ASSESSMENT OF THE APPLICATION EFFECTS OF THE DEROGATION COVERING GAEC 7 AND 8 STANDARDS ON AGRICULTURAL AND ENVIRONMENTAL CONDITION, FOOD SECURITY, ENVIRONMENTAL PRESERVATION AND CLIMATE CHANGE

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Abstract
Currently, there have been numerous authorized derogations from environmental standards under CAP 2022 and 2023. These derogations are pushed hard by the agribusiness-lobby and criticised by many scientists. Despite of this, EU allows Member States to derogate from two Good Agricultural Environmental Conditions (GAECs) in the now freshly implemented CAP (2023-2027). These derogations concern GAEC 7 (crop rotations) and the first requirement of GAEC 8 (maintenance of non-productive areas). All those derogations from environmental obligations are supposedly implemented in order to ensure food security in the EU. Although the derogations on GAEC 7 & 8 might have a better impact in terms of food production, the added requirement will not change the deleterious impact of the measure on biodiversity and soil health.
Key words**: **GAEC 7, GAEC 8, crop rotation, biodiversity, climate change

INTRODUCTION

The protection and restoration of biodiversity in agricultural landscapes is a priority action to ensure sustainable food systems in the EU. Despite of this, agricultural intensification remains one of the main causes of biodiversity loss and ecosystem degradation in Europe (EEA, 2019), and it has severe consequences for farmland species, including widespread insect and bird populations declines (European Court of Auditors, 2020). The goal of GAECs is to encourage farmers to adopt sustainable farming practices to prevent environmental damage. GAEC 7 focuses on the conservation of soil and GAEC 8 centres around maintaining the landscape. These standards set benchmarks for farmers to follow, promoting practices such as minimum soil cover, crop rotation, terracing, and maintaining landscape features like hedges or stone walls. However, there are situations where derogations from these standards are granted due to exceptional circumstances, such as extreme weather events or specific agricultural practices. Previously, GAEC 7 in the 2014–2021 CAPs were significantly different from the new GAEC 7, greening conditionality requirements on crop diversification, which specify a spatial diversification setting criteria for the number of crops farmed in a given year by a farm. By defining a temporal diversification, the new conditionality prevents monoculture in a given field (Abson, 2019). In general, temporal diversification (rotation extension) responds to urgencies linked to soil fertility, whereas spatial diversification (multiple cropping) responds more to urgencies associated to biodiversity. However, growing a single crop has disadvantages since monocultures lack other plant and animal species that

prevent the transmission of disease and employ predation to manage pests. As a result, there is a higher chance of disease and pest outbreaks. This means larger amounts of pesticides and herbicides, which can pollute environment and negatively impact biodiversity (Ukhurebor et al., 2020; Viguier et al., 2021). Pesticide reduction is key to halt environmental degradation. Up to 50% of fruits, vegetables, and cereals grown in the EU contain pesticide residues, raising concern about their possible negative effects on human health (Bjørling-Poulsen et al., 2008). The plant protection strategy in different farming systems is based on preventive measures, which enhance the natural regulation potential of the system (Bonciu, 2022 a). Only in the case of an imminent infestation are measures that act directly against specific pathogens used. The application of prevention strategies in the agricultural systems requires a good knowledge of the biology of diseases, pests and beneficial organisms, as well as the specific effectiveness of individual measures and their side effects (Bonciu, 2022 b; Bonciu, 2023).

Furthermore, repeating the same crop year after year damages the soil, which lowers the availability of some nutrients, decreases its ability to hold water, and increases erosion. Temporal and spatial diversification of crops can contribute to this challenge by making farming systems more resource efficient, productive and resilient, and thus more sustainable.

GAEC 8 targets minimum share of agricultural area devoted to non-productive areas or features. Lefebvre et al., (2012) suggested that the disappearance of landscape elements like trees, hedges, and wetland regions resulted in fewer long-term refuges for species that depend on these habitats, which reduced biodiversity reservoirs in agricultural landscapes. Also, the number of different crop types surviving in the landscape decreases with the size of the fields, exacerbating landscape homogenization and the loss of biodiversity. Due to simplified ecological communities, landscape homogenization facilitates invasive species (Gamez-Virués et al., 2015). It also causes the loss of beneficial species, such as natural pest control organisms and wild pollinators, which has a major detrimental impact on crop productivity (Potts et al., 2016; Bonciu et al., 2021; De Souza and Bonciu, 2022 a, b). Thus, with the goal of improving on-farm biodiversity, GAEC 8 of CAP requires that at least 4% of arable land be set aside for nonproductive features.

The GAEC 7 and 8 effectiveness is influenced by derogations, exemptions and reinforcements. Derogations concern the reduction of restrictions, exemptions concern the exclusion of specific typologies of farming systems, reinforcements concern the inclusion of additional restrictions to the GAEC 7 and 8.

In this paper the attention was focus on the short- and long-term effects of the derogations from the conditionality requirements of GAEC 7 and GAEC 8 standards.

MATERIALS AND METHODS

To reach the purpose of this paper there were used systematic, semi-systematic and integrative research approaches using an analytic comparation of current literature, papers, studies, reports and statistics in order to offer significant insights based on the article topic. Also, it was used text mining method, which is a popular text analytical technique used to extract relationships and knowledge from a large number of textual documents.

RESULTS AND DISCUSSIONS

Effects of derogations from GAEC 7 and 8 standards

One of the primary effects of derogations from GAEC 7 and 8 standards is the potential degradation of soil health and fertility. Failure to maintain proper soil cover or implement adequate crop rotation can lead to erosion, loss of soil organic matter, and decreased fertility. Failure to

implement practices like maintaining minimum soil cover or employing proper crop rotation can leave the soil vulnerable to erosion by wind or water. This erosion leads to the loss of fertile topsoil, reducing agricultural productivity and necessitating additional measures to prevent further degradation. Without proper crop rotation or cover crops, the soil's nutrients become depleted, affecting the health and productivity of crops. Over time, this leads to a reliance on synthetic fertilizers to compensate for the lack of natural soil fertility, impacting both the environment and the economics of farming. Derogations, if used extensively or without proper monitoring, can undermine the long-term sustainability of agricultural practices. Continuously derogating from soil conservation standards can create a cycle of degradation that becomes increasingly challenging to reverse. Alterations in soil health and fertility due to derogations can impact broader ecosystem dynamics beyond agricultural fields. Changes in soil structure and nutrient content can affect microbial communities and soil organisms, disrupting the delicate balance necessary for healthy soil ecosystems. This jeopardizes the ability of future generations to derive sustenance from the land and necessitates more intensive efforts to restore soil health.

Over-reliance on derogations may lead to a dependency on external inputs such as chemical fertilizers or pesticides. Instead of fostering a balanced and sustainable ecosystem within the agricultural landscape, derogations can create a reliance on external interventions to maintain productivity. This dependency often comes with economic costs and potential environmental risks associated with chemical inputs.

Furthermore, derogations might result in alterations to the landscape that could disrupt ecosystems, can significantly impact the environment, biodiversity, and the overall aesthetic and ecological balance of rural areas. For instance, the removal of landscape features like hedges or stone walls, permitted under certain derogations, can fragment habitats and affect biodiversity. These landscape elements often serve as wildlife corridors and provide habitats for various species. Their removal can lead to the loss of biodiversity and ecosystem services, affecting pollination, pest control, and overall ecological balance of local ecosystems. Derogations that lead to the removal or alteration of these features can significantly change the visual character of the landscape. This alteration may impact tourism, local identity, and cultural connections to the land, affecting the overall socio-economic fabric of rural communities. The removal or alteration of landscape features can contribute to habitat fragmentation, isolating populations of flora and fauna. This fragmentation impedes the movement of species, reducing genetic diversity and making them more vulnerable to environmental changes and disease.

On the other hand, it’s crucial to acknowledge that derogations are sometimes necessary to accommodate specific agricultural needs or address exceptional circumstances. Extreme weather events, for instance, might require temporary deviations from these standards to allow for immediate agricultural interventions. Additionally, certain agricultural practices, like specialized cultivation methods for certain crops, might require tailored approaches that temporarily deviate from the prescribed standards. Funding may be allocated by member states to choose greening-equivalent practices that fit their unique national environments; however, this latitude has been abused to speed up the adoption of greening initiatives without significantly altering agricultural methods (Simoncini et al., 2019).

However, the challenge lies in ensuring that derogations are limited in scope and duration and that they are applied judiciously. Proper monitoring, evaluation, and accountability mechanisms must be in place to mitigate the potential negative impacts of derogations on soil

conservation and landscape preservation. Farmers should also be encouraged to adopt alternative practices that minimize the need for derogations while still meeting agricultural needs.

CONCLUSIONS

In conclusion, derogations from GAEC 7 and 8 standards in agriculture can have significant effects on soil health, landscape integrity, and biodiversity. While sometimes necessary, these derogations should be approached cautiously, with careful consideration of their potential long-term consequences. Also, derogations from GAEC 7, exemptions from GAEC 8 standards might lead to long-term sustainability concerns. Continuous alterations to the landscape can result in irreversible changes, making it challenging to restore the original biodiversity, ecosystem services, and cultural significance of the area. Therefore, balancing agricultural needs with environmental preservation is crucial, necessitating a holistic approach that prioritizes sustainability and responsible land stewardship.

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