Towards a new public goods payment model for remunerating farmers under the CAP Post-2020

Potential of sustainability assessment tools for improving the effectiveness, efficiency, and acceptance of the CAP

Christian Schader, Christian Grovermann, Rebekka Frick, Jan Grenz, and Matthias Stolze

23 December 2017

Research Institute of Organic Agriculture FiBL | Ackerstrasse 113 | Postfach 219
5070 Frick | Switzerland | Phone +41 62 865 72 72 | info.suisse@fibl.org | www.fibl.org

Table of Contents

List of Figures

List of Tables

List of Abbreviations

AEI	Agri-Environmental Indicator
AEM	Agri-Environmental Measure
CAP	Common Agricultural Policy
EC	European Commission
EFA	Ecological Focus Areas
EPSC	European Political Strategy Centre
EU	European Union
FADN	Farm Accountancy Data Network
FAO	Food and Agriculture Organization of the United Nations
IACS	Integrated Administration and Control System
MFF	Multiannual Financial Framework
PG	Public Goods
RDP	Rural Development Programme
SAFA	Sustainability Assessment for Food and Agriculture Systems
SDGs	Sustainable Development Goals
WCED	World Commission on Environment and Development

1 Background

The direct payment system and the Rural Development Programmes, as the pivotal elements of the Common Agricultural Policy (CAP), have reduced some undesirable environmental and economic side effects of pre-1992 agricultural policy. However, even after 25 years of implementation and several major reforms, fundamental challenges remain (see Annex 1):

- Missing link between CAP objectives, spending and instruments (Buckwell, 2015; Stolze *et al.*, 2016; Pe'er *et al.*, 2017);
- Ineffective Pillar 1 Greening component (Forstner *et al.*, 2012; Hart, 2015; Lakner and Holst, 2015; Pe'er *et al.*, 2017);
- Indifferent effectiveness of Pillar 2 agri-environment and climate measures (Baldock and Mottershead, 2017);
- Low acceptance of the CAP by both farmers and citizens (Pacini *et al.*, 2015; ECORYS & European Commission, 2017; Pe'er *et al.*, 2017).

The total amount of funds dedicated to the agricultural sector is limited and a further increase of the financial support in the mid- and long-term perspective seems to be unlikely. This means farmers are expected to deliver more tangible results in a cost-efficient way with respect to the environmental, social and economic dimension of sustainability with taxpayer's money allocated in the Multiannual Financial Framework (MFF), in compliance with international frameworks, in particular the Sustainable Development Goals (SDGs) and the Paris Climate Agreement.

In this report we present a concept for a more effective and cost-efficient CAP by integrating sustainability assessment in the design, targeting and monitoring of policies and in payment allocation. Basing the future CAP on clear sustainability goals and farmer payments on performance towards these goals should lead to a CAP, which is more broadly accepted by both farmers and citizens.

2 Integrating Sustainability Assessment into the CAP: a consistent concept

2.1 Key Paradigms

The concept for integrating sustainability assessment in the CAP is built upon the following key paradigms:

1. Move the CAP towards sustainability including all three dimensions of sustainability:

   The public consultation carried out by the EU Commission in 2017 underlined the importance of the sustainability concept with its three dimensions (economic, social and environmental) for a modern and simplified EU agricultural policy

(European Commission, 2017a). However, Pe'er *et al.* (2017) concluded that the CAP has not been achieved sustainability along its social, economic and environmental dimensions, and moreover, is unlikely to achieve sustainability under current conditions.

2. Unlock farmers' potential as "sustainable entrepreneurs":

   The shortcomings of the prevailing action-based way of designing agri-environmental policies are that farmers are incentivized to adopt policies but not necessarily induce long-term attitudinal change and thus to actually achieve success (Schenk *et al.*, 2007; Burton and Schwarz, 2013; Hampicke, 2013). Burton *et al.* (2008) suggest that valuing innovation and entrepreneurship through agri-environmental measures could be an effective way of inducing long-term changes to more environmentally friendly farming practises. Approaches such as the Austrian "Ökopunkte-System" (Ecology-Point-System - www.oekopunkte.at) and the German "Gemeinwohlprämie" (Public Goods Premium) (Dierking et al., 2016), as well as result-oriented approaches such as the French "Prairies Fleuries" programme (programme fostering species rich meadows) (Nitsch *et al.*, 2014) allow farmers to be flexible and innovative in achieving environment and climate goals in a way that is appropriate for the specific site conditions.

3. Base the CAP on clear sustainability goals:

   Due to the missing link between the CAP objectives and its policy instruments, Pe'er et al. (2017) stress that the distribution of farm payments "is highly inefficient and poorly justified". To increase the effectiveness and efficiency of the CAP, it is key to define concrete and measurable goals and to link the implemented policy instruments to these goals (Lanz *et al.*, 2010).

4. Sustainability performance-oriented payments:

   Payments reward farm performance towards goal achievement, which creates incentives for delivering public goods to society. The sustainability performance is determined by using sustainability assessment tools.

5. Compliance with existing legislation is not rewarded by taxpayer's money:

   Compliance with existing laws (e.g. animal welfare or soil protection requirements under cross compliance) are a necessary but not sufficient condition for farms to obtain financial benefits.

2.2 Elements of the concept

In principle, sustainability assessment can support agricultural policy in four ways (Figure 1):

a) in **designing and targeting agricultural policy** more effectively according to the principles of sustainable development and according to societal needs,

b) in **monitoring and controlling the sustainability performance** of the farms,

c) in **allocating payments according to the degree of achieving sustainability goals**, i.e. bridging the gap between action-based and results-based payments, and

d) in **enabling farmers to develop individual farm sustainability strategies** in line with the CAP sustainability goals (EU level) and the strategic plans (Member State level).

In order to make use of the benefits of sustainability assessment tools (see Annex 2) in a coherent way, agricultural policy should consider all the four applications.

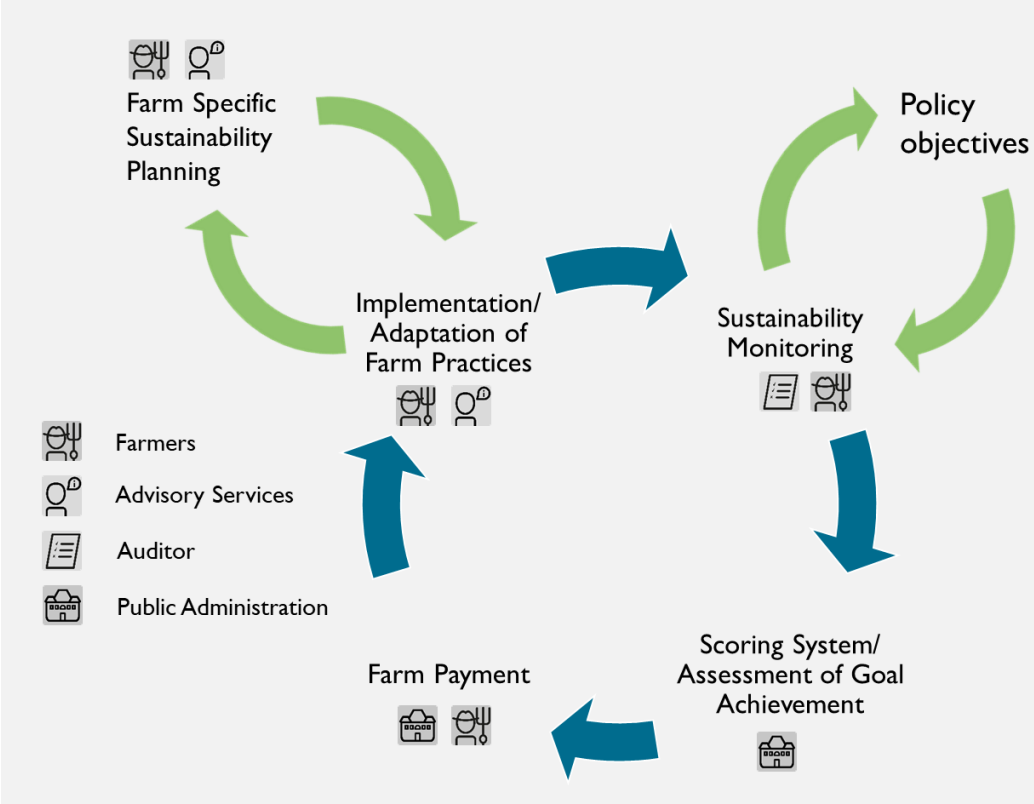

Figure 1: Consistent Integration of Sustainability Assessment into Agricultural Policy

Source: Own presentation.

Designing and Targeting Agricultural Policy

Figure 2 shows the European Commission's goals for the farming sector which the future CAP should aim at. With respect to designing and targeting agricultural policy, the goals of agricultural policy should be linked to the principles of sustainable development. This means they should draw upon existing international frameworks such as the Sustainable Development Goals (SDGs). Moreover, objectives and targets for specific themes (e.g. climate change mitigation) have to be strongly aligned to relevant frameworks such as the 2030 climate and energy package of November 2016 and the Effort Sharing Regulation. Targets should be formulated to ensure that European agriculture

contributes in a significant way to the achievement of the framework's objectives, e.g. to reduce GHG emissions in agriculture.

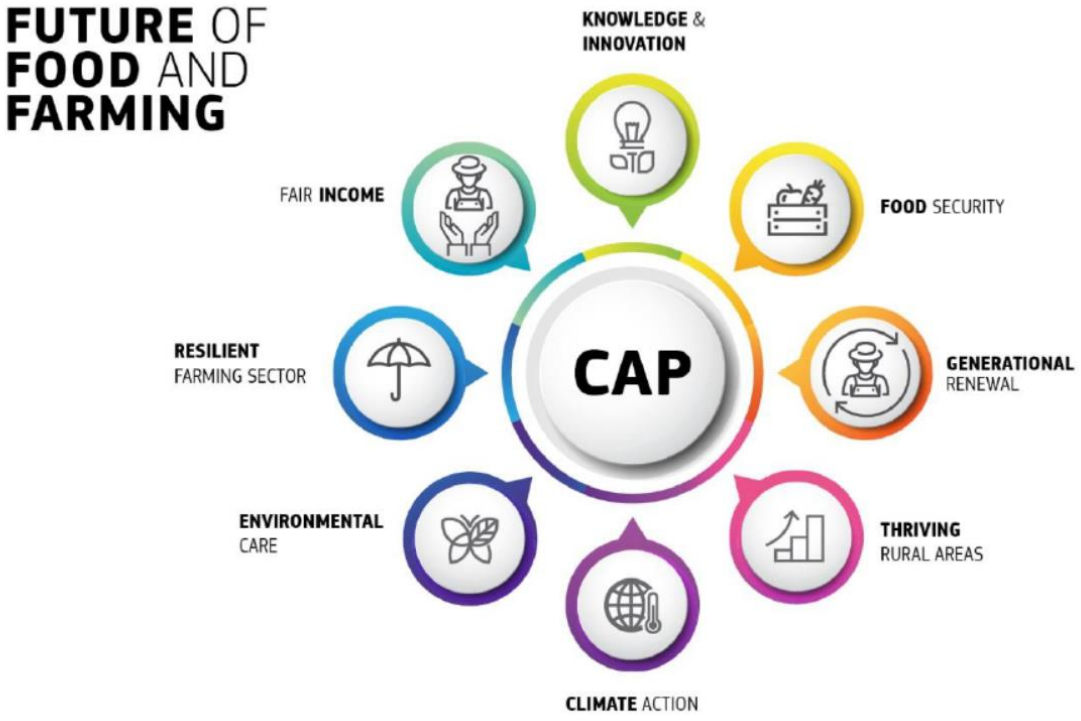

Figure 2: Goals for a smarter, modern and sustainable CAP

Source: European Commission (2017a).

Furthermore, the concept should allow to be applied at multiple levels (EU, national, regional) in order to provide coherence between the administrative levels and ensure that all spending is directed towards specific goals. Hence, each CAP Strategic Plan at national or regional level needs to clearly relate each indicator to at least one EU-level objective. This requires the formulation of clear and tangible objectives according to national and regional priorities, addressing actual environmental, social or economic needs. In terms of the objective on climate change mitigation, this means that Member States will have to set out the baseline for GHG emission reductions for their agricultural sector and formulate appropriate targets, taking into account the structure of their farming sectors, their international climate commitments as well as their EU obligations.

While a certain freedom of prioritisation should be given for Member States and regions, basic allocation rules need to be provided at the EU-level in order to ensure that the national or regional implementation doesn't neglect specific policy areas (e.g. biodiversity or climate change) and focus on others (e.g. profitability). Moreover, key factors of how these goals can be achieved need to be elaborated both at EU- and Member State level. A common monitoring framework defined at EU level will allow measuring the achievement of the single Member States in regard to the EU CAP objectives.

Monitoring and controlling the sustainability performance

Monitoring and controlling the sustainability performance is an essential part of the CAP where sustainability assessment tools can be used. First, the key management decisions need to be linked to existing databases for administering farm payments, i.e. the Farm Structure Survey (FSS) and the Integrated Administration and Control System (IACS) and the Farm Accountancy Data Network (FADN) for monitoring and evaluating the economic performance of different farm types and farming systems in different regions. Additional face-to-face visits at the farms for controlling the information that the farmers entered need to be implemented. This can either be done on a regular basis (e.g. every 3rd to 4th year) or by using a risk-based approach with occasional visits. In recent years, research was carried out on how to link sustainability data to existing datasets such as FADN (e.g. EU-Flint project, www.flint-fp7.eu). Table 1 shows the indicators, which were compiled in the course of the project. Out of these indicators, only the economic indicators could be directly derived from the main dataset (Herrera *et al.*, 2016). For monitoring all farms, such indicators would, however, have to be linked to IACS requiring more additional data collection or a more straightforward approach with respect to the precision of the indicators.

Table 1: Indicators compiled in the course of the Flint Project

Environmental	Economic and innovation*	Social
E1 Permanent grassland	*EI1* Innovation	*S1* Advisory services
E2 Ecological Focus Areas	*EI2* Producing under a label or brand	*S2* Education and training
E3 Semi-natural farmland areas	*EI3* Types of market outlet	*S3* Ownership-management
E4 Pesticide usage	*EI4* Past/future duration in farming	*S4* Social engagement/participation
E5 Nutrient balance (N, P)	*EI5* Efficiency field parcel	*S5* Employment and working conditions
E6 Soil organic matter in arable land	*EI6* Modernisation of the farm investment	*S6* Quality of life/decision making
E7 Indirect energy usage	*EI7* Insurance: production, personal and farm (building structure)	*S7* Social diversification: image of farmers/ agriculture in local communities
E8 Direct energy usage	*EI8* Share of output under contract with fixed price delivery contracts	
E9 On-farm renewable energy production	*EI9* Non-agricultural activities	
E10 Farm management to reduce nitrate leaching		
E11 Farm management to reduce soil erosion		
E12 Use of legumes		
E13 GHG emissions per ha		
E14 GHG emissions per product		
E15 Carbon sequestering land uses		
E16 Water usage and storage		
E17 Irrigation practices		

* Indicators that form part of the current FADN Farm Return are not included in this list

Source: Herrera et al. 2016

There are two fundamentally different approaches for assessing the performance of a farm with respect to achieving a specific goal: a) multi-criteria assessments and b) quantitative modelling (e.g. Carbon Footprint).

Multi-criteria assessments, e.g. the SMART-Farm Tool (Schader *et al.* 2016), define key indicators which have an impact on at least one sustainability objective. Figure 3 shows how the performance of a farm with respect to each of the policy objectives (columns) is rated. A large number of different management options (Indicators A-Z, example of Climate Change Mitigation) can be implemented at farm level all of them contributing to the objective of mitigating climate change. This implementation patterns determines the sustainability performance.

As the SMART-Farm Tool covers 58 sustainability objectives, synergies between the objectives can be used by choosing indicators that can be related to multiple objectives. For instance, the indicator "% of arable land under reduced tillage" may not only affect the objective of "Soil quality" but also "Climate Change", "Biodiversity" or "Energy Use". Such indicators are usually based on data which is easy to assess and easy to monitor. The farm performance for each indicator is aggregated using indicator-specific weightings and normalised, e.g. to a percentage scale (Schader *et al.* 2016).

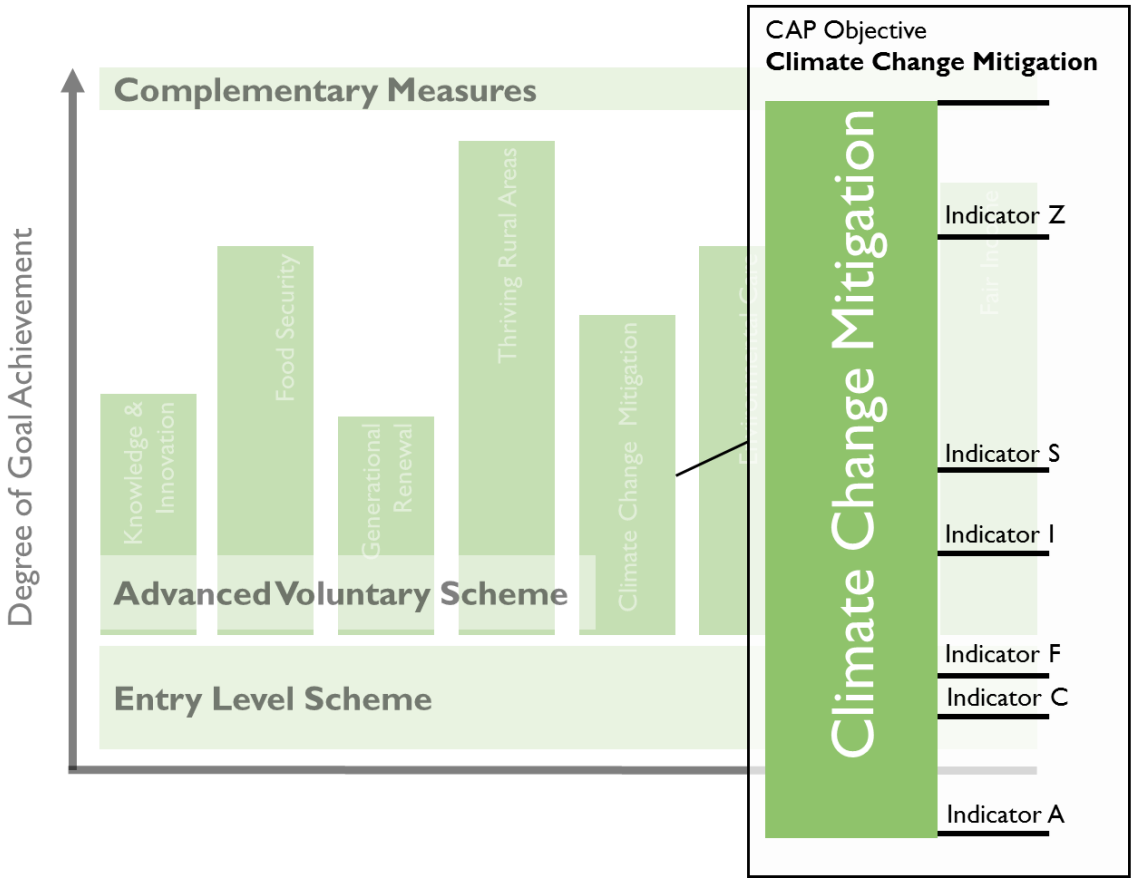

Figure 3: Multi-Criteria Sustainability Assessment, example from the SMART-Farm Tool

Source: Own presentation.

In contrast to multi-criteria assessments, quantitative modelling is used if there is a single target variable or unit, which can be used for assessing the degree of goal achievement towards a specific sustainability goal, e.g. for Climate Change Mitigation (*Climate Action*, respectively, in Figure 2) CO_2-equivalents (CO_2-eq) are commonly used.

Figure 4 illustrates a comparison of the quantitative performance of two typical farms with respect to climate change, modelled in terms of CO_2-eq. While the dairy farm emits less greenhouse gas emissions in total than the mixed farm, the environmental efficiency of the mixed farm (1.1 kg CO2-eq/kg energy and fat corrected milk) in this example is better than the one of the dairy farm (0.89 kg CO2-eq/kg energy and fat corrected milk).

This illustrates that the reference unit (functional unit), i.e. the unit of output the emissions are allocated to, is of crucial importance and needs to be clearly defined according to the policy objective.

Sub-themes such as Water Quality cannot be assessed by using only one indicator, as it is affected by a multitude of factors. It requires individual quantitative modelling for each factor or indicator (e.g. for each pollutant) and then the results are aggregated ultimately applying weightings.

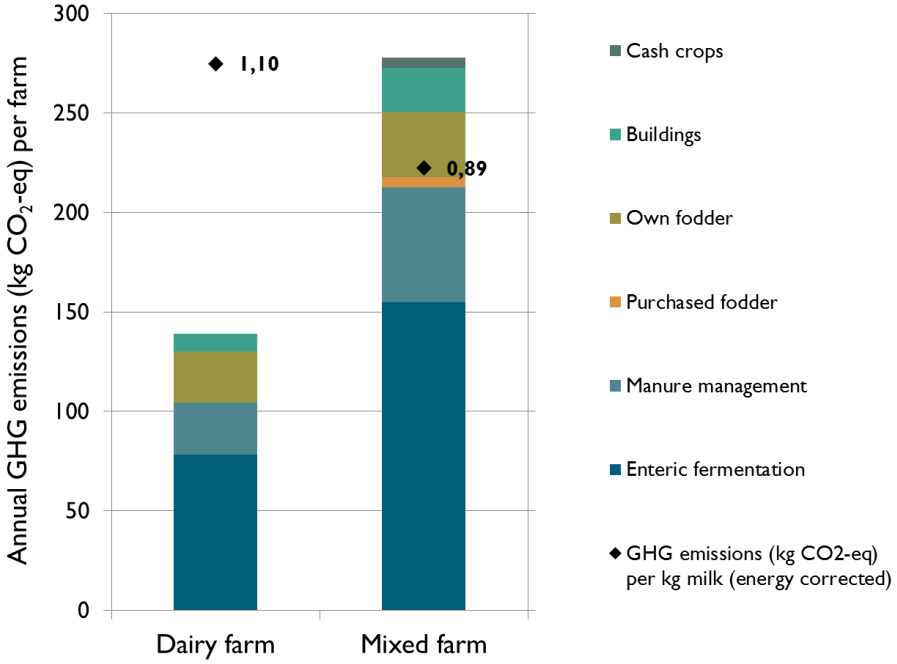

Figure 4: Quantitative Modelling, example Annual Greenhouse Gas Emissions per farm

Source: Own presentation.

The advantages of multi-criteria assessments are its high flexibility, the low data requirements and ease to define benchmarks and scales. On the other hand, they can be less objective, comparable and precise than purely quantitative approaches. Due to the potential limitations in data availability, the trade-offs between precision and transaction costs need to be taken into account. Hence, a combination of both approaches, quantitative modelling and multi-criteria assessment might be most efficient in the context of the CAP.

Allocating payments according to sustainability performance

To allocate payments according to the degree of achieving sustainability goals requires algorithms complementing the pure determination of the degree of goal achievement with respect to sustainability assessment goals. The weighting of different sustainability performances, in terms of importance, and ultimately in allocation of payments (e.g. the

share of funds allocated to water withdrawal instead and the share allocated to water quality) needs to be based on national and regional priorities. **Figure 5** provides an overview of sustainability dimensions, themes and sub-themes according to the SAFA Guidelines by the FAO, which could be the basis for the definition of the objectives and indicators for measuring sustainability at Member State level.

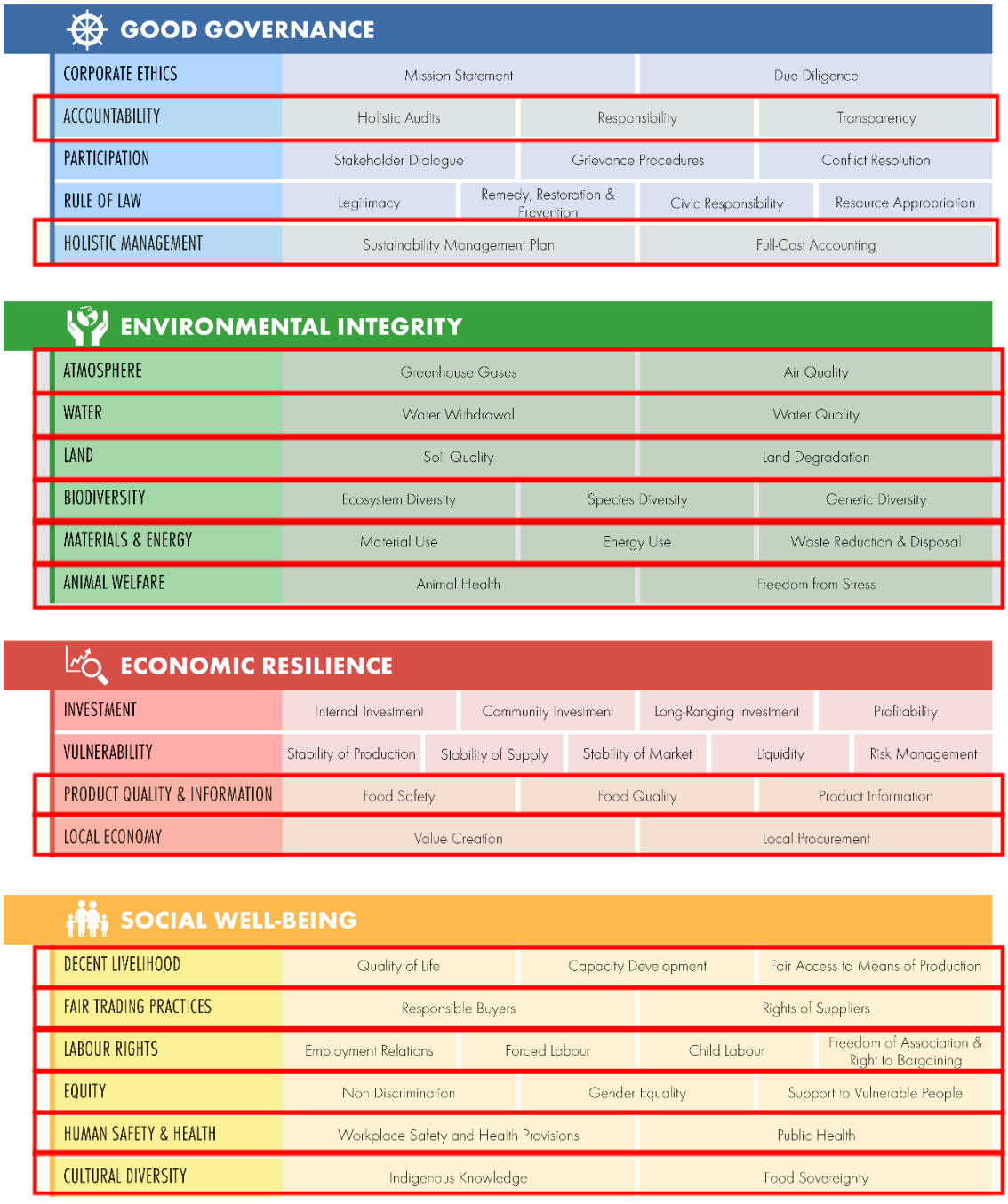

Figure 5: Overview of the dimension themes and subthemes included in the notion of sustainable agriculture and food systems

Source: FAO (2014), adapted.

Not all of the themes are relevant for the allocation of public funds in the frame of the CAP. For instance, a positive performance of a farm in the sub-theme "Profitability" would not require to be incentivised through public payments, whereas themes of the environmental dimension, which deliver positive and/or negative externalities would be relevant to be considered. The themes framed in red in **Figure 5** might be policy relevant in the context of the CAP in terms of meeting EU and national objectives and targets.

We propose a farm payment system that consists of four core elements (Figure 6):

1. Compliance with EU legislation,
2. Entry Level Scheme,
3. Advanced Voluntary Scheme, and
4. Potential Complementary Measures.

Compliance with existing EU legislation is a basic requirement but not a sufficient condition for farms to receive payments. Farms need to comply with the requirements of the Entry Level Scheme in order to be eligible for receiving payments from the Advanced Voluntary Scheme and from the Complementary Measures. Principally, both the Entry Level and Advanced Voluntary Scheme refer to the entire range of sustainability objectives (Figure 2) but the Entry Level Scheme does not necessarily specify requirements for all specific objectives.

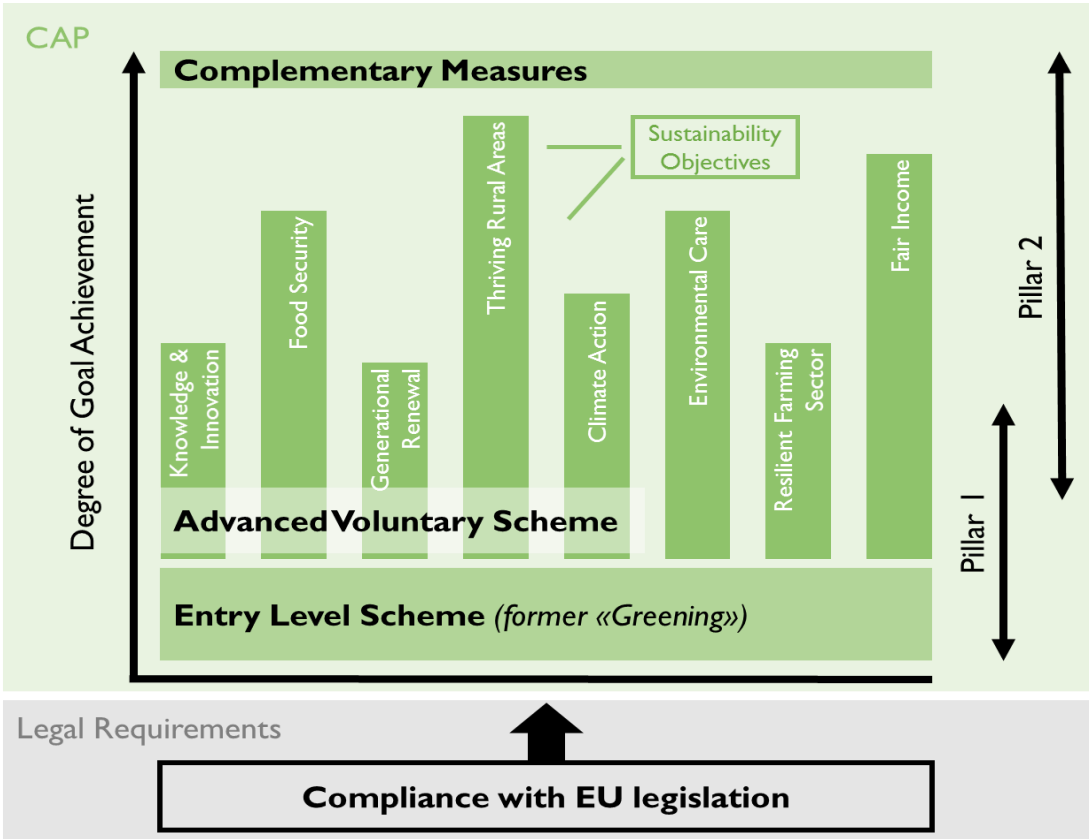

Figure 6: Concept for new CAP Farm Payment System

Source: own presentation

The Entry Level Scheme and the Advanced Voluntary Scheme, as well as the Complementary Measures can be tailored to national situations or requirements following the subsidiarity principle. However, they should be in line with the overall framework defined at EU level and we suggest that both schemes as well as the complementary measures are mandatory components of the CAP Strategic Plan of each Member State. To assess the sustainability performance at farm level, a scoring system using a combination of the multi-criteria assessment approach and the quantitative modelling approach, as described above, is proposed. A certain score would have to be defined at EU level, which the single farms have to comply with in order to receive the entry level payments and in order to be eligible for voluntary advanced level payments. The farmers can still choose from the predefined set of indicators what indicators (or measures) to focus on taking into consideration the farm characteristics. The only requirement is that they reach the minimum score defined for the Entry Level Scheme. In the following sections, the four elements are described in more detail.

Entry Level Scheme

The Entry Level Scheme (or *Eco Scheme*) represents the basic component of the proposed farm payment system. It covers all CAP policy objectives and is financed by Pillar 1 funds. The Entry Level Scheme includes sustainability requirements that farmers have to comply with in order to receive farm payments. It could substitute the current "Greening" component of the CAP. The new Entry Level Scheme would however not only include environmental measures but socio-economic measures as well. The Entry Level Scheme will consist of a short list of indicators, which can be defined both at EU and at Member State level. This allows replying to pressing issues, which are relevant in all EU Member States and at the same time considering the specific situation, characteristics and priorities and needs of the single Member State. For example, issues around water arise both in Germany and in Spain. The priority for Spain lies, however, on the availability of water whereas in Germany it rather is on the quality of water. Nevertheless, if a general policy objective is not addressed at Member State or regional level, justification needs to be provided by the implementing authority. A member state or region wishing to go further in terms of water protection can complement its Entry Level Scheme measures with additional water measures under the Advanced Voluntary Scheme.

However, it would also be possible to have a basic set of indicators (e.g. for nutrient management or crop diversity) which is compulsory for all Member States and which is to ensure a minimum sustainability level across all Member States. To increase effectiveness, additionally to this basic indicator set, the Member States could be given the flexibility to add additional indicators to meet their specific needs and priorities. This requires the application of the subsidiarity principle to the Entry Level Scheme by specifying a general EU framework for the process of defining objectives at Member State level and how to derive the corresponding indicators. The data needed in order to define national sustainability objectives as well as national sustainability indicators should be available and standardized for the EU.

Advanced Voluntary Scheme

The Advanced Voluntary Scheme builds upon a comprehensive farm-level sustainability assessment. The scheme is voluntary for farmers but compulsory for the Member States and is financed by both Pillar 1 and 2. The Advanced Voluntary Scheme consists of a number of core sustainability themes, such as biodiversity, climate, labour standards, etc. As for the Entry Level Scheme, objectives and indicators are defined for each theme at Member State level. In contrast to the Entry Level Scheme, the Advanced Voluntary Scheme, the range of themes (and objectives) is much broader and there is a multitude of indicators and potential strategies to address sustainability goals. Figure 6 illustrates how different measures contribute to a higher sustainability performance in a specific theme (e.g. climate change mitigation).

The farm sustainability performance is measured with a scoring system. The performance in specific themes is translated into points taking into account the national importance of the themes. Member States can decide which themes they want to give priority to and adapt the weighting of each theme according to regional needs. Going back to the example of water, which was mentioned earlier on: Spain would decide to give a higher weighting, i.e. allocate higher financial incentives, to the theme water availability than to water quality. In Germany, this would be the other way around. In this way, a specific payment level would be linked to 100% of goal achievement. A linear or non-linear relationship between the degree of goal achievement and the payment level would also need to be defined. Finally, the payment level may be subject to a correction factor, depending on parameters describing the size of the farm and the scale which matters for a certain sustainability objective. For instance, area would be a factor related to biodiversity objectives and the number of workers would be a factor scaling payments for labour-related objectives.

Farming systems or management strategies, which contribute to a number of different objectives simultaneously, are not represented as single indicators but are implicitly integrated via their single components (e.g. ban of pesticides, ban of mineral fertilisers, etc.). Nevertheless, studies show that such multi-target policies can be an important component of a policy mix which can contribute to improve the efficiency of the entire mix, including a reduction of transaction costs and the use of synergies with other policies and private initiatives (Schader *et al.*, 2013; Schader *et al.*, 2014b). Hence, synergies between private certification systems should be sought in order to reduce the administrative burden for farmers and public administration. For instance, if a Member State can demonstrate to the European Commission that a specific farming system (such as organic farming) guarantees an adequate level of performance for single or multiple indicators of its CAP Strategic Plan, the EU Commission should accept the compliance for those indicators.

Complementary Measures: Supporting the development of the individual farms

Supporting the development of the individual farms would require a visit on the farm by a trained advisor who can help the farmers to align their farms towards sustainability assessment goals and help them develop a strategy appropriate to the local context and the farmers' personal preferences. Such an extension service should be provided to the farmers on a voluntary basis. For Member States it would, however, be mandatory to allocate a defined share of their budget to Complementary Measures.

This means, the tools used for monitoring the performance, allocating the payments among the farms according to sustainability performance and extension services would follow a consistent approach, which aims at a continuous improvement with respect to sustainability assessment goals.

Apart from advisory services, Complementary Measures may include investment support, payments for organic farming or other advanced environmental actions. Moreover, complementary measures could include schemes that reward collective approaches such as improved connectivity projects to improve biodiversity or water catchment projects to improve water quality.

2.3 Evaluation of the concept

An ex-ante evaluation of the concept indicates that it may lead to substantial improvements of the effectiveness of the CAP in achieving policy goals with respect to environmental, social and economic sustainability (Annex 4). It is also likely that this would increase the efficiency of the CAP. However, transaction costs may be higher overall, which would require to limit the administrative work, e.g. by smart ways of integrating the data in existing concepts. The acceptance of the approach by the farmers could be positively affected, as farmers will gain more freedom in decision making on their farm, with respect to how to fulfil sustainability targets. Moreover, the targets would not be limited to environmental aspects only but cover social and economic aspects, too. European citizens could be in favour of such a reform, too, as it links public money to public goods and allocates taxpayers' money towards policy goals in a targeted and consistent way. Furthermore, entrepreneurship, competitiveness and the promotion of innovations could be fostered by such an approach. Hence, we think that implementing this concept in the CAP would increase the benefits of the CAP according to most of the relevant criteria.

3 How to move ahead

With respect to the implementation of such an approach in the CAP, there are two challenges. First, so far no sustainability assessment tool is ready for immediate implementation. However, several tools are available which could serve as a good starting point. Second, limiting the administrative burden for both public administration and farmers would pose the biggest challenge. As far as administration is concerned, at EU level, a very easy-to-handle system with a limited set of key performance sustainability indicators, which are effective and easy to administrate should be implemented. Such a system could extend and use synergies with the current Integrated Administration and Control System (IACS). At Member State level, a more progressive and ambitious system could be implemented, which strictly allocates public payments according to the delivery of public goods or the avoidance of negative externalities. A coherent orientation of policy design, monitoring, incentives and advice at Member State level would reduce the overall administrative burden of such a novel concept, as all the four components could use the same dataset and data could be linked to the existing ways of collecting data as far as possible.

Such a system would represent a major paradigm shift in agricultural policy and could fully replace the existing system. Existing sustainability assessment tools provide a solid basis for implementing this system. Furthermore, simple multi-criteria approaches (e.g. for biodiversity) have been implemented in a few European regions already. Future policy should build upon the experiences made and ensure the exchange of best practices. Member States and regions should be given the flexibility to implement such a system according to regional needs. This would be a major step on the way for a more effective, efficient and acceptable CAP in the mid and long-term.

References

Baldock, D., Mottershead, D., 2017. Towards an integrated approach to livestock farming, sustainable diets and the environment: challenges for the Common Agricultural Policy and the UK. In: Policy, I.f.E.E. (Ed.). Institute for European Environmental Policy, London.

Bockstaller, C., Gaillard, G., Baumgartner, D., Freiermuth-Knuchel, R., Reinsch, M., Brauner, R., Unterseher, E., 2006. Abschlussbericht zum Projekt 04 - "Comete" 2002-2005: Betriebliches Umweltmanagement in der Landwirtschaft. Vergleich der Methoden INDIGO, KUL/USL, REPRO, SALCA. Grenzüberschreitendes Institut zur rentablen umweltgerechten Landbewirtschaftung (ITADA), Colmar.

Buckwell, A., 2015. Where should the CAP go post-2020. The Political Economy of the 2014-2020 Common Agricultural Policy An Imperfect Storm London: Rowman & Littlefield International, Ltd, 509-509.

Bundesministerium für Land- und Forstwirtschaft Umwelt und Wasserwirtschaft (BMLFUW), n.d. Österreichisches Programm für die Entwicklung des Ländlichen Raums 2007-2013.

Burton, R., Kuczera, C., Schwarz, G., 2008. Exploring farmers' cultural resistance to voluntary agri‐environmental schemes. Sociologia ruralis 48, 16-37.

Burton, R.J.F., Schwarz, G., 2013. Result-oriented agri-environmental schemes in Europe and their potential for promoting behavioural change. Land Use Policy 30, 628-641.

Dierking, U., Neumann, H., Beckmann, S., Metzner, J., 2016. Public good bonus - putting a price on environmental services provided by agriculture. DVL - Deutscher Verband für Landschaftspflege, Ansbach.

Dodgson, J., Spackman, M., Pearman, A., Phillips, L., 2001. DTLR Multi-criteria analysis manual. National Economic Research Associates (NERA), London.

ECORYS & European Commission, 2017. Modernising & Simplifying the Common Agricultural Policy: Summary of the results of the Public Consultation. ECORYS, Brussels.

European Commission, 2016. Communication: Mid-term review/revision of the multiannual financial framework 2014-2020 - An EU budget focused on results. COM(2016) 603 final. European Commission, Brussels.

European Commission, 2017a. The Future of Food and Farming: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. European Commission, Brussels.

European Commission, 2017b. Reflection Paper on the Future of EU Finances. Europan Commission, Brussels.

European Court of Auditors, 2011. Is agri-environment support well designed and managed? (Special Report No 7). Publications Office of the European Union, Luxembourg.

European Union, 2016. Cork 2.0 Declaration "A Better Life in Rural Areas". Publications Office of the European Union, Luxemburg.

Eurostat, 2017. Sustainable development in the European Union: Monitoring report on progress towards the SDGs in an EU context. 2017 edition. Publications Office of the European Union, Luxembourg.

FAO, 2014. Sustainability Assessment of Food and Agriculture systems (SAFA). Available online at: http://www.fao.org/nr/sustainability/sustainability-assessments-safa/en/. Food and Agriculture Organization of the United Nations (FAO), Rome.

Fleury, P., Seres, C., Dobremez, L., Nettier, B., Pauthenet, Y., 2015. "Flowering Meadows", a result-oriented agri-environmental measure: Technical and value changes in favour of biodiversity. Land Use Policy 46, 103-114.

Forstner, B., Deblitz, C., Kleinhanss, W., Nieberg, H., Offermann, F., Röder, N., Salamon, P., Sanders, J., Weingarten, P., 2012. Analyse der Vorschläge der EU-Kommission vom 12. Oktober 2011 zur künftigen Gestaltung der Direktzahlungen im Rahmen der GAP nach 2013. Arbeitsberichte aus der vTI-Agrarökonomie 04/2012.

Gerrard, C.L., Smith, L., Padel, S., Pearce, B., Hitchings, R., Cooper, N., 2011. OCIS Public Goods Tool Development.

Giannakis, E., Bruggeman, A., 2015. The highly variable economic performance of European agriculture. Land Use Policy 45, 26-35.

Grenz, J., Thalmann, C., Stämpfli, A., Studer, C., Häni, F., 2009. RISE, a method for assessing the sustainability of agricultural production at farm level. Rural Development News 1/2009, 5-9.

Griggs, D., Stafford-Smith, M., Gaffney, O., Rockström, J., Öhman, M.C., Shyamsundar, P., Steffen, W., Glaser, G., Kanie, N., Noble, I., 2013. Policy: Sustainable development goals for people and planet. Nature 495, 305-307.

Hampicke, U., 2013. Agricultural Conservation Measures - Suggestions for their Improvement. GJAE 62, 203-214.

Hart, K., 2015. Green direct payments: implementation choices of nine Member States and their environmental implications.

Hauck, J., Schleyer, C., Winkler, K.J., Maes, J., 2014. Shades of greening: reviewing the impact of the new EU agricultural policy on ecosystem services. Change and Adaptation in Socio-Ecological Systems 1, 51-62.

Herrera, B., Gerster-Bentaya, M., Knierim, A., 2016. Stakeholders' perceptions of sustainability measurement at farm level. Studies in Agricultural Economics 118, 131-137.

Hülsbergen, K.-J., 2003. Entwicklung und Anwendung eines Bilanzierungsmodells zur Bewertung der Nachhaltigkeit landwirtschaftlicher Systeme. Shaker, Aachen.

Keenleyside, C., Radley, G., Tucker, G., Underwood, E., Hart, K., Allen, B., Menadue, H., 2014. Results-based Payments for Biodiversity Guidance Handbook: Designing and implementing results-based agri-environment schemes 2014–20. Prepared for the European Commission, DG Environment, Contract No ENV. B. Institute for European Environmental Policy, Institute for European Environmental Policy, London.

Kleijn, D., Baquero, R.A., Clough, Y., Diaz, M., De Esteban, J., Fernandez, F., Gabriel, D., Herzog, F., Holzschuh, A., Johl, R., Knop, E., Kruess, A., Marshall, E.J., Steffan-Dewenter, I., Tscharntke, T., Verhulst, J., West, T.M., Yela, J.L., 2006. Mixed biodiversity benefits of agri-environment schemes in five European countries. Ecol Lett 9, 243-254; discussion 254-247.

Lakner, S., Holst, C., 2015. Farm implementation of greening requirement: economic determinants. Natur und Landschaft 90, 271-277.

Lanz, S., Barth, L., Hofer, C., Vogel, S., 2010. Weiterentwicklung des Direktzahlungssystems. Agrarforschung Schweiz 1, 10-17.

Lowder, S.K., Skoet, J., Singh, S., 2014. What do we really know about the number and distribution of farms and family farms in the world. *Background paper for the State of Food and Agriculture 2014. ESA Working Paper 14-02.* . Food and Agriculture Organization of the United Nations, Agricultural Development Economics Division, Rom.

Mann, S., 2005. Zur Akzeptanz ausgewählter Ökomassnahmen. Agrarforschung 12, 109-195.

Marchand, F., Debruyne, L., Triste, L., Gerrard, C., Padel, S., Lauwers, L., 2014. Key characteristics for tool choice in indicator-based sustainability assessment at farm level. Ecology and Society 19, 46.

Morgan, S., Miele, M., Marsden, T., 2008. The ESoF project within its policy context: CAP reform, global change and the response of farmers. In: Rudmann, C. (Ed.), Entrepreneurial Skills and their Role in Enhancing the Relative Independence of Farmers. Forschungsinstitut für biologischen Landbau (FiBL), Frick, Switzerland, pp. 67-84.

Nitsch, H., Bogner, D., Dubbert, M., Fleury, P., Hofstetter, P., Knaus, F., Rudin, S., Šabec, N.D., Schmid, O., Schramek, J., Stöckli, S., Vincent, A., Wezel, A., , 2014. Review on result-oriented measures for sustainable land management in alpine agriculture & comparison of case study areas (Report of Work package 1). MERIT RURAGRI Research Programme 2013-2016.

OECD, 2017a. Agricultural Policy Monitoring and Evaluation 2017. OECD Publishing, Paris.

OECD, 2017b. Evaluation of Agricultural Policy Reforms in the European Union: The Common Agricultural Policy 2014-20. OECD Publishing, Paris.

Pacini, G.C., Merante, P., Lazzerini, G., Van Passel, S., 2015. Increasing the cost-effectiveness of EU agri-environment policy measures through evaluation of farm and field-level environmental and economic performance. Agricultural Systems 136, 70-78.

Pe'er, G., Lakner, S., Müller, R., Passoni, G., Bontzorlos, V., Clough, D., Moreira, F., Azam, C., Berger, J., Bezak, P., Bonn, A., Hansjürgens, B., Hartmann, L., Kleemann, J., Lomba, A., Sahrbacher, A., Schindler, S., Schleyer, C., Schmidt, J., Schüler, S., Sirami, C., von Meyer-Höfer, M., Zinngrebe, Y., 2017. Is the CAP Fit for purpose? An evidence-based fitness-check assessment. German Centre for Integrative Biodiversity Research (iDiv), Halle-Jena-Leipzig, Leipzig.

Rudmann, C., 2008. Entrepreneurial Skills and their Role in Enhancing the Relative Independence of Farmers. Results and Recommendations from the Research Project Developing Entrepreneurial Skills of Farmers. Forschungsinstitut für biologischen Landbau (FiBL), Frick, Switzerland.

Sabatier, R., Doyen, L., Tichit, M., 2012. Action versus Result-Oriented Schemes in a Grassland Agroecosystem: A Dynamic Modelling Approach. PLoS One 7, 12.

Schader, C., Baumgart, L., Landert, J., Muller, A., Ssebunya, B., Blockeel, J., Weisshaidinger, R., Petrasek, R., Mészáros, D., Padel, S., Gerrard, C., Smith, L., Lindenthal, T., Niggli, U., Stolze, M., 2016. Using the Sustainability Monitoring and Assessment Routine (SMART) for the Systematic Analysis of Trade-Offs and Synergies between Sustainability Dimensions and Themes at Farm Level. Sustainability 8, 274.

Schader, C., Grenz, J., Meier, M.S., Stolze, M., 2014a. Scope and precision of sustainability assessment approaches to food systems. Ecology and Society 19, 42.

Schader, C., Lampkin, N., Christie, M., Nemecek, T., Gaillard, G., Stolze, M., 2013. Evaluation of cost-effectiveness of organic farming support as an agri-environmental measure at Swiss agricultural sector level. Land Use Policy 31, 196-208.

Schader, C., Lampkin, N., Muller, A., Stolze, M., 2014b. The role of multi-target policy instruments in agri-environmental policy mixes. Journal of environmental management 145, 180-190.

Schenk, A., Hunziker, M., Kienast, F., 2007. Factors influencing the acceptance of nature conservation measures - A qualitative study in Switzerland. J. Environ. Manage. 83, 66-79.

Schwarz, G., Moxey, A., McCracken, D., Huband, S., Cummins, R., 2008. An analysis of the potential effectiveness of a Payment-by-Results approach to the delivery of environmental public goods and services supplied by Agri-Environment Schemes. L. UP Group, 108.

Stolze, M., Frick, R., Schmid, O., Stöckli, S., Bogner, D., Chevillat, V., Dubbert, M., Fleury, P., Neuner, S., Nitsch, H., Plaikner, M., Schramek, J., Tasser, E., Vincent, A., Wezel, A., 2015. Result-oriented Measures for Biodiversity in Mountain Farming – A Policy Handbook. Research Institute of Organic Agriculture (FiBL), Frick.

Stolze, M., Sanders, J., Kasperczyk, N., Madsen, G., Meredith, S., 2016. CAP 2014-2020: Organic farming and the prospects for stimulating public goods. IFOAM EU., Brussels.

Sutter, M., 2004. Landwirtschaftlicher Strukturwandel unter soziologischen Aspekten. Agrarwirtschaft und Agrarsoziologie 2, 93-114.

Thalmann, C., Grenz, J., 2012. Factors affecting the implementation of measures for improving sustainability on farms following the RISE sustainability evaluation. In: Marta-Costa, A., Silva, E. (Eds.), Methods and Procedures for Building Sustainable Farming Systems. Springer Science and Business Media, Dordrecht (Niederlanden), pp. 107-122.

Vesala, K.M., Pyysiäinen, J., 2008. Understanding Entrepreneurial Skills in the farm context. Research Institute of Organic Agriculture FiBL, Frick, Switzerland.

Wąs, A., Zawalińska, K., Britz, W., IRWiR, P., 2014. Impact of 'greening'the Common Agricultural Policy: Evidence from selected countries based on CAPRI model. EAAE Congress 'Agri-Food and Rural Innovations for Healthier Societies', Ljubljana, Slovenia.

WCED, 1987. Our Common Future, Report of the World Commission on Environment and Development. In: World Commission on Environment and Development (Ed.), Annex to General Assembly document A/42/427 Development and International Co-operation: Environment New York.

Westhoek, H., van Zeijts, H., Witmer, M., van den Berg, M., Overmars, K., van der Esch, S., van der Bilt, W., 2012. Greening the CAP: An analysis of the effects of the European Commission's proposals for the Common Agricultural Policy 2014-2020. PBL Netherlands Environmental Assessment Agency, The Hague.

Westhoek, H.J., Overmars, K.P., van Zeijts, H., 2013. The provision of public goods by agriculture: Critical questions for effective and efficient policy making. Environmental Science & Policy 32, 5-13.

Wezel, A., Zipfer, M., Aubry, C., Barataud, F., Heißenhuber, A., 2015. Result-oriented approaches to the management of drinking water catchments in agricultural landscapes. Journal of Environmental Planning and Management, 1-20.

Wilson, G.A., 1997. Factors influencing farmer participation in the environmentally sensitive areas scheme. Journal of environmental management 50, 67-93.

Wustenberghs, H., Coteur, I., Debruyne, L., 2015. TempAg Pilot Activity 1.1. 1 Survey of Sustainability Assessment Methods.

Zahm, F., Viaux, P., Vilain, L., Girardin, P., Mouchet, C., 2008. Assessing farm sustainability with the IDEA method – from the concept of agriculture sustainability to case studies on farms. Sust. Dev. 16, 271-281.

This report has been carried out by the Research Institute of Organic Agriculture (FiBL) on behalf of the International Federation of Organic Agriculture Movements EU (IFOAM EU).

IFOAM EU
Rue du Commerce 124, BE -1000 Brussels, Belgium
Phone: +32 2 280 12 23 - Fax: +32 2 735 73 81
info@ifoam-eu.org
www.ifoam-eu.org

Correspondence to:
Nicolas de la Vega, Policy Officer for Agriculture and the CAP
Nicolas.delavega@ifoam-eu.org

© 2017. IFOAM EU and FiBL

The report was co-financed by the European Union, under the Executive Agency for Small and Medium-sized Enterprises (EASME). The sole responsibility for this communication lies with FiBL and IFOAM EU. The EASME is not responsible for any use that may be made of the information provided.

The report is supported by Ekhagastiftelsen

Annex 1: Challenges of the CAP

After years of implementation and several reforms, the CAP achieved positive effects on farm incomes and seemingly to slow down the decline in agricultural employment compared to non-EU regions (Pe'er *et al.*, 2017). Moreover, market distortions have been reduced, and agricultural prices follow global markets (Pe'er *et al.*, 2017). However, as far as the environment and climate impacts are concerned, the CAP brought mixed results (Pe'er *et al.*, 2017) and still faces several challenges:

1. Missing link between CAP objectives, spending and instruments;
2. Ineffective Pillar 1 Greening component;
3. Indifferent effectiveness of Pillar 2 agri-environment and climate measures;
4. Low acceptance by both farmers and citizens.

Missing link between CAP objectives, spending and instruments

Due to lacking clear links between the CAP objectives and its instruments, Pe'er *et al.* (2017) stress that the distribution of farm payments "is highly inefficient and poorly justified" . Despite the greater emphasis placed on PGs over successive CAP reforms, almost two-thirds of the CAP budget allocation is devoted to policy goals that are neither aligned to improving agricultural sustainability nor which include basic sustainability criteria. Where PGs are supported under Pillar 1 and 2 the current CAP budgetary framework has differing and often incompatible and incoherent mechanisms, which may act as a constraint for farmers aiming to make sustainable farm management decisions. The ability to shift money from one pillar to the other and inconsistencies in co-financing between Member States supporting PGs delivery have together resulted in a non-transparent, complicated and suboptimal solution for achieving EU environment and climate goals which deserves scrutiny (Buckwell, 2015; Stolze *et al.*, 2016).

Ineffective Pillar 1 Greening component

The last reform also resulted in many questionable exemptions for mandatory measures of the Pillar 1 Greening component and a reduction in funding for voluntary measures, which are more ambitious (Hart 2015a, 2015b). The basic dilemma is that environmental measures under Pillar 1, which apply to all farmers in EU Member States, require easy administration and control. As a consequence of this, and the fact that Pillar 1 greening measures cannot be targeted to the same extent as Pillar 2 measures, Forstner *et al.* (2012) expect provision of PGs at high costs and thus inefficient use of taxes (problem of deadweight losses). Various ex-ante assessments consider that the Greening component will have limited impact due to a lack of adaptation to local characteristics (Westhoek et al., 2013; Hauck et al., 2014; Wąs et al., 2014). A low efficiency is pictured because the EFA areas are allocated to options having little potential for biodiversity and sometimes not even requiring actual delivery by farmers (Hart, 2015; Lakner and Holst, 2015) and the crop diversification measures only impact 2% of EU arable areas as most arable

farmers already grow three crops or more (Westhoek et al., 2012). As for Natura 2000, literature indicates a negative relation between effectiveness and investment as the dedicated funds are too low to address the biodiversity objectives which results in a low efficiency (Pe'er *et al.*, 2017).

Limited effectiveness of Pillar 2 agri-environment and climate measures

Specific measures show the potential in supporting biodiversity and ecosystem services, whereas their effectiveness may stay low due to low uptake, limited extent and poor implementation at the local level. As implementation of most Pillar 2 measures are optional for Member States, their impact across the EU remains limited. Animal welfare (Measure 16), for example, is offered in just 30 out of 118 RDPs for the period 2014-2020 (Baldock and Mottershead, 2017).

Low acceptance by both farmers and citizens

When looking at the acceptance of the CAP by society, which is important to justify policy decisions, policy makers are increasingly urged to provide evidence that the implemented AEMs financed by public spending achieve the environmental targets set by society (Pacini *et al.*, 2015). The Eurobarometer evaluation in 2015 and the Commission's Public Consultation in 2017 showed that consumers care about the quality of food rather than quantity, the state of the environment and farm animal welfare and they prefer ensuring farm income with investments in rural development rather than direct payments (ECORYS & European Commission, 2017; Pe'er *et al.*, 2017).

However, also the acceptance by farmers is crucial for the CAP because it is a basic prerequisite for a high level of adoption and therefore a high level of effectiveness. With the context of more open agricultural markets since the last reform, the farm revenues are more directly defined by markets and price developments (OECD, 2017b). Securing farm income is the most important factor for farmers. It is accompanied, however, by other factors such as workload, purpose/usefulness the work, skilfully performed farm management and social recognition (Sutter, 2004; Burton *et al.*, 2008). Interestingly, in line with society, also farmers favour investments in rural development over direct payments in agricultural policy (Pe'er *et al.*, 2017). There is, however, quite some differences among farmers when it comes to the acceptance of agri-environment measures. Young farmers and farmers with a good education tend to participate more often in such measures (Wilson, 1997; Mann, 2005). Furthermore, economic factors such as opportunity costs, transaction costs, and technical costs play an important role in the decision on whether to participate or not (Wilson, 1997).

The integration of agricultural and rural development policy in the last CAP reforms, and the changing nature of the market pressures farmers to become more independent of public support money and demands more autonomy compared to the past (Morgan *et al.*, 2008). Learning business skills and entrepreneurship has therefore gained importance for the farmers. The level of skills and the way how they are manifested may vary though (Vesala and Pyysiäinen, 2008). According to Rudmann (2008),

entrepreneurship should be at the centre of policies and strategies for agriculture to encourage the development of farming businesses. Burton et al. (2008) suggest that valuing innovation and entrepreneurship through agri-environmental measures could be an effective way of in inducing long-term changes to more environmental friendly farming practises.

When looking at the competitiveness of the European Farming Sector, there is a strong variability across the single Member States. Influencing factors such as the reforms of the CAP, the enlargements of the EU and impacts of climate change have led to intensification of agriculture in some parts and its marginalization in others (Giannakis and Bruggeman, 2015). The economic performance of single agricultural sectors tends to be higher for countries and sectors with young and better-trained farmers. Furthermore, Giannakis and Bruggeman (2015) identified that environmental conditions, technical efficiency, and investments in agriculture play an important role for economic performance. In average, public spending compares with 16% of the output value of the agricultural sector in the EU, whereas it accounts for about half the output size in Finland and less than 10% in the Netherlands, Belgium and Denmark (OECD, 2017b). The policy reforms of the last years considerably reduced the level of product specific support. Bilateral agreements and the reduction of tariffs has led to a better market access of agricultural products (OECD, 2017a).

Considerations of the CAP Reform Post 2020

So far, the development of more sustainable food and farming systems through the CAP remained an add-on rather than a central part of the policy. Thus, to what extent does the post 2020 CAP reform address these challenges?

- The European Commission has indicated its intentions to make all EU spending more results orientated to ensure resources are prioritised for actions that deliver high performance and added value (European Commission, 2016, 2017b). With these realities, there is huge potential to use the next CAP reform to better incentivise and reward environmental, and other societal services delivered by farmers.
- The adoption of *Cork 2.0 Declaration "A Better Life in Rural Areas"* highlights the need for public policy to incentivise and reward the delivery of environmental PGs and services and it calls for an innovative, integrated and inclusive EU rural and agricultural policy guided by policy orientations from promoting rural prosperity and managing natural resources to encouraging climate action and improving performance and accountability (European Union, 2016).
- The public consultation launched by the EU Commission in February 2017 underlined the importance of agricultural policy being linked to the three dimensions of sustainability and being modernised and simplified (European Commission, 2017a). It highlights that the CAP should promote mitigation and adaptation to the impact of climate change (85%) as well as to contribute to

environmental protection in the EU (73%), to address market uncertainties (67%) and to encourage the supply of healthy and quality products (62%) (ECORYS & European Commission, 2017).

- In November 2017, the European Commission claimed for a new delivery model and a simpler CAP (European Commission, 2017a) by moving towards result-orientation of the policy, more flexibility and subsidiarity for Member States as well as less administrative burden (European Commission, 2017a).

Annex 2: Sustainability Assessment

Parallel to and within the public policy debate on the future of the CAP, the terms "sustainable development", "sustainability" and "sustainable agriculture" have gained a substantial importance. Since the concept of sustainable development has been proposed as a fundamental principle for policymakers (WCED, 1987), the Millennium Goals and their successors, the Sustainable Development Goals (SDGs) have been developed (Griggs *et al.*, 2013; Eurostat, 2017). Frameworks for measuring sustainability in agriculture and the food sector have been helping to define what sustainable agriculture and food provision encompasses (FAO, 2014).

Sustainability assessment tools could help enhance the effectiveness, efficiency and the acceptability of agricultural policy for farmers and society by bridging the gap between action-based (based on prescribed practices) and results-oriented measures (payments bound directly to a defined outcome on each farm). Furthermore, such frameworks can be helpful in the policy context to encompass both social and environmental policy goals in a common framework. Schader *et al.* (2014b) have shown that such a single framework is important, especially if it comes to the evaluation of multi-target policies such as support payments for organic farming. Finally, it would do justice to the principle of "public money for public goods", which currently plays an important role in the debate on the reform of the EU's common agricultural policy.

There is a great variety among the different sustainability assessment methods and hardly any consolidation has taken place yet. Furthermore, no sustainability assessment tools have been used in the implementation of agricultural policy so far. This idea has been, or is being discussed in several countries, including Belgium (Flanders) and Switzerland. In some European countries, advisory services based on environmental or sustainability assessments are subsidized by the state by reimbursing the consulting costs. This is the case, for example, in the German federal states of Lower Saxony and North Rhine-Westphalia, as well as in Denmark and Austria. Different institutions in other countries, such as Switzerland, France, Belgium, Norway and the United Kingdom, develop and use sustainability assessment methods in government-sponsored research projects.

Overview and Classification of Sustainability Assessment Tools and Standards

There are a large number of different approaches for assessing sustainability of agricultural systems (Schader *et al.*, 2014a; Wustenberghs *et al.*, 2015). Most of the tools originate from Western Europe with France, Switzerland, and Germany playing the most important role. Sustainability assessment tools provide a picture of the sustainability status of farms with the help of indicators. The first tools were developed in the early 1990s (e.g., REPRO and KUL). The first tools for multidimensional assessments were launched only a few years after, for example MESMIS (1994) and RISE (1999). Further tools followed, especially in the years between 2003 and 2013. Today, there are already several dozen tools to assess farm sustainability (z.B. Thalmann and

Grenz (2012); Marchand *et al.* (2014); Schader *et al.* (2014a)). Regarding sustainability standards, several were founded in 1997 (e.g., Rainforest Alliance (Sustainable Agriculture Standard), SA 8000, GlobalG.A.P., Fair Trade Labelling Organization). Others followed in the subsequent years.

Schader *et al.* (2014a) classified the approaches according to several criteria (Table 2). There are more than 100 sustainability assessments and standards for agriculture, including up to four different sustainability dimensions. Several tools, such as IDEA and RISE, were first developed in projects and were further implemented and developed afterwards. Other tools, such as MOTIFS, were not continued after project funding ended. Table 3 (p. 31) shows 66 standards and assessment tools that were analysed for this report.

Table 2: Classification of sustainability assessment tools

Characteristic	Classes
Primary purpose	Research
	Advisory service
	Supplier assessment
	Certification
	Monitoring
	Policy advice
Level of assessment	Farm level
	Product/supply chain level
	Agricultural sector level
Dimensions of sustainability covered	Environmental
	Social
	Economic
Geographical scope	Applicable globally, applicable to a specific country or region
Sector scope	Applicable to all agricultural/food products or farm types
	Applicable to specific product or farm types
Perspective on sustainability	Farm/business perspective (is the company economically healthy and developing on a resilient pathway?)
	Societal perspective (does the company contribute to sustainable development of society?)
	Mixed perspective (farm/business perspective and societal perspective are mixed)

Source: Schader *et al.* (2014a).

43 of these tools are under private sponsorship, meaning that they belong to companies, associations or other private organizations. A further 19 methods are owned by universities or research institutes. Four belong to other public institutions. All tools pursue the target of contributing to a more sustainable agriculture. However, "sustainability" is interpreted in different ways, i.e., putting more or less emphasis on resource efficiency. How to achieve more sustainable agriculture or how the respective method contributes to more sustainable agriculture is not always clearly described.

Some tools concentrate on single dimensions of sustainability (mostly the environmental dimension). Others cover the three dimensions of sustainability according to WCED (1987): the environmental, social and economic dimension. Approximately the same number of methods represent sustainability over one, two or three dimensions. Those with more than three dimensions are very rare, but the most influential exception is likely to be the Guidelines for Sustainability Assessment for Food and Agriculture Systems (SAFA), which includes four dimensions: environment, economy, social affairs and governance (FAO, 2014).

Furthermore, the different tools can be distinguished according to their level of assessment, addressing either specific products or crops (e.g., Bonsucro and Better Cotton Initiative), entire farms (e.g., Organic Agriculture), or the agricultural sector. Concerning the level of assessment, farm-level sustainability assessment tools are at the centre of the discussion concerning the allocation of public money. Regarding the number of farms concerned, so far, legal regulations have the widest application and effect, e.g., the EU's cross-compliance rules, which are applied to more than 10 million farms. It is followed by standards such as Organic, Fair Trade, UTZ and Rainforest Alliance, each with 1 to 2 million participating companies. Sustainability assessment tools are the least common. These were mostly used on a few dozen to one hundred farm and rarely on several thousand farms (COSA, RISE, IDEA, SMART). The global number of companies assessed for sustainability is likely to be less than 50,000 for all methods together. Of the 570 million farms worldwide (Lowder *et al.*, 2014), less than 0.01% were assessed for their sustainability.

Moreover, the different tools differ according to the primary purpose a tool was developed for. There are tools for pure research purposes, which take a large amount of time for data collection on farms (e.g., REPRO: Hülsbergen (2003), SALCA: Bockstaller *et al.* (2006)). Most of these tools are based on a life cycle assessment framework and work quantitatively. This allows a sound comparison of different farms. Other tools are focussed on providing farm extension (e.g., RISE: Grenz *et al.* (2009), PG-Tool: Gerrard *et al.* (2011)) and do not aim for comparability across regions and farm types. Further tools focus on cross-region and cross-farm comparability and try to limit the time required for data collection to a minimum (Zahm *et al.*, 2008; Schader *et al.*, 2016). However, these tools are semi-quantitative as they are based on a multi-criteria assessment framework (Dodgson *et al.*, 2001), and are not necessarily suitable for advisory services if they do not employ a didactic strategy. Sustainability standards are mostly used for supply chain management and B2B communication. Analytical tools, on the other hand, are mostly used for advisory services and research.

Sustainability standards usually require that certain management practices and techniques be implemented, or restrict and prohibit the use of certain farm inputs. They may also require that farmers use of specific seeds, document management processes or comply with defined standards for animal buildings. Impact assessment models have been published mostly for sustainability standards. ISEAL, the umbrella organization of organizations developing sustainability standards, stipulates that their member

organizations must publish an impact assessment tool and prescribes the processes under which a standard may be developed and implemented. Comprehensive evaluations of the impact of multidimensional sustainability assessments methods are not yet available for farms that meet scientific criteria (representativeness, control groups, randomization, etc.). Such evaluations are complicated by various factors:

- Given the high expenditure per farm, such impact evaluations are usually only carried out on a few farms, so statistically meaningful random samples are missing;
- A random selection of intervention and control groups is often difficult from a practical and ethical point of view;
- The methods cover a wide range of topics on farms, which makes sampling and data analysis even more difficult, as the correct size and composition of the sample will vary depending on the topic and indicator;
- The application of the methods usually aims to gain knowledge (in industry, administration, students and on the farm), whereas the actual improvement and capacity development on the farm are less central;
- The steps to improve operational sustainability triggered by a sustainability analysis can be measured by investments or strategic adjustments made, but their impact is often only visible after many years.

Existing qualitative statements and publications (e.g., Thalmann and Grenz (2012)) suggest that the application of such methods has so far had little impact on corporate sustainability. In our opinion, point 4 above plays a central role here. The sustainability assessments were offered to farmers as part of research projects and were not actively requested by them. It can be assumed that it was not the farmers who had the greatest need to carry out an analysis. The majority of farm managers are still unaware of the existence of such methods and have no access to subsidized sustainability advice. Demand-driven sustainability assessment is developing slowly, but it is too early to conclude its effects. As in the Swiss direct payments system and organic farming, sustainability issues are brought to farms through regulation and controls. It is questionable how much scope there is in this context for voluntary efforts to increase individual farm sustainability.

There is a great variety of methods, especially assessment methods, and hardly any consolidation has taken place yet. The relationship between qualitative and quantitative indicators varies greatly. By far the most commonly used scales are ordinal scaled data, i.e., scales such as "very little - little - medium - much - very much". In some cases, the individual stages are elaborately defined and described. Only 12 of the 66 methods mainly use ratio-scaled data, while 13 of the 66 methods use multiple scale types.

To our knowledge, no sustainability assessment tools have been used in the implementation of agricultural policy so far. This idea has been, or is being discussed in several countries, including Belgium (Flanders) and Switzerland. In some European countries, consulting services based on environmental or sustainability assessments are

subsidized by the state by reimbursing the consulting costs. This is the case, for example, in the German federal states of Lower Saxony and North Rhine-Westphalia, as well as in Denmark and Austria. Different institutions in other countries, such as Switzerland, France, Belgium, Norway and the United Kingdom, develop and use sustainability assessment methods in government-sponsored research projects.

Table 3: Overview on 66 Sustainability Assessment Tools and Sustainability Standards

Name / Abbreviation	Full Name	Country	First Publication	Active?
4C Code of Conduct	Common Code for the Coffee Community, new: Global Coffee Platform	International	2006	Yes
AgBalance		International	2011	Yes
Agrar-Ökoaudit		Germany	1998	No
Agriculture Raisonnée, new: Haute Valeur Environnementale		France	2002	Yes
Agroscope / Migros-Tool		Switzerland	2016	Not yet
AVIBIO	Aviculture Biologique	France	2012	Yes
BCI Production Principles and Criteria	Better Cotton Initiative	International	2005	Yes
Ben & Jerry's Caring Dairy		International	2003	Yes
Bio-Suisse Knospe-Richtlinien		Switzerland	1981	Yes
Bonsucro Production Standard		International	2008	Yes
BRP	BedrijfsRoutePlanner	Netherlands	2013	Yes
BSCI Code of Conduct	Business Social Compliance Initiative	International	2003	Yes
Cadastro Ambiental Rural		Brazil	2012	Yes
Cool Farm Tool		International	2010	Yes
COSA	Committee On Sustainability Assessment	International	2008	Yes
DairySAT	Dairy Self-Assessment Tool	Australia	2009	Yes
DexiFruits (& other Dexi methods)		France	2015	Yes
DIALECTE		France	1994	No
Dia'Terre		France	2010	Yes
DLG-Zertifikat	Deutsche Landwirtschafts-Gesellschaft	Germany	2008	Yes
FARMIS		Germany, Switzerland	2005	Yes
Fieldprint Calculator		USA	2011	Yes
FLO Fair Trade	Fair Trade Labeling Organisation	International	1997	Yes
FSA 2.0 (SAI-Plattform)	Farm Sustainability Assessment	International	2013	Yes
G4 Guidelines	Global Reporting Initiative	International	1997	Yes
GlobalGAP bzw. SwissGAP	Good Agricultural Practice	International	1997	Yes
IDEA	Indicateurs de Durabilité des Exploitations Agricoles	France	2003	Yes
INDIGO		France	1997	No

Name / Abbreviation	Full Name	Country	First Publication	Active?
IP-Suisse-Punktesystem	Integrierte Produktion	Switzerland	1989	Yes
KSNL	Kriteriensystem Nachhaltige Landwirtschaft	Germany	2006	Yes
KUL	Kriteriensystem Umweltverträgliche Landwirtschaft	Germany	2000	Yes
LEAF-Marque	Linking Environment and Farming	International	1991	Yes
LCA (nach ISO 14040 & 14044)	Life Cycle Assessment	International	1969	Yes
MESMIS	Marco de Evaluación de Sistemas de Manejo Incorporando Indicadores de Sustentabilidad	Mexiko	1995	Yes
MODAM	Multi-Objective Decision support system for Agroecosystems Management	Germany	1997	Yes
MOTIFS	Monitoring Tool for Integrated Farm Sustainability	Belgium	2006	No
Muddy Boots	Software: Greenlight Grower Management	United Kingdom	1996	Yes
Nachhaltigkeitsstandard Milchbranche		Germany	2016	Not yet
Nescafé Plan		International	2010	Yes
Nespresso AAA		International	2003	Yes
Nestlé Cocoa Plan		International	2009	Yes
New Zealand Sustainability Dashboard		Neuseeland	2011	Yes
ÖLN	Ökologischer Leistungsnachweis	Switzerland	1997	Yes
Origin Green		Ireland	2012	Yes
ProPlanet (REWE)		Germany	2010	Yes
ProTerra (Soja)		International	2006	Yes
Public Goods Tool		United Kingdom	2010	Yes
Red Tractor		United Kingdom	2000	Yes
REPRO		Germany	2003	Yes
RISE	Response-Inducing Sustainability Evaluation	Switzerland	1999	Yes
RSB Principles	Roundtable on Sustainable Biomaterials	International	2007	Yes
RSCE	Roundtable for a Sustainable Cocoa Economy	International	2007	No
RSPO	Roundtable for Sustainable Palm Oil	International	2004	Yes
RTRS	Roundtable for Responsible Soybean	International	2006	Yes
SA 8000	Social Accountability	International	1997	Yes
SAFA	Sustainability Assessment of Food and Agriculture systems	International	2013	??
SALCA (& EcoBil, FarmLife)	Swiss Agricultural Life Cycle Assessment	Switzerland	1997	Yes

Name / Abbreviation	Full Name	Country	First Publication	Active?
Sustainable Agriculture Standard (Rainforest Alliance)	Sustainable Agriculture Network	International	1997	Yes
Skylark (Veldleeuwerink)	Skylark Foundation	Netherlands	2014	Yes
SMART	Sustainability Monitoring and Assessment Routine	Switzerland	2013	Yes
Starbuck's C.A.F.E. Certification	Coffee and Farmer Equity	USA	2004	Yes
Stewardship Index for Specialty Crops		USA	2008	Yes
Sustainable Living Plan (Unilever)		International	2010	Yes
Utz Certified		International	2002	Yes
Zurück zum Ursprung		Austria	2006	Yes

Source: Own presentation.

Annex 3: Bridging the Gap between Activity-Based Monitoring and Results-Based Payments by using Sustainability Assessment Tools

Environmental PGs delivery is usually tackled using so-called 'practice-', 'input-' or 'action-based' agri-environmental measures prescribing specific management actions which need to be implemented to receive the payments (Schwarz *et al.*, 2008; Burton and Schwarz, 2013; Nitsch *et al.*, 2014). Even though the intervention logic of action-based agri-environmental measures should ensure delivery of environmental PGs, such prescriptions not really succeeded in leading to the desired outcomes (Kleijn *et al.*, 2006) (Wezel *et al.*, 2015). The shortcomings of action-based measures are first of all, that farmers are incentivized to participate but not necessarily to actually achieve success (Hampicke, 2013). Second, there is little evidence that these action-based measures induce long-term attitudinal and cultural change among farmers (Schenk *et al.*, 2007; Burton and Schwarz, 2013). Furthermore, in many cases there is a missing link between agri-environmental measures and environmental pressures, which makes it difficult to track the results (European Court of Auditors, 2011).

Several authors consider result-oriented measures as an approach to overcome these problems (Schwarz *et al.*, 2008; Sabatier *et al.*, 2012; Burton and Schwarz, 2013; Fleury *et al.*, 2015; Stolze *et al.*, 2015; Wezel *et al.*, 2015) as they:

- directly link payment provisions to environmental outcomes,
- align payment levels with the corresponding environmental outcomes,
- can be adapted specifically to the site conditions,
- allow farmers to decide how to best achieve the desired outcome.

Result-oriented measures have been implemented in several European countries to achieve biodiversity, nitrogen surplus or water quality goals though not on large scale. Despite the fact that result-oriented measures are perceived to be a more effective means to achieve environmental goals, evidence from scientific literature is scarce. Further, administration and monitoring of such result-oriented measures can involve high transaction costs (Burton and Schwarz, 2013). Finally, using result-oriented agri-environmental measures requires robust monitoring and evaluation evidence of the successful implementation and cost-effectiveness of results-oriented schemes. However, these monitoring and evaluation systems need to provide evidence whether the environmental goal has been achieved and not only a result indicator (Keenleyside *et al.*, 2014; Stolze *et al.*, 2015).

Several approaches aim at bridging the gap between a pure practice-based instrument and a result-based instrument. Such approaches include the *Ökopunkte*-System in *Niederösterreich* (www.oekopunkte.at) under the Austrian Rural Development Programme 2007-2013 (Bundesministerium für Land- und Forstwirtschaft Umwelt und Wasserwirtschaft (BMLFUW), n.d.), but also the *Gemeinwohlprämie* (Public Goods Premium) piloted in the German region of Schleswig-Holstein (Dierking *et al.*, 2016).

Using sustainability assessments presents significant opportunities to make use of the benefits of results-oriented approaches, such as the potential for innovation by farmers, motivating farmers, fair remuneration, and context-specific adaptation. Farmers would be free to specifically decide the overall portfolio of food and societal services they would like to provide, whether to markets or society. It would allow farmers to be just as flexible and innovative as in a results-oriented approach, as farmers would not only pick from a limited number of different agri-environmental payments but would also have a large number of options for improving the sustainability performance of their farm in a way that is appropriate for the specific farm. At the same time, the advantages of action-based approaches, based on prescription of practices, would enable easy monitoring and control, because one would not have to collect data on the actual results achieved, but only the input data for the sustainability assessment. This is less time consuming

Annex 4: Ex-ante Evaluation of the Concept

To evaluate the concept design outlined above, ten criteria were used (see Table 3) and evaluated by five experts.

Table 4: Evaluation Criteria

ID	Criterion	Question
1	Effectiveness	Are sustainability targets better achieved?
2	Efficiency	Can sustainability targets be better achieved with the same financial outlay?
3	Transaction Costs Public Administration	What is the administrative burden on the public administration?
4	Transaction Costs Farmers	What is the administrative burden on farmers?
5	Acceptance among Farmers	Does the system get approval in the agricultural sector?
6	Acceptance among Society	Does the system get approval among the European population?
7	Entrepreneurship	Is the entrepreneurial freedom of the farmers promoted?
8	Competitiveness	Are the products of European agriculture competitive compared to foreign competition?
9	Promoting Innovation	Does the system promote innovation of farms / of the sector?
10	International Reputation of the EU	Does the system promote the EU's reputation abroad? Could the system also be accepted abroad?

Source: Own compilation.

To assess the different options of the concept, a simple evaluation procedure with five scoring steps was used:

- Significant improvement over the current system (5);
- Improvement over the current system (4);
- Little/no change compared to the current system (3);
- Deterioration in relation to the current system (2);
- Significant deterioration in relation to the current system (1).

Furthermore, the ex-ante evaluation included different variations of the concept:

- Incentivising sustainability planning: a) for definition and b) for implementing the of the sustainability plan;
- Base scoring system on a) a small and b) on a large indicator set.

Table 5 shows the average ratings for each criterion and the sum for each type of option (same weighting for all criteria). It is used to evaluate each option individually and then identify the appropriate policy mix. The results show a comparatively similar evaluation for all options. The options that provide the financial incentives for the implementation of the sustainability planning perform best. There was no clear result on the question of whether an incentive had a positive effect on the definition of such planning. On the other hand, a large set of indicators is considered disadvantageous.

Table 5: Evaluation of the Options for Concept Design (Scoring 1-5).

Option for Action							Evaluation Criteria										
	Sustainability Planning (1)				Scoring System (2)												
	Incentive for Definition (A)		Incentive for Implementation (B)		Sustainability Indicator Set												
N°	Yes	No	Yes	No	Small	Large	Effectiveness	Efficiency	Transaction Costs Public	Transaction Costs Farmers	Acceptance among Farmers	Acceptance among Society	Entrepreneurship	Competitiveness of European	Promoting Innovation	International Reputation of the EU	**Average**
1	X		X		X		5	4	2	3	4	3	2	4	4	4	**3,6**
2	X		X			X	5	4	1	2	4	2	3	4	4	4	**3,2**
3	X			X	X		3	2	2	3	3	3	3	3	4	3	**3,0**
4	X			X		X	3	2	1	2	3	3	3	3	4	3	**2,7**
5		X	X		X		4	4	3	4	3	4	3	3	4	4	**3,6**
6		X	X			X	4	3	2	3	3	4	3	3	4	4	**3,4**
7		X		X	X		3	3	3	3	2	4	3	3	3	3	**2,9**
8		X		X		X	3	2	3	2	2	4	3	3	3	3	**2,6**

Explanations: Effectiveness (1 = Low, 5 = High), Efficiency (1 = Low, 5 = High), Transaction Costs Public Administration (1 = High, 5 = Low), Transaction Costs Farmers (1 = High, 5 = Low), Acceptance among Farmers (1 = Low, 5 = High), Acceptance among Society (1 = Low, 5 = High), Entrepreneurship (1 = Low, 5 = High), Competitiveness of European Agriculture (1 = Low, 5 = High). Values with high deviations of the evaluation among the experts are marked in red (standard deviation > 1).

Source: Own presentation.

There are quite some differences between assessments from the five experts with regard to various criteria. Following the quantitative assessment, a set of arguments was compiled to determine the reasons for the positive and negative effects of the individual options (Table 7). It turned out that no consensus can be reached among experts on most of the criteria. This also reflects the presumably different views outside the project team. For this reason, it is not possible to carry out an unambiguous ex-ante evaluation of the available options based on the different justifications. To be able to calibrate such a new system in a meaningful way, it is, therefore, necessary to test the variants in real-world operations.

If sustainability assessment tools are to be used in a policy context and if payments are allocated based on farm performance according to the tools, the indicators need to indicate positive or negative externalities of the farms, pose a manageable workload for public administration and farmers, and be verifiable and enforceable.

Table 6 suggests a framework for evaluating indicators in existing tools, according to such criteria.

Table 6: Evaluation Criteria for Indicators

Criterion	Scoring	Meaning	Description
Relevance for externalities			How informative is this indicator about positive and negative externalities of a farm?
	1	Very low	Not relevant
	2	Low	Likely to be relevant
	3	Moderate	Unclear
	4	High	Likely to be irrelevant
	5	Very high	Relevant
Effort for Data Collection			What is the expenditure of time for data collection for this indicator?
	1	Extremely high	> 8 hours
	2	Very high	3-8 hours
	3	High	1-3 hours
	4	Moderate	15-60 minutes
	5	Low	5-15 minutes
	6	Very low	2-5 minutes
	7	Extremely low	< 2 minutes
Workload for the Farmers			What is the workload for the farmers to document and provide data regarding this indicator?
	1	Extremely high	> 8 hours
	2	Very high	3-8 hours
	3	High	1-3 hours
	4	Moderate	15-60 minutes
	5	Low	5-15 minutes
	6	Very low	2-5 minutes
	7	Extremely low	< 2 minutes
Verification			To what extent can it be verified whether the farmer complies with the indicator?
	1	Very difficult	The indicator can almost not be verified.
	2	Difficult	It is difficult to verify the indicator.
	3	Neutral	The indicator is similar to existing agri-environmental policies regarding verifiability.
	4	Easy	Verifying the indicator is easy.
	5	Very easy	It is very easy to verify the indicator.
Enforcement			To what extent can the situation be described objectively and used in the enforcement?
	1	Very subjective	The given information to assess the indicator is very subjective.
	2	Subjective	The given information to assess the indicator is subjective.
	3	Neutral	The indicator is similar to objectivize as compared to existing agri-environmental policies.
	4	Mostly objective	The given information to assess the indicator is mostly objective.
	5	Objective	The given information to assess the indicator is objective.
Adaptability			To what extent can the indicator be adapted to better comply with the above criteria?
	1	Cannot be adapted	The indicator cannot be adapted for the use in agricultural policy (farm payments).
	2	Adaptable	If the indicator were used in agricultural policy (farm payments), the data collection would have to be adapted. Adaptation of the indicator is possible.
	3	No need for adaptation	The indicator and the current methods for data collection is suitable to be integrated in agricultural policy (farm payments).

Source: Own presentation.

Table 7: Explanation for Evaluation of Options for Action

Evaluation Criterion	Incentive for Definition	Explanation for Evaluation	Incentive for Implementation	Explanation for Evaluation	Large Indicator Set	Explanation for Evaluation
Effectiveness	+ / 0	More effective sustainability measures will be implemented when the advisory services take place. Advisory services are better made use of if financially supported. However: Incentive in the implementation of more importance for effectiveness	+	More effective sustainability measures will be implemented if this implementation is financially supported.	+ / 0	The greater differentiation of measures allows for a better adaptation to the farm's specific conditions and promotes implementation (targeting). More indicators increase the chance that relevant areas on the farm will be recorded. On the other hand, more indicators probably mean more idle time due to irrelevant indicators. This could have a deterrent effect and negatively affect the number of participants. There is a danger that a large set of indicators could create a barrier to implementation. It should also include measurable indicators that can be used for control/contribution.
Efficiency	- / +	Costs increase, possibly disincentives may arise, both on the part of farmers and advisers. Taking into account the fact that the amount of agricultural support is capped and that the funds could be used elsewhere, the assumption would be that the money would be used more efficiently if it were channelled into incentives for implementation. Costs are modest in relation to the sum of direct payments. Acceptance of the entire agricultural policy is increased.	+	Costs increase but are offset by improved implementation and better targeting of payments. Assumption: Better targeting overcompensates the cost of payments.	+ / 0 / -	The old conflict between transaction costs and targeted payments. Assumption: Benefit of target-orientedness more than compensated for additional costs. A small-targeted set of indicators could be very efficient, even if there is a risk that it will become less specific.
Transaction Costs Public Administration	-	Invoicing and invoice verification causes additional costs	-	Invoicing and invoice verification causes additional costs	-	More indicators may cause higher administrative costs
Transaction Costs Farmers	0	Assumption: Paying the invoice is not an important additional burden. Advisory services are time-consuming, which is, however, also required for "self-evaluation".	0	Assumption: Paying the invoice is not an important additional burden.	-	Assumption: It is not necessary for the farmer to know all the measures. The training period for the farmer may be (most likely) longer if one expects him/her to study all measures.

Evaluation Criterion	Incentive for Definition	Explanation for Evaluation	Incentive for Implementation	Explanation for Evaluation	Large Indicator Set	Explanation for Evaluation
Acceptance among Farmers	+	Farmers appreciate advisory services that are financed with tax money, but it is questionable whether the acceptance would be even higher if the funds go directly into the implementation.	+	Farmers appreciate additional farm-specific support measures.	+ / 0	Increases the freedom of choice for the farmer. Experience from existing sustainability analyses shows that farmers are grateful for recognition of individual solutions and innovations. A larger set of indicators can better reflect this. However, the opinions of farmers could differ here. Some people value more freedom of decision; others prefer a simple instrument that requires as little time as possible. Question of communication/motivation (help for self-help is very positive). A large set of indicators does not have to be understood in detail by the farmer but must be available to interested farmers. It is important that the advisor understands the complexity of the support regime and can advise farmers in accordance to their interest.
Acceptance among Society	- / 0	Might be difficult to explain to the taxpayer. Role of further development must be well communicated. Perhaps neutral evaluation, since the costs are likely to be kept within reasonable limits, and if the result is better than in the current system, and this is also communicated, then why should it not be accepted?	- / +	Might be hard to explain to the taxpayer. This depends largely on monitoring (proof of performance). However, today's system already promotes such measures and acceptance does not seem to be so low.	+ / 0	Depends on the measures. In principle, however, a larger catalogue of measures allows more targeted support. This is in the taxpayer's interest. On the other hand, a more complex system with higher transaction costs is not in the taxpayer's interest.
Entrepreneurship	- /+	The farmer, as a sustainable entrepreneur, should decide whether the advice he/she receives is beneficial to him/her. External opinion is very welcome.	-	The farmer as a sustainable entrepreneur should decide whether the advice implementation would benefit him/her. Supported implementation is perceived positively as an accompaniment.	+ / 0	Increases the scope for farmers to make decisions as sustainable entrepreneurs. However, a confrontation with many pre-defined indicators does not automatically transform farmers into entrepreneurs.

Evaluation Criterion	Incentive for Definition	Explanation for Evaluation	Incentive for Implementation	Explanation for Evaluation	Large Indicator Set	Explanation for Evaluation
Competitiveness of European Agriculture	+ / 0	Difficult to evaluate. Positive evaluation if it goes well. At least on the domestic market, a more visible and credible increase in sustainability can at best increase the willingness to pay.	0	Difficult to evaluate. Positive evaluation if it goes well. At least on the domestic market, a more visible and credible increase in sustainability can at best increase the willingness to pay.	0	Difficult to evaluate.
Promoting Innovation	+	Assumption: Advisory services lead to innovative ideas. If entrepreneurial activity is characterised by more innovation (due to higher risk tolerance), then subsidised advisory services which is negative for entrepreneurship would probably not have a positive effect on the innovative strength. The purpose of the advisory services is not the promotion of innovation: the more it focuses on a large set of indicators, the less room there is for developing ideas.	+	Assumption: Incentive can promote the implementation of innovative ideas	+ / -	Innovations can be better incorporated into a more differentiated set of indicators Given the requirements for good indicators - e.g., legal stability - the formulation of indicators will not catch up. The question remains whether more indicators will encourage creativity and entrepreneurial risk tolerance.
International Reputation of European Agriculture	0/+	Difficult to evaluate. Promoting sustainability (SDGs) is perceived positively.	0/+	Difficult to evaluate. Innovative, respecting the individual characteristics of the farms.	0/+	A more sophisticated support system will impress international experts.

Source: Own representation.