Greening the Common Agricultural Policy: A Framework for Biodiversity Governance and Sustainable Agriculture

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Introduction

Effective since 1962, the Common Agricultural Policy (CAP) is one of the European Union's most longstanding and impactful policies. Originally, the CAP was implemented to enhance production, stabilise agricultural prices, and increase overall living conditions for farmers (EPRS, 2016; Gray, 2000). These objectives have largely been attained through vast subsidy programmes, price policies, and import-export regulation (European Commission, 2004; Hodge et al., 2015; Van Zanten et al., 2014). The success of the CAP in achieving its primary goals is evident: not only has the EU attained food security (European Union, 2017) but it is now one of the largest agricultural producers globally. In 2024, it boasted agricultural exports worth €234.1 Bn with a net surplus of €39.2 Bn (Eurostat, 2025). Agriculture's 8.9% share of total exports in the same year has made it central to the EU's strategy as a major trading bloc (Eurostat, 2025). In practice, this has translated into agriculture becoming the largest land use in Europe, accounting for approximately half of the EU-27 land area (Green et al., 2005; Maes et al., 2018), with significant effects both inside and outside production areas (Stoate et al., 2009).

The backdrop to this achievement, however, is the EU's widespread adoption of an intensive agrichemical model, with damaging consequences for water, air, soil, and biodiversity (Hulot, 2025; Martin-Lopez et al., 2018; Visconti et al., 2018). The European Environmental Agency (2020) identifies agriculture as the principal driver for the degradation of biodiversity and natural capital in Europe. According to the European Commission (2015), farmlands home to valuable biodiversity and ecosystems have been greatly diminished, with permanent grasslands decreasing by 6.4% between 1993 and 2011 (Pe'er et al., 2014; Simoncini et al., 2019). Despite recent efforts to curb these effects, the EU agrifood system still contributes 31% of total EU emissions (EIA, 2020), highlighting its central role in climate change. Overall, the intensification of agriculture – widely subsidised by the CAP since its creation – is recognised as a driver for emissions and major losses in agro-biodiversity, through habitat fragmentation and conversion (Elbakidze et al., 2018; Foley et al., 2011; Simoncini et al., 2019; Visconti et al., 2017).

This assessment is alarming. While environmental organisations continue to herald the debate on sustainability and biodiversity conservation, further policy developments are required to hedge against the effects of climate change and biodiversity loss (IPBES, 2018; IPCC, 2022). It is with this objective in mind that this article aims to produce recommendations for a 'greener' CAP, incorporating both the environmental and social requirements necessary for a sustainable framework.

The CAP: Objectives and Instruments

While the CAP has undergone several reforms since its creation, its main objectives have remained to support farming incomes and cheap agricultural products (Hill, 2011). Central to the agreement is its dual financing system, which combines two 'pillars', addressing its different objectives. 'Pillar 1' consists of direct payments to farmers, dependent on the surface area of productive land. This pillar is divided into a basic scheme covering 70% of the fund, and a 'greening payment' which covers the remaining 30% (Hodge et al., 2015). To receive the greening payment, farmers must comply with requirements such as maintaining permanent pasture, diversifying cropping (cultivate at least two crops where arable lands exceed 30 ha), and establishing an ecological focus area (EFA) (at least 5% of the arable area on holdings over 15 ha) (Hodge et al., 2015, p. 1002). 'Pillar 2', which also includes agri-environmental payments, is oriented towards climate action and does not include direct payments. Instead, payments compensate farmers for the extra costs incurred and income lost from environmental commitments (Simoncini et al., 2019). As part of the 2013 CAP reform, various cross-compliance mechanisms were adopted to integrate both pillars more efficiently (European Commission, 2013b).

The First Pillar

While in theory, the decoupling of CAP payments from production reduces the incentive for overproduction, its true finality requires further scrutiny. Tangerman (2011) suggests the first pillar often fails to produce clear objectives or to effectively support farming areas most in need of subsidies. For the most part, direct payments are attributed to large productive farms (European Commission, 2013b), and many High Nature Value Farms (HNVF) are not eligible for payments under either pillar (Keenleyside et al., 2014a; Sutcliffe et al., 2015). Simoncini et al. (2019) suggest that non-eligibility of small farms often results from high administrative costs, insufficient financial capital, or the non-inclusion of specific land categories defined by the EU.

Moreover, the effectiveness of greening requirements is relativised by numerous exemptions and circumvention channels. It has been found that greening measures apply to only half of EU farmland. The exemption threshold for farm size excludes 88% of farmers and almost half of farmed areas from needing to maintain an EFA, and certain crop types are allowed to count towards them. Furthermore, farms with less than 10 ha of arable land are exempt from the crop diversification requirement, which encompasses an extensive 92% of arable land in the EU (Hodge et al., 2015; Pe'er et al., 2014). Broadly speaking, cross-compliance mechanisms and greening requirements are widely viewed as insufficiently stringent to produce effective environmental change (Hauck et al., 2014).

The relevance of compliance exemption is further elicited by the fact that the first pillar constitutes the vast majority of CAP expenditure (75.3% in 2020) (European Commission, 2021). This means that most CAP expenditure remains impermeable to greening requirements or any other form of sustainability compliance. The general failure of reform to achieve commendable outcomes has been attributed to the defence of the first pillar by farming organisations; concerns for food security; the requirement for member states to finance expenditures on the second pillar; and scarcity of evidence on the benefits of agro-environmental solutions for biodiversity (Hodge et al., 2015; Matthews, 2013).

The Second Pillar

Despite the failures in leveraging sustainability through Pillar 1, the EU has consistently aimed to extend 'green' policies. Central to the CAP's 'second pillar' are Agri-Environmental Schemes (AES), that originated in 1985 with the Agricultural Structures Regulation. These compensate farmers for income loss due to commitments to less intensive but sustainable practices (EU Regulation 797/85; Hodge et al., 2015). AES became a compulsory measure for EU Member States in 1992 (EU Regulation 2078/92; Pe'er et al., 2014) and were implemented under the Rural Development Programmes to reflect local priorities (Hodge et al., 2015). There are approximately 350 AES, ranging over management of natural resources, biodiversity, and landscape quality (Hodge et al., 2015; Purvis et al., 2009). Areas receiving the most funding are zones such as HNVF areas, essential for biodiversity conservation. Crucially, AES are offered on a voluntary basis, though certain sustainable practices have become mandatory for basic subsidies since 2014 (Pe'er et al., 2014). These measures constitute the most important instrument for biodiversity conservation in the EU. Support for organic farming, for example, passes almost exclusively through this channel (Batáry et al., 2015; Tuck et al., 2014).

Reviews of AES have highlighted their modest and highly heterogeneous effects on improving biodiversity (Kampann et al., 2012). While AES are effective in 'simplified' areas, this is not the case for complex landscapes (Batáry et al., 2011). Furthermore, Batáry et al. (2015) find that AES schemes implemented after 2007 were no more effective than those implemented before, and that out-of-production schemes (e.g., field margins and hedgerows) were more effective for biodiversity enhancement than in-production schemes (e.g., crop lands). Zonal (i.e., 'targeted') schemes are also found to be more effective than horizontal ones (Batáry et al., 2015; Kleijn & Sutherland, 2003).

In addition, AES schemes face criticisms linked to their acute lack of ambition. In 2011, the EU Court of Auditors delivered a critical assessment centred on an absence of clear objectives, making success difficult to measure; insufficient differentiation of payments across farmers, meaning AES failed to reflect diverse environmental needs; and the absence of rigorous selection procedures to ensure funding for projects offering the best environmental value for money (Hodge et al., 2015). The

effectiveness of AES also greatly varies between member states, with most Central and Eastern European Countries (CEECs) failing to achieve biodiversity objectives due to small budgets, scheme inefficiencies, and 'lack of advisory services or political will' (Keenleyside, 2006; Stoate et al., 2009, p. 26). Organic farming, for example, accounts for only 10.8% of Utilised Agricultural Area (UAA) in the EU-27 in 2024, up from 3.9% in 2005 (EEA, 2025; Eurostat, 2007), signalling its insufficient viability for farmers.

Another prime example of AES inefficiency is the Natura 2000 scheme, which aims to protect biodiversity-rich areas by compensating farmers for conservation. Natura 2000 payment areas cover approximately 18% of EU territory (Hodge et al., 2015), yet only 7% of agricultural areas linked to the scheme have a 'favourable conservation status' (Hansjürgens et al., 2011; Van der Sluis et al., 2016). Simoncini et al. (2019) note that the lack of well-designed management plans for Natura 2000 sites also hinders local administrators and farmers. Without these plans, farmers cannot properly understand, program, or leverage the opportunities provided by measures within the CAP's Second Pillar. Overall, evidence points towards the inability of AES schemes to fully articulate environmental policy in the long and medium term.

Rethinking the CAP: Objectives, Pitfalls and Prospects

ESS 'Green Label'

Evidence has highlighted that the CAP's regulatory measures are vastly insufficient to produce change. Opportunities for circumvention and the overall flexibility of regulation have enabled member states to comply with greening requirements without any noticeable change in farming practices (Hart, 2015). For this reason, Simoncini et al. (2019) recommend that greening and cross-compliance requirements be verified on a territorial basis, with reference levels adapted to local constraints and opportunities. A key measure to achieve this could be the creation of a compliance label, based on the 'organic' model, which provides a score for the actual provision of ecosystem services (ESS) by farmers.

Evidence suggests that result-oriented incentives are more effective than the action-oriented incentives currently offered by the CAP (Berendse et al., 2004; Burton & Schwarz, 2013; Hodge et al., 2015; Simonini et al., 2019). By adopting an ESS approach, measures could be aimed at improving the provision of public goods such as pollination or biodiversity with a closer coupling to outcomes. A proportion of the label payments could be offered prospectively to farmers who have engaged in the greening process, to palliate initial income losses. However, the main body of income should remain result-oriented to produce forward-looking incentives. The transition from a commodity-based subsidy

to an ESS-based subsidy has several advantages (Pleininger et al., 2012). For example, Hauck et al. (2013) finds that the concept of ESS is easier to tie to shared interests and preferences, as the provision of goods like food is valued not only for food security but also as cultural heritage.

Indeed, the literature highlights the need to demonstrate the value of both monetary and non-monetary forms of ESS. This valuation, which should use economic and biophysical data, is necessary to inform effective policy instruments and aid decision-making (Balvanera et al., 2022; Hodge et al., 2015; IPBES, 2018; TEEB, 2010). Several studies have evaluated the CAP through an ESS lens, highlighting that delivery can be supported by the concept of Green Infrastructure (GI) – a network of natural and semi-natural areas intentionally designed to enhance the provision of ESS (Maes et al., 2012). The development of these infrastructures, which are often tied to agroecological practices such as permaculture, agroforestry, and integrated farming, is essential to ESS provision (Hodge et al., 2015; Naumann et al., 2011). Hence, the proposed 'green label' would effectively fund GI based on its ability to provide ESS in the long run.

Financial Reconfiguration

Crucially, this proposal must be tied to a larger restructuring of the CAP, as Pillar 1 faces criticism for lack of clear objectives and efficiency (Hodge et al., 2015; Matthews, 2013; Pe'er et al., 2014). This article argues for a reconfiguration of the 'first pillar', reducing subsidies based on land coverage in favour of rural development (Pillar 2), and co-funded by member states. Direct subsidies, which remain the primary incentive for environmental commitments (Papadopoulos et al., 2015), should specifically be aimed at farms which enhance the provision of ESS, such as those detaining the 'green label'. This policy is supported by literature viewing modulation as crucial to effectively address negative externalities in agriculture (Stoate et al., 2009).

Collaborative Governance Model

Evidence suggests that the governance model adopted is essential to the acceptability of AES, with scenarios of larger autonomy often preferred due to the possibility of stakeholder involvement in the green transition (Velten et al., 2018). Many benefits stem from collaborative, result-oriented Agri-Environment Measures (AEMs). Once local farmers establish a foundation of trust and common interest, these schemes become highly efficient, resulting in a significant reduction in transaction and monitoring costs (Simoncini et al., 2019). Using single negotiation with a representative farmer instead of multiple individual contracts, and delegating monitoring duties directly to the participating farmers is key to this success (McKenzie et al., 2013; Prager, 2015). Collaborative models also allow farmers to adapt their own skills, especially through the promotion of Indigenous and Local Knowledge (ILK)

(Babai et al., 2015; IPBES, 2018), enhancing local cohesion and territorial effectiveness (Burton & Schwarz, 2013; Prager, 2015).

However, coordination issues are vital for effectiveness. For this reason, this article argues for a devolved model of governance, in which funds are directed to local cooperative structures that organise funding, while ESS results are evaluated by an independent EU body. Furthermore, it is argued that cross-compliance and greening requirements should be mandatory to receive direct payments, with penalties applied in the case of non-compliance.

EU Training Centres

Finally, the relative failure of AES in effecting change has sometimes been attributed to a lack of training or advice (Batáry et al., 2015). Training has been suggested to offer farmers increased confidence and helps them develop a more 'professional' attitude towards AEM (Lobley et al., 2013). Farmer training centres and schools are found to be beneficial for management practices (Waddington et al., 2014), which is particularly relevant for AEM.

It is therefore argued that the CAP should direct specific funds to develop local training programmes and centres on the benefits of AEM, not only in terms of ESS but also in relation to long-run economic viability. These centres can provide a space for farmers to exchange their own skills and culture, as well as discuss the practical relevance of different AEM approaches (Herzon & Mikk, 2007; Morris, 2006). In particular, training centres can emphasise traditional farming methods and unique socio-economic structures. These structures, which are characterised by low-inputs, small-parcel rotation, mixed land use, and subsistence models, are essential to biodiversity-rich landscapes. This success is underpinned by the essential role of traditional knowledge and local governance (Fischer et al., 2012; Molnár et al., 2016), which is also an important driver for tourism and rural development (Simoncini, 2015).

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