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Making the SDGs count in the CAP reform: an analytical framework

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In its Communication to the Parliament and the Council regarding the next Common Agricultural Policy (CAP) reform (EC, 2017), the Commission considered that the CAP could and should contribute to at least 13 out of the 17 Sustainable Development Goals (SDGs). While this is a positive signal towards the “full integration of the SDGs in European policy framework” as the Commission stated a year ago (EC, 2016), the practical way in which this will be done still needs to be specified—which targets will be considered, and how will the proposed orientations contribute to their attainment. The question is all the more critical at a moment where, its budget being under threat, the CAP’s value added from a sustainability point of view needs to be better demonstrated.

Elaborating on a broader reflection on how to use the SDGs to formulate, implement and evaluate sectoral policies, this brief develops an analytical framework that can be used for agricultural policies to make explicit: (i) which SDG targets does the policy directly address and how will it concretely contribute to their achievement; and (ii) which other SDG targets is the policy likely to impact. If the specific inputs of this brief are methodological in nature, they could be used to further operationalize the Commission’s announcements—for the reform of the CAP and beyond.

KEY MESSAGES

- SDGs need to become more than just a preamble to the framing of sectoral policy reforms, and must (i) be used to identify the key targets that the policy intends to address and the other impacts against which the policy should be evaluated, (ii) be translated in a way that is relevant for the sector considered and for the specific national or regional context, and (iii) lead to the identification of monitoring indicators.
- On the basis of an extended vision of the agricultural sector that encompasses its links to territories, food systems and the bioeconomy, and which takes into account the interrelations between all 17 SDGs, 47 relevant SDG targets were selected to propose:
  → A comprehensive “check-list” of 10 categories of objectives that the CAP shall consider, either to improve its direct impacts or to anticipate potential negative effects. These 10 objective categories were classified into 3 larger groups reflecting (i) the socioeconomic stakes at the farm level; (ii) the environmental stakes; (iii) the larger societal stakes;
  → A list of targets and indicators for the 10 categories of objectives, built on the basis of SDG indicators or existing databases. It is shown that several indicators—e.g., those linked to farm resilience and entrepreneurship—are still difficult to document or to agree upon, for which further research and consensus would be needed;
- Despite its limits, this framework constitutes a necessary starting point, simpler than the SDGs, but still comprehensive, to foster better reporting and to trigger constructive debates in the development of new agricultural policies.
1. THE SDG FRAMEWORK AND SECTORAL POLICIES

The SDG framework, as adopted in New York in September 2015, comprises 17 goals, divided into 169 more specific targets. It is to be implemented primarily at national and sub-national levels, taking into account local specificities by adapting and hierarchizing goals and targets according to each context. While a key recommendation made by the UN to fully implement the 2030 Agenda is to foster policy coherence, horizontal integration, and to “break policy silos”, one should not however overlook the fact that public action has long been—and will remain—steered by sectoral institutions and policies. They have indeed their own merits, offering dedicated expertise, strong mandates, and clear lines of accountability to deal with often highly complex issues (Niestroy & Meuleman, 2016). In such a context, reaching the SDGs by 2030 implies a development of tools and processes to take them into account in the whole policy process, from the formulation to the evaluation of sectoral public policies. Given the systemic, holistic and comprehensive approach of the SDGs, sectoral institutions need to design policies that cover issues going beyond their traditional concerns. Doing so requires two things: first, to be explicit about which SDG targets are directly addressed by a policy, and the level of prioritization of each target; second, to identify the other SDG targets that the policy is likely to affect, positively or negatively, without it being a priority. Finally, there is a need to be as explicit as possible regarding (i) the ways in which the proposed measures are expected to effectively bring about positive changes for the different targets identified and (ii) the other factors (i.e. other than the considered measures) that could impede or contribute to the attainment or non-attainment of the considered targets.

2. AN ANALYTICAL FRAMEWORK BASED ON SDG TARGETS

Addressing these questions at a sectoral level is not an easy task, as most of the SDGs and their associated targets have been formulated in a broader way. Therefore, there is not only a need to identify targets, but also to translate them into a language relevant for the sector and geographical area considered.

In this paper, we focused on the agricultural sector in the EU. In a first phase of research, we selected the SDG targets that appeared relevant to analyze the direct and indirect effects of agricultural policies in developed countries in general (and in the EU in particular), among the official list of 169 agreed targets that was developed by the UN General Assembly’s Open Working Group (OWG) on Sustainable Development Goals (United Nations, 2015). To do so, we considered the agricultural sector in its relationships to (i) territories, (ii) food systems and (iii) the bioeconomy, which eventually led us to consider targets well beyond SDG 2 and the other SDGs usually associated with agriculture (ICSU, 2017). In total, 47 SDG targets were selected out of the range of targets proposed by almost all of the SDGs (except for SDG 16 “Peace, justice and strong institutions” and SDG 17 “Partnerships for the goals”).

All of the outcome targets of goal 2 on “ending hunger, achieving food security and improved nutrition and promoting sustainable agriculture” were selected, as they are all relevant for the analysis of the potential impacts of agricultural policies. Targets linked to health (“3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination”), water (“6.3: By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials…”), or climate (“13.2: Integrate climate change measures into national policies, strategies and planning”) were also selected, as well as targets linked to income, social protection and other socio-economic stakes.

To make these 47 selected SDG targets easier to use, we built a simpler framework, accessible to a wide variety of stakeholders, that comprises 10 objective categories already commonly used by the agricultural sector, themselves pooled into 3 bigger blocks. The categories can be presented as follows:

- **Box 1, Environmental stakes:** (1) land, (2) water, (3) climate, and (4) biodiversity. These categories relate to the preservation of natural resources that are essential to agricultural production (natural capital) and also reflect the wide range of services that agriculture is expected to provide (preservation of natural resources, landscape conservation, etc.);

- **Box 2, Socio-economic stakes at the farm level:** (5) the incomes of small and poor farmers, (6) farm/farmer resilience to social, economic...
and environmental shocks, (7) entrepreneurship capacities and (8) decent work. These categories relate to the current situation of farms and farmers and to the potential evolution of their situation, both in terms of resilience to risks and the ability to seize opportunities;

- Box 3, Broader societal stakes: (9) health and diets, and (10) job creation (in the farming and agri-food sectors). These categories relate to the bottom end of agricultural and food systems, to which agricultural production is ultimately prone to contribute.

Environmental resources such as land, water and biodiversity are necessary to produce outputs at the farm level (income, resilience…) and beyond the farm level (food, jobs in rural and urban areas…). The way these outputs are produced in turn influences the preservation or degradation of environmental resources.

Such a framework enables the links between the agricultural sector and the rest of society to be highlighted, which appears more and more critical for thinking through transformations and legitimizing public support. It however needs further refinement if it is to be fully operationalized.

**Figure 1.** A 3-step approach to operationalize the SDGs
3. OPERATIONALIZING THE FRAMEWORK:

Although countries may differently prioritize the 10 objective categories to which agricultural policies should contribute, there should at least be safeguards for the objectives that would not be among the top priorities. Ensuring that policy options delivering synergies between these two sets of objectives enter the scope of possible options increases the chances for the new policies to be aligned with the Agenda 2030. The analytical framework depicted above is a useful tool that can help keep all the stakes in mind, including the “safeguarding” ones. Nevertheless, to fully operationalize the SDGs for agricultural policies, it is fundamental to take another step forward, by selecting indicators to assess the current state and ongoing evolution, and to track progress towards the achievement of each of the 10 objective categories.

In Table 1, we propose a list of indicators that could be used for this purpose for 21 of the 47 selected targets. In many cases, the corresponding SDG indicators were not fully adapted to track progress for the agricultural sector in the EU. For instance, Indicator 15.5.1, proposed by the UN to track progress on “15.5. […] halt the loss of biodiversity” is the Red List index. The farmland bird index, already commonly used by Eurostat, is a better link between biodiversity and the agricultural sector. Table 1 therefore proposes more refined indicators, better able to track progress in the European agricultural context, among the ones proposed by the UN or among already existing global, regional or national databases. When existing indicators (as per the SDG process) were not at all adapted to the agricultural sector, which was frequently the case, proposing an alternative indicator leads nolens volens to the reformulation or even translation of the official SDG target to make it relevant to the agricultural sector. However, the proposed indicators—and the way in which they propose to translate SDG targets for the European agricultural sector—are of course not the only ones possible; they are to be considered as propositions, open to debate.

This research highlighted several gaps. Indicators were found to be rather well developed for assessing the impacts of agricultural policies on natural systems. For instance, the UNFCCC placing the climate change issue at the forefront of the political agenda resulted in extensive research on how to measure greenhouse gas emissions. Significant databases also exist to assess the quality of water resources (e.g. the Aquastat database) and soils (FAO database). More recent work has also made significant contributions to indicators enabling the tracking of biodiversity changes (CBD, 2016).

Indicators assessing the evolution of the situation for food security and healthy diets also seem to be rather well developed, even if methodologies are sometimes still limited in their capacity to clearly identify the contribution of agriculture to these socio-economic indicators beyond the farm gate.

Perhaps the clearest gap can be found in relation to indicators that would enable the tracking of progress towards the achievement of objectives linked to the socio-economic impacts on farm systems. For instance, categories such as the income of poor and small farmers lack disaggregated data that would enable the accurate assessment of the prevalence of low-income farmers. As for resilience and entrepreneurship categories, they lack comprehensive indicators and data. As Table 1 explains, these indicators do not only lack data because it does not exist, but also because there is a high level of controversy on how to track progress on these issues. By providing indicator proposals, we do not intend to bring an end to the debate, but rather to trigger it. This paper underlines the importance of further research to contribute to the discussion on some of the objective categories, particularly in the field of socio-economic indicators on farm systems, as well as broader social issues.3

4. ALIGNING THE CAP WITH THE SDGS: CHALLENGES AND THE WAY FORWARD

If, as announced last November, the Commission wants to align the next CAP reform with the SDGs, this brief suggests that there are at least four steps to take.

4.1. Developing a specific evaluation framework

First and foremost, a specific evaluation framework derived from the SDGs, but adapted to the specificity of the agricultural sector, must be developed and debated with all relevant stakeholders to go beyond a preamble that states that “the reformed CAP will contribute to this and that SDG”. The framework proposed in this paper offers a basis for this, which could be re-worked and discussed. As explained above, developing such a framework involves several operations: (i) identifying which SDG targets a policy directly addresses (primary
or secondary objectives) and distinguishing them from other SDG targets that the policy is likely to (unwittingly) impact; (ii) translating them into a formulation that is relevant for the agricultural sector and for the specific national or regional context, and (iii) identifying specific monitoring indicators.

4.2. Developing and making explicit the theories of change

Based on such a framework, a second necessary step is to develop specific and explicit “theories of change” or “program theories” (Funnell & Rogers, 2011) for all targets that are considered as primary or secondary objectives. What we mean by a program theory is an explicit model of how a specific measure contributes to the outcomes it intends to achieve through a series of intermediate actions and results. In the case of the CAP, the primary and secondary objectives of the policy have been fixed by the Rome treaty in 1957 and then enriched in 2010. They read as follows. Primary objectives as set by the Rome treaty are: (1) to increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production, in particular labour; 2) thus to ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture; (3) to stabilise markets; (4) to assure the availability of supplies; (5) to ensure that supplies reach consumers at reasonable prices. Secondary objectives, as per the 2010 European Commission decision, includes: (6) Viable food production, including contributing to farm incomes, improving the competitiveness of the sector and compensate for natural constraints; (7) Sustainable management of natural resources and climate action, including support for the provision of environmental public goods, fostering green growth through innovation, pursing climate change mitigation; (8) Balanced territorial development, including the support of rural employment, promoting diversification, improving rural economy and allowing for structural diversity.

Most of the targets included in the proposed framework are covered as either primary or secondary objectives. However, some targets have long been out of reach as policy measures are deemed to be insufficient—this is particularly true for environmental targets (Eurostat, 2017 ; Pe’er et al., 2017 ). Other important targets are either not considered at all—such as those pertaining to healthy diets and decent work—or the way in which they relate to the policy measures is not explicit.

This strongly emphasizes the need for clarification, in the text of the reform, regarding the theory of change that lies behind each proposed measure: how is it supposed to bring about which changes? By activating which drivers? Changing which behaviours? This involves being as explicit as possible about the different assumptions that link a policy measure to the activities it is supposed to generate, their outcomes and their impacts—following the whole “results-chain”. In doing so, it will necessarily appear that some targets cannot be straightforwardly related to any policy measures, or that they are dependent upon many other factors and policies.

4.3. Identifying areas of synergies with other sectoral policies

Accordingly, a third important step in aligning the CAP reform with the SDGs will be to identify areas for synergies with other sectoral policies which will be needed if all the identified targets are to be reached. For instance, the links between agricultural policy and categories of objectives such as “food security” or “healthy diets” are particularly complex to address. Food security is more than a matter of food production, as it has been demonstrated for decades; and the nutritional status of people is conditioned by many more factors than the sole agricultural policy; still, what farmers produce and how they produce plays a role in what consumers find on supermarket shelves and there is thus a need to reflect on the interaction between agricultural policies and other areas of public policies, in this specific case food and health policies.

4.4. Adapting the monitoring and evaluation framework

A fourth step will be to adapt the monitoring and evaluation framework of the CAP (EU, 2015) to fully take into account all SDG targets considered as relevant for the agricultural sector in Europe. The renewed framework will not only have to include all indicators associated with the selected targets; but should also develop a programme of theories for each selected target, which will help to identify, beyond the “impact indicators”, a series of output and result indicators to monitor the progressive implementation of a given measure and whether it is—or is not—on track in terms of contributing to the desired changes.
### Tableau 1. Indicators’ proposal for the 10 categories of objectives and related SDG and CAP objectives

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicator proposal</th>
<th>Target adapted to the context of agriculture in the EU</th>
<th>Related SDG target</th>
<th>Related CAP objective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LAND</strong></td>
<td><strong>Average carbon content in the topsoil (% in weight).</strong> Source: JRC</td>
<td>Increase the carbon content in the topsoil to restore its quality</td>
<td>15.3 By 2030, […] restore degraded land and soil, […] and strive to achieve a land degradation-neutral world</td>
<td>7</td>
</tr>
<tr>
<td><strong>WATER</strong></td>
<td><strong>Gross nitrogen balance (kg/ha)</strong> Source: Eurostat</td>
<td>Decrease the gross nitrogen balance in order to avoid nitrate leaching</td>
<td>6.3 By 2030, improve water quality by reducing pollution, […] and minimizing release of hazardous chemicals and materials […]</td>
<td>7</td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL STAGES</strong></td>
<td><strong>Water use efficiency (agricultural water withdrawal in cubic meters / ton of vegetable output)</strong> Sources: AQUASTAT and Eurostat</td>
<td>Improve the water use efficiency by the agricultural sector</td>
<td>6.4 By 2030, substantially increase water-use efficiency across all sectors […]</td>
<td>7</td>
</tr>
<tr>
<td><strong>AIR AND CLIMATE</strong></td>
<td><strong>GHG emissions from the agricultural sector (tons of CO2eq)</strong> Source: Eurostat</td>
<td>Decrease (in absolute terms) the GHG emissions from the agricultural sector</td>
<td>13.2 Integrate climate change measures into national policies, strategies and planning</td>
<td>7</td>
</tr>
<tr>
<td><strong>GHG emissions per unit of food produced (tons of CO2eq/M kcal)</strong> Source: Eurostat and national sources</td>
<td>Improve the GHG efficiency of agricultural production</td>
<td>13.2 Integrate climate change measures into national policies, strategies and planning</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td><strong>BIODIVERSITY</strong></td>
<td><strong>Common farmland bird index</strong> Source: Eurostat</td>
<td>Protect and restore the biodiversity of species affected by agricultural practices</td>
<td>15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity…</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td><strong>Pastureland</strong> Source: Eurostat</td>
<td>Maintain pastureland</td>
<td>15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity…</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td><strong>Proportion of local breeds classified as being at risk or at unknown level of risk of extinction (%)</strong> Source: SDG indicator 13.2.2.</td>
<td>Protect and restore the diversity of farmed and domestic animals</td>
<td>2.5 By 2020, maintain the genetic diversity of […] farmed and domesticated animals and their related wild species</td>
<td>7</td>
</tr>
<tr>
<td><strong>POOR AND SMALL FARMERS INCOME</strong></td>
<td><strong>Difference between average farmers’ income and national average income (non-salaried workforce) (%)</strong> Source: Eurostat</td>
<td>Decrease income gap between farmers and the rest of the population</td>
<td>1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Difference between average farmers’ income and national average income (salaried workforce) (%)</strong> Source: Eurostat</td>
<td>Decrease income gap between farm workers and the rest of the population</td>
<td>10.1 By 2030, progressively achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national average</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Prevalence of farmers (salaried and non-salaried) earning less than the national minimum wage (%)</strong> Source: National sources (e.g., MSA in France)</td>
<td>Decrease income inequalities among farmers and farm workers</td>
<td>2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers […]</td>
<td>2</td>
</tr>
</tbody>
</table>

Rationale: The income of farmers is a crucial issue in Europe. Income inequalities need to be reduced between farmers (salaried and non-salaried) and the rest of the population, but also between farmers themselves, to remain in an SDG-compatible pathway.
<table>
<thead>
<tr>
<th>Indicator proposal</th>
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</tr>
</thead>
<tbody>
<tr>
<td>% of agricultural economic losses covered by public or public-private funds (incl. subsidies, insurance...) Source: Further research needed.</td>
<td>Increase the financial coverage of agricultural economic losses due to economic, social and environmental shocks</td>
<td>1.3 Implement nationally appropriate social protection systems and measures for all. By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to shocks</td>
<td>6</td>
</tr>
</tbody>
</table>

Rationale: Financial systems and public redistribution systems are presented in the SDGs as one of the key pillars of resilience. As heavily impacted by environmental shocks and economic shocks, the agricultural sector needs to be supported by such systems. Indicators, in this field, though remain to be built to accurately cover the variety of existing protection systems.

| Debt ratio (debt/turnover) (%) | Improve the economic resilience of farmers | 1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to shocks | 6 |

Rationale: Financial and public redistribution systems can provide efficient short-term solutions to protect farmers from environmental and economic shocks. However, the SDGs stipulate that countries shall work at reducing the exposure of vulnerable people to shocks. In Europe, economic resilience is a crucial stake at hand. A lot of indicators could be used to assess the economic resilience level of farmer(s) (debt ratio, production cost/gross output, diversity of products, diversity of income sources...). We selected one for which data seemed to exist already in a variety of countries, although further debate would need to be conducted.

| Fixed assets (€) | Lower the barriers to entry to small newcomers | 9.3 Increase the access of small-scale [...] enterprises [...] to financial services, including affordable credit [...] | 6 |

Rationale: The rapid increase in the fixed assets of farms in Europe could be a factor impeding newcomers – in particular, small-scale enterprises or poor or vulnerable people, as emphasized by the SDGs – from starting businesses in the farming sector.

| Number of injuries per agricultural worker | Decrease the number of injuries per agricultural worker | 8.8 Protect labour rights and promote safe and secure working environments for all workers [...] | - |

| Number of hours worked per agricultural worker | Decrease the gap between the number of hours worked by farmers and the number of hours worked by the rest of the population | 8.5 By 2030, achieve [...] decent work for all women and men | - |

| Prevalence of food insecurity | Improve the food security of the population | 2.1 By 2030, [...] ensure access by all people, in particular the poor and those in vulnerable situations, [...] to safe, nutritious and sufficient food all year round | 4, 5 |

| Percentage of population overweight and obese (%) | Decrease the prevalence of overweight and obesity among the population | 2.2 By 2030, end all forms of malnutrition [...] | - |

Rationale: Malnutrition, in Europe, is more specifically linked to non-communicable diseases, among which diseases linked to overweight and obesity. However, the food insecurity stake shall not be left aside, although this framework essentially focuses on stakes at hand on the European territory.

| Use of pesticides per ha (tons of active ingredients / ha) | Decrease the use of pesticides to lower health risks associated with chemical leakages in human environment | 3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination | - |

| Number of jobs in agriculture | Increase or maintain the number of jobs in the agricultural sector | 8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation [...] | 8 |

| Number of jobs in agribusiness | Increase or maintain the number of jobs in the agribusiness | 8.5 By 2030, achieve full and productive employment [...] | 8 |
BIBLIOGRAPHY


