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Sustainable Development Goals Related to Agriculture and the EU's Main Development Strategies

Abstract. The paper deals with the United Nations Sustainable Development Goals (SDGs) of 2015 and their relation to agricultural and rural activities. Over the years, many strategic documents have been created, especially within the European Union. The aim of this paper is to analyse the most important ones, to highlight the outlined objectives related to agriculture and rural areas and to compare them with the SDGs. A review of major EU CAP documents published in recent years, as well as the EU economic, agricultural and environmental strategies, has been undertaken. The analysis is set against the background of the UN declarations and agendas. Research shows that of the 17 Sustainable Development Goals (SDGs) promoted by the United Nations, 16 are directly or indirectly linked to agriculture and are implemented through the activities of the Common Agricultural Policy (CAP). It could also be said that the SDGs served as a kind of starting point for many important documents, shaping, among other things, the future of the CAP.

Keywords: United Nations, sustainable development goals, agriculture, European Union, economic strategies, Common Agricultural Policy

JEL Classification: A10, E00, F10

Introduction

The main research problem is whether current EU economic and agricultural strategies, along with the related documents, reflect the UN Sustainable Development Goals (SDGs). The 2030 Agenda for Sustainable Development of 2015 (United Nations, 2015) applies to our entire planet, including the economies of individual countries, and – thus – also to agriculture. The list of Sustainable Development Goals (SDGs) promoted by the United Nations contains 17 items (Table 1). It would be interesting to see how many of these objectives relate to agriculture and rural areas; this constitutes the second research problem.

The aim of the paper is to determine how these goals interact with the strategies of sustainable development in economies, including agriculture, as well as with strategic documents created in recent years. Both document analysis (Bowen, 2009) and comparative methods are employed.

Document analysis involves skimming (superficial examination), reading (thorough examination) and interpretation. A literature review as a research methodology (Snyder, 2019) was also used when examining links between SSGs and agriculture. The majority of the strategic documents have been created in the European Union. The author intends to look at the list of objectives contained in the most important ones and use them as the basis for comparison with SDGs. In this case, a literature review is employed. For instance, Scown et al. (2020, p. 1) partly attempt to solve the two research problems and even the

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precondition – why we examine precisely the EU documents. In the quoted article, it is stated that agriculture is essential to meeting the SDGs. According to other sources (European, 2017, p. 8) and confirmed by Scown, the EU is a "world leader" in reaching the SDGs. The authors state that there are many connections between the CAP and the SDGs and that the CAP has the potential to contribute to most of the SDGs. In the EU report (Lafortune, 2024), it was clearly explained that meeting the SDGs is an important part of the current EU political programme, which is expressed in the documents. However, the employed methodology is different from the one used in this article. The quoted authors (Scown, 2020; Pe'er, 2019; Lafortune, 2024) concentrate on CAP indicators aligned with SDG indices, whereas in this study, strategic goals indicated in the documents are compared with the SDGs. However, one method is common, namely applying keywords to analyse CAP objectives and SDG targets.

Matthews (2020, p. 2) states that "agricultural production has potential relevance for a majority of the SDGs". In his study, "the Green Deal" and "Farm to Fork Strategy" are also mentioned (p. 3) as important documents pursuing SDGs. In the 2017 Communication: The Future of Food and Farming, it is clearly shown that the CAP contributes to at least 13 SDGs (p. 8). In the Commission's impact assessment accompanying its CAP legislative proposal (European Commission, 2018a, Part 3/3, p. 73), one can find that there are clear links between the CAP and nine SDGs (1, 2, 3, 6, 8, 9, 10, 13 & 15) as well as indirect links with Objectives 4 and 5.

The author does not intend to evaluate or criticise the quoted documents. The aim is to indicate whether the objectives and actions analysed in the documents align with the SDGs. The new approach used in this article attempts to demonstrate that agriculture and rural areas are central to the sustainable development of nations, especially developing ones.

United Nations Sustainable Development Goals (SDGs)

The SDGs are contained in Table 1. Document analysis and literature review enabled the creation of a list of important documents containing policy objectives starting from 2015 – the year of the SDGs' introduction. These will be addressed in this paragraph. Jean-Claude Juncker based his work programme on 10 priorities covering, among others, jobs and the Energy Union (European Commission, 2015). Juncker also set out the priorities for the Common Agricultural Policy (European Commission, 2017, p. 7). These are:

- Enhancing quality employment and boosting growth and investment (8);
- Exploiting the potential of the Energy Union, circular economy and bioeconomy, while enhancing environmental care, combating and adapting to climate change (7,13,15);
- Transferring research and innovation from laboratories to fields and markets (4, 9);
- Fully connecting farmers and rural areas to the digital economy (9);
- Contributing to the implementation of the European Commission's Agenda on Migration (3,4,8,10,17).

Table 1. SDG goals and its links with agriculture

SDG Goals	Agricultural feedback
1: No Poverty	**End poverty in all its forms everywhere** The poverty gains from growth in agriculture are large (Christiaensen, 2006, p. 34). Poverty could be diminished through growth which in agriculture has a much bigger effect than in other sectors (Gunnarson, 2018, p. 8).
2: Zero Hunger	**End hunger, achieve food security and improved nutrition and promote sustainable agriculture** SDG2 goals are especially oriented towards agriculture and food sciences. For example, Goal 2.3 is about increasing the income of small farmers. Goal 2.4 is about securing sustainable food production systems and appropriate agricultural practices that help in adaptation to climate change. Goal 2.5 is to sustain biodiversity in food production in order to ensure sufficient food (McConnell, 2023, p. 13165)
3: Good Health and Well-being	**Ensure healthy lives and promote well-being for all at all ages** For populations with limited access to large amounts of food, even consuming smaller portions of these nutrient-dense indigenous foods can help combat undernutrition and decrease the number of preventable deaths in children under 5 (Ansah et al., 2017, p. 1). Agriculture is fundamental for good health; for the poor, it is also the only way of securing basic needs (Hawkes, 2006, p. 984).
4: Quality Education	**Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all** In villages, insufficient education is one of the chief constraints that curtails the acquisition of knowledge and the adoption of technologies. Spreading knowledge and technology may change this situation, improving the conditions of rural areas and stimulating sustainable rural development (Costa, 2020, p. 43). In many of the developing countries, agricultural education and training have failed to adapt and respond to the realities of rural societies (Gazi, 2019, p. 7).
5: Gender Equality	**Achieve gender equality and empower all women and girls** Women are powerful agents of change and continue to make increasing and significant contributions to sustainable development, despite existing structural and socio-cultural barriers (Overview, 2016, p. 6). Women play important roles at different nodes of both agricultural and off-farm value chains, but in many countries their contributions are either underestimated or limited by prevailing societal norms or gender-specific barriers (Quisumbing, 2021 p. 1).
6: Clean Water and Sanitation	**Ensure access to water and sanitation for all** There should be a new attitude towards water management for better health and nutrition (Gerber, 2019 p.5). This is especially important in developing countries, where water is often extremely scarce. There is a collective relevance of water, sanitation and hygiene (WASH) and biosecurity interventions to the antimicrobial-resistance agenda in agricultural settings and they appraised their reported effects on infection burden, antibiotic use and antibiotic resistance in livestock production and aquaculture (Jimenez, 2023, p. e419).
7: Affordable and Clean Energy	**Ensure access to affordable, reliable, sustainable and modern energy for all** This study provides a high-level overview of alternative energy sources that can be harnessed to power agricultural operations, focusing on renewable energy technologies. When thinking about the overall economy around the globe, agriculture is vital. Energy is required at each step of production, from fertiliser production to fuelling tractors for planting and harvesting (Majeed, 2023, p. 344).
8: Decent Work and Economic Growth	**Promote sustained, inclusive and sustainable economic growth, as well as full and productive employment and decent work for all** The integrated crop-livestock-forestry system (ICLFS), is a solution that links efficiency improvement with nature protection and implements SDG8 (Decent, 2020, p. 16).
9: Industry, Innovation and Infrastructure	**Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation** Regulatory barriers constrain investments in the development of storage and processing, which hampers the development of effective market institutions and lowers the capacity of agricultural producers to be internationally competitive (Kohli, 2021, p. 691).
10: Reduced Inequalities	**Reduce inequality within and among countries** Agricultural growth is found to reduce the accentuation of inequality or accelerate inequality reduction (Imai, 2016, p. 26). Agricultural growth reduces poverty – both headcount ratios and poverty gaps – in both middle-income and low-income countries (p. 27).

11: Sustainable Cities and Communities	**Make cities and human settlements inclusive, safe, resilient, and sustainable** Aside from the economic functions, urban agriculture is known to perform social and environmental functions. The environmental functions are in the forms of air and water quality enhancement. The social functions are evident in its support for political activism and volunteerism in cities (Azunre, 2019, p. 104). Ensuring food security, improving sustainability, and, at the same time, demonstrating the widely perceived economic value are challenges presented by commercial urban agriculture (Oliveira de, 2022, p. 1).
12: Responsible Consumption and Production	**Ensure sustainable consumption and production patterns** Unsustainable consumption and production patterns have been among the greatest challenges over the past few years. They are the main drivers of the triple planetary crises of climate change, biodiversity loss and pollution, threatening human lives, the environment and the targets of the SDGs (Arora, 2023, p. 1)
13: Climate Action	**Take urgent action to combat climate change and its impacts** Agriculture is a significant contributor to anthropogenic global warming, and reducing agricultural emissions—largely methane and nitrous oxide—could play a significant role in climate change mitigation (Lynch 2021, p.1).
14: Life Below Water	**Conserve and sustainably use the oceans, seas and marine resources for sustainable development** There is some overlap between SDGs 14 and 15. For example, there is a need to reduce, control and eradicate invasive species (Kerton, 2023, p. 401).
15: Life on Land	**Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss** It is necessary to create a new SDG, "Life Below Land". This goal is on biodiversity and includes microfauna, mesofauna, macrofauna, photosynthetic organisms and fungi. All these organisms have an impact on soil, and research outcomes are crucial to attaining SDGs (Arora, 2023b, p. 1).
16: Peace Justice and Strong Institutions	**Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels** Collaboration in agriculture helps in training farmers and achieving development goals. A better social environment forms the base for adapting agricultural technologies (Stuchi, 2020, p. 18).
17: Partnerships for the Goals	**Strengthen the means of implementation and revitalise the global partnership for sustainable development** It is generally agreed that agricultural cooperation through partnerships helps to attain Sustainable Development Goals. This is especially true in the area of agricultural services (Alotaibi, 2022, p. 1).

Source: Author's own work.

These priorities are related to the SDGs (the numbers in parentheses next to the priorities indicate the relevant SDG number. This procedure applies to all quoted documents).

In February 2017, the Maltese Presidency prepared a document linking proposals developed during various meetings and presenting priorities for future work (Council, 2017, pp 2-3). The following are the objectives and priorities:

i. Building resilience: it includes risk management, gaining capital and financial tools, securing incomes, managing income and price changes, increasing competitiveness, research and innovation, specialised assistance to less favoured areas, emphasis on food security, including the necessities of family farms, and improving consumer consciousness (1, 2, 8 & 13);
ii. Responding to environmental challenges by: improving the sustainability of agriculture, mitigating climate fluctuations, supplying environmental public goods and adhering to the United Nations Framework Convention on Climate Change COP 21 (United Nations, N. D. a), as well as the goals outlined in the 2030 Agenda for Sustainable Development (6, 7, 13 & 15);
iii. Investing in rural viability and vitality: enhancing the creation of new jobs and supplying services in rural areas, improving village administration, assisting the

heterogeneity of agriculture and benefiting from the multi-functionality of agriculture (8, 11 & 15);

iv. Ensuring generational renewal through: easier access to capital and land, the proliferation of learning, increased professional qualifications and a diminished administrative burden (3, 5 & 16);
v. Maintaining market orientation: promoting both domestic and export competition, striving for viable agriculture, ensuring a proper balance between opening new markets, defending vulnerable sectors and retaining high European standards (12);
vi. Strengthening farmers' position by: striving for clarity in contract arrangements, fighting unjust commercial practices, encouraging collaboration among farmers and improving consumer consciousness (12).

In its Communication (European Commission, 2017, p.11), the European Commission indicates which way the CAP should evolve. It also points out the general aspects of the new CAP. These are:

- supporting a smart and resilient agricultural sector;
- enhancing environmental care and climate action to contribute to the Union's environmental and climate change objectives;
- strengthening the socio-economic structure of rural areas.

In subsequent documents, the general objectives were then split into 10 specific objectives, stemming from the general objectives (European Commission, N.D.).

The objectives of the new CAP are:

1. support for the income and resilience of farms throughout the EU to support food security (1, 8, 9, 13, 15);
2. increasing competitiveness and market orientation (12);
3. improving the position of farmers in the value chain (12);
4. contributing to climate change mitigation and adaptation (13);
5. promoting sustainable development and efficient management of natural resources (15);
6. nature and landscape protection (15);
7. attracting new farmers and facilitating their activities and generational renewal (3,5,16);
8. promoting employment, growth, social inclusion and local development in rural areas, including the bioeconomy (11);
9. taking into account societal expectations in terms of food and health (3,12);
10. fostering knowledge and innovation (all SDG's).

The European Union has its own sustainable development strategies, either comprehensive or focused on various areas of the economy. A similar situation exists in many countries, both developed and developing. This is due to management needs and the importance of sustainability issues, among other factors. The creation and implementation of these strategies is a commitment arising from the membership of individual states and groupings in international organisations, and it already has a history.

The significant document in which one can find references to the need to create a sustainable development strategy is the United Nations Millennium Declaration issued on 8 September 2000 (United Nations, 2000). The Millennium Declaration included the so-called "Millennium Development Goals" (MDGs) (eight goals) (United Nations, N.D. b),

which were to be implemented by 2015. Despite the undoubted successes in achieving the Millennium Goals, it was decided to extend the 2015 deadline until 2030 and introduce the Sustainable Development Goals – hence the initiative 'Transforming Our World: The 2030 Agenda for Sustainable Development' (United Nations, 2015), which includes sustainable goals.

Defining development strategies is generally a formal process, often failing to reflect the specificity of the problem. The term is most commonly dominated by the approach to strategy as the classic content of the plan, that is, in the form of goals, methods and means (Chandler, 1962). R. L. Ackoff (1974) believes that strategy pertains to long-term goals and the means to achieve them, affecting the whole system. T. Markowski (2015), in turn, argues that strategy is a composition of reflections, decisions and actions aimed at defining general objectives, setting directions for action, choosing the means of implementation and, consequently, conducting specific activities and controlling the tasks performed.

Who is creating the sustainable development strategy at the European Union level? The strategy is endorsed by the experts and services of the European Commission, as well as new ideas and draft solutions concerning the EU's Common Agricultural Policy. If the same centres formulate goals, create sustainable development strategies and establish objectives for the CAP, it is difficult to discuss contradictions. Of course, there may be different emphases in different documents, and often – not only in the EU – agricultural matters can be part of the overall strategy, regardless of the creation of a document solely for the needs of agriculture.

The EU Biodiversity Strategy to 2020 (European Environment, 2011, p 4) included six mutually reinforcing and interdependent targets: the protection and restoration of biodiversity and related ecosystem services (Targets 1 and 2); strengthening the positive contribution of agriculture and forestry and reducing key threats to biodiversity in the EU (Targets 3, 4 and 5); as well as increasing the EU's contribution to global biodiversity (Target 6). Those targets align with SDGs 12, 13, 14 and 15. By calling for the above actions, the Commission announces in the strategy the introduction of "greening", which has become the main element of new CAP solutions implemented since 2014.

A subsequent important document published in December 2019 was 'The European Green Deal'. The Green Deal is integral to the Commission's strategy for implementing the United Nations' 2030 Agenda and sustainable development goals (European Commission, 2019, p. 3). Thus, in this case, the European Commission itself ensures that the objectives of the European Green Deal (EGD) and the SDGs are compatible. At the same time, the Commission is promoting other documents, namely the Farm to Fork and Biodiversity Strategies (European Commission, 2020a; European Commission, 2020b), as supporting documents for the creation of a National Strategic Plan (European Commission, 2018), the basic CAP act of law for the coming years.

The EC places a great emphasis on ensuring sustainable food production while pointing out that in order to achieve this, farmers will have to change their production methods by using solutions that least interfere with nature and based on new technologies, including digital ones. Manufacturers will be required to ensure better environmental performance, make the system more resilient to climate change and reduce the use of chemicals (e.g., pesticides and fertilisers). The downward trend in genetic diversity should also be reversed, facilitating the use of traditional crop varieties and animal breeds.

On 14 July 2021, the European Commission accepted the 'Fit for 55' package (European, 2021), which adjusts existing climate and energy legislation to meet the new EU

objective of a minimum 55% reduction in greenhouse gas (GHG) emissions by 2030. The 'Fit for 55' package is part of the European Green Deal, which aims to achieve EU climate neutrality by 2050. The package includes a revision of the Renewable Energy Directive (RED II) (A New Energy, 2023). Consequently, the documents address almost all SDGs directly or indirectly, as climate and environmental issues are now central to solving global problems.

Recently, international interest in the SDGs issue intensified. It is reflected in the Europe Sustainable Development Report (2022), as well as in the EU Voluntary Review on the Implementation of the 2030 Agenda for Sustainable Development (2023). The Europe Sustainable Development Report 2022 (4th edition) includes the SDG Index and Dashboards. In 2022, Heads of State agreed that a number of countries (40) should present reports on their progress towards the SDGs in so-called "voluntary national reviews" (VNRs) each year. The report contains a substantial list of references, including both recent scientific publications and government reports.

The first Voluntary Review of the European Union on the implementation of the 2030 Agenda for Sustainable Development shows that the EU is fully committed to delivering the 17 Sustainable Development Goals (SDGs). The 2030 Agenda should be examined alongside two other documents published in the same year: the Paris Agreement on Climate Change (The Paris, 2015) and the Addis Ababa Action Agenda on Financing for Development (Financing 2015). The European Union (EU) seeks to promote the 2030 Agenda both internally and externally. The Voluntary Review states (p. 8) that the European Green Deal is in line with the following SDGs: 2, 3, 6-9 & 10-15.

Since 2020, the SDGs have been included in every Commission work programme. The Joint Declaration of the European Parliament, the Council of the European Union and the European Commission on EU legislative priorities for 2023 and 2024 (EU Legislative, 2022) includes a commitment to expedite the implementation of the European Green Deal and, at the same time, the 2030 Agenda. The SDGs have become a main element of EU policies and a beacon for EU law-making. New legislation must include a reference to its relation to the SDGs (Better, 2021, p. 21).

The Voluntary Review shows advancements in the implementation of the Sustainable Development Goals. The EU's progress in implementing one of the most important goals (also significant from the CAP perspective) – SDG 2, as a result of sustainable agriculture measures – was moderate. Better results are expected for SDG 13 on climate action and SDG 15 on biodiversity.

Conclusions

Of the 17 Sustainable Development Goals (SDGs) promoted by the United Nations, 16 are directly or indirectly linked to agriculture and implemented through the activities of the Common Agricultural Policy. These include goals 1-9, 11-13 and even 10, 15, 16, and 17. This fact is supported by an analysis of the literature. According to an Indian project, 178 research articles indicated links between SDGs and agriculture (Rao, 2018).

The second part of this research dealt with the analysis of major EU CAP documents published in recent years, as well as those incorporated in the EU economic and agricultural strategies. Nine important documents, including four strategies and related papers, were

examined. The analysis was set against the background of the UN declarations and agendas. Thus, it can be said that the SDGs were a kind of "seed corn" or starting point for many significant documents, shaping – inter alia – the future of the CAP. It must be stressed that the SDGs properly reflect the problems facing modern agriculture and rural areas. This is true for almost all SDGs.

The relevance of this research is also demonstrated by the most recent OECD report (Measuring, 2023, p. 8), in which a new METRO-PEM model is recommended: "to ensure a better alignment between current policy objectives, their estimated impacts, and the UN Sustainable Development Goals". Such alignment helps to repurpose agricultural support in the EU.

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