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IMPACT ASSESSMENT

Accompanying the document

Strategy for Agricultural Statistics 2020 and beyond and subsequent potential legislative scenarios

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Contents

1. THE PROBLEM

1.1. Context of European Union Agricultural Statistics

The current European Agricultural Statistics System (EASS) has been developed since the early 1950s. Agricultural statistics are the oldest EU statistics still to be produced, and a large part of them are provided under legal obligations. The EASS covers more than 50 data sets that are transmitted to Eurostat by National Statistical Institutes (NSIs) or other national statistical authorities. It consists of seven statistical domains: structural data, agri-monetary statistics, crop production, organic farming, permanent crops, animal products and livestock, and agri-environmental indicators. In addition, the Directorate-General for Agriculture and Rural Development (DG AGRI) manages the Farm Accountancy Data Network (FADN), a survey that, while not officially part of EU statistics, is closely linked to the EASS. The main aim of the EASS is to support decision-making and policy design, implementation, monitoring and evaluation in areas related to agriculture, such as the Common Agricultural Policy (CAP) and climate change policies.

Agriculture accounts for almost **40% of the EU budget**, being the only policy almost entirely funded by the EU, where EU spending largely replaces national spending. For an annual budget of currently about 59 billion Euro, EU taxpayers must have the guarantee that this policy is based on hard facts and figures.

Moreover, agriculture covers **47% of the EU territory**, and the environmental impact of agricultural practices, but also the environmental services provided by agriculture are immense. Agriculture uses soil, water, air and biodiversity and affects these resources through land management practices and input, output, crop and livestock patterns. Agriculture also plays a special role in view of climate change: it is an important source of emissions (non-CO_2 emissions from agriculture currently account for approximately 9% of total EU emissions), but can also sequester carbon (e.g. through reduced tillage practices) and protect carbon sinks related to agricultural land through good management practices. Without a thorough knowledge of what is produced where by whom and how through high-quality statistics, it would be very difficult to properly target agricultural, environmental and related policies.

Lastly, agriculture produces close to **100% of the food we eat**. The safety and security of food are non-negotiable. Detailed knowledge of production structures and supply chains is essential for rapid responses, particularly for crisis management purposes. In the global context, increasingly volatile food prices coupled with a still increasing world population present a challenge for all countries. Data on prices, yields and production structures are used in market analyses and market outlook models for policy development and management. They are also widely used by private operators to reduce asymmetries in market information.

Economic dimension of agriculture

Agriculture is an economic activity using natural resources such as solar energy, land, water, animals and plants, products from other industries and services such as fertilizers, pesticides, energy, know-how etc., and labour. Its outputs consist of food, feed, other animal and crop products, renewable biomass energy, and less tangible outputs such as ecosystem and socio-cultural services.

These inputs and outputs are exchanged in markets regulated by price mechanisms. Key elements are e.g. the amount of production, productivity, prices of inputs and outputs, and farmers' incomes. Agricultural statistics need to measure all aspects of the economic dimension and deliver timely information on all interlinked economic aspects of agriculture. The fast evolution and rapid changes in the sector should be followed closely to provide appropriate warning signals, and flexible adjustments of data flows should be possible.

Environmental dimension of agriculture

Agriculture depends to a large extent on the environment, as it is part of primary production derived directly from biological processes. It consumes resources such as land, nutrients and water and provides resources such as biofuel and environmental services, thereby impacting the environment. These impacts are both detrimental (e.g. emissions) and beneficial (e.g. carbon sequestration) to the local, regional and global environment. Agricultural statistics need to depict these interlinkages correctly and give as realistic a picture of the magnitude of impacts as possible. In particular, collecting reliable statistical information on phenomena such as the two-way impact of agriculture on climate change is very important. The environmental dimension is thus likely to be one of the focus areas of agricultural statistics in the next ten years, backed up by a large number of emerging policy and data needs, such as measuring climate change and biodiversity.

Social dimension of agriculture

The social dimension of agriculture is linked to the need to reduce risk and vulnerability (both environmental and economic, including food safety and food security), to living conditions of farming, and in a wider sense to the quality of life of the rural population and the viability of rural areas. Their vulnerability is a result of the mixture of environmental and economic risks. Extreme weather conditions which have become more common due to climate change and the increasing production of biofuels have increased changes in production levels and thus made the system more volatile. To reduce risks, forecasting the agricultural output is important, and thus for example early estimates of planted areas in combination with agro-meteorological data are a key issue.

The social dimension also covers the living conditions of farmers and the rural population, and education and gender aspects. These facets have not been in the focus of traditional agricultural statistics, but are likely to gain in importance in the future. Agricultural statistics should thus open up towards capturing better the social dimension of agriculture.

Thus, agricultural statistics cover important concepts not captured by other statistical domains. As comparable statistics from all EU Member States to address common issues in a common manner are necessary for the effective and efficient design, implementation, monitoring and evaluation of EU policies, a strong need arises for an EASS that should serve information needs linked to all aspects of agricultural activities and inform policies connected to and influencing many vitally important areas of EU and world society. The main EU policies depending on agricultural statistics are:

1. The Common Agricultural Policy (CAP), including direct payments, market measures, and Rural Development Programmes
2. The Water Framework Directive, including the Nitrates Directive and the Groundwater Directive

3. Air related Directives (National Emission Ceiling, Air Quality, and Integrated Pollution and Prevention Control)
4. Climate change policies (related to the UNFCCC Kyoto Protocol)
5. Nature conservation legislation, the Birds and Habitats Directives and several other biodiversity policy tools
6. Soil related policies, including the Soil Thematic Strategy and the Sewage Sludge Directive
7. Food safety, plant protection, animal health and animal welfare regulations
8. Regional cohesion policy

In addition, the Joint Research Centre (JRC) relies heavily on agricultural statistics for a great number of research projects, models and tools for the benefit of the policies mentioned above.

1.2. A changing world, unchanging agricultural statistics

The world is changing, while the EASS has so far remained rather static. Five main problem drivers have emerged: changes in world agriculture, climate change, changes in the CAP, changes in official statistics, and the unchanged EASS. Of these, the first three are largely out of Eurostat's control, changes in official statistics can only partly be influenced by Eurostat, and the EASS is under Eurostat's and the Member States' control.

Among the **changes in world agriculture** are changes to food safety and security, which are affected among other causes by crises such as Bovine spongiform encephalopathy (BSE); price volatility caused by different phenomena such as droughts; rapidly changing dietary habits such as Asia's growing appetite for dairy and meat; biofuels having an impact on supply chains; phosphorus shortages due to this essential, non-renewable fertiliser source running out and mostly only available in unstable regions[1]; a still growing and increasingly less poor world population requiring more food (70% more for the world as a whole between 2005 and 2050, to then feed more than 9 billion people); rapidly increasing urbanisation, i.e. the removal of millions of people from traditional subsistence farming structures and their entry into formalised food supply chains (already in 2010, 57% of humans lived in urban areas; the Food and Agriculture Organization of the United Nations (FAO) expects this to rise to 67% until 2050), with great consequences for food consumption and food flows (e.g. more prepared meals, more food imports into supermarkets); and increasing agricultural concentration due to economic reasons (for example, between 2003 and 2013 more than 4 million, or over one in four, agricultural holdings disappeared in the EU while the total area used for agriculture remained stable)[2] and many old farmers not finding successors (in the EU, almost a third of farms was managed by a person 65 or over, while a further quarter was managed by persons between 55 and 64, according to data from the Farm Structure Survey 2013).[3]

These phenomena are particularly important for the EU, as agricultural exports from the EU-28 amounted to 120 billion Euro in 2013 (in particular value-added products), with imports of just over 100 billion Euro (concentrated around animal feed and tropical products). Agricultural trade adds up to 6.9% of total exports and 6% of total imports of the EU, but

[1] www.phosphorusplatform.eu
[2] Eurostat press release 206/2015 on EU farms, 26.11.2015
[3] Ibid.

amounts to 37% of its total trade balance, and the EU is currently negotiating several free trade agreements which will further increase trade in agri-food products.

The increasing global interconnectedness of agricultural production structures, prices, yields and supply chains can thus lead to complex "butterfly effects" and calls for detailed data in this area to enable rapid crisis responses and generally more effective policy making. In the past, disregarding essential policy needs for agricultural statistics led to losses of vital information. For example, the discontinuation of most agricultural price and supply/demand balance sheet statistics in 2005 for cost-saving reasons led to a lack of data on the causes (supply/demand balance sheets) and effects (price developments) of the food price spike of 2007-2008, to the strong embarrassment of the EU. The agriculture ministers of the G20 subsequently focused on exactly these data when creating the Agricultural Market Information System (AMIS).

Climate change and environmental effects will be felt more in the coming years. Food security will be impacted, with more production expected up to a certain point of warming and less afterwards. More frequent extreme weather events, such as droughts, floods and ensuing possible conflicts, are expected to lead to shortages and volatile prices. As stated above, agriculture has a strong environmental and climate change impact, and is itself strongly affected by climate change. Without a thorough knowledge of what is produced where by whom and how, it would be very difficult to target agricultural, environmental and related policy interventions (e.g. the ones identified in the 7th Environmental Action Programme[4]) to where they are most needed. Therefore, good data on this aspect of agriculture is needed to enable environmentally sustainable action, such as a low-carbon transition in rural areas and investments in renewable energy sources, as planned in the European structural and investment funds for 2014-2020.[5] Moreover, the links between agriculture, the environment and the climate are very complex and dynamic, and the impact of agricultural practices and products on human and animal health and welfare is strong, but not fully understood yet. Depicting all these interlinkages requires a lot from agricultural statistics.

Within the EU, the **CAP** has recently been reformed and will continue to be reformed in response to changing national, European and global conditions and evolving policy. Some examples are the recent surge of organic food, the abolition of milk quotas, and the increasing diversity in EU agriculture. The Commission's recent experience in developing the CAP for 2014-2020 demonstrated the central role of statistics in designing, implementing, monitoring and evaluating this far-reaching policy. Reforms of the CAP should therefore also be reflected in agricultural statistics data collection.

Official statistics are changing as well. New data sources such as administrative data, various registers (e.g. cattle, tax or business registers), results of research projects or Big Data have become more readily available. Information and communication technology and other new technologies enable modernised data collection. At the same time, national and EU budgets are ever more constrained, and calls to reduce the burden of data collection and production are becoming more frequent. These changes in the sources and ways of collecting and producing data require an adaptation of the framework for agricultural statistics for them

[4] Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013
[5] Communication from the Commission COM(2015) 639 final, 14.12.2015: Investing in jobs and growth – maximising the contribution of European Structural and Investment Funds

to stay up to date and avoid becoming obsolete, inaccurate and too costly. This is in line with the European Statistical System's Vision 2020 to modernise official statistics[6], responding to similar challenges in other areas of statistics.

All these developments put pressure on adapting the EASS to respond to the important growing and changing requirements and objectives. But despite many changes, streamlining, integration and modernisation efforts, **the EASS has not changed enough**: new and emerging data needs are not served adequately; concepts, definitions and legislation have not been fully harmonised, and cross-domain coherence and cooperation with other statistical domains is suboptimal; and the burden of data collection and production is perceived as high due to, inter alia, outdated data collection techniques, while comparable high-quality agricultural statistics from all Member States are more important than ever.

1.3. The current EASS

The backbone of the current EASS is the decennial **Agricultural Census** and the related triennial **Farm Structure Surveys (FSS),** which provide reliable data on the structure of agricultural holdings in the EU, in order to assess the situation of agriculture across the EU and to monitor trends. The FSS is the only statistical source covering the widest range of farms, acting as a pivot reference for all agricultural statistics. Since 1966, the FSS has been used as a benchmark and basis (especially a sampling basis) for the other agricultural statistics, and the produced statistics are highly appreciated by policy makers (for example, FADN selection plans are based on FSS results). It is a key source for the design, implementation, monitoring and evaluation of the CAP and other EU policies such as those listed in chapter 1.1.

FSS is a community-wide survey that uses the same list of characteristics and definitions in all countries. Information on individual farms is sent to Eurostat for processing and for the publication of aggregated statistics. Data are, inter alia, provided on general characteristics of the holding, a breakdown of the use of arable land by more than 40 different crops, livestock, the labour force, and other gainful activities on the farm. The implementation of the FSS is a resource-intensive operation: in 2013, more than 1.6 million holdings were interviewed throughout Europe; ranging from 1.488 (Malta) to 321.581 (Romania), by up to 3.000 field interviewers (Romania), depending on different national forms of survey organisation. The FSS is co-financed by the EU budget, amounting to over 58 million Euros for the period 2008-2013 and over 20 million Euros for the period 2014-2018.

Statistics on **agricultural production**, including organic farming data, target those farms that make a significant contribution to total production, which can be very different across Member States. Use of administrative sources is promoted and well-developed in this domain, and modelling and forecasting are part of the statistical process. For example, crop production statistics determine the areas, production and yield of the most important crops. Animal production statistics deliver e.g. numbers of animals or the volume of milk.

Agri-monetary statistics refer to market signals and therefore represent that part of production that is put on the market. Agricultural accounts cover the important agricultural industry. Coherence of the price and volume indices and of labour input is a core issue for producing accurate income indicators.

[6] ESS Vision 2020 – Building the future of European statistics

For **agri-environmental indicators**, a complete view is important for indicators like nutrient balance sheets. This is a relatively new area of agricultural statistics, where the methodology and data sources are mixed and often differ from those traditionally used in agricultural statistics. As the phenomena are very complex, research, scientific measurements and modelling are often the best tools to develop sound agri-environmental statistics.

Eurostat's role is to receive the data, to process data and compile aggregates, to validate and assure quality (monitoring, analysing, investigating and improving data quality) and to disseminate the data on its website. Eurostat provides handbooks and guidelines, keeps methodologies and legal bases up to date, supports Member States, organises expert group meetings with all stakeholder for discussion of relevant issues, and monitors compliance with legal obligations.

In addition to Member States' obligations to notify data to the Commission for market management and control purposes, there are also a number of **legal reporting obligations** for the Commission for which agricultural statistics serve as key input:

- The CAP lays down provisions for a monitoring and evaluation system in Article 110 of Regulation (EC) No 1306/2013 on the financing, management and monitoring of the common agricultural policy. This system is based on a comprehensive set of indicators which act as the starting point for a good monitoring and evaluation system. In order to obtain the data needed for these indicators, Article 110.4 specifies that *"Member States shall provide the Commission with all the information necessary to permit the monitoring and evaluation of the measures concerned. As far as possible, such information shall be based on established sources of data, such as the Farm Accountancy Data Network and Eurostat."*
- Likewise, Article 67 of Regulation (EC) No 1305/2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) requires the setting up of a monitoring and evaluation system based on a common set of indicators.
- Council Regulation (EC) No 1217/2009 of 30 November 2009 setting up a network for the collection of accountancy data on the incomes and business operation of agricultural holdings in the European Community relies heavily on data collected under the FSS for determining the field of survey and establishing the Community typology for agricultural holdings.
- And finally, in the context of the AMIS**,** the EU and those Member States that belong to the G20 are obliged to provide balance sheets (and monthly updates) for the four main crops included in the system (wheat, maize, rice and soybeans). Fulfilling its commitment to AMIS, DG AGRI submits monthly supply/demand balance sheets and publishes a Short Term Outlook report for arable crops, meats and dairy three times per year.

For a detailed list of all EASS data sets and their legal basis, see Annex IV.

1.4. Stakeholders of the EASS

The main stakeholders of EU agricultural statistics are as follows:

Producers of European Union agricultural statistics

National Statistical Institutes (NSIs), other national authorities (ONAs), and Eurostat

Survey respondents

Farmers and businesses related to agriculture

Users of European Union agricultural statistics

Institutional users are all the EU Institutions and bodies involved at one stage or another in the design, implementation, monitoring and evaluation of agriculture related policies. More particularly; inside the Commission, DG AGRI relies very heavily on agricultural statistics notably in the context of designing, implementing, monitoring and evaluating the CAP, but also the Directorates-General (DGs) Climate Action (CLIMA), Environment (ENV), JRC, Regional and Urban Policy (REGIO), and Health and Food Safety (SANTE) use the EASS very intensively. The NSIs and international organisations such as FAO and the Organisation for Economic Co-Operation and Development (OECD) are also important institutional users.

Non-institutional users include the following groups, according to their interest in agricultural statistics:

1. *Users with a general interest:* journalists and media; citizens
2. *Users with a specific interest:* national, regional and local decision makers; methodologists; marketing analysts; users interested in a particular domain/field related to agricultural statistics; farmers' associations and other non-governmental organisations; private businesses and farmers
3. *Users with a research interest:* scientific community – professors and researchers, universities and research institutions; consultants and researchers in governmental agencies and the private sector; experts in agricultural statistics

The main quality aspects of statistics which are important for users are timeliness, relevance and comparability. As defined in the European statistics Code of Practice[7], timeliness is the length of time between the end of the event or phenomenon statistics describe and their availability (or time lag). Relevance means that European statistics meet the needs of users. And comparability means that European Statistics are consistent internally, over time and comparable between regions and countries and that it is possible to combine and make joint use of related data from different sources.

1.5. Performance, evaluation and lessons learnt of current EASS

Eurostat carried out an ex-post evaluation of the current EASS. Its full outcome is presented in a separate staff working document. The main findings of this evaluation form the core of the agricultural statistics strategy 2020 and this impact assessment. They are sixfold:

- **The current agricultural statistics legislation does not adequately serve new and emerging data needs** because their provision is not included in the legislative acts, and the acts are not flexible and integrated enough to answer to new needs in a timely manner.
- **The quality of the agricultural statistics is "fit for purpose" for most of the requirements of the users,** thanks to the quality management approach put in place overall in the European Statistical System.

[7] European Statistics Code of Practice (DOI: 10.2785/18474)

- **The EASS is not flexible enough and is not reacting sufficiently quickly to the emerging needs**, partly due to the inherent functioning of statistics, partly due to the way the regulations have been set up, but also because of a lack of budget and human resources.

- **The data collections are not harmonised and coherent to a satisfactory degree** because new data needs are emerging, legislation has been developed separately over many years, and there are partly different definitions, concepts and aims in different agricultural domains.

- **The statistics could be produced more efficiently** if the legislation is adapted so that various sources of information can be used and if Member States adopt more modern technology, but **the burden and cost are appropriate** considering the substantial budget of the CAP and its impact on the economic situation in agriculture, including on the individual farms as well as the need for data to monitor, evaluate and plan the CAP and the potential impact of agriculture on the environment.

- **The burden of providing data is perceived as high** because data needs are increasing, data collection is not harmonised, and resources continue to shrink at EU and national level.

1.6. Problems of the current EASS

The current EASS faces three main problems. More details on the functioning of the EASS can be found in the ex-post evaluation Staff Working Document.

1.6.1. New and emerging data needs not adequately served

The current EASS is not adapted to the new needs arising from changes at global level (e.g. developments in food safety and security as well as in climate change and environmental effects). At European level, **policy changes** of the CAP and other EU policies related to agriculture are not reflected well in the current EASS designed for previous versions of these policies, and the EASS is not flexible enough to accommodate future new data needs without a cumbersome and lengthy legislative procedure. This endangers the delivery of relevant and high-quality data.

Changes in official statistics such as a greater use of administrative data, private and semi-public collections and new ways of collecting data (e.g. Big Data) are emerging and are of interest to the strategy's stakeholders due to their wish to reduce the burden of data collection, avoid overlaps, and make use of all possible sources to collect as much data as possible to satisfy their needs.

As a **legal constraint**, the backbone of the EASS consists of data collected at farm level through the FSS, which are used in particular for monitoring structural changes in farms and farming practices. The existing legislation (Regulation (EC) No 1166/2008) only foresees surveys until 2016 and needs to be prolonged or replaced. It is crucial to provide legislation on the continued collection of farm survey statistics from 2020 (the next planned agricultural census) onwards, which would imply that the necessary legislation ought to be in place by the end of 2018 at the latest. These statistics are not only essential for the implementation of the current CAP until 2020, but also to build statistical evidence for any decision on a new CAP beyond 2020.

New data needs: The problem drivers detailed in the above paragraphs, the stakeholder consultations, the evaluation described in chapter 1.5. and different analyses over the years have resulted in several main new and emerging data needs for the EASS, mainly centred around environmental, climate change and economic data. These needs and the reasons for them are further detailed in Annex VI.

Flexibility: NSIs wish to omit low-prevalence data from the collection process and be allowed to use as much as possible new data sources and burden-lowering systems to increase efficiency. This is currently not foreseen explicitly enough in the legislation and methodologies.

Integration and interlinking: Stakeholders have expressed the view that there is a strong need to develop agricultural statistics in cooperation with other statistical domains. For example, at the DGAS Meeting in summer 2015[8], representatives stated that the integration and links of agricultural statistics with forestry, land use/cover and environmental statistics should be improved. Similarly, agricultural outputs should be better linked to the uses they are put to in order to get a better picture of the food chain. Countries also want to perform the agricultural census 2020, a global exercise, by using administrative registers and have asked for enhanced legal support in accessing individual administrative data. This would reduce the burden and costs of data collection, which is a prime concern.[9] Similarly, the implementation of the data sharing obligations set in Article 17 of the Inspire Directive 2007/2/EC should enable Member State public authorities to access spatial data sets.

Recently, grants have been awarded to investigate possibilities of using **administrative data** for agricultural statistics. Here, identifying discrepancies and differences e.g. in definitions and figures and harmonising them is important to increase integration and reduce overlaps between statistical and administrative data sources. Work continues in this area.[10] A Eurostat survey of Member States on the use of administrative registers in agricultural statistics in 2014 revealed that of 19 countries replying, 88 different administrative sources are already used for agricultural statistics, e.g. to replace the FSS survey for some characteristics and/or to build or update the survey frame, pre-fill answers, impute non-responses, and validate the surveys. Reasons for not using administrative sources are incoherent concepts and definitions, different coverage, linking problems, problems of data quality, completeness, misclassification or timeliness, or risks of source instability. About a quarter of FSS 2013 data came from sources other than statistical questionnaires, highlighting the growing importance of non-traditional sources such as administrative data for statistics production. The need and potential for integration and interlinking is therefore high, and these potentials should be further investigated and deepened.

A study on data needs for agri-environmental indicators (AEIs) showed that there is much to gain from streamlining data requirements for policy reporting, prioritising key AEIs, and harmonising data collection, processing and reporting chains.[11]

Respondents to the open public consultation agree that data needs could be better served by integration and harmonisation of European Union agricultural statistics, which would also improve consistency and coherence and help to reduce the burden of data collection. This was already noted in the United Nations Economic Commission for Europe (UNECE) Review of Agricultural Statistics 2008, which also found that FADN and the Integrated

[8] Minutes of the DGAS Meeting 2015
[9] Minutes of the Joint FSS/Crops WG Meeting October 2015
[10] Document CPSA/719 for the CPSA Meeting April 2014
[11] Farm data needed for agri-environmental reporting (DOI: 10.2785/12758)

Administration and Control System (IACS) could be better linked to the FSS to allow for more complex analyses.[12]

Lastly, a mapping of agricultural statistics data flows with the policy DGs AGRI, CLIMA, ENV, SANTE and JRC in 2014 showed many overlaps between FSS, crop survey, livestock, FADN, permanent crops and Economic Accounts for Agriculture (EAA) data, also highlighting several integration possibilities. The surveys were chosen because they relate to farm level information, and they were compared on various characteristics such as reference periods, coverage, scope, precision, thresholds etc., and on the purpose and the main clients and users of the data collection. In all, there are 198 FSS characteristics; 35 crop survey characteristics overlap with it, 16 in livestock, 28 FADN categories partially overlap, and 8 permanent crop characteristics partially overlap.[13] [14]

1.6.2. Data collections not sufficiently harmonised and coherent

This problem has been evidenced in the evaluation, in various stakeholder consultations and also arises out of the fact that the EASS has been developed since the early 1950s, with partly different definitions and concepts in different agricultural areas, continuously changing policy needs, a lengthy legislative process with many actors, and other constraints preventing a complete redesign and harmonised integration of the running system. New data needs also pose harmonisation problems.

Inflexibility and incoherence

The UNECE Review of Agricultural Statistics 2008 found that EU legislation on agricultural statistics possesses well-developed, but inflexible instruments, preventing active and fast integration of new developments in the data collection process.[15] Similarly, the CPSA Seminar 2009 analysed that among others, land use statistics, crop and livestock data suffer from visible and critical data incoherence, and listed possible improvement actions.[16] Lastly, the detailed results of the Eurostat User Satisfaction Survey 2014, a wide consultation open to the general public, showed that several users ask for a more coherent methodology and data basis between Member States. Users appreciate being able to compare data at EU level in one place instead of having to download data from 28 national statistical institutes, but said that more could be done to increase data harmonisation to increase the value.[17]

Harmonising concepts and definitions

Harmonising concepts, definitions and terminology, while not easily quantifiable, is self-evidently a fundamental task to improve efficiency and achieve better integration and comparability of data collections. Harmonisation should for example be achieved between FSS, FADN and IACS (e.g. farmers, agricultural area, grazing land...). A common scope and shared technical and methodological documentation would also be helpful. In addition to collection from agricultural holdings, data can also be collected from up- and downstream enterprises, and from intermediate units, i.e. units producing certain services in agriculture. Common definitions would enable easier sharing and comparing of data. In general,

[12] UNECE Review of Agricultural Statistics 2008
[13] Document CPSA/718 for the CPSA Meeting April 2014
[14] Document CPSA/732 for the CPSA Meeting November 2014, Annex II
[15] Ibid.
[16] Document CPSA/584 for the CPSA Meeting May 2010
[17] Detailed Results of the Eurostat User Satisfaction Survey 2014

agriculture needs to be defined better than before as it can be understood in many different, continuously evolving ways (e.g. laboratory-produced meat, insects for food etc.).

Data providers and users expressed a wish to increase harmonisation and coherence in order to improve data comparability and usefulness and be able to do more with fewer resources at the CPSA meeting in November 2013.[18] This need has been echoed by other users such as the research community for years. Among other recommendations, Eurostat's Internal Audit Capability (IAC) stated in its 2013 audit on statistical processes of agriculture statistics that voluntary data collections should be formalised and all variables should be applied consistently by Member States. And the Eurostat User Satisfaction Survey in 2014 revealed that only about half of respondents rated the comparability of European agriculture and fishery statistics as "good" or "very good", below the Eurostat average for each criterion[19], a finding repeated in 2015; key users, i.e. Commission services, other EU users, international organisations and political organisations rated the comparability even a bit worse.[20] Detailed 2015 results revealed that users see missing, non-detailed and non-integrated data, a lack of timeliness, inconsistent time series due to methodological changes, and different thresholds not allowing comparing Eurostat data with national data as the most pressing problems.[21]

1.6.3. Burden of providing data perceived as too high

The burden of providing data for the EASS is perceived as high because while the number of variables is already very high, data needs are still increasing, data collection is not harmonised and coherent, and resources continue to shrink at EU and national level. Agricultural statistics are subject to budget cuts in Member States and are frequently not considered to have a high priority, possibly due to agricultural policy mostly being out of the hands of national governments and decided at EU level.[22] Therefore, reducing the costs and burdens of the EASS and increasing its efficiency (see 1.5.) is important to safeguard its effective operation with high data quality.

Member States have stated repeatedly, for example at the May 2014 ESSC meeting[23], that the burden and costs need to be taken into account when formulating new needs; any new variable's utility should be investigated and its precision and frequency clearly determined in order not to overburden data providers and data producers. This is especially important as the needs for relevant and reliable statistics are evolving fast and increasingly pressing. The Member States last reiterated the point that the burden and costs should be reduced or at least not increased at the 2015 DGAS meeting[24], the joint FSS/Crops Working Group Meetings in October 2015[25], and at the ESSC Meeting in November 2015[26]. Thoroughly assessing the costs and benefits and actual needs and uses for new data against their administrative and operational burden was seen as extremely important by data producers. This is also evidenced by the evaluation described in chapter 1.5. However, data users consider agricultural statistics essential for policy development and management, so a good balance needs to be found. The

[18] Minutes of the CPSA Meeting November 2013
[19] Report on the Eurostat User Satisfaction Survey 2014
[20] Report on the Eurostat User Satisfaction Survey 2015,
Complementary Report on the Eurostat 2015 Satisfaction Survey for key users
[21] Detailed results of the Eurostat User Satisfaction Survey 2015
[22] Minutes of the ESSC Meeting November 2015
[23] Minutes of the ESSC Meeting May 2014
[24] Minutes of the DGAS Meeting 2015
[25] Minutes of the Joint FSS/Crops WG October 2015
[26] Minutes of the ESSC Meeting November 2015

current structures of the applied agricultural surveys and their data collection are complex and necessitate large operations in the Member States. Therefore, flexibility and coherence are needed to reduce the additional burden of collecting new data.

A thorough **evaluation of the burden** of reporting FSS variables was conducted in 2011, finding that the burden ranged from moderate to very high depending on the country and the class of variables.[27] While only a few countries saw the burden generally as high, certain characteristics such as on labour and other gainful activities of farm holders were seen as very burdensome by most Member States, indicating possibilities for improvement. In general, the burden of the FSS was seen as average, but not light by most countries. These findings deepened those of a burden-assessment exercise in 2010 based on a questionnaire sent to Member States to assess the production costs and response burden of EU basic legal acts in several statistical fields, among them statistics on agriculture. There, the FSS was seen as having a high production cost and response burden, whereas other agricultural statistics such as crop and livestock data had at most a medium cost and burden. Crop, livestock and meat, and milk and milk products data also served to cover national data needs in almost all Member States, FSS, pesticide, orchard and vineyard data in more than half of them, and EAA data in fewer than half. As the FSS is the keystone of the EASS, its burden should therefore be lowered to ensure its continuation and improvement.

1.6.4. Evolution of the problems

Agriculture will continue to change, and climate change and other environmental effects will persist, with the CAP and other EU policies changing in reaction to these developments and to political, economic and social priorities. This creates new data needs that the EASS must adapt to or risk not being continued. The latter would directly impact EU policies that depend on agricultural statistics. The direct and indirect consequences would be severe for the EU's and its Member States' priorities and goals, such as decreased food security, less effective mitigation of climate change, and a waste of CAP funds.

Technical and organisational progress and societal changes such as increasing survey non-response will continue to influence official statistics, increasing its relative burden and decreasing the usefulness of unadapted statistical collections and collection methods. This could affect the EASS' continued funding, if it were seen not to deliver what it should, and its ability to respond to new and evolving data needs. The longer these problems remain unsolved, the more urgent and far-reaching their effects will become, with more and more severe consequences for the EU and its Member States' policy delivery, reputation and position in a highly dynamic global order.

2. NEED FOR EU ACTION

Legal basis

European Union statistics and the right for the European Commission to propose actions have their basis in Article 338 of the Treaty on the Functioning of the European Union (TFEU).[28] EU-level action is further justified for reasons of efficiency, harmonisation and common output as mentioned in the current legal basis of European Union statistics, Regulation (EC)

[27] Document CPSA/613 for the CPSA Meeting May 2011 with Annexes
[28] OJ C 326/192

No 223/2009[29] on European Statistics. According to the statistical principles listed in the Regulation, figures provided must be of high quality, coherent, comparable over time and between data sets and countries, the production processes must be transparent, the response burden low and the costs reasonable.

Added value of action at EU level

Statistics provide an essential infrastructure for the sound and efficient functioning of democracy and a modern economy, so too for the European Union. Official statistics are a cornerstone of trust into EU institutions and procedures. Therefore, the information must be reliable, timely and independent of political influence, and provided in a convenient form for users. Furthermore, its preparation should not impose an excessive burden on data providers, and its collection must be undertaken in accordance with the principles of subsidiarity and proportionality.

EU legislation facilitates the collection of data at the same level of detail in all Member States. It imposes the application of common standards, definitions and methodologies which, in addition to producing comparable results at the service of EU policies, improve efficiency, timeliness, reliability and harmonisation, or in short, increase data quality.

Specific need for action at EU level in agricultural statistics

As described in chapter 1, one of the major common European Union policies, the CAP, is inherently based on comparable, harmonised, high-quality data which can only be ensured by action at EU level. This consideration equally applies to the other policies listed in chapter 1 that depend on European agricultural statistics. Agricultural statistics also have a long tradition in Member States and in the EU, leading to valuable time series whose continuation would be advantageous to monitor and evaluate policies and track trends such as the evolution of the number of agricultural holdings.

Lastly, the context of EU agricultural statistics as explained in chapter 1.1. and the changes in global agriculture as described in chapter 1.2. call for harmonisation and common solutions, as neither climate change nor global trade flows or food security issues stop at national borders. The Commission should therefore steer the EASS, within the larger framework of the European Statistical System (ESS), into a joint commitment to develop, produce and preserve the highest quality standards for European agricultural statistics.

Subsidiarity and proportionality

The scale of the actions included in the strategy justifies an EU initiative since the objective of the proposed action, namely the improvement of EU agricultural statistics, cannot be sufficiently achieved by the Member States and is therefore better achieved at EU level. Only the Commission can coordinate the necessary harmonisation of statistical information at EU level, while Member States will handle their national data collections in the way they see fit.

Member States agree with this approach, as evidenced over the years, for example at the November 2013 CPSA meeting, when discussing the agricultural statistics work programme for 2015 and following years. Representatives of most Member States intervened, stating the importance of creating a more coherent and simplified legal framework and even calling for an extension of the legal framework to cover some high priority data that are currently collected only on a voluntary basis.

[29] OJ L 87/164, amended by Regulation (EU) 2015/759, OJ L 123/90

The proposal also complies with the proportionality principle as the proposed strategy confines itself to the minimum required to achieve its objectives and does not go beyond what is necessary for this purpose. All of the above leads to the conclusion that action and legislation for a renewed agricultural statistics system at EU level is in the interest of both the European Union and the Member States. The added value of EU action is therefore that it allows for the best way of improvement of the statistical activities on EU policies related to agriculture.

3. OBJECTIVES

The context of European Union agricultural statistics and the changes in world agriculture as explained in chapters 1.1. and 1.2., the current setup of the EASS, its stakeholders and their needs, and the evaluation of the system as outlined in chapters 1.3., 1.4., 1.5. and Annex II, and most of all the three main problems of the current EASS as described in chapter 1.6. have led Eurostat to formulate the strategy for agricultural statistics for 2020 and beyond, in order to develop a future European Agricultural Statistics System (EASS).

Context of the future EASS

The initiative aims at creating a more modern, flexible, coherent, efficient, cost-effective and lighter system for providing relevant and appropriate official EU agricultural statistical data of high quality that can interact with and be linked to other components of the ESS. In this policy context, Eurostat plays a central role[30]. Eurostat has already included in the ESS Vision 2020 the development of statistical legislation covering broader areas, drawing upon multiple sources and providing for flexibility in order to address users' needs.[31] The Commission envisages adapting agricultural statistics to the overall objective of modern statistics through the strategy for agricultural statistics.

Quality statistics to support European policies are also the main driver of the European Statistical Programme 2013-2017[32]. Environmental and agricultural statistics are one of the three pillars of statistical production under this programme. Among the relevant objectives of the programme is "the review and simplification of the agricultural data collection in line with the Common Agricultural Policy (CAP) review post-2013 and the redesign of the agricultural data collection processes, in particular with the objective of improving the quality and timeliness of the provided data". This initiative implements that objective.

The future EASS can also contribute to at least four of the ten priorities of the Juncker Commission[33], namely "1. A new boost for jobs, growth and investment", "3. A resilient energy union with a forward-looking climate change policy", 4. “A Deeper and Fairer Internal Market with a Strengthened Industrial Base” and "9. A stronger global actor", by providing better data for job, growth, investment, prevention and mitigation policies in

[30] Commission Decision on Eurostat of 17 September 2012 (2012/504/EU), OJ L 251/49

[31] The objective of the ESS Vision 2020 is to improve the efficiency of European statistics by reforming their production methods and modernising the ESS in order to meet the challenges that statistical producers are faced with, satisfy users and continue to be relevant in EU policymaking. The main idea is to move away from the traditional way of producing statistics to a more integrated production model which will increase efficiency, reduce the burden on respondents, cut the cost of compiling statistics and respond better to user needs. Using multiple sources, innovative data collection methods, and cross-domain concepts is emphasised. (DOI: 10.2785/059143)

[32] Regulation (EU) No 99/2013 on the European statistical programme 2013-17

[33] European Commission – 10 Priorities

agriculture, climate change, bio-energy and environmental actions, and a deeper understanding of global food flows, developments and risks, respectively. Agricultural statistics may also be useful to other EU or Member State priorities affecting or affected by agriculture and rural development.

Finally, this initiative is also part of the Regulatory Fitness and Performance Programme (REFIT), aiming to fulfil its objectives of simplification, cost-efficiency and burden reduction by codifying amendments and voluntary agreements, reducing the number of basic legislative acts in the area of agricultural statistics, eliminating possibly no longer needed data sets, and providing more high-quality data while lowering the burden on respondents.

General and specific objectives

General objective:
Produce high-quality European agricultural statistics according to Article 338 TFEU.

Specific objectives:

Table 1: Specific objectives and problems addressed. Source: Eurostat

Objective	**Addressing Problems**
Produce high-quality statistics that meet users' needs efficiently and effectively	"New and emerging data needs not adequately served" "Burden of providing data perceived as too high"
Increase the flexibility and reaction speed of the agricultural statistics system	
Improve the integration between agricultural, forestry, land use and environmental statistics	
Develop a responsive and responsible governance structure for agricultural statistics	
Improve the harmonisation and coherence of European agricultural statistics	"New and emerging data needs not adequately served " "Data collections not sufficiently harmonised and coherent" "Burden of providing data perceived as too high"
Produce more statistics while lowering the burden on respondents by exploring alternative data sources and possibilities of efficiency improvement	"New and emerging data needs not adequately served " "Burden of providing data perceived as too high"

Stakeholder benefits

The initiative aims to benefit the main EASS stakeholders in the following manner:

- **Data users**, such as the policy DGs of the European Commission, international organisations and others, by providing them with more and better, more flexible and integrated, and more harmonised and coherent agricultural statistics data to serve their policy making, monitoring, evaluation, research and other needs; as they have an **interest** in the policy, institutional users have a stake in the scope of agricultural statistics and in limiting the burden on businesses, whereas general, specific and research users have an interest in the scope and dissemination of agricultural statistics.
- **Data producers** such as National Statistical Institutes, Other National Authorities and Eurostat, as the administrative bodies in Member States and at EU level that carry out the statistical surveys and other data collection, production and dissemination tasks: more and better, more flexible and integrated, and more harmonised and coherent agricultural statistics produced in more efficient and alternative ways are planned to result in better data quality, better resource use, and leaner processes; as they will have to **implement** the policy, they have an interest in keeping agricultural statistics production costs at the same level or lowering them, in improving their production processes and outputs, and in receiving EU funding for data collection.
- **Data respondents** such as farmers and agricultural businesses: more and better, more flexible and integrated, and more harmonised and coherent agricultural statistics produced in more efficient and alternative ways are planned to improve data provision while simplifying data collection and reducing its burden; as they are **affected** by the policy, they have an interest in lowering response costs and burdens, and in maintaining their EU funding, which indirectly depends on high-quality statistics.

3.1. Meeting data needs

Produce high-quality statistics that meet users' needs efficiently and effectively

The EASS needs to deliver the **statistical knowledge base** needed for the design, implementation, monitoring and evaluation of the CAP, environmental policy and climate change policies, and other important EU and Member State policies. The effectiveness of the EASS is first and foremost measured against this requirement. The EASS has to be involved in the data needs identification and prioritizing process in order to safeguard the efficient functioning of these policies.
For the CAP 2014-2020, a monitoring and evaluation framework has been developed with indicators which are largely based on statistical data.[34] Where data gaps exist for these indicators, they need to be filled as a matter of priority. In particular, data needs related to soil quality, water, fertiliser and pesticide use should be fulfilled. Agri-environmental indicators are another example; they are currently under development to meet corresponding data needs. They are supposed to give information on the incorporation of environmental measures in agricultural policies and on the relation between agriculture and the environment. The aim is to use already available data from different sources, but there is potentially a need to start new surveys. At the moment, statistical legislation in this area only exists for pesticides while some other indicators are collected under administrative legislation.

The **scope** of agricultural statistics could be widened to include aspects of forestry, fisheries, land cover and use, and water use, as the related economic, social, and environmental issues

[34] Commission Implementing Regulation (EU) No 834/2014 of 22 July 2014 laying down rules for the application of the common monitoring and evaluation framework of the common agricultural policy, OJ L 230/1

faced by policy makers relate to all areas. Because of the fundamental relationship between agriculture and land, the geospatial aspect of land is an important element of the scope of agricultural statistics.

Furthermore, the statistical data within the EASS must be produced and transmitted to Eurostat in an efficient manner allowing a reduction in the different steps of the process without reducing data quality. An important part of this is **validation**, i.e. the processes used to establish whether data conforms to specific criteria. The way agricultural statistics have developed during the years has not made it possible yet to streamline validation in the data transmission to Eurostat, but future common elements in agricultural statistics would reduce inconsistencies between domains and make it easier for users to understand the reasons for apparent discrepancies between data sets, while at the same time reducing the burden for NSIs, as the same terminology, definitions, scope etc. would be used.

Increase the flexibility and reaction speed of the agricultural statistics system

An increase of flexibility would allow an easier introduction of new needs, statistics and methodological approaches in order to better support the policy-making and decision processes. The EASS must be more agile and responsive to user needs, which evolve in line with policy changes. Key variables have been identified during the long history of the EASS, and the resulting time series need to be preserved. Journalists, NGOs, researchers in this complex field, all need to access the information they require in different ways. International cooperation is also important; the EASS must collaborate with and contribute to the developments of especially the statistical activities of FAO and OECD.

The exact form of data collection will be left fully for Member State authorities to decide in a flexible manner so that there is ample room for modern electronic data collection, treatment, storage, transmission and dissemination systems. To facilitate this, the initiative is formulated in a technology-neutral way. EU statistical processes are already largely digitised; further on, even fundamental improvements of existing systems are possible and will be encouraged as long as the core legal obligations of data collection, processing, transmission, storage and dissemination remain fulfilled.

Improve the integration between agricultural, forestry, land use, environmental and other statistics

The EASS needs to interact with and be linked to several **other statistical domains**. Agriculture is a part of *primary production* together with forestry, fishing and hunting. The statistics on primary production would benefit from being considered as one statistical system. The primary production is based on land and water, so land use and cover statistics and primary production statistics should fit together seamlessly. These statistical components should be analysed together, and future statistical systems should clearly define their relations to each other.

Agricultural practices have a major impact on the *environment and climate change*. The statistics on agricultural production, production methods and land use are crucial for several types of environmental statistics (e.g. water and air quality). The impact of crop and animal production (e.g. ruminants, leaking nutrients) on the carbon cycle is very important, but not fully understood yet. Agricultural products and by-products are also becoming increasingly important as a bio-energy source. The EASS therefore also needs to be connected to environmental statistics, indicators and accounts, and energy statistics. For example, rural development policy can be used to introduce buffer strips alongside water bodies and invest

in water storage technologies. More integrated data would help to align different priorities better, e.g. to save water instead of just fulfilling lower-level goals of different policies, by increasing cooperation between agriculture ministries and water management authorities.

Agricultural statistics should also open up towards cross-domain collaboration and compatibility with *social statistics* to improve data collection in the social dimension of agricultural statistics. At present, the FSS covers a wide scope of holdings, a substantial number of which produce mainly for their own consumption. This kind of information is important for describing both the social dimension of agricultural production and the reliance of many households on subsistence farming. Currently, the data needs in this area are not fully developed, as until now subsistence households have been a part of the FSS. The aim is to use, where possible and feasible, already available data from social statistics to avoid duplication of efforts, challenging the silo approach where appropriate, but without creating additional burdens and without losing vital policy-relevant information by "moving" small holdings from agricultural statistics to social statistics.

Analogously, the need for detailed information on the workforce in farms could be fulfilled by seeking harmonisation of agricultural statistics with labour market statistics (provided that these cover a sufficiently high number of farmers and agricultural workers) and *economic statistics.* Agricultural prices including food price chains and other data (e.g. processing, transport and trade data) should also be analysed as to their potential for integration with agricultural statistics to get a broader picture of the economic dimension of agriculture and collect more food security information.

These possible linkages between agricultural statistics and other statistical domains need to be carefully analysed to find the optimal way of structuring and producing European statistics. This will require adaptations of existing ESS statistical surveys to better take into account the overall data needs in order to reach a global reduction of the burden of statistics. The introduction of a **unique identifier** for agricultural holdings would make it possible to combine data from administrative registers and other sources and from various statistical surveys with each other, thus reducing the burden on respondents while increasing the available data. This would make it possible to introduce a building block approach in agricultural statistics, which would allow collecting data in the manner best suited for the purpose, and reusing it by combining it with other data sources. The identifier should be the same in all agricultural statistics, and should ideally also be used in administrative applications and be consistent with business statistics in order to allow for synergies.

Develop a responsive and responsible governance structure for agricultural statistics

Good governance is crucial for safeguarding an adequate knowledge base for sound agricultural policy making at national and EU level. A regular periodic performance assessment of the EASS is therefore important to guarantee its fitness for purpose. The governance system should be responsible for self-assessments, but cross-domain peer-reviews and external expertise are also useful.

The EASS requires a pro-active, broad-minded and efficient governance structure, which represents, integrates and balances the interests of data users and data providers in the ESS context. Pro-activeness and reactiveness are important features, as agricultural policy is evolving and the system needs to be adapted in order to stay relevant. The governance needs to support the multi-dimensional and diverse reality of agriculture and agricultural statistics. The governance vision also has to be broad enough to enable the best possible balancing between various statistical domains to optimise the trade-offs, permeability and overall

efficiency of the ESS. Lastly, the governance system should allow for capturing changing user needs and adapting legal aspects efficiently and quickly, include flexible modular solutions, and provide procedures and tools for assessment, monitoring and evaluation.

3.2. Coherence and integration

Improve the harmonisation and coherence of European agricultural statistics

In a period of increased demand for data for policy making and reduced resources, coherence and harmonisation are some of the best tools available to safeguard the continuity of high-quality statistical data at reasonable cost. Thus, the EASS needs a solid shared basis of **common definitions and concepts** for linking the existing statistical domains, especially as the present definition of an agricultural holding is linked to the production of agricultural products. Therefore, the range applied in agricultural statistics is very wide, from households producing some vegetables in their kitchen gardens to units with thousands of hectares.

Different thresholds are applied in the Member States[35], with some including virtually all rural households with bigger kitchen gardens, while others exclude the smallest holdings. This is accepted in the present legislation. It will be necessary to analyse what kind of statistical units should be covered by agricultural statistics, and whether the coverage should be different depending on the use. This approach should be described in a common framework, and then reflected in the statistical regulations. It is also important to share validation rules and practices, quality assurance, reporting and dissemination principles in line with the ESS Vision 2020. Currently, different definitions, overlaps and gaps create an unnecessary burden and problems for stakeholders.

Another important action in this area is to re-use as much as possible existing **administrative and other data**. IACS, which is the most important system for the management and control of payments to farmers under the CAP, is an administrative register that many NSIs use as a source of data for surveys or for validation purposes. Eurostat and DG AGRI have cooperated in improving the use of IACS by organising a task force with representatives from several Member States in order to identify actions to simplify the use of this register. The Task Force concluded i.a. that statistical needs should be taken into account in the design phase of any national or European administrative database. In addition, IACS is part of several pilot studies to explore using administrative data for agricultural statistics. These pilots are run in the framework of ESS.VIP.BUS.ADMIN, a project on administrative data sources that implements one of the five key areas of the ESS Vision 2020, "New data sources".[36]

A separate Eurostat-DG AGRI task force on linkages between administrative data and statistics concluded in 2013 that there is scope for increasing the use of administrative data in agricultural statistics, provided that issues related to the harmonisation of units, definitions, classifications and timing can be resolved and that different objectives of data collections are taken into consideration (representativeness and completeness for statistics; legal compliance for administrative data related to the CAP). Slight differences in definitions or a lack of exchange across different players (statistical departments; paying agencies; ministries; regional/local authorities etc.) provide a barrier that needs to be overcome. Last but not least, IT systems should be adapted to link different data bases. The principle of "collect once, use

[35] Statistics Explained - Farm Structure Survey - Thresholds
[36] ESS.VIP.BUS.ADMIN (Administrative data sources)

many times" should apply to any statistical data collection, with the aim of not asking one farmer the same question more than once. In general, it seems that for some countries there could be a cost-saving, feasible option of providing data from registers instead of conducting a separate data collection, while this would be necessary for others. A part of the statistical surveys could thus be replaced by other data sources in an efficient manner if the related farms are well targeted.

3.3. Burden reduction

Produce more statistics while lowering the burden on respondents by exploring alternative data sources and possibilities of efficiency improvement

The variables, in particular those identified in previous burden assessment exercises as the most difficult (see chapters 1.5. and 1.6.3.), need to be looked at in order to simplify data collection, eliminate possibly no longer needed data sets in accordance with the REFIT objectives of simplification, cost-efficiency and burden reduction, and improve the reliability of the results. There is also a need to reduce the observed population, as surveying small farms is as expensive as large farms, while not all information is needed for both types of farms. The issue and definition of thresholds need to be discussed further (use of economic and/or physical criteria for defining thresholds, possibility of applying different approaches for different countries to address different agricultural realities in Member States etc.)

Information and communication technology and other new technologies (e.g. Big Data) should also be integrated into the future EASS. There is potential for an increased use of information technology not only in data collection and processing, but also in dissemination. Technologies such as computer-assisted personal interviewing can lead to improvements in data quality and reduce the time lag between data collection and data analysis. A key requirement for this is that unique identifiers are introduced. Only then can data warehouses or similar databases be set up to ensure easy combination of data to enable greater efficiency, a higher flexibility for Member States to choose how data are collected, higher speed, and a lower burden on respondents. Integrated business processes comprising e.g. multi-source/cross-domain data integration, a common infrastructure and tools for data processing, exchange and dissemination, and standardised quality assessment should be promoted. Best practices should be applied across Member States.

In addition, the effectiveness (fitness-for-purpose) and efficiency of data collection methods need to be assessed against the data needs and quality criteria. This means identifying whether the information needed can be provided by using already existing data in models, as bases for estimates, or if expert estimations can be used. In case data collection from farms is required, are there already existing surveys that can be easily adapted to take on board new needs, or are non-statistical sources available? Are the phenomena to be surveyed changing quickly or slowly? And are there possibilities to decrease the frequency or geographical level to save resources? These and other questions need to be answered so that data collection can be designed optimally.

Some **other ways** to reduce the burden of data collection in agricultural statistics are, among others: different precision or frequency requirements and/or coverage for different survey modules, non-mandatory interlinking between modules, better integration following the principle "collect once, use many times", targeted sample surveys, and a system of core census surveys and modules with sample surveys of affected units, at a higher threshold and with less precision.

4. OPTIONS

Taking everything described previously into account, Eurostat has developed four possible policy options to achieve the objectives detailed in chapter 3, with the main criteria of legal feasibility, technical feasibility, previous policy choices, coherence with other EU policy objectives, effectiveness and efficiency, proportionality, political feasibility, relevance, and strategic viewpoints:

1. **Baseline – no EU action on structural data of agriculture**
2. **Prolongation of the FSS Regulation (EC) No 1166/2008**
3. **Single new legal framework for the whole sector of agricultural statistics**
4. **Two-step integration of agricultural statistics**

Statistical data are either produced in some way in collection, production and dissemination systems or not produced at all. Therefore, substantial "halfway" or intermediate options are not possible in this area, but slightly different implementations of the four options above are of course conceivable. They would however not be materially different in their aims and impacts from the four options above, so only those four have been analysed further.

4.1. Baseline – No EU action on structural data of agriculture

If no EU action is taken, the result would be that the current Regulation (EC) No 1166/2008 will expire and the collection of structural data on agriculture will remain at the discretion of Member States. These data are considered to be a fundamentally important part of the EASS. The other agricultural statistics legislation (see Annex V) would remain in place as it is today, but with less assurance of quality as an agricultural census (based on Regulation (EC) No 1166/2008) is often used to update farm registers that are used for stratification in sample surveys.

4.2. Prolongation of the FSS Regulation (EC) No 1166/2008

This option is the renewal of the current FSS Regulation (EC) No 1166/2008 which expires by 2018. This would mean that the current system, in force since 1966, would continue without integrating changes. The other agricultural statistics legislation would remain in place, and the status quo would continue.

4.3. Single new legal framework for the whole sector of agricultural statistics

This option would imply the creation of a completely new legal framework for all EU agricultural statistics. All legislation related to agricultural statistics would be integrated into one single framework regulation. The basic regulation would include common objectives and definitions (periodicity, scope, precision etc.) and would also specify, in general, the required statistical outputs. Implementing acts would define technical elements necessary for a harmonised implementation of the basic act, and delegated powers would be given to the European Commission to amend non-essential elements of the basic act in order to ensure the flexibility needed to respond to changing policy and data needs. Changes would be managed by acts subject to implementing measures defining methodologies with objective criteria to assess the change in burden entailed, in order to safeguard the burden reduction of the proposed new system, prevent the introduction of unexpected costs, and preserve subsidiarity.

The framework regulation(s) foreseen for options 3 (and 4) would consist of a **core** set of variables fulfilling all requirements (essential structural variables, e.g. farm size and land use), which is asked every time that a survey is carried out, either as a census or as a sample survey, on farms above a minimum threshold; **modules** that are subsamples of the core and focus on certain thematic aspects from the current list of variables that are needed either at lower frequency, for smaller samples, or at different thresholds than the core, but which can be directly linked to the core survey results and shall always be conducted together with the core; and flexible ad-hoc **satellites** that focus on special topics that are not traditionally part of the EASS, i.e. surveys which aim to cover the variables that will be collected according to new and emerging data needs. Their exact contents would be determined prior to their implementation. These surveys are not planned to be carried out at a fixed frequency but may be repeated if needed. This system of core, module and satellite surveys was already the preferred outcome of a task force of interested stakeholders set up in 2011 to support Eurostat in identifying the best ways of creating an efficient system for the collection of structural, production and related data for agriculture at European level, and defining the best overall survey design in regard to organisation, frequency and sampling.[37]

An **agricultural census** is needed because it is the only way to get updates on the full agricultural population in the EU, so small, not market-oriented holdings should be included in the census and sample surveys, even if surveyed for less or different information. The census is the only data collection instrument that produces statistical information on farms at the lowest geographical level, and is therefore an essential source of information for governments and decision-makers. FAO also expects its member countries to follow the standards, concepts and definitions guidelines of its World Programme for the Census of Agriculture 2020 (WCA 2020) in order to achieve harmonised and internationally comparable results and allow countries to benchmark their performance against other countries, among other advantages.[38] This and other international obligations are another reason for the need for an agricultural census.

To **link** the farm information with other elements of agricultural statistics, Member States should be allowed and able to use data collected for production statistics, permanent crops statistics and organic farming statistics in the system of farm surveys. For this to work, definitions need to be identical, and farm identification numbers should be introduced. Such a unique farm identifier would also enable linking holdings covered by the FADN with holdings covered by the FSS. In Eurostat survey years, all structural information would thus have to be collected only once and could be shared with FADN data collectors at national level. This could also address the need to add additional variables to the FADN by transforming them into satellite surveys in the new EASS. Member States should also be encouraged to use administrative data sources and to establish farm registers, and efforts should be made to harmonise definitions and reference periods across data sources.

Lastly, new **thresholds**, paired with special sample surveys on farm holdings below the thresholds in order to ensure sufficient coverage, and other actions are planned to be introduced to reduce the burden and cost of data collection mainly in countries with many small holdings (see 5.1. and 5.2.)

[37] Document CPSA/631 for the CPSA Meeting November 2011
[38] FAO World Program of the Census of Agriculture 2020, Volume 1: Programme, concepts and definitions

4.4. Two-step integration of agricultural statistics

This option of a two-step integration of agricultural statistics would safeguard the continuation and modernisation of structural statistics on agriculture. Two new framework regulations would be introduced stepwise: an integrated farm statistics (IFS) regulation to be in place before the end of 2018 to ensure the agricultural census in 2020, and another framework regulation on statistics on agricultural input and output (SAIO) to be adopted and in place before 2022. This would allow achieving the benefits of option 3 while greatly reducing the timing challenge. Otherwise, this option would follow the structure of option 3. In order to safeguard the coherence between farm and aggregated data, a common scope would be integrated into both regulations, and shared technical and methodological documentation would be created. Together, both framework regulations would cover all aspects of the new statistical programme for agriculture.

Step 1: Framework Regulation for Integrated Farm Statistics (IFS)

The IFS would be based on the idea of having a limited core set of variables to be surveyed as a census in 2020 and as a sample survey in 2023 and 2026, several modules to be surveyed at different frequencies than the core variables and with lower quality requirements, and ad-hoc surveys that would be flexible and easier to change to adapt to changing needs, but also carried out at different frequencies and with lower quality requirements. This framework regulation would not only provide a legal basis for the structural data on farms, but also replace the Permanent crop statistics regulation (Regulation (EC) No 1337/2011; quinquennial orchards and vineyards surveys will be integrated as modules, as these surveys are in essence structural). In addition, parts of agri-environmental statistics presently not under legislation, where data need to be collected at farm level (such as irrigation, manure or nutrient use), would be integrated into this framework regulation. Thus, the current long list of compulsory variables in one single survey would be replaced with a new and flexible approach. All data are foreseen to be transmitted to Eurostat as micro-data. In order to make the use of administrative data easier, the inclusion of a compulsory register, fully coherent with business registers, and containing market oriented farms is also foreseen.

Step 2: Framework Regulation for Statistics on Agricultural Input/Output (SAIO)

Another Framework Regulation for Statistics on Agricultural Input/Output (SAIO) is foreseen, consisting of aggregated crop and animal production statistics, agri-environmental statistics on fertilisers, nutrient balances and pesticides, and potentially agricultural price statistics. All these data are aggregated statistics with no micro data transmission to Eurostat, unlike the IFS. They deal with agricultural inputs (prices of seeds, pesticides, feed etc.) and outputs (crop and animal production and prices). The data can be collected from farms, administrative sources, intermediaries (dairies etc.), wholesale entities and market organisations, and often include a certain amount of expert estimations. The introduction of a coherent framework would notably allow for the development of an integrated legal architecture, as well as better planning of the surveys, and would allow combining databases into warehouses as well as achieving better coherence.

As the Economic Accounts for Agriculture (EAA)[39] are considered satellite accounts of the national accounts and macro-economic by nature, their integration into the new framework regulations is not being proposed, but to remain subject to independent legislation.

4.5. Early discarded options

The CAP, one of the major common EU policies, is fully harmonised and therefore requires comparable data, which can only be established by statistical legislation at EU level (see chapter 2).

Voluntary data collection is inherently less stable, enforceable, comparable and reliable than regulated, harmonised collection by national authorities and would constitute a major setback to legal, organisational, technical and financial systems that already exist for several decades within the EU. In addition, there would be a severe political, budget and security risk if the CAP, one of the EU's main policies, depended on data collected by unstable and unreliable means. In such a scenario, the evidence base of the CAP would be undermined, with negative consequences for policy development and implementation. That decision, if it were taken, should be a political one, and not one dictated by the scarcity of data. A scenario where the EU would discontinue its activities in agricultural statistics was therefore immediately discarded, and no options of actively abolishing EASS legislation have been considered beyond letting the FSS Regulation expire as in the baseline option 1.

Eurostat considered the possibility of continuing the current legislative structure with separate legal acts per domain, but abandoned that option at an early stage, as the evaluation of the current EASS shows that the existing legislation is not fulfilling important data needs, lacks consistency and coherence and is perceived as too burdensome, all aspects of major importance. Various scenarios on different possibilities of grouping the statistical domains were discussed, but none of them would have given the necessary added value expected. Thus, improving the EASS by creating legislation that covers a larger area was seen as the soundest way to reach the objectives listed above and was further expanded on in the options analysed further.

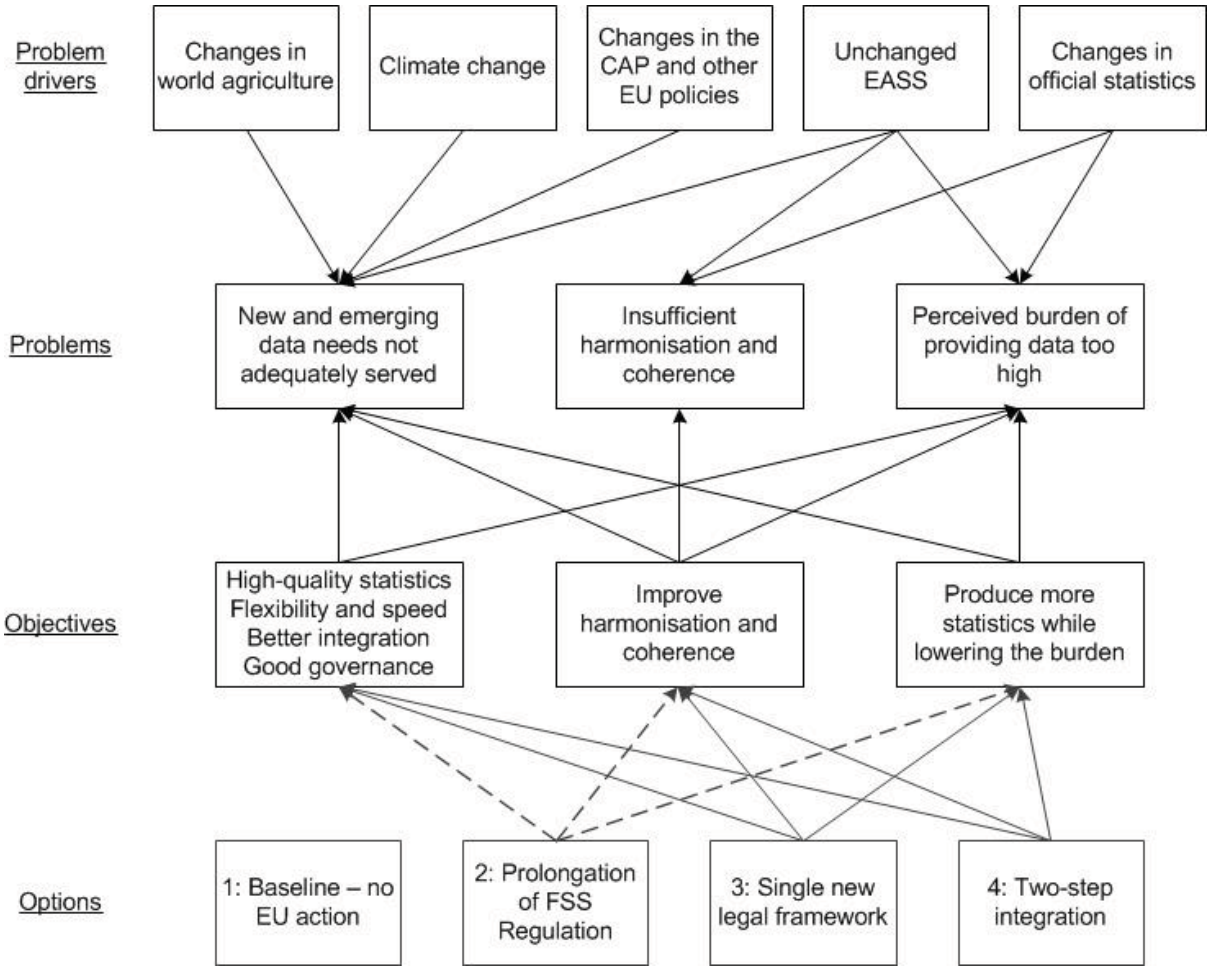
Considering the known structure of agricultural holdings in the EU, very few of which are large enterprises for a variety of reasons, an exemption for SMEs is not possible, as most data necessary for policy purposes would then be lost. The number of micro-enterprises in agriculture is very large, and for that reason appropriate information on these units is required. An adapted regime for very small units will be considered via legislative thresholds (see also 5.1. and 5.2.)

4.6. Problem and solution tree

The problem drivers, the problems, the objectives and the options of the agricultural statistics strategy 2020 as well as the relations between these elements can now be visualised to enhance understanding.

[39] Regulation (EC) No 138/2004 of the European Parliament and of the Council of 5 December 2003 on the economic accounts for agriculture in the Community, OJ L 33/1

Figure 1: Problem drivers, problems, objectives and options of the agricultural statistics strategy 2020 and their relations. Source: Eurostat.



5. IMPACT ANALYSIS

The decisions to produce European Union statistics are policy-driven. Their raison d'être is to support policy-making by providing EU institutions, Member State governments and other data users with relevant statistical information needed to design, implement, monitor and evaluate EU policies. EU statistics are important for evidence-based policy making for all Union policy areas and in particular for the ten priorities of the Juncker Commission. The "impact of statistics" is thus linked to the fact that they are an infrastructure serving many purposes in modern societies; but the social, economic and environmental impacts of this infrastructure are not directly measurable.

However, as shown previously, a lack of high quality statistics can lead to serious **indirect impacts** such as wrong decisions, misallocations of money or even major political disruptions. Conversely, more and better data for evidence-based policy design, implementation and monitoring are indirectly highly significant and can have immense impacts in many areas of society, the economy and the polity, e.g. better CAP funds allocation increasing the effectiveness of European agriculture and thus EU food security.

The main **direct significant impacts** of the production of European Union agricultural statistics are localised in cost and administrative burdens on NSIs and ONAs (who would for example benefit from more harmonised and coordinated data collection efforts), and cost and response burdens on agricultural holdings and organisations (e.g. small farms who would benefit from having to answer fewer surveys in a more flexible manner). Therefore, these impacts will be analysed in detail quantitatively and qualitatively in the following pages.

5.1. Administrative burden impacts

Burden for data producers

In 2011, Eurostat concluded an exercise with the purpose of estimating the administrative burden of collecting FSS variables on data producers (NSIs and ONAs).[40] The objective of this exercise was to estimate the overall burden related to a new proposed system of farm surveys composed of core, module and satellite surveys as compared to the current FSS system. This system was intended to collect core data from the main sample, module data from a sub-sample, and satellite data from a separate sample of farms. The overall burden was estimated using the results of the burden assessment exercise of FSS 2010 and SAPM 2010 (only those variables not covered by FSS core, module or satellite surveys) as a reference and starting point. In the exercise, each Member State estimated its own burden of each FSS and SAPM variable on a scale of 1-5, with 1 indicating a very low burden and 5 a very high burden. Based on the submitted results from the then 27 Member States, Eurostat calculated an indicator, i.e. a number indicating the average administrative burden score per variable.

As the structure of this previously proposed system was largely identical to the structure of the currently proposed options 3 and 4, this methodology was adapted for this impact assessment to arrive at the conclusions detailed in the subchapters of the impacts of options 2, 3 and 4. However, the final structure of the future EASS is subject to negotiations and agreements in legislative and expert bodies, its implementation is dependent on inter alia technological and organisational feasibility, and the underlying numbers only represent averages of subjective national assessments of administrative burdens. Due to these and other factors, the results should be taken as orienting approximations rather than as exact predictions. Further details of the methodology, its underlying assumptions and estimations, and the full calculations are presented in Annex IV.

The result of the calculations is that for a full "cycle" (one census and two sample surveys) of FSS surveys, options 3 and 4 are foreseen to lead to the following burden reduction for data producers as compared to a prolongation of the current status quo (option 2):[41]

Burden reduction in the short term despite adaptation costs, and a better performance (fulfilling new data needs, more system harmonisation and integration). Estimated total weighted burden score of 1007 instead of 1028 in the prolongation of the current status quo.

Burden reduction in the long term due to no more adaptation costs, better flexibility and adaptability of the new system, and fewer farms to be surveyed.

[40] Document CPSA/SB/689 for the FSS WG Meeting September 2011

[41] With internal factors such as survey and system redesign and adaptation costs as well as fewer surveyed holdings, and external factors such as a continuing shrinkage of the number of agricultural holdings in the EU and technological progress already accounted for

As to option 1, its burden impact is hard to assess due to very different systems in Member States, but it can be expected that less, and less regulated, data collection, will initially translate into some burden reduction as compared to option 2. In any case, the administrative burden must be seen in relation to the benefits created, in this case mainly serving important EU policies with a statistical evidence basis. Thus, a lower burden is not automatically better if it leads to inferior statistical products, and a higher burden is not automatically worse if it leads to better products. This balance should be kept in mind when assessing the burden of data collection.

The burden of agricultural statistics other than the FSS could not be estimated due to a lack of data and very different Member State systems and practices precluding comparison. However, the structural survey remains the backbone of the EASS and is its central and biggest individual data collection; the results of this analysis should therefore in general be transferable to smaller collections.

Burden for data respondents

As described in chapter 1.6.3., in a burden-assessment exercise in 2010 based on a questionnaire sent to Member States to assess the production costs and response burden of EU basic legal acts in several statistical fields, among them statistics on agriculture, the FSS was seen as having a high production cost and response burden, whereas other agricultural statistics collections had at most a medium cost and burden while also serving to answer national data needs in most Member States. In this respect, one should however keep in mind that "the burden of statistics" is a perception of respondents which does not objectively reflect a measurable and genuine statistical impact, since it is sometimes confused with other opinion surveys, or combined with national addons. There is however a clear need to lower, to the extent feasible without compromising on quality, mainly the burden of the FSS data collection for data respondents (i.e. farmers, managers of agricultural holdings etc.) to ensure its continuation and improvement as the keystone of the EASS. This would also help to achieve a main goal of the Better Regulation initiative, namely reducing the burden for small and medium enterprises (SMEs), and also the REFIT objective of burden reduction.

This goal could be achieved under options 3 and 4 mainly by a new threshold of 98% of total utilised agricultural area and livestock units expected to bring considerable savings mainly in countries with many very small holdings and reducing the number of surveyed farms overall by around 3.6 million to 8.4 million as compared to the almost 12 million farms surveyed for the FSS 2010 (i.e. a reduction of 30%). This change would constitute a significant easing of the survey burden for respondents across the EU and potentially benefit from more than one in two (Romania) to one in three (e.g. Bulgaria) and one in five (e.g. Poland) SME agricultural holdings (see 5.2. for further details and a country table on the effects of these changes).

Further reductions of the burden for data respondents can be expected under options 3 and 4 through more efficient and moderately shorter questionnaires due to the core, module and satellite system, and under all options due to technological progress e.g. allowing completion of web-based surveys. As option 1 is expected to lead to fewer surveys in Member States, some burden reduction will also take place under this option.
It is not easily possible to quantify all these different effects due to the sometimes vastly different statistical collection systems and economic conditions in EU Member States e.g. affecting rural Internet access and survey methods. To attempt an indicative quantification, the overall 30% reduction in the number of surveyed holdings can be applied fully, whereas integration and harmonisation actions on the side of data producers, shorter questionnaires as

well as technological and other progress can be assumed to reduce the overall burden by 5%, resulting in an overall burden reduction by about one third for surviving farm holdings in the EU under options 3 and 4 as compared to option 2. To summarise:

100% burden reduction for most of the small farms below the new survey thresholds, benefiting from more than one in two (Romania) to one in five (e.g. Poland) SME farms. Burden reduction for the other farms due to more efficient and better integrated surveys, except for some farms having to fulfil new data needs by answering module or ad-hoc surveys in addition to the core surveys.

5.2. Cost impacts

Qualitative analysis

Need for EU funding of EU agricultural statistics

As stated earlier, the collection of high-quality and comparable EU agricultural statistics cannot be sufficiently achieved by the Member States alone, but only at EU level on the basis of EU legal acts, because only the EU can ensure the necessary harmonisation of statistical information. In addition, the CAP is completely managed by the EU and Union funding replaces national spending, reducing the incentives for Member States to conduct costly surveys to collect a full set of agricultural statistics. Costs statements from earlier grant procedures show that especially the decennial agricultural censuses are very costly. Union support is therefore needed to ensure that countries with a large farming community do not have to carry too high a burden of the overall costs. Without EU support, many Member States may be tempted to reduce their agricultural statistics collections.

Therefore, the EU contributes to the costs of agricultural statistics data collection via annual financing decisions with the budget being endorsed by the legislator. This contribution covers a share of the overall cost of carrying out agricultural statistics surveys and helps to offset the additional costs incurred by Member States in meeting the requirements of the Commission, concerning, in particular, the harmonisation of survey characteristics and the delivery of results in a common format and in time.

Abolishing EU funding for statistics in agriculture would almost certainly lead to a loss of essential evidence for shaping policies at national and EU level and to a great risk of budget misallocation. For farmers, this could mean losing a significant part of their income. The impact assessment for the CAP 2014-2020 analysed the effects of a drastic reduction of the CAP budget and concluded that phasing out direct payments would lead to strong restructuring in the sector and much larger and more capital intensive farms. Production intensification in the most fertile regions and land abandonment in less advantageous areas would have negative environmental and social consequences. Focusing policy on rural development-type environmental measures would help to alleviate these problems, but would not contribute to enhancing the sustainability of agriculture. While agricultural statistics alone are not sufficient in guaranteeing the continuation of the CAP, they are a necessary ingredient for any future policy development. This holds for related policies such as rural development and climate change actions as well. Therefore, DG AGRI is committed to provide funding for the EASS for the foreseeable future.

EU agricultural statistics costs as an investment

There are two possible alternatives for setting up agricultural statistics data collection. The first one is for the EU to organise it through procurement. Considering that coherence, consistency and long time series are needed, this would require substantial planning and expert know-how. There were almost 11 million farms in the European Union in 2013, all of which must be surveyed in an agricultural census. The costs involved in a procurement alternative are very difficult to estimate. Cooperation with Member States would in any case be necessary in order to create the sample.

On the other hand, there exists a system of agricultural statistics in all Member States, with well-functioning processes and often with more than 100 years of experience in carrying out farm structure surveys. Quality is ensured through the use of a good sampling basis. The fact that Member States do not carry out these surveys only for EU policy needs, but also for their own national and regional policies, means that they are ready to invest their own funds, which can be seen from the fact that the total costs reported by the Member States for carrying out the agricultural census in 2010 amounted to about 320 million Euro, to which the EU contributed with 37.4 million Euro (11.7%). The total costs for the FSS 2013, which was a sample survey of about 1.7 million farms, amounted to about 47 million Euro, with a total EU contribution of 18.7 million Euro (39.9%).

From this, the general conclusion can be drawn that the overall costs of not having EU agricultural statistics at all and/or only having disparate Member State collections (option 1) are much higher than collecting them either as in the status quo (option 2) or with a renewed legal, organisational and technical basis (options 3 and 4). This is because the costs of data collection, production and dissemination (e.g. 320 million Euro for the farm census in 2010 in the entire EU) are dwarfed by the costs of not having sufficient data to guide policies (e.g. 59 billion Euro per year for the CAP alone, let alone the costs of for example insufficient food security). European Union agricultural statistics and the EU contributions should therefore be seen as an investment rather than as pure costs.

Furthermore, abandoning a working system in which great amounts of person-years, funds and other resources have been invested over the decades to try to achieve the same results in a more disorganised and disparate manner (option 1), or continuing the system unchanged despite mounting challenges, and thus exposing it to a risk of obsolescence and higher adaptation costs due to more parts to be changed and an even more urgent timeframe once its deficits become even greater (option 2), is certainly more costly in the short and long term even if only focusing on the direct objectives of serving data needs better, more coherently and lowering the burden, than updating the system (options 3 and 4). The following quantitative analysis of costs and benefits is therefore based on the assumption that European agricultural statistics are needed, and the identified options are analysed for their different approaches in achieving this goal.

Quantitative analysis

Costs of farm structure surveys for data producers

According to the information provided to Eurostat by the Member States in the context of applying for financial support to carry out the farm structure surveys, the total costs for the agricultural census in 2010 amounted to almost 320 million Euro, while for the interim surveys in 2013 and 2016 the total reported costs have reached or will reach about 47 and 44 million Euro. As previously mentioned, the EU contributed 37.4 million Euro to the FSS 2010 (11.7%) and 18.7 million Euro to the FSS 2013 (39.9%).

There are no reporting requirements on the costs of other agricultural statistics surveys, but as parts of quality reporting exercises, some countries have given rough estimates on the costs involved in crop production statistics. The costs in this domain range widely from 0.6 cent per ha of utilised agricultural area in Romania to 64 cent per ha in Poland, as costs are directly related to the use of other data sources than statistical surveys, for example administrative data. Therefore, no useful analysis was possible on the basis of this data.

Possible cost savings in farm structure surveys for data producers

Eurostat sent a questionnaire to Member State NSIs on FSS survey organisation and related costs in autumn 2015, based on their estimates of the FSS 2016, and if not available, on FSS 2013 data. The answers were used to calculate the potential reduction in the costs stated above, for options 3 and 4, and based on the two assumptions of 1) a new threshold of 98% of total utilised agricultural area and livestock units, and 2) allowing Member States with many small units to carry out a special sample survey on 5% of the smallest holdings in order to reach the 98% coverage requirement instead of including them in the regular sample. The current legal thresholds are too high to achieve sufficient coverage, so Member States now survey almost all holdings for coverage compliance. These two changes alone would reduce the number of surveyed farms by around 3.6 million to 8.4 million as compared to the almost 12 million farms surveyed for the FSS 2010 (and planned to continue to be surveyed in option 2), with a resultant reduction in census costs of about 56 million Euro compared to the status quo of almost 320 million Euro, i.e. about 18% (see table 2 below). The one-off implementation costs related to changes in legislation, methodology and IT systems are estimated at around 26 million Euro.[42]

Further savings, especially important for the costly FSS surveys, can be achieved by the core, module and ad-hoc survey system, more surveys being filled out online (shortening the time needed for data collection and reducing the need for staff conducting personal or phone interviews or entering data from postal questionnaires), increased coherence and harmonisation between the different agricultural statistics domains (allowing Member States to better coordinate their data collection efforts, reduce the collection frequency etc.), and other actions at European, national and regional levels to increase efficiencies and reduce costs, such as better IT software and hardware setups, sharing of tools etc. However, as some of these actions are or will be implemented very differently between and even within the various countries due to different institutional set-ups, technological levels, numbers of farms, types of surveys, sample sizes and other methodological issues and general price levels in the countries etc., it is not possible for Eurostat to usefully quantify the potential cost reductions due to these actions beyond general trends. But as Member States are only partially reimbursed for their expenses, it is in their own interest to keep the costs low, thus general cost-effectiveness can be assumed now and in the future. This assumption is backed by the fact that several countries report estimated costs that are very close to or below the threshold to receive the maximum EU contribution.

[42] Typically, survey design and data treatment together cost half as much as data collection – assuming a 25% rise of these costs for adaptation in line with historical experience, additional expenses will amount to around 8% in the short term.

Table 2: Marginal FSS census costs and reduction under options 3 and 4, EU-27. Source: Eurostat

A. Country	B. Marginal costs per surveyed holding[43]	C. Farms surveyed for FSS 2010[44]	D. Farms out under assumptions 1 and 2[45]	E. Total FSS 2010 costs[46]	F. Saved costs: = B*D
	in Euro	Number of farms	Number of farms	in Euro	in Euro
AT	24	150.200	13.700	3.530.000	328.800
BE	4	42.900	1.400	960.000	5.600
BG	30	370.200	121.600	6.010.000	3.648.000
CY	74	38.900	14.000	5.540.000	1.036.000
CZ	15	22.900	0	640.000	0
DE	65	299.800	0	15.650.000	0
DK	15	42.100	700	920.000	10.500
EE	14	19.600	1.100	810.000	15.400
EL	27	674.200	188.800	32.130.000	5.097.600
ES	36	989.800	56.700	24.680.000	2.041.200
FI	8	63.900	300	1.830.000	2.400
FR	40	516.100	27.000	25.770.000	1.080.000
HU	18	576.800	249.200	9.740.000	4.485.600
IRL	6	139.900	2.400	1.870.000	14.400
IT	53	1.620.900	458.300	126.590.000	24.289.900
LT	9	199.900	36.000	3.340.000	324.000
LU	24	2.200	100	90.000	2.400
LV	20	83.400	11.800	1.000.000	236.000
MT	20	12.500	6.600	200.000	132.000
NL	3	72.300	500	2.450.000	1.500
PL	11	1.506.600	249.700	5.330.000	2.746.700
PT	52	305.300	53.000	16.900.000	2.756.000
RO	4	3.859.000	1.991.900	26.810.000	7.967.600
SE	7	71.100	100	690.000	700
SI	10	74.600	14.500	2.350.000	145.000
SK	2	24.500	3.900	370.000	7.800
UK	8	188.700	2.400	2.790.000	19.200
Total	**---**	**11.968.300**	**3.505.700**	**318.990.000**	**56.394.300**

This quantification indicates that options 3 and 4, accounting for all possible cost savings and excluding adaptation costs that are hard to quantify due to the different systems in Member States (but expected to pay for themselves in the medium run), would lead to around a fifth less costs than the continuation of the status quo (option 2), assuming the number of holdings continues to shrink and that technology etc. progress under either option. To sum up:

Cost savings for data producers will be around 18% or 56 million Euro Around a tenth of these savings is expected to accrue to Eurostat, and thus the EU budget. In the short term, adaptation expenses of around 26 million Euro are estimated to occur.

[43] This number indicates the non-fixed survey costs per surveyed holding per country and results from calculations based on the country responses to the Eurostat FSS costs questionnaire referenced above. Where countries did not provide a response, the non-fixed survey costs were estimated based on total and staff costs countries reported for the FSS survey 2010.

[44] These numbers come from Eurofarm records.

[45] These numbers result from internal calculations conducted at Eurostat on the effect of different thresholds on the reduction of the census survey population.

[46] This information is provided by Member States to Eurostat according to Articles 13 and 14 of Regulation (EC) No 1166/2008.

As for option 1, Member States would collect some agricultural statistics even without EU farm structure survey obligations due to international obligations (FAO asks to carry out agricultural censuses every decade) and national and regional policy desiderata, so the costs could only be partly reduced. However, Member States would be generally more flexible in deciding how to set up their agricultural statistics surveys and what to collect as long as they fulfil their other obligations, and the costs for the interim structure surveys would fall away. It is thus not possible for Eurostat to quantify the savings for the farm structure census under option 1, but as mentioned previously, the savings from completely abolishing the interim sample surveys would be close to 90 million euros, of which around 60% would accrue to Member States. However, the costs to the users of the EASS would be quite high, as easily available, comparable and coherent datasets would no longer exist. But it is not possible for Eurostat to quantify these costs.

Possible cost savings for data respondents

The cost savings for data respondents should mirror those in the administrative burden impact section 5.1. (i.e. about a third less costs under options 3 and 4 as compared to the status quo option 2), but are also difficult to quantify exactly due to the previously stated reasons. Holdings exempted from future surveys due to the new thresholds can expect moderate savings in person-hours not used to fill out questionnaires anymore under options 3, 4 and potentially 1, while holdings still surveyed can expect small savings in person-hours due to more efficient surveys deployed in more convenient and technologically advanced ways under all options. However, this latter benefit could be neutralised under option 3 and 4 for some holdings by potentially longer surveys in some survey years due to having to fulfil new data needs via modules and satellites. In short:

100% cost savings for many small farms below new thresholds as they will no longer have to respond to surveys. Overall, no major change in the total costs is expected for farms that continue to be surveyed. Some savings could arise due to more efficient survey techniques. However, this is likely to be offset by additional requirements related to new data needs and new ad-hoc surveys.

5.3. Impacts of Option 1 - Baseline – No EU action on structural data of agriculture

Effectiveness regarding objectives (fulfilling data needs, coherence and harmonisation, burden reduction)

The **data needs** expressed above would only be fulfilled haphazardly and randomly, if at all. Without an EU-wide farm structure survey to anchor agricultural statistics, data would not be easily comparable, and drawing robust conclusions from them would be very difficult. In the long term, no improvement could be expected due to a lack of central guidance and coordination in a common forum with law-making and directive power such as the EU provides. The impact of option 1 on this objective would therefore be very negative in the short and long term.

The same is true for **coherence and harmonisation**: without a unified approach in the established EU fora, any harmonisation will happen only by chance.

The **burden** on data producers and data respondents is likely to sink in the short term due to possible national reductions of the farm census survey and the abolition of the interim surveys, despite continuing obligations to international organisations such as FAO. In the

long term, the data collections associated with a less effective CAP (due to a lack of data) could get under pressure to realise savings in this large area of statistics. So the impact in the short term is positive, but has a probability of turning negative or at least reverting to the status quo in the long term. Therefore, the long-term burden impact is expected to be neutral.

Efficiency regarding objectives (cost-effectiveness)

As stated in 5.2., the absolute costs of data collections in this option are likely to sink in the short term, but the resources invested into the ESS and its improvement over the decades will be largely wasted due to abandoning the system of farm structure surveys, and the objectives will mostly not be achieved. Therefore, the overall impact is negative in this area, and likely to turn very negative in the long term due to a progressively worsening capability of the system to achieve the increasingly demanding and urgent objectives.

EU objectives (CAP and other EU policies, ESS)

The EU would not have the necessary tools to carry out ex-ante and ex-post evaluations of the **CAP** because no harmonised farm-level data would be provided by Eurostat after 2016. If no policy actions were taken, CAP delivery would thus be severely handicapped due to a lack of data, with consequences for food security and climate change. In the long term, an absence of EU-level data on agriculture would severely impact the viability of the CAP and other EU policies. It is conceivable that they could be greatly reduced or even abolished if no robust evidence were available to ensure their effective and efficient implementation, with corresponding immense consequences for everyone affected by these policies. The costs for EU policy implementation, reputation and results would similarly be vast. Both the short- and long-term impacts would therefore be very negative.

Efforts made so far to streamline the flows of agricultural statistics information in the **ESS** would be wasted. This would represent a loss of resources (time, finance, technology, human). Other agricultural statistics would subsequently be negatively impacted by the lack of harmonised survey data expected. Continuing EU-wide data collection on a voluntary basis (gentlemen's agreements) would most likely compromise the quality of data, make collection inherently unstable and would be a setback to legal, organisational, financial and personal relations systems already in existence for several decades. This option, while seemingly reducing administrative burdens due to the expiration of the key FSS legislation, would therefore in fact greatly increase the complexity and burdens within the entire system of agricultural statistics and policy, as inadequate legislation-based data provision would have to be supplemented by a multitude of complex, uncoordinated tools, instruments and procedures of questionable quality and insecure short- and long-term sustainability. ESS Code of Practice principles such as relevance, accuracy and reliability, timeliness and punctuality, coherence and comparability, and accessibility and clarity would be negatively affected, and short- and long-term impacts to the ESS in general would be very negative.

Other impacts (Risks and indirect impacts)

Option 1, while easy to implement by just letting the FSS regulation expire, presents a significant risk to the continuity of agricultural statistics directly and to EU policy implementation, results and reputation indirectly. Everyone affected by policies dependent on the EASS would be affected, most likely in a negative way, and this would get worse as time progressed. The impacts would thus be very negative in both cases and both time horizons.

Impacts for stakeholders (users, producers and respondents)

Data users would have less data of poorer quality to plan, evaluate and monitor EU, national, enterprise and other policies, with related indirect consequences for organisations and persons in any way affected by those policies. In the long term, data users would not only be affected by the lack of data, but also by the lack of the policies they are administering. They would have to produce or look for statistics themselves in an uncoordinated and inefficient way, and there would not be a commonly agreed quality assurance of EU agricultural statistics. Consultations with users have demonstrated the need for high quality, timely and EU-wide comparable agricultural statistics produced according to the European Statistics Code of Practice, which are fit for purpose in underpinning decision-making, collected in a transparent way, and free from political influence. Knowledge-sharing and increased efficiency through greater use of technology and exploitation of data collected for other purposes are other important user requirements which would not be ensured under Option 1. Lastly, dependence on external data sources may have a potential negative impact for EU policy as this data may not be easily available or may become unavailable, may not be fit for purpose or politically independent, and the costs of external data may be higher than anticipated. The impact on data users would therefore be very negative in the short and long term.

Data producers would have freer hands to set up their own agricultural statistics systems and could potentially reduce the number of surveys and lower the quality criteria in a flexible manner, leading to burden reduction and cost savings (see above). However, EU Member States have commitments with international organizations such as FAO and OECD to provide structural data on agriculture, which means that they would have to conduct such surveys on their own with a high risk of losing the coordinated and harmonised approach the ESS has created over the years. They would have to produce data on Member State level without EU financial, technical or organisational support, as no EU budget would be provided without EU legislation. Given the resource constraints the ESS is faced with, the impact of no EU budget for agricultural statistics production would be considerable. This would also impact the quality, reliability and comparability of agricultural statistics and thus the overall objective of European Union statistical production: to support the design, implementation, monitoring and evaluation of EU policies. This overall objective cannot be fulfilled by individual Member States on their own, nor by Eurostat without data provided by Member States. However, Eurostat would continue its efforts to convince Member States that farm structure data are important, trying to assure voluntary data transmission. It would also carry on with regular Working Group meetings, ensuring information exchange and discussions among countries, thus potentially achieving some central guidance and coordination.

Still, reliable statistics produced according to the same high-quality standards in all Member States are necessary in order to be able to compare and draw conclusions at EU level. In addition, the European Statistics Code of Practice stipulates that adequate resource allocation is a necessary precondition for the proper functioning of a statistical service. Furthermore, only very little modernisation, coherence and integration can be envisaged if there is no common effort. Despite the savings, the impact on data producers would thus be negative in the short and long term.

Lastly, **data respondents,** while relieved of some of the burden of data collection in the short term, would receive fewer CAP funds in the long term due to the growing dysfunctionality of policies depending on the EASS, resulting from a lack of data. The impact would therefore be positive in the short, but negative in the long term.

Overall impact

For the reasons listed above, the overall impact of the baseline Option 1 would be very negative in the short and in the long term, as it basically constitutes a disorderly dismantling of the key element of the EASS, an essential service for agricultural and other EU policies.

5.4. Impacts of Option 2 - Prolongation of the FSS Regulation (EC) No 1166/2008

Effectiveness regarding objectives (fulfilling data needs, coherence and harmonisation, burden reduction)

In this option, the farm surveys and the co-financing of the national surveys would be continued, ensuring the willingness of Member States to carry them out. The FSS Regulation could be changed in a limited way to respond to the objectives stated above, but without further integration of other agricultural statistics or altered data collection, as the same approach for structural statistics as applied since 1966 would be continued without any significant updating. In practice, the rigid FSS Regulation excludes the possibility to gather any new data that are greatly needed to fulfil new requirements. Therefore, the **data needs** stated previously would only be fulfilled insufficiently, and this problem would largely remain unsolved. The short-term impact would be negative.

For the same reasons, the incoherence between agricultural and rural data collected in the different statistical domains (agriculture, environment, businesses etc.) would remain and provide neither consistency across domains nor an integrated approach or benefits of expected synergies, except in a very limited way due to technological progress. Therefore, the impact on the objective of improving the **coherence and harmonisation** of the EASS would be negative as well. The same considerations apply to the objective of **burden reduction**.

In the long term, the effects of choosing this option would approach those of option 1, i.e. lead to a severe deterioration of the EASS. It would not be able to provide the data already urgently needed now and would not be able to react flexibly to future, potentially economically, socially or environmentally disruptive agricultural developments, e.g. affordable lab-grown meat. Coherence and harmonisation would not be able to be pursued in a meaningful way due to an unreformed legal, technical, methodological and organisational system, severely limiting the usefulness of different data collections, particularly in an ever more interconnected world. And the burden of data collection, while remaining nominally the same, would relatively increase as resources for official statistics continue to be cut and problems like survey nonresponse continue to rise, despite expected technological developments leading to some increase in efficiency. The long-term impacts of this option regarding the objectives would therefore be very negative.

Efficiency regarding objectives (cost-effectiveness)

The immediate costs to the Member States would remain the same as at present, i.e. the impact is negative, as the current system is not very cost-effective in achieving its objectives. In the long term, not reaping financial benefits of synergies and integration and the deterioration of the EASS as described in the previous paragraph would create a very negative cost-effectiveness impact.

EU objectives (CAP and other EU policies, ESS)

The CAP and other EU policies depending on agricultural statistics already face difficulties due to the current EASS's shortcomings. If this were to continue and get worse due to an

unchanged EASS's more and more pronounced inability to adapt to a continuously changing world, the viability of these policies would be endangered, and the ESS's capability to deliver data for policymaking could be called into question. Not changing the EASS would thus constitute a significant lost opportunity, disappoint important stakeholders' expectations, lead to a high loss of credibility and reputation for the EU, and risk making European agricultural statistics irrelevant in the mid to long term, and by extension, much of the EU's policies as well. Therefore, the short-term impacts in this area would be negative both for EU policies and the ESS, and the long-term impacts would be very negative.

Other impacts (Risks and indirect impacts)

This approach would require little preparatory work and few resource investments in the short to mid-term, as the present arrangement would continue more or less unchanged. The timetable is also very realistic. Therefore, the short-term risks would be very small, and the impact in this area is positive. However, in the long term, the political, legal and organisational opportunity and already invested efforts to improve the EASS would be lost and the window for change would close, to be reopened later, when the problems will have become even more urgent, only at greater cost. The long-term risk impact would therefore be negative, whereas the indirect impacts of worse EU policy delivery would be negative in the short term and very negative in the long term for the reasons stated previously.

Impacts for stakeholders (users, producers and respondents)

Data users in the European Commission and elsewhere would be very dissatisfied with this option, as their current criticisms of the EASS would not be answered, leading to a loss of usefulness of and trust in the system for them, particularly in the long term as the situation deteriorates. The impacts would be negative in the short and very negative in the long term.

Data producers would continue to produce EU agricultural statistics as they do now, but suffer progressively more under the inefficiencies of the system. The complexity and burden within the entire system of agricultural statistics and policy could increase, as inadequate legislation-based data provision would have to be supplemented by a multitude of complex, uncoordinated tools, instruments and procedures of questionable quality and short- or long-term sustainability in order to fulfil data users' requirements. While neutral in the short term, the impact on data producers would therefore be negative in the long term.

Data respondents would not be significantly relieved of their burden of data collection either in the short or long term. The indirect impact of worse EU policy delivery could lead to fewer CAP and other funds and increased struggles in the long term, resulting in a neutral short-term and a negative long-term impact.

Overall impact

While seemingly only mildly negative in the short term, the highly negative drawbacks of this option become apparent in the long term, as it deteriorates due to a continuously changing world not being answered by changing agricultural statistics. Sticking with the status quo would therefore be very dangerous for the EASS and everything depending on it.

5.5. Impacts of Option 3 – Single new legal framework for the whole sector of agricultural statistics

Effectiveness regarding objectives (fulfilling data needs, coherence and harmonisation, burden reduction)

A framework regulation on the whole sector of agricultural statistics would include common objectives and definitions. It would also specify the required statistical outputs at a general level, with delegated and implementing legislation specifying the exact content of each sub-domain of agricultural statistics. It would enable a full harmonisation and a possibility to update agricultural statistics, and increase responsiveness to user needs and their quality (due to higher coherence, clarity, reliability, accuracy and timeliness). The option would establish key aspects to be applied to all agricultural statistics with a consistent and integrated approach for all agricultural statistics domains. It would also meet the requirements of the ESS Vision 2020. Therefore, this option is expected to have a positive impact on **data needs** in the short term, and a very positive impact on **coherence and harmonisation** (due to a single framework regulation allowing better harmonisation than the other options which entail more new regulations, unchanged or reduced legislation). In the long term, the flexibility and versatility of this option should allow fulfilling even currently unforeseen data needs quickly, and its adaptation costs should have paid for themselves, so that the impacts could then be seen as very positive.

The calculations in section 5.1. show that the **burden** of this option is expected to initially become slightly lower for data producers, while data respondents can on average expect a reduced burden due to fewer holdings having to be surveyed, leading to an overall positive impact. In the long term, the burden for data producers is expected to be lower than today's status quo after absorption of all adaptation costs and due to higher flexibility, leading to an overall very positive impact in combination with the savings for data respondents.

Efficiency regarding objectives (cost-effectiveness)

Option 3 requires some initial adaptation within the EASS, but should be able to realise significant cost savings in comparison with the current overall costs of the European Union agricultural statistics in the mid to longer term, both for data producers and data respondents (see 5.2.) As the option is expected to achieve the objectives, the cost-effectiveness impact is expected to be positive in the short term (better results at slightly reduced cost) and very positive in the long term (better results at highly reduced cost).

EU objectives (CAP and other EU policies, ESS)

Option 3 would help to ensure that the **CAP** and other EU policies related to agriculture have better tools and data at their disposal. This would contribute to better planning, implementing, monitoring and evaluating actions and imply a positive impact on the EU's policies and capabilities as well as its reputation in the short term, and a very positive impact in the long term as the new system settles in and new challenges will require new high-quality data fast, which the system will be able to provide.

The **ESS** will also profit in several ways from this significant modernisation of an important one of its parts: increased standing, more know-how from the modernisation process, and improved integration overall. Therefore, both the short- and long-term impacts are expected to be very positive.

Other impacts (Risks and indirect impacts)

Due to the challenge of embarking on a wide-ranging, sector-wide reform of legislation within a short timeframe, this approach would increase the risk of having very complex, **long and difficult negotiations** both in Eurostat expert groups and committees and in the European Parliament and Council, and the resulting legislation would likely be unwieldy and in danger of being architecture- instead of user-oriented. Many resources would also be

needed during the entire process, raising the risk of a potential lack of human resources at one or several crucial points. As Regulation (EC) No 1166/2008 comes to an end with the FSS 2016, this option could put at risk the continuation of the series of farm structure surveys and decennial censuses on agriculture that form the backbone of EU agricultural statistics if no new regulation were in place until the end of 2018 at the latest to ensure the agricultural census 2020 and assure the continuity of the structural data supporting the CAP. If this hard deadline was not met, the consequences could be severe. However, Eurostat estimates that at least three to five years of analysis, negotiations and communication are needed to create an acceptable framework regulation for agricultural statistics. Therefore, the risk impact is very negative in the short term, but if these hurdles could be overcome (e.g. by ensuring that the proposals are clear on what will be potentially included in agricultural statistics in the future and what is not planned to be added, including robust mechanisms on controlling the burden, and preparing and conducting the negotiations well), and if the system were implemented despite the timing constraints, the risks would greatly shrink as the system would be "futureproof". The impact would then be positive. Correspondingly, indirect impacts of better policy delivery due to better data are expected to be positive in the short term and very positive in the long term, as the new system settles in and is fully applied.

A project like this can also have an impact on the **continuity of agricultural statistics**, as both NSIs and Eurostat will have to carry out the normal production of statistics and prepare the new system in parallel. This can cause continuity impacts, both in data availability and time-series. This risk is not easy to mitigate, as it would require new resources which are unlikely to be available, but it is expected that the results of the project will benefit both producers and users of agricultural statistics and pay for themselves in the mid to long term. Therefore, this particular risk does not change the overall risk assessment.

Impacts for stakeholders (users, producers and respondents)

Data users would benefit from better, more flexible and integrated data to apply policies related to agriculture or use these data for research, implying a positive impact in the short and a very positive impact in the long term.

Data producers would be able to benefit from reduced costs of data collection, a smoother and not more burdensome operation of the EASS, continued guaranteed financial support, better statistical products, and more collaboration and knowledge-sharing at EU level, despite having to shoulder some adaptation work, costs and burdens at the beginning (see 5.1. and 5.2.). The expected impacts are therefore positive in the short and long term.

Data respondents could benefit from reduced costs and burdens due to fewer holdings being surveyed, continued guaranteed support and better policy delivery due to better data under this option. In particular, the new EU Member States and the Mediterranean countries are estimated to benefit more from these reductions than the other Member States, while all Member States will be affected by the required adaptations to the new survey system (see Annex III for more details). The impacts are therefore expected to be positive in the short and long term.

Overall impact

Option 3 offers a good chance of achieving the objectives of the agricultural statistics strategy for 2020 and beyond while realising savings and reducing the burden. Particularly in the long term, this option would more than pay for itself. However, adopting and implementing it in a very short timeframe would present a significant risk.

5.6. Impacts of Option 4 - Two-step integration of agricultural statistics

Effectiveness regarding objectives (fulfilling data needs, coherence and harmonisation, burden reduction)

Data needs: The first regulation on farm level data with a limited core set of variables and several modules to be surveyed at different frequencies and with lower quality requirements would likely be slightly more flexible and easier to adapt than the single framework regulation of option 3, while still fulfilling the requested data needs in conjunction with the second framework regulation. The second regulation would deal with agricultural inputs (prices, fertilizers and pesticides) and outputs (production and prices). Both regulations would remain open for new needs and help to improve cross-domain cooperation. Therefore, a positive impact is expected in the short term, and a very positive impact in the long term as the system settles in and is fully applied.

Coherence and harmonisation: The introduction of a coherent framework would allow better survey planning, combining databases into data warehouses etc., though not in as unified a manner as with the single framework regulation of option 3. The definitions would be the same in both regulations, and common code lists and terminologies would be created. Therefore, a positive impact in the short term and a very positive impact in the long term are expected.

Burden reduction: Member States with a large number of subsistence households would be able to cut down the size of the surveys significantly, thus making considerable burden savings added to those by technological progress and better use of IT tools. Additionally, the free choice of data sources in accordance with national laws and principles, together with the possibility of using available administrative and other recognised data sources should further reduce the financial and administrative burden on respondents, national, regional or local authorities, and on citizens. The legal proposals will also aim to strike the right balance in the use of legal instruments, e.g. by restricting delegated acts to details and planning frameworks, or by giving Member States the option to control the costs framework via an objective methodology applied via implementing acts. The main sources of costs and burdens could also already be fixed at the level of the basic act if feasible, e.g. precision requirements, sample characteristics or periodicity. As under option 3, the adaptation costs for data producers make the total burden impact "only" positive in the short term, but very positive in the long term as the new system's synergies are implemented and its flexibility helps avoid costs of a new adaptation.

Efficiency regarding objectives (cost-effectiveness)

The main additional costs for both the Commission and Member States will come from adapting the present survey legislation, from adapting the survey methodology and from making changes to IT systems to improve the EASS as stated. These costs for Member States would eventually be paid back from savings in carrying out the surveys. Therefore, the cost-effectiveness impact is expected to be positive in the short term and very positive in the long term (see also 5.2.)

EU objectives (CAP and other EU policies, ESS)

As under option 3, a better EASS would allow the EU to better achieve its objectives related to agriculture and represent progressive momentum for the European Commission, enhancing its reputation and also fulfilling the mandates of the ESS Vision 2020. The expected impacts in the short and long term are therefore the same ones as in option 3: positive and very

positive for the CAP and other EU policies and objectives, and very positive and very positive for the ESS.

Other impacts (Risks and indirect impacts)

Option 4 mitigates the main timing and legislative risks of option 3 due to its two-step integration approach, tackling the most urgent work on structural data and the next agricultural census 2020 first and extending the system later to cover agricultural input and output data, and it allows for incremental progress and legislative flexibility as well as for integration of methodological developments. Nevertheless, adopting new legislation and implementing it carries certain risks of delays or failures during the process. Therefore, the expected risk impact is neutral in the short term, and positive in the long term. As in option 3, indirect impacts of better policy delivery are expected to be positive in the short term and very positive in the long term, as the new system settles in and is fully applied.

Impacts for stakeholders (users, producers and respondents)

Data needs would be served well and possibly slightly more flexibly than in option 3 due to a more nimble legislative architecture; data collection would be harmonised and integrated; and the costs and burdens could be reduced through surveying fewer holdings, applying the new legislation, harmonisation and use of technological progress, and new data sources, despite some initial adaptation work. As under option 3, this would benefit users applying policies depending on agricultural statistics or using these statistics for research, data producers due to smoother and less burdensome operation, continued guaranteed financial support and better products, and data respondents due to reduced costs and burdens for them and continued financial support. Therefore, the impacts on stakeholders are expected to be the same as in the previous option.

Overall impact

This option offers the best cost-benefit advantages of achieving the objectives of the strategy while mitigating the main risk of option 3. Initially, the changes it entails still need to be applied however, imposing some costs and burdens. Therefore, its overall impact is expected to be positive in the short term and very positive in the long term.

5.7. Impacts of early discarded options

As stated in chapter 4.5., the CAP requires comparable data, which can effectively only be established by legislation at EU level. Voluntary data collection is inherently less stable, enforceable, comparable and reliable than regulated, harmonised collection by national authorities and would constitute a major setback to legal, organisational, technical and financial systems that already exist for several decades within the EU. In addition, there would be a severe political, budget and security risk if the CAP depended on data collected by unstable and unreliable means. Thus, improving or at the very least continuing the current legislation is the only way to reach the objectives named above.

For these reasons, the effects of alternative approaches and instruments would resemble those of Option 1 and possibly be even worse. Therefore, their impact analysis has been subsumed under Option 1.

6. COMPARISON OF OPTIONS

Taking the information and the assessments of the individual impacts from the previous chapter 5 into account, the following option comparison (table 3) can be constructed.

Option 1 "Baseline" offers the worst outcomes in almost all dimensions, particularly in the long term as data needs and resource constraints become even more urgent. Option 2 "Prolongation" offers only limited benefit in the short term and severely deteriorates in the long term as the current EASS becomes more outdated and cumbersome. Options 3 "One framework regulation" and 4 "Two-step integration", while requiring some initial investments and new EU Regulations, offer the best chances to achieve the objectives formulated earlier in a cost-efficient manner, present the comparatively lowest risks, have the most positive indirect impacts, and best satisfy stakeholders' requirements. They also fulfil the REFIT initiative's goals of updating EU legislation to increase its cost-benefit ratio and reduce the burden on small and medium-sized enterprises (see chapters 5.1. and 5.2.) Option 4 also has the added benefits of presenting less timing risk in the legislative process (as a new agricultural census regulation needs to be adopted by the Council and the Parliament at the latest by the end of 2018) and being slightly more flexible due to a less unwieldy legislative architecture. Therefore, Eurostat prefers option 4 over option 3.

The main stakeholders of the EASS, i.e. the Commission's policy DGs as data users, the NSIs and ONAs as data producers, and farmers as data respondents also prefer option 4 due to the reasons stated above and in Annex II, in particular with a view to the timing constraints and legislative process risks of option 3. If these constraints and risks were not present, a majority of stakeholders would prefer option 3, for a wholesale modernisation of the EASS.

Table 3: Option comparison table. Source: Eurostat

+ +	Very positive impact
+	Positive impact
0	Neutral impact
-	Negative impact
- -	Very negative impact
ST = short term; LT = long term	

Type of impact \ **Option**		**1: Baseline - No EU action**		**2: Prolong FSS Regulation**		**3: Single framework regulation**		**4: Two-step integration**	
Time horizon		ST	LT	ST	LT	ST	LT	ST	LT
Effectiveness re objectives	Data needs	- -	- -	-	- -	+	+ +	+	+ +
	Coherence	- -	- -	-	- -	+ +	+ +	+	+ +
	Burden	+	0	-	- -	+	+ +	+	+ +
Efficiency re objectives		-	- -	-	- -	+	+ +	+	+ +
EU objectives	CAP etc.	- -	- -	-	- -	+	+ +	+	+ +
	ESS	- -	- -	-	- -	+ +	+ +	+ +	+ +
Other criteria	Risks	- -	- -	+	-	- -	+	0	+
	Indirects	- -	- -	-	- -	+	+ +	+	+ +

Stakeholders	Users	- -	- -	-	- -	+	+ +	+	+ +
	Producers	-	-	0	-	+	+	+	+
	Respondents	+	-	0	-	+	+	+	+

7. MONITORING AND EVALUATION

Irrespective of the option to be chosen, it will be important to work on the monitoring and evaluation framework to reflect the changes in the EASS, to improve its effectiveness in measuring performance, and to align with similar work for European Statistics in general. Such work should build on the considerable experience and systems established to date. The following actions are foreseen to monitor and evaluate the objectives of the strategy for agricultural statistics towards 2020 and beyond.

Annual compliance monitoring about the statistics produced

Eurostat conducts annual compliance assessments. An integral part of these assessments is a review of the situation with data producers and follow-up actions in case of non-compliance.

In accordance with the requirements of EU legislation, countries are requested to provide the Commission with relevant figures on agricultural statistics. These figures are subject to strict transmission deadlines which must be respected for the good management, dissemination and usefulness of EU statistics, as missing or incomplete data lead to shortcomings in the availability of information (i.e. it is not possible to calculate EU aggregates and to publish data according to planned time schedules).

Regulation (EC) No 223/2009 which is the basic legal framework for the functioning of the European Statistical System and for all sectoral legislation for the production of European statistics has been amended and adopted on 29 April 2015. The amended Regulation's Article 12 (Quality), paragraphs 3 and 3a, defines Eurostat's approach to reporting on the accuracy of national data and quality aspects:

"*Member States shall provide the Commission (Eurostat) with reports on the quality of data transmitted, including any concerns they have regarding the accuracy of the data. The Commission (Eurostat) shall assess the quality of the data transmitted, on the basis of appropriate analysis, and shall prepare and publish reports and communications on the quality of European statistics.*

In the interest of transparency, the Commission (Eurostat) shall, where appropriate, make public its assessment of the quality of national contributions to European statistics."

While *timeliness*, *punctuality* and *completeness* are already important factors in the annual compliance assessments to ensure a timely dissemination of agriculture statistics, more attention will be paid to these and other quality dimensions in order to ensure confidence in the statistics produced by the ESS.

Continuous improvement of the EASS: identification of new data needs and new data sources, improvement of coherence, reduction of burden

At present, Eurostat conducts annual hearings with policy DGs of the Commission. An important point for these hearings is the exchange of information on the respective work programmes. They provide a formal platform for stating upcoming needs for new statistics, and to review the usefulness of the available statistics.

Further collaboration with the policy DGs, NSIs and ONAs will take place at different hierarchical levels in regular Working Group meetings and seminars, Directors' Group meetings, ESSC meetings, and through frequent bilateral exchanges. Particular attention will be focused on the identification of administrative data and other information sources maintained under EU legislation, and the assessment of their suitability for the production of statistics in order to establish agreements for their stability, accessibility and eventual adaptation to better fit statistical requirements. Furthermore, periodic surveys and analyses such as those referenced in the previous chapters will be conducted to identify potential for improvement of European agricultural statistics and for reductions of its burden, e.g. by abolishing variables with a low cost-benefit ratio, made possible by a more flexible legal framework. Finally, quality reports by Member States, in which they are obliged to report on the costs and burdens of data collection and production, will be crucial in evaluating the cost-effectiveness of the EASS.

These actions are expected to monitor and evaluate the specific strategy objectives "Produce high-quality statistics that meet users' needs efficiently and effectively", "Increase the flexibility and reaction speed of the agricultural statistics system", "Improve the integration between agricultural, forestry, land use and environmental statistics", "Develop a responsive and responsible governance structure for agricultural statistics", "Improve the harmonisation and coherence of European agricultural statistics", and "Produce more statistics while lowering the burden on respondents by exploring alternative data sources and efficiency improvement techniques".

Triennial monitoring reports

In order to monitor the functioning of the renewed EASS and to ensure its fulfilment of the REFIT goals of simplification and burden reduction, a regular reporting on the functioning of the overall system will be carried out every three years. These reports will include the key performance indicators listed below:

Table 4: Key performance indicators and targets. Source: Eurostat

Specific objectives	Operational objectives	Key performance indicators	Targets
Serve new and emerging data needs flexibly by			
Produce high-quality statistics that meet users' needs efficiently and effectively	Statistics fulfil the quality requirements for European statistics	KPI1 Percentage of users that rate as "Very good" or "Good" the overall quality of the European agricultural statistics provided by Eurostat.	• 60%
		KPI2 Percentage of users that rate as "Very good" or "Good" the timeliness of European agricultural statistics for their purposes.	• 60%
		KPI3 Percentage of users that rate as "Very good" or "Good" the comparability of European agricultural statistics among regions and countries. *Source: Annual user satisfaction survey (USS) carried out by Eurostat*	• 60%
		KPI4 Number of data extractions (in millions) made by external users from Eurostat public databases of agricultural statistics via the Eurostat website. *Source: Monitoring reports on Eurostat electronic dissemination*	• Decrease as compared to previous year does not exceed 5%
		KPI5 Punctuality of European agricultural statistics: average number of days of advance (positive) or delay (negative), in comparison to the legal target. *Source: Monitoring of the data transmission and dissemination by Eurostat*	• No delays • Advance in comparison to legal target is maintained from year to year
Increase the flexibility and reaction speed of the agricultural statistics system	Quick adaptation of data collections in case of emerging needs	KPI6 Inventory of new data needs and when they have been answered	• A draft reply to new data needs received in year N is discussed with the expert group Directors of Agricultural Statistics in N+1
Improve the integration between agricultural, forestry, land use and environmental statistics	By 2022, all agricultural statistics, except on Economic accounts for agriculture, are produced und the framework created under this strategy.	KPI7 Inventory of legal acts	• Number of basic legal acts for agricultural statistics is reduced to 3 by 2022.
Develop a responsive and responsible governance structure for agricultural statistics	Expert groups: annual meetings and regular information and consultation Policy DGs: Annual hearings and regular information and consultation	KPI8 Number of meetings	• Annual hearing with policy DGs • Annual meeting of expert groups (Directors of Agricultural Statistics, and established Working Groups)
		KPI9 Number of consultations of expert groups on legal proposals	• For each legal proposal, at least two consultations of expert groups
Make agricultural statistics data collections harmonised and coherent by			
Improve the harmonisation and coherence of European agricultural statistics	Use of standard concepts, definitions and code lists.	KPI10 Inventory of concepts, definitions, code lists	• By 2022, all data collections use standard concepts, definitions and code lists.

Address the burden of providing data by			
Produce more statistics while lowering the burden on respondents by exploring alternative data sources and efficiency improvement techniques	Ensure that burden is lowered	KPI11 Number of operators (farms, dairies, slaughterhouses, …) replying to questionnaires for agricultural statistics, annually	• For the EU as a whole, the total number of contacts with respondents as compared to 2017 benchmark is: 90% in 2022, 80% in 2027.
		KPI12 Percentage of data elements extracted from administrative sources	• For the EU as a whole, percentage of data elements extracted from administrative sources as compared to 2017 benchmark increased by 10% in 2022, 20% in 2027.
		KPI13 Percentage of data elements reused from existing statistical surveys or registers	• For the EU as a whole, percentage of data elements reused from statistical surveys or registers as compared to 2017 benchmark increased by 5% in 2022, 10% in 2027.

Evaluation

The second triennial monitoring report will be replaced by a retrospective evaluation of the renewed EASS, conducted according to the European Commission's evaluation guidelines. This could also constitute a basis in case further revisions of the legislation would be envisaged.

ANNEXES

Annex I: Procedural information

Basic information

Name of the initiative: A strategy for agricultural statistics towards 2020 and beyond

Lead DG: Eurostat

Agenda Planning number: 2015/ESTAT/035

Organisation and timing

An Interservice Impact Assessment Steering Group (IASG) was set up, to which the following Directorates-General were invited: the Secretariat-General (SG), the Legal Service (SJ), Agriculture and Rural Development (AGRI), Budget (BUDG), Climate Action (CLIMA), Environment (ENV), Joint Research Centre (JRC), Regional Policy (REGIO), and Health and Food Safety (SANTE). The IASG met three times:

- On 18/06/15 with Eurostat, SG, DG AGRI, DG BUDG, DG CLIMA, DG ENV, JRC and DG SANTE participating, to discuss the strategy and the open public consultation.
- On 07/12/2015 with Eurostat, SG, DG AGRI, DG ENV and DG SANTE participating, to discuss the draft impact assessment report and the draft evaluations staff working document, with documents sent on 27/11/15.
- On 21/01/2016 with Eurostat, SG, DG AGRI, DG ENV and JRC participating, to discuss the final draft impact assessment report and the final draft evaluations staff working document, with documents sent on 13/01/16.

In the interim, written communication was conducted on documents for the open public consultation (launched on 18/08/15), a note on evidence and evaluations for agricultural statistics data needs (02/09/15; the note is now part of the impact assessment report and the evaluations staff working document), and the inception impact assessment for the strategy (16/10/15, consultation on revised version following IASG, SG and College feedback 01/12/15; the IIA is now published since 16/12/15 on http://ec.europa.eu/smart-regulation/roadmaps/index_en.htm). Following the third meeting of the IASG, the Impact Assessment Report was submitted to the Regulatory Scrutiny Board on 03/02/16.

Regulatory Scrutiny Board (RSB)

The RSB examined the Impact Assessment Report for the strategy for agricultural statistics towards 2020 and beyond on 02/03/16 and gave a positive opinion, with a recommendation to further improve the report in the following key aspects:

1) Strengthen the links with the REFIT evaluation conclusions and stress (and quantify wherever possible) the simplification/burden reduction potential of the proposed solution;
2) Deepen the analysis as regards impacts on particular Member States in view of the potential simplification/cost savings on the one hand and on the other the necessary financial outlays to adapt the national statistical systems to the new framework;
3) To allow for a future evaluation of the initiative, include benchmarks against which the key performance indicators will be assessed.

The report has been adapted according to these recommendations and further technical comments.

Evidence and sources

The specific evidence sources used are referenced throughout the document whenever they are used. In particular, the main problems of the EASS of unfulfilled data needs, a lack of coherence and harmonisation and a too high perceived burden are evidenced by substantial, regular, in-depth stakeholder consultations and events since at least 2008 (see also Annex II), and by certain outside studies. The main quantitative analysis of administrative burden and cost impacts is based both on stakeholder information (targeted questionnaires, financial statements, legal reporting obligations etc.) and internal Eurostat database simulations and calculations as described in the relevant passages.

The stakeholders' issues with the EASS are considered to be represented and evidenced faithfully and completely in the stakeholder consultations and events. In fact, these regular seminars and meetings mainly exist to create an exchange between Eurostat and the main data users, data producers and partly also data respondents of European agricultural statistics, and it is in Eurostat's evident own interest to produce relevant and high-quality data.

For the same reasons, the quantitative stakeholder information is considered to be robust and as complete as sometimes very different, varied and complex statistical data collection and production systems permit; stakeholders are also in many cases legally obliged to provide exact numbers. The Eurostat simulations have also been conducted to the high standard required by the ESS Code of Practice. However, uncertainties inherent in the EASS (e.g. different technical or business standards on different farms even in the same country, particularly long validation processes etc.) may preclude estimating burden and cost savings exactly beyond a certain resolution. Nevertheless, savings are expected to be in the estimated magnitudes and relations.

External expertise

This impact assessment has been conducted internally within Eurostat. Other sources such as previous internal, Commission or NSI surveys, expert advice and estimates, and external studies of relevance to the impact assessment are referenced where appropriate.

However, considering the role of statistics in society, it is mainly the users and producers of statistical data that have sufficient in-depth knowledge to give a solid view on the state of play in the domain. These stakeholders have been working closely with Eurostat in the last years in a series of activities aiming at further developing agricultural statistics. With this in mind, the reliability of the findings can be seen as quite high.

Limitations

- Despite considerable input from users about their data needs, more detailed information about the ways the data are used would be needed for a better understanding of how requests can be fulfilled in the most efficient manner;
- Eurostat is aware that data are not always coherent and of sufficiently high quality. However, there are no studies on how much this issue impacts the use of agricultural statistics, on how users take decisions on how to utilise the statistics and which actions they take to improve the analyses made;

- The burden of statistical surveys on farmers as respondents is often mentioned as a negative aspect of statistics. However, there are no studies that would provide full quantification of the total costs of producing agriculture statistics, and more work would be required to fully assess the cost/benefit ratio between the potential added support and the actual burden of statistical surveys.

Annex II: Stakeholder consultation

Summary of stakeholder consultations

The development, production and dissemination of European agricultural statistics is achieved by Eurostat through close, coordinated and regular cooperation in the European Statistical System, building upon a long partnership between Eurostat and the NSIs as well as all other relevant authorities.

The main categories of stakeholders of European agricultural statistics are **producers** (NSIs and other national authorities as well as Eurostat), **respondents** (farmers, farmers' organisations and businesses) and **users** (public and private decision makers, in particular European Commission DGs; researchers and journalists). They have been consulted extensively on problems and desired changes in the status quo, their data needs and priorities, possible policy options to solve the problems, impacts of suggested actions, and the formulation of the strategy specifically, as the following overview table shows. The main fora for these consultations have been the Standing Committee for Agricultural Statistics (CPSA) meetings and seminars and its successor's, the Directors' Group for Agricultural Statistics (DGAS) meetings and seminars (for NSI directors of agricultural statistics, international organisations, farmers' organisations, data respondents, data users and others), the European Statistical System Committee (ESSC) meetings (for NSI directors-general), and regularly scheduled consultations and hearings (for Commission DGs).

Table AII.1: Overview of stakeholder consultations on the agricultural statistics strategy 2020

<table>
<tr><th></th><th>Consultation on problems and changes</th><th>Consultation on needs and priorities</th><th>Consultation on options and impacts</th></tr>
<tr><td>Producers</td><td>ESSC Meeting May 2014</td><td>CPSA Meetings and Seminars since 2009</td><td>DGAS Meeting July 2015, ESSC Meeting November 2015</td></tr>
<tr><td>Respondents</td><td colspan="2">CPSA Seminars since 2009</td><td>Open public consultation August-November 2015</td></tr>
<tr><td>Users</td><td colspan="3">Open public consultation August-November 2015
Written consultations and Hearings since 2014</td></tr>
</table>

In addition to the consultations in the main fora, an **open public consultation** on the strategy was conducted from 18/08/15 to 22/11/15 via http://ec.europa.eu/eurostat/about/opportunities/consultations/eass. The link was distributed widely to all agricultural statistics working group contacts, stakeholder DGs, trade organisations, scientists etc., and responding to the questionnaire was highly encouraged. Contributions were explicitly sought from users of European agricultural statistics, survey respondents and citizens, as well as from producers of European statistics and other statisticians. Anyone with an interest in the topic was thus invited to express their views on the identified questions, as well as to present their opinions as to what additional measures could be appropriate. Furthermore, an **Inception Impact Assessment** for the strategy was developed within Eurostat and with support from the IASG and opened for feedback from the public, of which none has been received for this document.

Therefore, Eurostat considers to have reached all relevant agricultural statistics stakeholders by one or more of the means described. The minimum standards for consultation of interested parties by the Commission[47] are considered to be met for the following reasons.

Table AII.2: Reasons the agricultural statistics strategy 2020 consultations meet the Commission minimum standards

Minimum standard	Reasons it was met
Clear content	Eurostat provided extensive information on the context, objectives, options and issues of the agricultural statistics strategy as well as clear contact details, deadlines and procedural information to all partners in consultations, communications, meetings, seminars and hearings, as the related documents and minutes show.
Target groups met	Eurostat reached out to those affected by the strategy, those involved in implementing the strategy, those interested in the strategy, and others potentially affected by the strategy in the ways described above.
Publication	Eurostat reached agricultural statistics stakeholders either in more formal fora to which stakeholders were invited or by the open public consultation published on "Your Voice in Europe", as described above.
Time limit	Eurostat clearly communicated relevant deadlines for different steps of the strategy development process to stakeholders, as the related documents and minutes show. The open public consultation ran from 18/08/14 to 22/11/15, i.e. for more than the recommended 12 weeks.
Acknowledgement and feedback	Eurostat took stakeholder comments and opinions extensively into account during the development of the strategy and provided further feedback directly at the relevant meetings or afterwards in written communication, as the related documents and minutes show. The summary results of the open public consultation (see below) influenced further refining of the strategy.

Details of stakeholder consultations

Chronologically, the main stakeholder consultation events leading to the inception, development and refining of the agricultural statistics strategy towards 2020 and beyond were:

1. *United Nations Global Strategy on Agricultural Statistics 2008*

   One of the outcomes of the 2007 International Statistical Institute Conference on Agricultural Statistics was a consensus regarding the challenges of applying statistics to several issues in agricultural development, such as food security, the use of food for biofuels, and environmental impacts of agriculture. At the same time, a general decline in the overall quality and availability of agricultural statistics was observed. These concerns were discussed during the 2008 meeting of the United Nations Statistical Commission (UNSC), leading to the formation of a working group assigned

[47] COM(2002) 704 final

to draft a strategic plan to improve world agricultural statistics. The working group, under the guidance of the United Nations Statistics Division (UNSD), included the World Bank, the United Nations Food and Agriculture Organization (FAO), Eurostat, the United States Department of Agriculture (USDA), and the International Statistical Institute (ISI). Using input from the working group and other stakeholders, the World Bank with the help of heads and representatives of national statistical offices and ministries of agriculture from 27 countries, the FAO, the International Monetary Fund (IMF), Eurostat, OECD, and the USDA prepared a paper to be discussed at the 2009 meeting of the UNSC, which concluded that a global strategy was needed to improve agricultural statistics. The technical content and strategic directions of the Global Strategy were endorsed by the 41st session of the UNSC. The final strategy document contains a minimum list of agricultural statistics which also has validity for EU member states.

2. *Study on agri-environmental indicators 2009*

Eurostat commissioned a study on "Direct and indirect data needs linked to the farms for agri-environmental indicators", carried out by Wageningen University, to set up a sustainable system for collecting data from farmers and other sources that would serve European and national statisticians to create agri-environmental indicators. These would in turn serve policy makers, agricultural and environmental researchers, and observers of climate change and other environmental issues linked to agriculture. The different data needs were to be analysed and the best way to collect them identified. The aim was to receive suggestions on a future data collection setup that met as many of the identified information needs as possible and that was optimally adapted to user needs, available resources and respondent burden.
During the work, all Commission policies relating to the subject were identified and analysed. Several task forces were formed with experts from Member States and user stakeholders, questionnaires were sent to the competent authorities in the countries, and at the end a seminar was organised, with more than 60 participants from the research community, policy makers and statisticians from Member States and several Commission DGs represented. The result of the project is a list of all data needed to make policy related to agri-environmental issues, set up in such a way that data can be reused wherever possible and with potential data sources identified, with the aim of avoiding double collection.[48] The results of the project have been confirmed by both users and producers of agricultural statistics and are also used by FAO and OECD.

3. *CPSA/DGAS Seminars 2009-Present*

Eurostat has organised a series of seminars connected to its regular CPSA/DGAS meetings since 2009, in order to understand where further developments of agricultural statistics are needed. These seminars have been open to interested stakeholders besides the normal CPSA/DGAS meeting participants, including farmers' unions, research institutions and private companies. The titles of the seminars have ranged from "New needs, challenges and the changing role of statisticians" (2009, 54 participants from NSIs and other Member State organisations, as well as DG AGRI, JRC and FAO) to "Agriculture and environment – best practices in farm

[48] Farm data needed for agri-environmental reporting (DOI: 10.2785/12758)

surveys" (2012, 41 participants from Member States and DG AGRI, DG CLIMA, DG ENV and JRC) and "Appropriate statistics for farming in the EU" (2014, 52 participants from Member States, DG AGRI and FAO).

4. *Commission consultation 2014*

Eurostat asked the main Commission users of agricultural statistics for their most important data needs. A similar request was sent to the European Environment Agency (EEA) in 2015. Most of the statistical data presently collected by Eurostat have been confirmed as still being needed, with some very limited exceptions. In addition, several new needs were specified.

5. *Strategy development and endorsement 2014-2015*

Based on the problems and needs expressed by the stakeholders over the years, Eurostat initiated the planning process for a future system of European agricultural statistics in early 2014, starting with internal meetings, discussions and draft documents. The CPSA/DGAS endorsed Eurostat's approach of preparing a strategy for agricultural statistics towards 2020 and beyond at its meeting in April 2014.[49] The ESSC approved the approach at its meeting in May 2014. The performance of the current EASS, lessons learnt and main data needs were analysed on the basis of expert advice, research projects and by contacting the main stakeholders in the Commission, while national needs, according to the subsidiarity principle, were handled by NSIs. Following that, a paper on the strategy was developed by Eurostat and further elaborated and refined by an extended CPSA partnership group consisting of three subgroups on 1) the "what" of data needs, 2) the "how" of data collection modes, and 3) implementation specific issues, and by the CPSA itself at its November 2014 meeting. Further, continuous stakeholder consultations helped Eurostat to finalise the strategy, and it was endorsed by the DGAS in June 2015[50] and by the ESSC in November 2015.[51]

6. *Open public consultation 2015*

The open public consultation, conducted as detailed above between 18 August and 22 November 2015 on the "Your Voice in Europe" platform and distributed widely, received 53 responses, mainly from NGOs and interest groups (20), Member State public authorities (12), researchers (8), businesses (8) and others. This is not a high number, but a wide range of opinions was represented, in many cases by stakeholders who are not reached by Eurostat's main channels of stakeholder consultation such as DGAS Seminars. Most main stakeholders have other venues to express their needs where they have done so, which was fully taken into account. Therefore, the inputs were useful and were considered proportionately. However, they were not split further by respondent group due to the groups' non-representative sizes.

Respondents said that they use almost all parts of the EASS for purposes such as communication, policymaking and research. They see the EASS as meeting their data

[49] Document CPSA/718 for the CPSA Meeting April 2014
[50] Document DGAS/2 for the DGAS Meeting 2015
[51] Minutes for the ESSC Meeting November 2015

needs moderately well and with an acceptable burden, but see the system as inflexible and partly incoherent. Comments focused on data needs for land use and cover, fertiliser use, production, environmental and climate change data; serving data needs better by integration, harmonisation and a new legal basis for European agricultural statistics, which would also improve consistency and coherence; burden reduction by data integration, information and communication technology; and improving response rates by reminding farmers that CAP funding requires data. Other problems of the EASS were seen in a lack of timeliness and in missing data. These concerns and possible solutions, insofar as they were not already part of the strategy, were taken account of. Respondents saw option 1 as very negative, option 2 as neutral-negative, option 3 as positive with a higher burden than in the status quo, and option 4 as positive with a slightly higher burden than in the status quo. Option 4 was preferred by far.

7. *Strategy implementation 2015-Present*

Intensive consultations with stakeholders on the implementation of the strategy have already taken part in the FSS and Crop Statistics Working Group meetings in October 2015 and are planned in early spring 2016 for the Animal Production Statistics, FSS and Crop Statistics WG Meetings. Additional written consultations and exchanges of views are being organised as necessary. The DGAS (meeting scheduled for June 2016) will be consulted before the ESSC consultation (foreseen for autumn 2016). It is planned for the Commission to submit a Regulation implementing the 1st step of the strategy to the European Council and the European Parliament by the end of 2016.

Results

The main results of the above consultations, forming the core of the agricultural statistics strategy 2020 and subsequently of this impact assessment, are threefold:

- **The current European Union agricultural statistics legislation does not adequately serve new and emerging data needs** because their provision is not included in the legislative acts, and the acts are not flexible and integrated enough to answer to new needs in a timely manner. Moreover, the FSS Regulation which is a central piece in the current overall European Union agricultural statistics system will cease to provide any statistical information as of 2018.

  These *new data needs* mainly stem from new developments in agriculture, revised legislation and changing policy priorities, in particular the recently reformed CAP which is applied by DG AGRI for actions such as "greening" and climate change objectives and also influences actions in DG ENV, DG CLIMA, DG REGIO etc., such as environmental accounts or biodiversity policies.[52] These policies require high-quality data to enable evidence-based policy design, implementation and evaluation. Key stakeholders expressed this need at multiple specific occasions in the last years:

  a. DG AGRI evaluated its use of FSS data to identify priority characteristics, desired frequencies and other required features in 2011. It was found that the FSS is a unique source of information for a wide range of farm structural

[52] Minutes of the ESSC Meeting May 2014

elements in the EU, and its data are used in a number of publications and for evaluations of different policies, sectors and impacts. However, many more data were needed on environmental aspects, especially with increasing "greening" requirements in the then-upcoming CAP reform.

b. Member State representatives at the CPSA meeting in November 2013 confirmed and supported specific new data needs identified for the 2016 and future FSS following the CAP reform.[53] Moreover, representatives discussed and welcomed specific requirements for new FSS legislation at this meeting.[54]

c. The Director-General of DG AGRI stressed at a presentation for the ESSC in May 2014 that relevant, timely and comprehensive agricultural statistics are needed for designing, monitoring and evaluating the CAP and its expenditure and that the need for high-quality agricultural statistics is stronger than ever, enumerating several specific data needs for different policies and actions.

d. Several data users' specific needs were queried and then presented and confirmed at the CPSA meeting in November 2014, including main Commission data users' and Member States'.[55] [56] Since then, other users, among them the EEA, have communicated their data needs to Eurostat.

Furthermore, stakeholders underlined that new, changing and emerging as well as existing, stable data needs must be answered in *a more flexible and integrated way* to react faster to new developments, provide data in a timelier manner and account for different data collection modes and situations in Member States with a fast process. Examples of agricultural data that have recently increased in importance are agri-environmental indicators.

- **The data collections are not harmonised and coherent** because new data needs are emerging, legislation has been developed separately over many years, and there are partly different definitions and concepts in different agricultural areas. The need for harmonisation and coherence was expressed several times recently:

  a. Data providers and users expressed a wish to increase harmonisation and coherence in order to improve data comparability and usefulness and be able to do more with fewer resources at the CPSA meeting in November 2013.[57] This need has been echoed by other users such as the research community for years.

  b. Eurostat's Internal Audit Service (IAS) recommended in its 2013 audit on statistical processes of agriculture statistics that voluntary data collections should be formalised, all variables should be applied consistently by Member States, Member State compliance with quality requirements should be documented and monitored systematically, completeness of disseminated data should be increased, and using administrative and other data sources should be considered in view of the identified issues.

[53] Minutes of the CPSA Meeting November 2013
[54] Document CPSA/706 for the CPSA Meeting November 2013
[55] Document CPSA/732 for the CPSA Meeting November 2014
[56] Document CPSA/732 for the CPSA Meeting November 2014, Annex I
[57] Minutes of the CPSA Meeting November 2013

c. The Eurostat User Satisfaction Survey in 2014, a wide consultation open to the general public, revealed that only about half of respondents rated the completeness and comparability of European agriculture and fishery statistics as "good" or "very good", below the Eurostat average for each criterion.[58]

- **The burden of providing data is perceived as too high** because data needs are increasing, data collection is not harmonised, and resources continue to shrink at EU and national level. This burden was confirmed as jeopardising data collection and data quality. In several recent exchanges with data providers, ways of reducing it and increasing the cost-benefit ratio have been discussed:

    a. The topic was discussed in depth at the CPSA November 2013 meeting. Several ways to reduce the burden such as improving the use of administrative data registers, reusing data collected once multiple times, and harmonising concepts and definitions across legislation, domains and databases were proposed.[59]

    b. Eurostat mapped common characteristics and data flows in agricultural statistics for the CPSA November 2014 meeting, in order to find opportunities to reduce the burden.[60]

[58] Report on the Eurostat User Satisfaction Survey 2014
[59] Minutes of the CPSA Meeting November 2013
[60] Document CPSA/732 for the CPSA Meeting November 2014, Annex II

Annex III: Who is affected by the initiative and how

As stated in the impact analysis for options 3 and 4, the practical implications of implementing the agricultural statistics strategy for 2020 and beyond for data producers, i.e. NSIs, ONAs and Eurostat, and for data respondents, i.e. farmers and agricultural businesses, would be as follows:

- **Data producers** would have to adapt their data collection, production and dissemination systems to new or different variables in surveys and to more integrated data collection e.g. by linking administrative and statistical databases, which would create some initial burden and costs. In the midterm, they would benefit from reduced costs of data collection, a more smoothly integrated operation of the EASS, continued financial support, and better statistical products (see chapters 5.1 and 5.2.)
- **Data respondents** would in many cases benefit from not being surveyed anymore or surveyed much less frequently and exhaustively due to the changed systems e.g. allowing to pre-fill questionnaires with administrative data or to reduce survey frequencies. Those holdings still being surveyed would not experience much change in their operations apart from having to respond to partly different questionnaires than now, which could oblige them to perform additional tasks to collect the necessary data. But this is expected to be balanced out by questionnaires that are shortened and relieved of the most burdensome variables (see chapters 5.1 and 5.2.) All eligible respondents would benefit from continued guaranteed financial CAP support and better policy delivery due to better data.

As to the effects on **EU Member States**, especially in the short term when the biggest financial outlays will be needed to implement the proposal, the new Member States and the Mediterranean countries are estimated to be more affected than the others. There are going to be two main impacts of the new legislation:

1) The number of farms that are included in the agricultural census will be reduced by potentially 30%, which corresponds in absolute terms to more than 3.5 million from a total of almost 12 million in 2010. Current analyses show that Romania, Italy, Hungary, Poland, Greece, and Bulgaria would be most impacted and thus stand to gain most in budgetary savings (their total savings could be up to 48 million euro according to Eurostat estimations) as can be seen from table 2.

Some of these Member States will need to carry out an additional sample survey on small farms below the cut-off threshold in order to allow estimating their impact on agricultural production and rural society. Using the information from table 2 and adding the fixed costs for setting up a survey provided by the countries, the costs for the six Member States mentioned above would amount to only about 8 million euros, thus clearly indicating the huge costs savings involved in the reduction.

2) The possibility of collecting data using sub-samples will be greatly increased. This means that it will be possible to target only specific farms in the surveys. Setting up these surveys will be greatly improved by the introduction of a unique farm identifier or a farm register, in close collaboration with keepers of administrative registers. Such a system will be fully voluntary for the Member States, but will require initial investments, both in National Statistical Authorities and in the authorities owning the administrative registers.

However, all Member States will be affected by the required adaptations to the new survey system in the short and medium term. Eurostat has no evidence that any Member State would be more strongly impacted than others in this regard.

Annex IV: Impact analysis methodology

Analysis of the potential impacts of the different policy options for the future EASS has been based on the methodology proposed in the Better Regulation Guidelines of the Commission. As a first step, potential impacts were identified in relation to the different options. This was followed by a primarily qualitative analysis in order to identify the more important impacts of the various options. This analysis was complemented with an analysis of information available from a number of monitoring and evaluation documents linked to the implementation of the current EASS as well as from a series of consultations with stakeholders of EU agricultural statistics, the results of the open public consultation, and several other documents and quantitative calculations outlined above. When analysing the impacts of the different options, the following main aspects were taken into account: effectiveness in relation to the objectives (fulfilling data needs; coherence and integration; reducing the burden); efficiency in achieving the objectives (cost-effectiveness); coherence with overarching EU objectives (CAP and other EU policies depending on agricultural statistics and general EU objectives; ESS policies); other important criteria (risks; indirect impacts e.g. on climate change); and impacts on stakeholders (users, producers and respondents). Administrative burden and cost impact calculations are outlined further before being applied to the individual options.

In line with the Better Regulation guidelines, the impact assessment should also provide details for all options on the information obligations for businesses, citizens and national/regional/local administrations which are likely to be added or eliminated if the option were implemented. In those cases in which the change in administrative burden is likely to be significant, the effects should be quantified using the EU Standard Cost Model. However, this approach is difficult to apply while analysing the impact in terms of costs and burden of a multi-annual agricultural statistics programme. Firstly, due to the difficulty of performing an information obligations mapping exercise in the long term because of the multitude of providers of EU statistics. Secondly, because of the national specificities in terms of organisation of the statistical production systems, which makes it difficult to apply the EU Standard Cost Model for quantification. While analysing the impact in terms of costs and burden of the different policy options, Eurostat therefore relied, inter alia, on the experience gathered from previous agricultural surveys and combined it with evidence gathered from previous and ongoing quantitative and qualitative assessments of costs and burden related to the statistical production in the field, in order to assess the expected costs and burdens of data collection for respondents such as farms and agricultural businesses.

Burden impact analysis methodology

Step 1: Estimation of burden per variable

To estimate the burden of each variable in the new system the following methods were used:

(i) The assumption for variables included in the FSS or SAPM 2010 was that the burden has not changed, so the value (1-5) from the burden assessment exercise 2010 was used. Based on the values submitted by the Member States, a rounded average value was calculated for each variable.

(ii) For some new variables, which are similar but not exactly the same as variables in FSS or SAPM 2010, the assumption was that the burden would be the same as for similar variables in the burden assessment exercise 2010, and so these values were used. For instance, *cattle housing* was not collected for different types of cattle in FSS 2010, but it was included as a

new variable in the proposal, and continues to be a new data need. The value for *cattle housing* was 3 in the assessment of SAPM 2010, and therefore it has been assumed that the burden of each variable for cattle housing in the new system is also 3.

(iii) For new variables for which no similar variable exists previously the highest value of a burden (5) has been assigned to calculate the maximum possible burden, as this will allow showing the worst possible case. Eurostat assumes that the actual situation will be less drastic.

Step 2: Estimation of burden per survey year

For each core, module and satellite survey a total burden was estimated by aggregating the burden of the variables included, as shown in rows 1-10 of table AIV.1. A total burden was estimated in row 11. It takes into account differences in the amount of variables per survey year and the level of burden of the variables included.

The combined total estimated burden for FSS and SAPM 2010 was 613 (a census year), while for FSS 2013 and FSS 2016 it is 467 (sample survey years). The total burden for IFS 2023 is estimated at 672 (a sample survey year), which is higher than that of FSS 2010 or FSS 2013, as new variables are being added. The total burden for IFS 2020 (a census year) and for IFS 2026 (a sample survey year) is estimated at 574, which is lower than that of FSS 2010, as some variables have been moved from FSS 2010 to a module which is not requested in these years, but it is higher than that for FSS 2013, as a satellite has been added.

Table AIV.1: Estimation of total burden FSS/IFS 2010-2026. Source: Eurostat

	FSS/SAPM 2010	FSS 2013	FSS 2016	IFS 2020	IFS 2023	IFS 2026
1. Total burden core	430	467	467	290	290	290
2. Total burden module I	0	0	0	0	41	0
3. Total burden module II	0	0	0	56	0	56
4. Total burden module III	0	0	0	30	0	30
5. Total burden module IV	0	0	0	24	24	24
6. Total burden module V	25	0	0	0	25	0
7. Total burden module VI	65	0	0	0	70	0
8. Total burden satellite A	69	0	0	0	222	0
9. Total burden satellite B	6	0	0	174	0	174
10. Total burden SAPM	18	0	0	0	0	0
11. Total burden	**613**	**467**	**467**	**574**	**672**	**574**

Step 3: Estimation of burden per survey year weighted for size of survey

The total burden estimated in step 2 does not take into account differences in the burden related to different sample sizes. In Table AIV.2 the weighting factors for the core carried out as a census, the core carried out as a sample survey, and the modules and satellite surveys are presented. For the purpose of this analysis an initial value was assumed based on proposed precision requirements.

Table AIV.2: Weighting factors. Source: Eurostat

	Fixed part	Variable part	Total factor
Census	0.5	0.5	1
Sample core	0.5	0.3	0.8
Sample module	0.5	0.2	0.7
Sample satellite	0.5	0.2	0.7

The census was taken as the benchmark and therefore equals 1. It is assumed that the actual burden of the core, module and satellite consists of a fixed part (a minimum burden regardless of sample size, e.g. minimum amount of staff, databases etc. needed to carry out surveys) and a variable part (which increases with the size of the survey, e.g. person-hours dedicated to data collection, validation etc.) Therefore, the relation between the expected sample size and the weighting factor is not proportional, but is an addition of a fixed part and a variable part. The fixed part is assumed to be 50% of the total burden estimated in step 2, which is in line with historical experience from comparable data collections. The variable part is assumed to be 50% of the total burden estimated in step 2 when the survey is carried out as a census, 30% when the core is carried out as a sample survey, and 20% for modules and satellites.

The total weighted burden for FSS/SAPM 2010 is thus 558, and for FSS 2013 and FSS 2016 it is 374 (see Table AIV.3). In 2023 and 2026 the weighted burden is expected to be higher than in 2013 and 2016, however the weighted burden of IFS 2020 is estimated to be lower than that of FSS/SAPM 2010 (although new variables have been added, many variables have been moved to modules).

Table AIV.3: Estimation of total burden and total weighted burden FSS/IFS 2010-2026. Source: Eurostat

	FSS/SAPM 2010	FSS 2013	FSS 2016	IFS 2020	IFS 2023	IFS 2026
1. Total burden (step 2)	613	467	467	574	672	574
2. Total weighted burden	**558**	**374**	**374**	**489**	**499**	**431**

Step 4: Estimation of weighted burden per survey year accounting for internal actions

Adding to the burden of the variables included in the IFS and the sample size, a burden on the Member States in 2020 and 2023 related to **redesigning systems** to adapt to the new regulation(s) is expected. It was assumed that this burden is 25% of the total burden estimated in step 3 in 2020 and 10% in 2023, to calculate the upper range of the burden. These factors reflect the additional costs for the statistical institutes related to redesigning their systems only. After 2023, it is expected that Member States will have adapted their systems to the new regulation, and therefore these costs are no longer expected. These assumed proportions are at the high end of historical experience when considering that a large part of the costs of agricultural census data collections comes from having to survey a large number of farms, which is little affected by system redesign (because a shorter questionnaire still needs to be used in all farm holdings), but were nevertheless kept to estimate the upper range of redesign costs.

Among the **actions foreseen for options 3 and 4**, a new threshold of 98% of total utilised agricultural area and livestock units (and allowing Member States with many small holdings to conduct a special survey on 5% of the smallest holdings in order to reach the threshold instead of including them in the regular sample) is expected to bring considerable reductions in the administrative burden for data producers, mainly in countries with many small holdings. The current legal thresholds are too high to achieve sufficient coverage, so some Member States now survey almost all holdings for coverage compliance. These two changes alone would reduce the number of surveyed farms by around 3.6 million to 8.4 million as compared to the almost 12 million farms surveyed for the FSS 2010 (and planned to continue to be surveyed in option 2). Assuming conservatively that half of this reduction by 30% translates into a burden reduction (due to fixed costs of data collection regardless of the number of surveyed holdings, see step 3), this would result in a factor for fewer surveyed

holdings of 0.85 from 2020 on. Similarly, better coherence, harmonisation, integration and flexibility of agricultural statistics data collection can be expected to result in at least 5% burden reduction.

The total weighting factor to estimate the burden reduction from internal actions (resulting from multiplying the individual factors with each other and rounded to 5 percent to account for uncertainties) can be seen in table AIV.4.

Table AIV.4: Estimation of burden factors for internal actions. Source: Eurostat

	2020	2023	2026
Factor for redesigning systems	1.25	1.1	1
Factor for fewer surveyed holdings	0.85	0.85	0.85
Factor for better coherence etc.	0.95	0.95	0.95
Total factor for internal actions	**1**	**0.90**	**0.80**

Step 5: Estimation of weighted burden per survey year accounting for external factors

A further reduction in administrative burden can be expected due to external factors, foremost the continuing **shrinkage of the number of agricultural holdings in the EU** caused by the problem drivers detailed earlier. The number of farms in the EU has already shrunk from almost 15 million holdings to 11 million between 2003 and 2013 and is expected to shrink further. This effect applies equally to all options, but is important to be included to get a full picture of the evolution of the burden of European agricultural statistics data collection. Unfortunately, there are no exhaustive studies available on this subject, and the rate of shrinkage depends on many factors, several of which are hard to predict, so only a range of the number of EU farm holdings between 2020 and 2026 could be estimated: 1) unchanged to the status quo, i.e. 11 million, 2) based on a linear projection of the current annual shrinkage rate of 3.7%, i.e. around 8.2 million holdings in 2020, 7.3 million in 2023, and 6.5 million in 2026, and 3) based on an accelerated annual shrinkage rate of 5%, i.e. 7.5 million holdings in 2020, 6.4 million in 2023, and 5.5 million in 2026. If half of these reductions can be translated into burden reductions (again accounting conservatively for fixed costs of data collection), this results in the burden reduction factors outlined in table AIV.5.

Lastly, **technological, methodological, organisational and other progress** can be expected to reduce the burden of data collection irrespective of the chosen option. 2% improvement per year would result in 8% less burden by 2020, 15% by 2023, and 22% by 2026. Again assuming conservatively that only half of these potential gains can be translated into real burden reductions, the resulting factors, multiplied with the estimations for the shrinkage of holdings, can be seen in table AIV.5.

Table AIV.5: Estimation of burden factors for external factors. Source: Eurostat

	2020	2023	2026
Shrinkage of holdings scenario 1 (unchanged) / incl.technological etc. progress	1 / 0.96	1 / 0.93	1 / 0.89
Shrinkage of holdings scenario 2 (-3.7%/year) / incl.technological etc. progress	0.88 / 0.85	0.83 / 0.77	0.80 / 0.71
Shrinkage of holdings scenario 3 (-5.0%/year) / incl.technological etc. progress	0.84 / 0.81	0.79 / 0.73	0.75 / 0.67

Step 6: Total weighted burden per survey year

Table AIV.6 presents the total burden including the additional or reduced burdens for internal actions and external factors in the Member States.

Table AIV.6: Estimation of total weighted burden FSS/IFS 2010-2026. Source: Eurostat

	FSS/SAPM 2010	FSS 2013	FSS 2016	IFS 2020	IFS 2023	IFS 2026
1. Total burden (step 2)	613	467	467	574	672	574
2. Total weighted burden (step 3)	558	374	374	489	499	431
3. Total weighted burden with internal actions only, from 2020 (step 4)	558	374	374	489	449	345
4. Total weighted burden with external factors only, from 2020 (step 5)						
Shrinkage of holdings scenario 1	558	374	374	469	464	384
Shrinkage of holdings scenario 2	558	374	374	416	384	306
Shrinkage of holdings scenario 3	558	374	374	396	364	289
5. Total weighted burden with internal actions and external factors, from 2020						
Shrinkage of holdings scenario 1	**558**	**374**	**374**	**469**	**418**	**307**
Shrinkage of holdings scenario 2	**558**	**374**	**374**	**416**	**346**	**245**
Shrinkage of holdings scenario 3	**558**	**374**	**374**	**396**	**328**	**231**

The meaning of these calculations can be clearly seen from table AIV.7, in which a full "cycle" (one census and two sample surveys) of FSS surveys is summed up, the middle scenario 2 for the shrinkage of the number of holdings is taken as a benchmark, and the options are compared as far as possible.

Table AIV.7: Estimation of administrative burden change for a full FSS/IFS cycle. Source: Eurostat

	Current cycle (2010-2016)	Next cycle (2020-2026)	Future cycles (2030+)
Option 1	**1306**	**n/a**	**n/a**
Option 2			
No changes at all	1306	1306	1306
Only external factors	**1306**	**1028**	**Further reduction**
Options 3 and 4			
Only survey redesign	1306	1419	1419
Survey redesign + internal actions	1306	1283	1135
Survey redesign + external factors	1306	1106	Further reduction
All actions and factors	**1306**	**1007**	**Further reduction**

It can be seen that under options 3 and 4, the total weighted burden for a full "cycle" of FSS surveys, when including internal actions intended to reduce the burden of agricultural statistics data collection, but excluding externally imposed changes, would be slightly lower than in the current status quo (which equals option 2), despite shouldering high adaptation costs (1283 versus 1306). For the next and further "cycles", this burden would shrink even further to 1135 versus 1306 because there would be no new large system adaptation necessary for the time being. Similar relations hold or would hold when also including external changes thought to affect each option equally.

Thus, it can be concluded that the administrative burden for data producers of options 3 and 4 would be slightly lower than the burden of the status quo option 2, even though the new system would absorb high adaptation costs, fulfil new data needs, and perform in a more harmonised and integrated manner. In the future, the comparison would be even more favourable, as no more adaptation costs would be incurred and the new system would be able to adapt much easier to changing and emerging requirements.

Annex V: Detailed list of data sets collected in the EASS

Table AV.1: Current European agricultural statistics data sets, frequency and legal basis
*** = non-statistical legislation**

Domain	Data set	Frequency	Legal basis
Structural data	Agricultural census	Every 10 years	Regulation (EC) No 1166/2008 Implementing Regulation (EC) No 1200/2009
	Farm structure surveys	Every 3 years	
Agri-monetary data	Economic accounts for agriculture	Annually	Regulation (EC) No 138/2004 on the economic accounts for agriculture in the Community
	Agricultural labour input statistics		
	Unit value statistics for agricultural products		
	Selling prices of agricultural products		
	Price indices of agricultural products		
	Agricultural prices - land (including rent)		
Crop production data	Crops from arable land - area and yield	Annually	Regulation (EC) No 543/2009 concerning crop statistics
	Permanent crops from arable land		
	Vegetables, melons, strawberries		
	Agricultural land use		
	Supply balance sheets – wine		Regulation EC laying down detailed rules for the application of Council Regulation (EC) No 479/2008 as regards the vineyard register, compulsory declarations and the gathering of information to monitor the wine market, the documents accompanying consignments of wine products and the wine sector registers to be kept
	Crops products: supply balances sheets		

	Early estimates for Crop production		
	Early estimates for Fruit and Vegetables		
Organic farming data	Certified registered organic operators	Annually	Regulation (EC) No 834/2007 on organic production and labelling of organic products
	Certified organic crop area and production		
	Certified organic livestock, animal products and aquaculture		
	Manufacturing of organic products		
Permanent crop statistics	Structure of orchards and vineyards	Every 5 years	Regulation (EU) No 1337/2011 concerning European statistics on permanent crops
Animal products and livestock data	Livestock survey - cattle - May/June	Annually	Regulation (EC) No 1165/2008 concerning livestock and meat statistics
	Livestock survey - cattle - November/December		
	Livestock survey - cattle – regional		
	Livestock survey - pigs - May/June		
	Livestock survey - pigs - November/December		
	Livestock survey - pigs – regional		
	Livestock survey - sheep & goats - November/December		
	Livestock survey - sheep & goats – Regional		
	Slaughterings other than in slaughterhouses		
	Slaughterings other than in slaughterhouses	Monthly	
	Slaughterings in slaughterhouses		
	Gross indigenous production – cattle	Sub-annually	
	Gross indigenous production – pigs		
	Gross indigenous production - sheep & goats		
	Activity of hatcheries*	Monthly	Regulation (EC) No 617/2008 laying down detailed rules for implementing Regulation (EC) No 1234/2007 as regards marketing standards for eggs for hatching and farmyard poultry chicks
	Trade of chicks*		
	Structure of hatcheries*	Annually	
	Milk collection - Table A	Monthly	Council Directive 96/16/EC on statistical
	Milk production - Table B	Annually	

	Milk questionnaire		surveys of milk and milk products
	Milk on farms - Table C		
	Milk protein contents - Table H		
	Milk regional collection - Table I		
	Structure of Dairies - Collection Centres by volume of annual milk collection	Every 3 years	
Agri-environmental data	Use of pesticides	Every 5 years	Regulation (EC) No 1185/2009 concerning statistics on pesticides
	Sales of pesticides	Annually	
	Fertiliser statistics		
	National level gross nitrogen balances		
	National level gross phosphorus balances		

Furthermore, there are derived agricultural statistics:

- Supply balance sheets for main crop products
- Rural development indicators
- GIP forecast (quarterly/semi-annual)

European agricultural statistics currently under development are:

- LUCAS/ land use statistics
- More agri-environmental indicators
- Statistics on production of eggs for human consumption and of honey.

Annex VI: Summary of present agricultural data collection and new needs in the EU

Table AVI.1: Summary of present EU agricultural data collection and new data needs. Source: Eurostat.

*** = New data need**

Item	Description	Survey/ source (suggested for new needs)	Level	Frequency
Basic information				
Location	Accurate geo-reference of the holding	FSS census	Holding	Every 10 years
	Rounded geo-reference of the holding	FSS interim surveys	Holding	2-3 year intervals
	Parcel geo-reference*	FSS	Parcel	
Type of unit	Household, holding	FSS	Holding	2-3 year intervals
Legal status	Natural person/ juridical person/ common land	FSS	Holding	2-3 year intervals
Main purpose of the production of the holding	Producing for market or for own consumption*			
Utilised agricultural area	Total area	FSS	Holding	2-3 year intervals
		Crop statistics	Region	Annual
Total area of the holdings	Total area	FSS	Holding	2-3 year intervals
Land use types	Arable crops, temporary grasses, permanent crops, permanent grassland, wooded area, etc.	FSS	Holding	2-3 year intervals
		Crop statistics	Region	Annual
Constraints on agricultural activity	LFA, mountain area	FSS	Holding	2-3 year intervals
	Ecological focus area			
Other areas on farms	Non-agricultural land on the holding	FSS	Holding	2-3 year intervals
		Crop statistics	Region	Annual
Production assessment and forecast				
Structure of production factors	Structure of holdings, crops, grassland, number of livestock, etc.	FSS	Holding	2-3 year intervals
	Structure of plantations (fruit, olive, grapes) ,and density and age	Permanent crop statistics	Region	Every 5 years
	Structure of rearing	FSS	Holding	2-3 year intervals
	Structure of hatcheries	Animal statistics	National	annual
	Structure of dairies		National	Every 3rd year

Item	Description	Survey/ source (suggested for new needs)	Level	Frequency
Nutrient surplus	Gross Nutrient Balance	Agri-environmental statistics	National	Annual
			Region*	?
Production at various stages	Area sown/planted, harvested, area under grass, grazed	Crop statistics	Region	Annual
	Detailed livestock	Animal statistics	Region	Semi-annual
	Laying hens*	Animal statistics	Country	Annual
	Placing of chicks	Animal statistics	Country	Monthly
	Cows‘ milk collection + products obtained			
	Yields	Crop statistics	Region	Annual
Production achieved	Annual and permanent crops	Crop statistics	Region	Annual
	Grassland*	?	Region	Annual?
	Main slaughter	Animal statistics	Region	Monthly
	Other slaughter	Animal statistics	National	Annual
	Cows’ milk	Animal statistics	Region	Annual
	All milks	Animal statistics	National	Annual
	Eggs*	Animal statistics	Country	Annual
	Production index (volume)	Agri-monetary	Regional	Annual
	Other production, e.g. mushrooms	FSS	Holding	2-3 year intervals
Production forecast	Early estimates	Crop statistics	Region	Monthly
	GIP meat Processed products (dairy products, wines)	Animal statistics	National	Once or twice a year
Supply balance sheets	For main annual crops, wine	Crop statistics	Country	Annual
	External trade of chicks	Animal statistics		Monthly
	Availabilities and use of milk	Animal statistics		Annual
Selling prices of production	Absolute price	Agricultural price statistics	Country	Quarterly
	Price index	Agricultural price statistics	Country	Quarterly
N and P content of products*	Crop products, animal products, grassland production, clover and mixture	Agri-environmental	Country	5 year intervals
Energy crops	Area	FSS	Holding	2-3 year intervals
		Crop statistics	Region	Annual
Farm management				

Item	Description	Survey/ source (suggested for new needs)	Level	Frequency
Farm income	Indicators A and B	Agri-monetary statistics	Country	Annual
Farm work	Work for agricultural production	FSS	Holding	2-3 year intervals
	Labour input	Agri-Monetary	Country	Annual
Structure of farm labour force	By gender, age, working time class	FSS	Holding	2-3 year intervals
Family labour force	By gender, age, working time class			
	Family link			
	Other Gainful Activities			
Farm management	The holder, the manager			
	Education level			
	Support for rural development			
Diversification	Other activities directly related to the holding			
Viability	Land tenure			
Water management	Irrigable, irrigated area	FSS	Holding	2-3 year intervals
	Per main crops	FSS	Holding	10 year intervals
	Irrigated areas per crop*	Crop statistics	Region	Annual*
	Irrigation methods	FSS	Holding	2-3 year intervals
	Source of irrigation water			
Soil management	Tillage methods	FSS	Holding	2-3 year intervals
	Soil coverage			
	Crop rotation			
Manure management	Application techniques	FSS	Holding	2-3 year intervals
	Import/ export			
	Manure storage system for cattle, pigs, poultry			
Animal management	Housing systems for cattle, pigs, poultry	FSS	Holding	2-3 year intervals
	Grazing system for each grazing livestock	FSS	Holding	5 year intervals
Pesticides	Sales	Pesticide	Country	Annual
	Use by agriculture by crop			Every 5th year

Item	Description	Survey/ source (suggested for new needs)	Level	Frequency
Fertilizers	Use of N, P, K fertlizers	Agri-environmental statistics	Regional	Annual
	Use per detailed type of N-fertilizers*			
	Application rate of mineral fertilizers (kg N / ha)*			
	Application rate of organic fertilizers (manure) (kg N/ha)*			
	Application rate of sludge and slurry (kg N/ha)*			
Other N input*	Atmospheric N deposition*	Agri-environmental	National	?
Feed*	Share of dry matter of crops, grass, concentrates or compound feed, feed additives, feed by animal type*	?	Regional	Annual
Production days for living animals*	Production days for living animals (or number of cycles)*	?		Every 10 years
Rice cultivation system*	Rice cultivation systems according to IPCC*	?		Every 3rd year
Histosols*	Area of cultivated histosols'	?		
Soil management*	Share of crop residues returned to the soil'	?	Regional	Annual
	Crop residues management'			
	Share of legumes in grassland'			
	N-fixing crops in rotation'			
	Grasslands management'			
Price of input	Changes in price of input	Agri-monetary	Country	Quarterly
Organic farming				
Structure	Structure, area and livestock	FSS	Holding	2-3 year intervals

Item	Description	Survey/ source (suggested for new needs)	Level	Frequency
Production factors	Area under organic farming: total, converted, under conversion	Organic Statistics	National	Annual
	Crops, livestock			
	Fish species*	?	Region	Annual
	Area of clover and mixture	FSS	Holding	2-3 year intervals
	Potential: Unutilised agricultural area			
Production	Per crop, animal product, fish	Organic Statistics	National	Annual
Processing	Volume			
Operators	Number			

Table AVI.2: Details of new data needs by problem driver and stakeholder groups. Source: Eurostat.

Data need	Reasons
Climate change challenges, e.g. land data on exchange of greenhouse gases between atmosphere, soils and vegetation; land management data e.g. on grazing of livestock, tillage, manure, urea application; water availability, extreme climatic events etc.	• The carbon footprint of the agricultural sector is influenced by soil carbon contents and management practices. Emissions and removals should be accounted for better to improve future policy design. In addition, the adaptive capacity of agriculture to climate change needs to be better assessed. • Land management and agricultural activity data are a necessary basis to estimate greenhouse gas emissions according to IPCC methodology enshrined in international law. Agriculture emits about 10% of total greenhouse gases in the EU and is the second largest greenhouse gas source in the EU after energy. It is thus relevant for emissions reduction after 2020 and beyond, and also for political climate and energy frameworks and emissions targets. • Farm data to be collected for emissions accounting and reduction can only be collected by sampling at farm scale and relate especially to animal feeding, animal housing, manure storage and manure application.
Other important data needs, such as data for development policies, e.g. on food production structures and yields, price volatility;	• EU agriculture affects developing countries through the availability of stocks for aid and through impacts on food prices. • The contribution of agriculture to the production of

renewable energy data e.g. on biofuels; animal welfare data e.g. on livestock management practices and stocking densities	renewable energy needs to be better assessed. • More information for animal welfare policies is required.
FSS data improvements, e.g. more details, better timeliness, fewer data gaps	• FSS data are used by DG AGRI and other users as the backbone for almost all analyses of farms and farming-related activities in the EU; they are the standard source for data related to farm numbers, types, sizes, land use, farm holder characteristics and the farm labour force and provide essential time series.[61] They are also a key source of information to build sampling frames for surveys and for data on small areas and rare products. Together with crop and animal production statistics, FSS data provide essential information for meaningful policies on agriculture, rural development, territorial cohesion and many aspects of enviromental and economic development, on the efficiency and competitiveness of the sector, and the nature and development of rural areas; they enable analysing and highlighting trends, monitoring and evaluating policy impacts, and identifying problem areas and designing new policies.
Main CAP needs: what is produced (information on crops, livestock, production, yields etc.), by whom (information on farms, farm holders and managers, family members, non-family labour, total labour input, by sex and age, training status, working time etc.), and how (information on production methods, organic farming, input use, farming intensity, stocking densities, tillage methods, manure management, irrigation etc.) Also needed: information on where production is located (regional distribution, areas facing constraints etc.) and how agriculture interacts with the environment (land use, landscape, crop diversity,	• Agricultural statistics are central for designing, negotiating, implementing, monitoring and evaluating the CAP, the most complex and harmonised EU-level policy. It covers agricultural production and production methods, agricultural markets, provision of public goods and services by agriculture, development of rural areas and farmers' income. These elements cannot be seen in isolation or with different priorities, and all need a solid knowledge base. Statistics are used at each stage of the policy cycle, from problem analysis to policy conception, impact assessment, monitoring and evaluation, in order to target policy interventions efficiently and effectively. The data are also needed for an informed, rapid and appropriate reaction in crises and towards market signals. It would therefore be best to focus on the needed survey systems to make them flexible for new and emerging data needs. • The reformed CAP also puts more emphasis on protecting the environment and the climate, sustainable farming practices, animal welfare and rural development, for which more data are needed. • Eurostat completed a project to identify the data needs related to agri-environmental indicators (AEIs), which

[61] Document CPSA/631 for the CPSA Meeting November 2011, Annex I

biodiversity, soil, air and water quality, emissions from agriculture, environmental focus areas, environmentally sensitive grassland etc.). Also data on prices, yields and production structures for market analyses and market outlook models, information on the food supply chain, and information on income from agricultural activities. For Rural Development Policy, information on the economic situation of rural areas, other income-generating activities, rural infrastructure, demography, employment and the environment is needed. Data for CAP "greening", i.e. a land-based policy with strong environmental requirements; for this, reliable data about land uses, land conditions and management practices is required, e.g. on crop diversity, permanent grasslands, and ecological focus areas 28 agri-environmental indicators to monitor the integration of environmental concerns into the CAP at EU, national and regional levels, e.g. data on pesticides, soil quality and waste Organic farming data Further DG AGRI data needs for the monitoring and evaluation system of the	give information on the incorporation of environmental measures in agricultural policies and on the relation between agriculture and the environment. The study confirmed that a large amount of farm data and information are needed, and that a number of key AEIs have data requirements in common with key policy reporting requirements, giving an opportunity to harmonise data collection and reporting. The data requirements for calculating the AEIs consist of 97 different types of data. 20 can be obtained from the FSS and 12 from the SAPM, which could benefit AEI collection if it were more regular instead of a one-off. 43 other data sources were identified. There may be a need to start new surveys and install new statistical legislation (which so far exists only for pesticides) to collect the remaining data. The 28 AEIs are of extreme importance for EU agri-environmental policy reporting. These results have been confirmed by in-depth discussions with users and producers of agricultural statistics and are also used by FAO and OECD.[62] This is also relevant to IPCC guidelines for the evaluation of agricultural statistics with regard to climate policy questions. Similarly, a study on grassland statistics[63] found different data needs and was used as input for the strategy. • In addition, the International Statistical Institute's World Statistics Congress 2015, a biennial meeting of official statisticians with over 1600 participants, stressed that agri-environmental indicators can be useful for work on climate-smart agriculture, which aims to increase food production, lower emissions and increase resilience; but data must be updatable and comparable over time and across countries, for which more work is needed. • Organic farming is a main way for farmers to benefit from "greening" direct payments and can account for up to 30% of the CAP; statistics in this area are of bad quality due to coverage and timeliness problems. More maturation and new legislation are needed to improve the data quality.[64] • DG AGRI is interested in data for questions such as whether land prices are influencing land use patterns and to understand "land grabbing" better; only partial land prices until 2009 exist. In addition, the reference for CAP support is shifting from farmers to land. • As for supply balance sheets (SBS), it was decided to reduce these statistics around 2004. There were about 100

[62] Farm data needed for agri-environmental reporting, ISBN 978-92-79-19648-5
[63] Draft final report Grassland Project
[64] Document DGAS/12 for DGAS Meeting 2015

CAP, e.g. agricultural productivity, emissions, food supply chain data, land prices and rents, supply balance sheets, fertiliser use, and soil quality	SBS based on gentlemen's agreements then. The last SBS for cereals was produced in 2013, and there is no alternative source. SBS suffered from a lack of data, an unharmonised methodology and some suspicious figures, but their discontinuation led to the consequences described above, and there are international reporting obligations for AMIS and the G-20. Therefore, DG AGRI would like to see SBS on wheat, maize, barley, rice, rapeseed, soybean and sunflowers reintroduced, based on a clear and harmonised methodology and better quality data within a sustainable legal framework. These data should come from statistics because there is an established code of practice, i.e. guaranteed quality; models can suffer from "garbage in, garbage out".
DG ENV data needs: Data is needed to monitor the effects of implementation of current environmental policies and legislation and for the development of new policies. For the Biodiversity Strategy, data on land management (e.g. reparcelling), on biodiversity features (e.g. presence of landscape features), farming practices (e.g. High Nature Value Farmland), and land use (e.g. semi-natural grasslands). For the Water Framework Directive/Nitrates Directive, data on land management (e.g. irrigated area), farming practices (e.g. Nutrient Balance), and equipment (e.g. water saving permitted by irrigation systems, manure storage). For the Clean Air package/Industrial Emission Directive: data on grazing of livestock, fertilizer application, manure storage, animal housing. For the Soil Thematic Strategy: data on land use (e.g. green cover), farming	• Agricultural statistics are crucial to monitor the causes of the existing gaps for achieving the objectives of environmental policies. According to the EEA's 2015 report on the State of the Environment, agriculture lists first in its list of socio-economic sectors which are degrading the natural capital of Europe. European farming involves the use of soil, water, biodiversity and landscape. So it establishes a more complex relation with the environment in comparison to closed industrial systems, and therefore it is challenging to avoid environmental damage. Farmland covers nearly half of the territory of the European Union, so if certain farming practices cause environmental problems, these problems tend to be widespread and tend to have significant impacts on the ecology. That said, some European farming systems are also actively beneficial for the environment. In particular High Nature Value farming systems, which can be found in many of the Natura 2000 areas protected under the EU Habitats and Birds Directives, as well as in other regions where traditional, extensive farming systems remain are positive, but their presence is under threat by land abandonment, agricultural intensification and land take. • Some indicators on the state of the environment are already directly collected by environmental legislation, such as status of conservation of habitats (Natura 2000), state of water bodies (Water framework directive), national emissions (National Emission Ceiling Directives) and Nitrates content in water (Nitrates Directives), but there are legislation gaps for example on soil and biodiversity outside Natura 2000, which requires indicators. The planned Commission initiative on land as a resource will also require a solid knowledge base, from problem analysis to policy conception and impact assessment. • To make the link with the data on state of the

practices (e.g. type of tillage), and management practices (e.g. use of organic fertilizers). For the Resource Efficiency scoreboard: land use (e.g. area under organic farming) and land management (e.g. Nutrient balances, Water exploitation index).	environment, other agricultural statistics data are needed. Data on land management, agricultural activity, land use, biodiversity features, farm equipment and machinery, farming practices etc. are necessary to identify the remaining actions needed at EU level in order to fill the gaps for achieving the environmental objectives. These actions can be both the adaptation and reinforcement of the greening of the CAP, and the strengthening of implementation of environmental legislation. This is why especially the survey on agricultural production methods and agri-environmental indicators are essential for DG ENV. This is especially relevant in relation to the following current agenda of the EU Environmental Policy: the Mid Term review of the Biodiversity Strategy[65], the recently adopted EU action plan for the Circular Economy[66], the 3rd Implementation Report on the Water Framework Directive - River Basin Management Plans, the new Clean Air Policy Package[67], and the future initiative on land as a resource, as indicated in the 2011 Road Map for Resource-Efficient Europe[68].
Needs of other important stakeholders: DG JRC, DG SANTE	• DG JRC needs data to perform quality assurance in the area of annual greenhouse gas inventories and for research. It also needs data for its bioeconomy observatory in order to assess the progress and impact of the bioeconomy, i.e. those parts of the economy that use renewable biological resources. griculture naturally plays a big role in the bioeconomy.[69] • DG SANTE needs data to counter diseases and health risks that are increasing in scope, size and reach (also due to climate change) and influence food safety; in addition, the agri-food chain is becoming more globally integrated, with increasing health repercussions on markets and consumers.
Key needs stated at CPSA/DGAS Seminars: Number and structure of farms and core variables of agricultural production; production, area harvested and planted, yields; producer prices (both output and input, including land prices and	• The outcomes of the CPSA/DGAS Seminars confirmed that most of the agricultural statistics presently collected by Eurostat are still needed, and there are several new specific needs. The continued collection of base data is needed to establish time series, long-term trends etc. for informed policy development and establishing targeted and effective policies. • Food supply chain data are politically important for bargaining power, contractual relations and price

[65] COM(2015) 478 final
[66] COM(2015) 614/2
[67] COM/2013/0918 final
[68] COM/2011/0571 Final
[69] COM(2012) 60

rents); exports and imports; stocks of core crops; number, production and producer prices of core livestock; land cover and use; organic farming; areas irrigated and quantity of water withdrawn for agricultural irrigation; fertilisers in quantity and value; pesticides in quantity and value; feed in quantity and value; age and sex of farmers, family and workforce; working time and other gainful activities of farmers and their family members; indicators and data on new greening elements (crop diversity; permanent grassland including environmentally sensitive grassland; ecological focus areas); geo-referenced information; data on food supply chains; continued collection of base data; detailed local data; erosion, pollution, landscapes; machinery	transmission along the chain. Data needed are e.g.: numbers of operators at different stages (producers, processors, retailers, consumers), concentration ratios, prices at different stages etc. As production chains are increasingly split up in shorter phases with more and more players involved, these data are becoming more important, in order to allow for an informed, rapid and appropriate reaction in crises, and allow economic operators to understand and react to market signals. • Land cover and use data are needed for environmental, renewable energy and climate change policies because land use heavily influences them; a lack of good land use data led to this area not being fully taken on board during the Kyoto climate change negotiations.[70] • Irrigation data are important as agriculture is one of the heaviest water users; as the climate changes, this can lead to more droughts and water shortages. • Geo-referenced information is required to combine in an efficient way agricultural information with environmental information. • Detailed local data are requested as environmental impacts of biodiversity, soil and water are geographically specific.

[70] Document CPSA/686 for CPSA Meeting May 2013

Annex VII: List of abbreviations

AEI	Agri-Environmental Indicators
AMIS	Agricultural Market Information System
BSE	Bovine spongiform encephalopathy
CAP	Common Agricultural Policy
CPSA	Comité Permanent de la Statistique Agricole
DG AGRI	Directorate-General for Agriculture and Rural Development
DG BUDG	Directorate-General for Budget
DG CLIMA	Directorate-General for Climate Action
DG ENV	Directorate-General Environment
DG REGIO	Directorate-General for Regional and Urban Policy
DG SANTE	Directorate-General for Health and Food Safety
DGAS	Directors' Group for Agricultural Statistics
EAA	Economic Accounts for Agriculture
EAFRD	European Agricultural Fund for Rural Development
EASS	European Agricultural Statistics System
EEA	European Environment Agency
ESS	European Statistical System
ESSC	European Statistical System Committee
ESS.VIP.BUS.ADMIN	Vision Implementation Project Administrative Data Sources
FADN	Farm Accountancy Data Network
FAO	Food and Agriculture Organization of the United Nations
FSS	Farm Structure Survey
IACS	Integrated Administration and Control System
IAS	Internal Audit Service
IFS	Integrated Farm Statistics
IMF	International Monetary Fund

ISI	International Statistical Institute
JRC	Joint Research Centre
NGO	Non-Governmental Organization
NSI	National Statistical Institute
OECD	Organization for Economic Cooperation and Development
ONA	Other National Authority
REFIT	Regulatory Fitness and Performance
SAIO	Statistics on Agricultural Input and Output
SAPM	Survey on Agricultural Production Methods
SBS	Supply Balance Sheet
SG	Secretariat-General
SJ	Legal Service
TFEU	Treaty on the Functioning of the European Union
UNECE	United Nations Economic Commission for Europe
UNFCCC	United Nations Framework Convention on Climate Change
UNSC	United Nations Statistical Commission
UNSD	United Nations Statistics Division
USDA	US Department of Agriculture
WCA 2020	World Programme for the Census of Agriculture