commonly alf-alfa and grass mixtures, which are a combination of peas, vetch, oats, etc.).
2) policy factors and administrative factors such as follow:
- a limited list of the types of EFAs provided by the Bulgarian authorities;
- a risk level of verification indicated that they do not meet the requirements. According to a survey conducted by the BIOGEA project, farmers feel insecure and are afraid of checks, because they are not certain if they fully meet all the requirements, leading to the conclusion that they are not well-informed.
- level of administrative burden. For example, it may be reduced by using a pre-filled single application form with all the landscape features eligible for the EFA. According to a survey conducted by the BIOGEA project, farmers are of the opinion that the administrative burden is at a very high level, which does not relieve their work and they spend a great deal of their time in order to deal with the administrations, not to carry out agricultural activity.
3) farmers` position and knowledge on the obligation for the EFA. According to a survey conducted by the BIOGEA project, farmers may often receive information on CAP measures and schemes, in particular on requirements and obligations for the EFA, mostly from the Municipal agricultural services and the National Agricultural Advisory Service.

According to data from a survey on the BIOGEA project from 2018, the results of the two case study regions in Bulgaria (Western Stara Planina and Plovdiv-Pazardzhik region) show that the farms have a large number of elements and features of the landscape, the highest share being as follows: perennial plantations, field margins, fallow land, ditches, isolated trees, buffer strips, areas with nitrogen-fixing crops, permanent pastures and terraces. Farmers most often choose the following elements to comply with the requirements for CAP Greening: areas with nitrogen-fixing crops, fallow land, permanent pastures. In case study region Western Stara Planina, 67% of farmers apply the requirement for crop diversification, 67% of them – ecological focus area, 87% of them – permanent pastures. In case study region Plovdiv-Pazardzhik 22% of the farmers apply the requirement for crop diversification, 52% of them – ecological focus area, 17% of them – permanent pastures. This leads to the conclusion that the degree of implementation of the CAP Greening requirements varies depending on the features of each region.

Also the European Commision` analysis show that the environmental benefits of the EFA types depend not only on their quantity but also on their quality linked to specific conditions and management requirements such as soil cover for fallow land, different crops for catch crops or green cover and nitrogen fixing crops; cutting regimes, retention times and use of chemical preparations; diversity of vegetation structure for landscape features, location and size for buffer strips.

According to the European Commision, amendments to secondary legislation on CAP Greening are an important step towards better management practices, together with a ban on the use of plant protection products on productive EFAs; clarification and setting of detention times for certain types of EFA; revise the requirements that would prevent farmers from using some of the most environmentally friendly EFAs, namely landscape features and buffer strips.

Improved requirements for the new programming period 2021-2027 (11), as part of the area-based mandatory farmers` support, will be targeted at 14 improved practices for climate protection, soil, water, biodiversity and landscape. Farmers should also comply with the Nitrates Directive, the Water Framework Directive and Natura 2000 standards, as well as the new instrument for the sustainable development of farms including the nutrient component.

As part of the CAP voluntary schemes new eco schemes and environmental and climate management obligations will be included. Overall, CAP will offer more flexibility and higher environmental objectives.

RESULTS AND DISCUSSION

CAP Greening annually encourages farmers to continue to apply climate and environmentally

friendly agrucultural practices as well as diversify them by further including practices covered by agri-environment and climate measures or certification schemes that are similar to greening and provide equivalent or better benefits for both the climate and the environment.

In relation to CAP Greening the decisions that farmers have taken after 2013 are aimed at meeting the three requirements: crop diversification; maintenance of permanent grassland; maintenance of at least 5% of the ecological focus areas. The purpose of these decisions is diversify monoculture production (crop deversification); maintenance of permanent grassland (at least 5% of a national level in Bulgaria), which preserve valuable habitats and can reduce the loss of biodiversity; create and maintain at least 5% of the areas as EFAs to improve and increase the biodiversity of farms.

At national level in Bulgaria, permanent grassland in NATURA 2000 areas are included within the "Ecologically sensitive permanent grassland" layer. They must not be plowed or transformed. Maintaining the share of permanent grassland in the country is a requirement under Regulation 1307/2013 and in accordance with Agricultural Producers Support Act in Bulgaria.

CAP Greening farmers` decision-making are related to farmers' activities on environmental protection and environmental activities above the level of cross-compliance. The cross-compliance rules that are aimed at farmers need to be respected in order to obtain the full amount of payments. The payments are reduced according to schemes and/or measures in case of non-compliance according to Regulation 1306/2013. Farmers should take environmental action into account in their decision-making.

Farmers should comply with several requirements when optimizing their decisions: the mandatory cross-compliance rules, the requirements of the CAP pillar I and the environmental measures under the CAP pillar II. For example, Measure 10 "Agroecology and Climate" - resembles a greening direct payments (CAP pillar I) that farmers receive payments for certain practices that are beneficial to the environment and the climate; unlike the Greening direct payments, however, this measure is voluntary (voluntary commitments on the part of farmers).

In addition, farmers should also comply with mandatory cross-compliance rules (10), which are related to compliance with Statutory management requirements (SMRs) and Good agricultural and environmental condition (GAEC). SMRs refer to 13 legislative standards in the field of the environment, food safety, animal and plant health and animal welfare and GAECs refer to a range of standards related to soil protection, maintenance of soil organic matter and structure, avoiding the deterioration of habitats, and water management.

On the future programming period 2021-2027 farmers` decision-making should be aligned with the more ambitious CAP objectives of protecting the environment. Decisions should be linked to the new environmental requirements and, in particular the rules on mandatory and voluntary schemes for climate and environmental protection.

Farmers` decision-making should include the mandatory requirements to protect the carbon-rich soils by taking care of wetlands and peatlands; the mandatory introduction of a nutrient regulation tool to improve water quality and reduce levels of ammonia and nitrous oxide; crop rotation to be applied instead of crop diversification. It will also be necessary to take decisions on voluntary requirements, which are a stimulating practice to increase farm earnings, by receiving additional payments for the efforts made.

The specific farmers` decision-making in the future programming period 2021-2027 (11) should cover the following requirements: exceed the SMRs and GAECs set out in the proposal for a new Regulation; exceed the minimum requirements for the use of fertilizers and plant protection products, animal welfare and other mandatory requirements laid down in national and Union law; exceed the conditions established for the maintenance of the agricultural area; are different from those for which payments were made under agri-environment and climate commitments in order to avoid re-financing for the same activity.

Farmers` decision-making including good practices will contribute to climate change mitigation and adaptation as well as to sustainable energy, it will protect carbon-rich soils by wetland and peat care, improve water quality and reduce the levels of ammonia and nitrous oxide. An important point are the

results of the decisions taken and whether they really fulfill the set goals of the farm – this would be the subject of further studies.

CONCLUSION

Farmers` decision-making process at farm level should consider good practices that contribute to climate change mitigation and adaptation as well as to sustainable energy, protect carbon-rich soils by wetland and peat care, improve water quality and reduce the levels of ammonia and nitrous oxide. In the new programming period farmers` decision making should include different good practises linked to mandatory and voluntary schemes for climate and environmental protection.

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