Final Conference

Converting Farm Accountancy Data Network (FADN) into Farm Sustainability Data Network (FSDN)

Brussels – 15 September 2023

Agriculture and Rural Development

Session 1 - Opening of the conference

Agriculture and Rural Development

Welcome to the participants and conference overview

Jean-Marc Trarieux, DG AGRI

Agenda

Session 1 – Opening of the conference

9:00-9:10: Welcome to the participants and conference overview, *DG AGRI & Consortium*

9:10-9:20: EU framework for the conversion of FADN into FSDN, *DG AGRI*

9:20-9:30: Presentation of the Pilot Project, *Consortium*

Session 2 – What sustainability data could the FSDN collect?

9:30-10:50: Environmental sustainability (including Q&A session), *Consortium*

10:50-11:10: Coffee break

11:10-12:00: Social sustainability (including Q&A session), *Consortium*

12:00-12:30: Economic sustainability (including Q&A session), *Consortium*

12:30-14:00: Lunch

14:00-14:30: Key conclusions on sustainability data (including Q&A session), *Consortium*

Session 3 – International experiences and benchmarking

14:30-14:50: International experiences on collecting sustainability data, and benchmarking (including short Q&A session), *Consortium*

14:50-15:10: Coffee break

Session 4 – Reduction of administrative burden through improved IT systems

15:10-15:30: FADN IT systems**,** Feasibility of a unique ID and of a single EU IT-system (including short Q&A session), *Consortium*

Session 5 – Conclusions

**15:30-16:00:** Concluding remarks, *DG AGRI & Consortium*

Welcome to the participants

George Beers - Wageningen University

Housekeeping rules

➤ **Interpretation for in-person participants:**
- Use the headset available under your table
- Select the channel of your choice on the speaker system

➤ **Interpretation for online participants:**
- Select your preferred language from the FLOOR button at the bottom left of the screen

➤ **Q&A session for virtual participants:**
- Please request the floor by using the raising hand function or use the chat tab

➤ Slido code for all: #FSDN
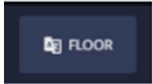
Q1: Who is in the room, which organisation are you representing?

ⓘ Start presenting to display the poll results on this slide.

Q2: How familiar are you with the FSDN pilot project?

ⓘ Start presenting to display the poll results on this slide.

Q3: How familiar are you with the FSDN legislative process ?

ⓘ Start presenting to display the poll results on this slide.

EU framework for the conversion of FADN into FSDN

Andrea Furlan - DG AGRI

Aim of the conference

- Present draft results of the FSDN pilot project and collect stakeholder feedback

- Discuss technical issues for the secondary legislation

  - Topics and variables

  - Data sharing – IT management – data protection

FADN for policy analysis

- Annual survey with a sample of 80 000 farms across all Member States (out of a total of 9.1 million):

  - Representative data according to three categories (regions, economic size, type of farming)

  - Data from "**market-oriented farms**" of a minimum economic size, representing about 50% of the EU farm population and more than 90% of the agricultural production and area

- **Budget**: 16.2 million euro per year (in 2022)

- Objectives:

  - Collection of farm accountancy data for **income determination and business analysis** of market-oriented agricultural holdings of different types and sizes

  - Analysis of the situation of agriculture and farm incomes, in relation to the needs of the Common Agricultural Policy

- Use of the data:

  - Policy analysis and evaluation at both EU and Member State level

  - Key dataset at farm-level for **evidence-based policy-making**

European Commission

Current FADN content

The FADN (EU farm return based on Implementing Regulation 220/2015) contains data on:

- General data about the farm
- Type of ownership – legal status
- Type of farming and economic size of holdings
- Type of land use (owned, rented)
- Quality products – designation of origin
- Value of assets (land, buildings)
- Production quotas and rights
- Debts
- Value Added Tax
- Inputs: cost of farming – overheads, specific costs (feedstuff, seeds, vet)
- Plant production (crops and crop groups, areas, quantities)
- Livestock and animal products
- Other gainful activities (OGA) directly related to the farm
- CAP support in subsidies table (aggregated information on direct payments and rural development)

European Commission

Current FADN content

Existing environmental variables
- **Geolocation of the holding** (coordinates – NUTS 3 – altitude – presence in ENV delimitations)
- **Organics:** indication of organic farming
- **Nutrients:** cost of fertilisers, quantity of N, P, and K used in mineral fertilisers, purchased manure
- **Pesticides**: cost of crop protection products
- **Energy**: cost for electricity and fuels, value of production of renewable energy
- **Animal Welfare**: total livestock units (LSU) and stocking density (LSU/agricultural area), veterinary expenses
- **Biodiversity and High-diversity landscape features**:
    - Total agricultural area out of production
    - Shares of permanent grassland and land lying fallow on agricultural area, share of protein crops
    - Possibility to calculate a crop diversification index
    - Woodland area, forests, poplar plantations (not included in UAA)
    - Greening - EFA Areas – Number of basic units (in hectares)
- **Water Management:** irrigation system, costs for water

Existing social variables
- **Labour:** kind of farm labour, gender, year of birth, quantification of work, manager's training
- **Social Security:** value of support to Wages and social security
- **Education:** CAP budget for knowledge sharing and innovation

European Commission

Objectives of the conversion of FADN to FSDN

Announced in the [May 2020 Farm to Fork Strategy](#)

- Improve the **role of FADN/FSDN** for policy analysis, research, evaluation and policy-making

- **Add variables** related to environmental and social dimensions, complement economic variables: data needed at **individual level**

- **Introduce innovative and modern data collection systems and practices**, also through better interoperability – data sharing with other data sources

- Improving the provision of advisory services to farmers and benchmarking of farm **sustainability performance**

Key points

- FSDN is a tool for **improved analysis**

  - Not a way to "verify" Farm to Fork / Biodiversity Strategy targets but to collect relevant sustainability data

  - Not a way to control farmers

- Need to keep the legal framework **flexible** for the next years (e.g. open to further data sharing with different sources)

- **Economic dimension remains the basis**: adding environmental – social variables and complement economic variables (e.g. more information on energy – market outlets)

- Taking into account the **diversity** of approaches across MS (e.g. different kind of Liaison agencies body, data collection, presence/absence of accountancy offices)

- Need to address key issues such as **farmer's participation**

European Commission

FSDN previous steps, consultation and workshops

2021 and previous years:

- [FLINT research project](#) running from 2014 to 2016

- Public consultation

- FSDN pilot project tender

2022:

- Focus on basic regulation modification: [FSDN proposal](#) adopted by the European Commission on 22 June 2022

- FSDN pilot project kick-off, first phase of data collection and workshop in November

2023:

- FSDN pilot project finalised

- Finalisation of basic regulation

- Work on secondary legislation

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FSDN legislative initiative – updated timeline

Basic Act (Regulation 1217/2009)

- **Trilogues concluded** end of July 2023

- Formal endorsement from Parliament and Council ongoing

- Entry into force foreseen for the end of 2023 – early 2024

> /!\ **No change** to legislative setting:
>
> - Basic Act establishes the legal framework
>
> - Secondary legislation includes budget, topics and variables, data sharing etc.

Secondary legislation

- Delegated act (Reg. 1198/2014) and Implementing Act (Reg. 220/2015)

- Draft results from the FSDN pilot project: **today's conference**

- Delegated / Implementing Act to be discussed in FADN Committee – from end 2023

- Finalisation of secondary legislation planned for 2023-2024

➢ This timeline enables the preparation / adaptation of systems at Member State level

First year of data collection for FSDN: 2025
Data available: in 2026/27

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The FSDN pilot project

- The pilot project is a stepping-stone to **improve and deepen analysis** on variables and IT issues:

    - Based / in continuity with [FLINT research project](#) results

    - The **final deliverable due to be finalised in November 2023** will include:

        - Analysis on subtopics and variables

        - Analysis on IT issues, data sharing, feasibility of farm ID and common FSDN system

        - Further analysis from relevant research projects, JRC etc.

        - Results of the stakeholder workshop in November 2022

European Commission

Topics - Subtopics definition key points

- Topics were established in the FSDN pilot project technical specifications

- Relevance analysis: results presented in the November 2022 workshop

- Terminology adapted: "subtopics" instead of "variables"

- Subtopics can address several objectives: attribution to a single topic within the project

  - Example of manure: could be allocated to "Nutrients", "GHG emissions and removals", "Soil management", "Circular – bioeconomy"

European Commission

Decision-making process on secondary legislation

- The decision-making process

  - is currently carried out by the FADN Committee

  - is supported by the analysis of the pilot project, addressing all subtopics

  - will include the outcome of the Basic Act and other legislative initiatives (e.g. on pesticides)

- **No pre-defined number of subtopics** to be addressed in the secondary legislation

- Definition of subtopic : the final definition for secondary legislation will be more precise – fine-tuned

  - Better definitions in operational terms, merging or splitting

  - Variables for secondary legislation are not limited to and do not always match with those tested in the FSDN pilot project

  - Derived from the FSDN pilot project results and other work streams

Thank you!

Discussion

Presentation of the Pilot Project

Antonio Bubbico - Ecorys

Outline

Presentation of the consortium

Timeline

Objectives, scope and approach

Consortium

Timeline

Start of contract
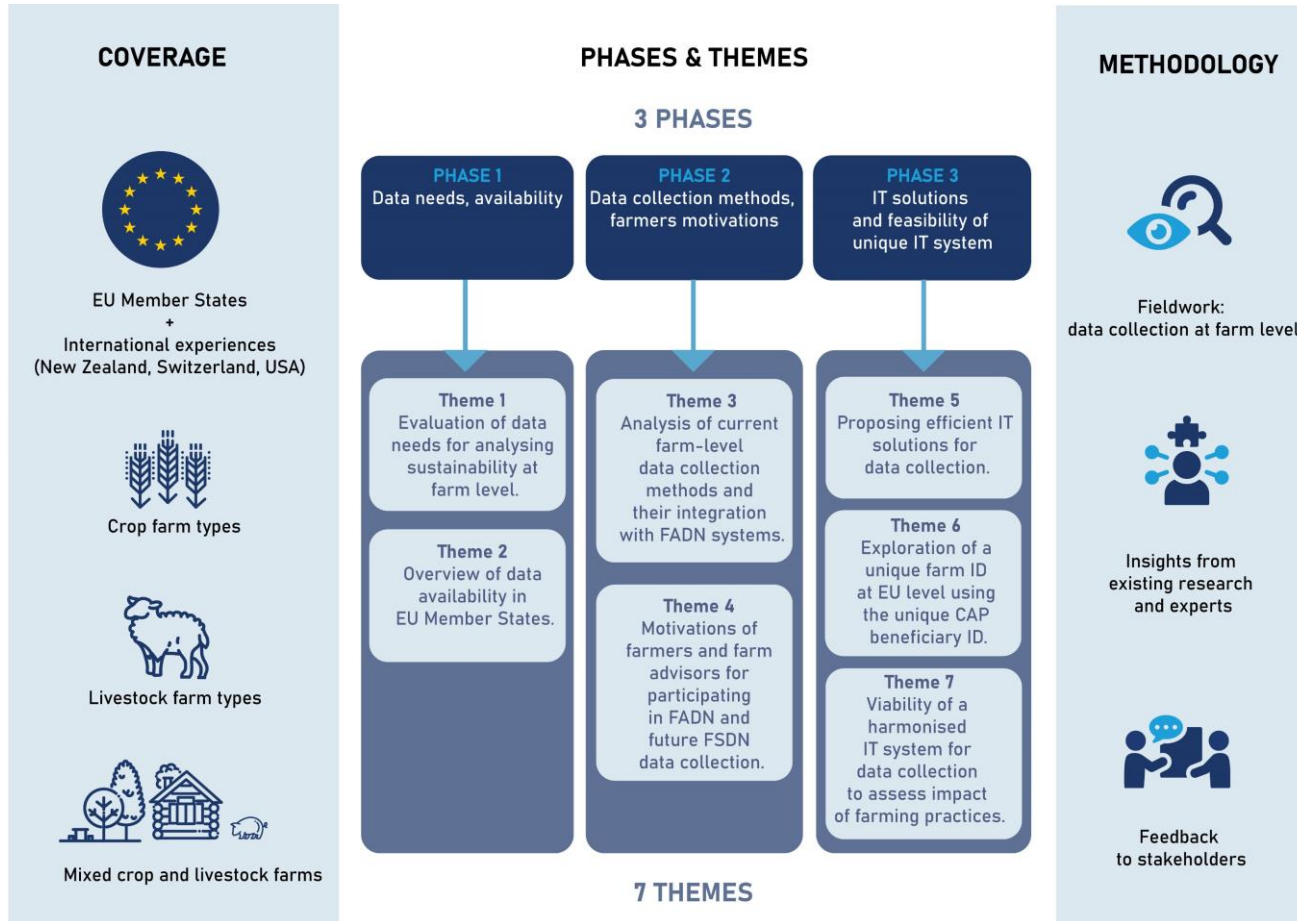
20/12/2021

Duration

23 months

End of contract

19/11/2023

Objectives of Pilot Project

1. **Assess the feasibility of collecting farm-level data** for a set of sustainability topics relevant to EU policy (CAP, food safety, environment) and strategy (F2F, Biodiversity Strategy, etc.) objectives and other sustainability indicators

2. **Describe methodological approach(es) on how to efficiently and effectively collect** farm-level sustainability data, including an assessment of the IT systems that will help to collect, store, and submit sustainability data

3. **Establish potential strategies on how to implement a common and harmonised method** of sustainability data collection for all Member States, including a **roadmap to convert the current FADN to the FSDN**

Approach of the Pilot Project

COVERAGE

EU Member States
+
International experiences
(New Zealand, Switzerland, USA)

Crop farm types

Livestock farm types

Mixed crop and livestock farms

PHASES & THEMES

3 PHASES

PHASE 1
Data needs, availability

PHASE 2
Data collection methods,
farmers motivations

PHASE 3
IT solutions
and feasibility of
unique IT system

Theme 1
Evaluation of data
needs for analysing
sustainability at
farm level.

Theme 2
Overview of data
availability in
EU Member States.

Theme 3
Analysis of current
farm-level
data collection
methods and
their integration
with FADN systems.

Theme 4
Motivations of
farmers and farm
advisors for
participating
in FADN and
future FSDN
data collection.

Theme 5
Proposing efficient IT
solutions for
data collection.

Theme 6
Exploration of a
unique farm ID
at EU level using
the unique CAP
beneficiary ID.

Theme 7
Viability of a
harmonised
IT system for
data collection
to assess impact
of farming practices.

7 THEMES

METHODOLOGY

Fieldwork:
data collection at farm level

Insights from
existing research
and experts

Feedback
to stakeholders

Data collection and analytical tools (1/2)

1. **Literature review** conducted for legislative requirements and sustainable practices

2. **Survey of 1500 farms** across EU Member States to assess data needs, availability, collection methods and motivation for participation

3. **Questionnaire and interviews with FADN Liaison Agencies** (LAs) to understand the availability and feasibility of including sustainability data

4. **Examination of existing data collection IT systems**, exploration of potential external IT solutions, and selection of efficient IT methods for possible FSDN implementation

Data collection and analytical tools (2/2)

5. **Feasibility analysis** of establishing a unique farm ID through sequential methodologies and evaluation of interoperability of specific datasets

6. **Assessment of the feasibility** of a single IT system for data collection, risk evaluation and mitigation strategy development based on existing FADN systems

7. **Virtual workshop**, including discussion on secondary legislation and gathering of stakeholder feedback

Identification of sub-topics

Step 1: A review of the relevant legislative monitoring framework related to **sustainability topics**

Step 2: Identification of **EU legislative frameworks and policy initiatives** relevant to each sustainability topic

Step 3: A **literature review** to determine the most crucial farm-level data for legislative monitoring in order to identify the **sub-topics**

Step 4: Refinement of the long list of identified sub-topics to a **short list of the most relevant ones**

Step 5: Establishment of the **final list of sub-topics** following further refinement of the sub-topic list through comparison with existing data and descriptions of each sub-topic through **variables** and **categories**

Session 2 - What sustainability data could the FSDN collect?

Agriculture and Rural Development

Environmental Sustainability

Daniel Traon – Arcadia International

Definitions

- **Topic:** one of the 12 sustainability topics as presented in the Tender Specifications, plus 3 topics added in agreement with the Commission (other social topics, other economic topics, innovation and digitalisation). The topics are related to the 3 sustainability dimensions

- **Sub-topic**: specific dimension of a topic containing one or more variables

- **Variable**: characteristic of a unit (individuals/farm/crop) being observed that may assume more than one of a set of values to which a numerical measure or a category from a classification can be assigned

- **Category:** characteristics or typologies to consider when measuring the variable

Topics and identified sub-topics and variables
Environmental

9 Topics
34 sub-topics

Animal welfare
3 Sub-topics

Pesticides
2 Sub-topics

Nutrients (including fertilisers)
4 Sub-topics

Sustainable food production including waste management
7 Sub-topics

Organic farming
2 Sub-topics

High-diversity landscape features and biodiversity
1 Sub-topic

Circular & bio-economy
2 Sub-topics

Soil management
7 Sub-topics

GHG emissions and removals
6 Sub-topics

Topic: Pesticides

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories	Granularity/ Frequency
Pesticide use on the farm	Plant protection product use: • dosage per active substance, • target/usage (herbicide, diseases, pest, others), • crop, • timing: vegetative stage of the crop, • (optional: equipment used).	Dose per active substance (gram/hectare)	• Target/Usage; • Crop; • Vegetative stage of the crop at application time; • Equipment used (optional); • Parcel	• Crop level; • Frequency ➢ data collected after each spraying ➢ treatment details once a year
Pesticide use (biocontrol)	Use of biocontrol products and measures	• Share of UAA on which biocontrol measures and/or biocontrol products are used at least once per year • Share of UAA on which biocontrol products other than pesticides were applied at least once a year (%)		• Farm level • Yearly

Issues in data collection & reporting

Operational Issues:

➢ Time-consuming since each product has to be registered with its type, content and usage for each crop

Technical Issues:

➢ Need to harmonise the data recording process (done through Implementing Regulation 2023/564)

➢ Farmers are not usually familiar with active substances (a.s.): risk of mistakes

➢ Biocontrol measures not standardised

Proposed way forward

Need to "align" the final decisions to the recent legal changes:

- ➢ SAIO Regulation

- ➢ Implementing Regulation (EU) 2023/564

E.g. moving from the recording of a.s. to the recording of commercial products + conversion to a.s. done by authorities/LAs via IT system (?)

BUT considering that <u>macro-organisms</u> and <u>biocontrol measures</u> are not included in the PPP package:

=> need to define a typology of "biocontrol measures"

Topic: Nutrients (including fertilisers)

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories	Granularity / Frequency
Commercial fertiliser use	Commercial fertilisers used per crop	Average volumes (kg) of: • N units • P units • K units	Crops	• Crop level • Yearly
Nitrogen balance	Input/output balance of any type of nutrient providers on an annual basis	• Units (kg) of N INPUT per crop, including commercial fertilisers and other sources of nitrogen • Units (kg) of N OUTPUT per crop based on estimated yield		
Manure and sludge use/management	Manure and sludge corresponding N units applied to crops	Average N units (kg) from: • manure and sludge • slurry	• <u>Normative</u> volumes of N content in sludge • <u>Normative</u> volumes of N content in manure • Crops	
Manure and sludge storage capacity	Manure and sludge storage capacity	• Manure storage capacity • Sludge storage capacity		• Farm level • Yearly

Nutrients

Liaison Agencies' position on the collection of the sub-topics

■ *Already collected* ■ *Small effort to collect* ■ *Significant effort to Collect*

Sub-topic	Already collected	Small effort to collect	Significant effort to Collect
Commercial fertiliser use	5	13	10
Nitrogen balance	1	11	16
Manure and sludge use/management	2	14	12
Manure and sludge storage capacity	5	17	6
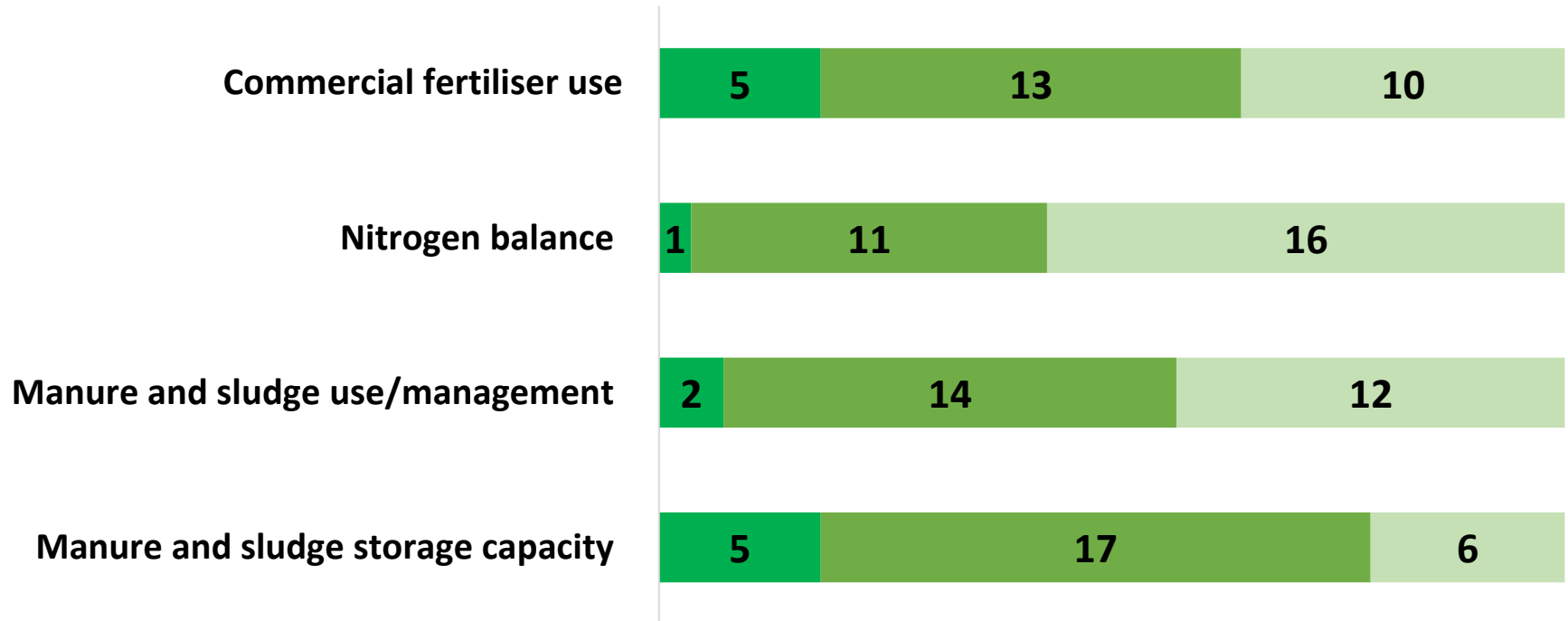
Data source - Data collection methods Feasible frequency

Feasible data sources:
- ➢ Farm accounts, farm records, including logbooks
- ➢ Public and private advisory services
- ➢ Use of census when available – limitation on the frequency

Feasible data collection methods:
- ➢ Farm surveys
- ➢ Farmers recording on paper/electronic format
- ➢ Extraction from other databases (crop management systems and applications for approval of production/subsidies/rental contracts)

Issues in data collection & reporting

Operational Issues:

➢ Time consuming for farmers to collect mainly nutrient balance per farm

Technical Issues:

➢ Nitrogen balance data can be complex to estimate due to the difficulties in measuring nitrogen output

➢ Normative values are not harmonised (issues in comparing data)

Proposed way forward

➢ Instead of measuring nitrogen output, use normative data based on yield estimates

➢ Farmers could be provided with a standardised framework, guideline, or online tool to estimate nitrogen output values

Topic: Organic farming

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories	Granularity / Frequency
Share of organic products produced on the farm	Share of volumes/value of farm output sold as organic	Share of volume of output sold as organic on a yearly basis (in %) (9 variables needed to calculate this ratio)	Products sold	• Farm Level • Yearly
Pesticide use in organic farming	Plant protection product use in organic farming: • dosage per active substance, • target/usage (herbicide, diseases, pest, others), • crop, • timing: vegetative stage of the crop, • (optional: equipment used).	Dose per active substance	• Target/Usage • Crop • Vegetative stage of the crop at application time • Equipment used (optional) • Parcel	• Farm level • Yearly

Data source - Data collection methods

Feasible data sources:

- ➢ Farm accounts, farm records, including logbooks
- ➢ Farm surveys
- ➢ Advisory services
- ➢ Extraction from other databases
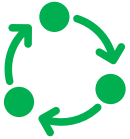
Feasible data collection methods:

- ➢ Farmers recording on paper/electronic format

Issues in data collection & reporting

Operational Issues:

➢ Same as pesticide use

Technical Issues:

➢ Difficult to collect the share of organic products from farms that sell only part of their products as organic or when the same crop is only partially sold as certified organic

➢ Difficult to aggregate all records related to organic selling. Even if data are available electronically, data aggregation will have to be done manually

Proposed way forward

➢ Pesticide use: same as pesticide topic

➢ Share of organic products produced on the farm: move from a "calculation approach" to an "estimation approach"

Topic: High-diversity landscape features and biodiversity (including soil biodiversity)

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description		Granularity
High-diversity landscape features on the farm	Total area of landscape features favourable for biodiversity on farm (ha)	• Terraces on sloping land • Hedgerows • Field margins (grass, shrub or grove) • Buffer strips • Strips along forest edges • Lines of trees • Trees in groups	• *Isolated single trees (number)* • Ditches • Ponds and streams • Small wetlands • Patches • Cairns or similar objects • Stone walls	Farm level

Data source - Data collection methods Feasible frequency

Feasible data sources:

- ➢ Farm accounts, farm records, including logbooks
- ➢ IACS
- ➢ Extraction from other databases
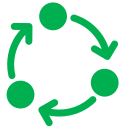
Feasible data collection methods:

- ➢ Farmers recording on paper/electronic format
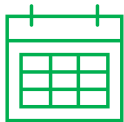
Feasible frequency of data collection:

- ➢ Every 3 to 5 years

Issues in data collection & reporting

Operational Issues:

➤ Long list of variables raising the burden

Technical Issues:

➤ Difficult to measure, extract and reconstitute data

➤ Complicated to record highly detailed information through interviews. How can the interviewer validate the variables?

Proposed way forward

➢ Reduce the number of variables to 4-5 max. (select the ones that seem the most significant for addressing the topic)

➢ It is advisable not to collect data at an overly detailed level. Perhaps approximations/estimation, such as those for buffer strips, would be more appropriate than precise calculations.

Topic: Greenhouse gases (GHG) emissions and removals

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories	Granularity/ Frequency
Managed peatlands on a farm	Area and type of managed peatlands on a farm	Area of farmed peatland (ha)	• Crop system under peatland • Crop under peatland	• Farm level • Every 3-5 years
Livestock feed additives	Use of livestock feed additives	• Name of active ingredient • Dosage	Type of livestock	• Farm level • Yearly
Land use change	Land use changes within a farm which have had a positive or a negative impact on GHG emissions	• Area converted from arable land to grassland/forest/peatland • Area converted from grassland/forest/peatland to arable land within a farm		• Farm level • Every 3-5 years

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories	Granularity/ Frequency
Manure & slurry storage and management	Manure and slurry management techniques and type of storage, consisting of two parts: a) size and type of storage of slurry and solid manure; b) whether the slurry is treated	• Storage capacity for slurry/ liquid manure (m³) • Storage capacity for solid manure (m²)	• Type of storage • Cover type • Slurry type and treatment	• Farm level • Yearly
Renewable energy consumption	Share of renewable energy consumption (including own-produced and purchased renewable energy)	• Total energy consumption • On-farm renewable energy production • Share of purchased consumption of renewable fuels for heating • Share of purchased electricity from renewable sources • Share of purchased bio-based fuels		
Soil organic carbon content	Soil organic carbon content of individual parcels	Soil organic carbon	• Sampling depth • Land use type	• Parcel level • Every 5 years

GHG

Data source - Data collection methods
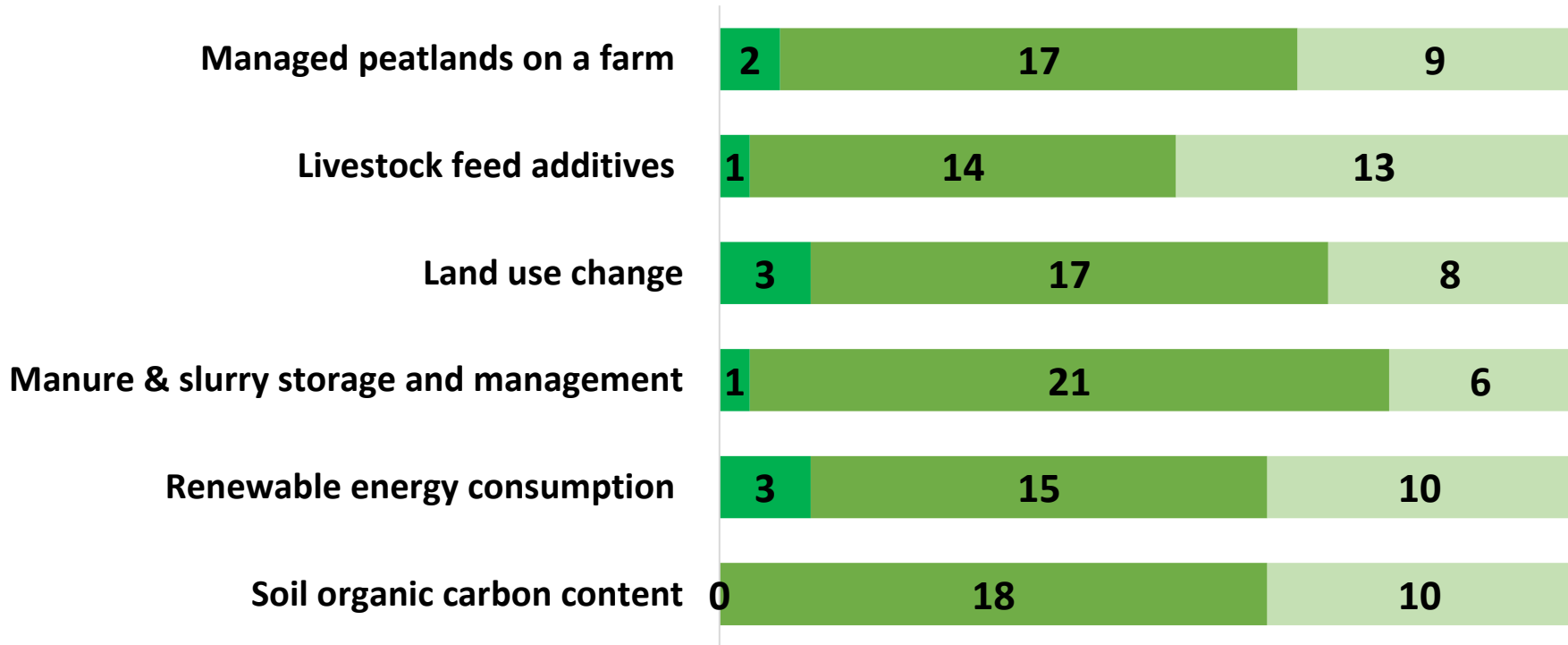
Feasible data sources:
- ➤ Farm accounts, farm records, including logbooks
- ➤ Public and Private Advisory services
- ➤ LULUCF sourced from the Ministry and National census
- ➤ Environmental, Social and Governance reports and IACS

Feasible data collection methods:
- ➤ Farmers recording on paper/electronic format/survey

Issues in data collection & reporting

Operational Issues:

➢ High burden of data collection

➢ Unwillingness of farmers to collect more data

➢ The cost of repeated soil analysis for determining the soil carbon content can be high when considering numerous plots

Technical Issues:

➢ Data on manure can lack precision (e.g. N, P, K content from organic non-commercial sources)

➢ The definition of farmed peatland is unclear

➢ Share of renewable energy purchased is difficult to determine

Proposed way forward

- ➢ Reduce the number of variables

- ➢ Provide clear incentives for farmers to collect and share the data

- ➢ Data on land use change could be taken from the direct payment applications for grass- and croplands

- ➢ Including the managed peatlands on a farm in the IACS and LPIS

Topic: Soil management

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories	Granularity/ Frequency
Irrigation of agricultural land	Amount of water applied through irrigation for each season and for each crop	Average amount of water applied through irrigation (m^3/ha)	• Type of irrigation • Crop • Season	• Crop level • Yearly
Land use	Record keeping of crops sown/planted/grown, cultivars, and corresponding surfaces, including cover crops	• Area sown/planted/grown • Area sown/planted/grown with a cover crop before the crop • Crop cultivated before each crop (excluding cover crops, only harvested crops)	• Cultivars name of crop sown/planted/grown for the crop • Crop	• Farm level • Yearly
Soil tillage per crop	Soil tillage practice per crop	Arable UAA under: • no till • shallow till • conventional till: deep tillage WITH soil inversion • conventional till: deep tillage without soil inversion	• Crop	• Crop level • Yearly

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories	Granularity/ Frequency
Crop residues removal	Management of crop residues after harvest – residues can be either removed or left on/incorporated into the soil	Area from which crop residues have been removed	Crop	• Crop level • Yearly
Mechanical weeding applied per crop	Intensity of mechanical weeding for each crop, depending on (i) the number of paths; (ii) the proportion of soil surface weeded by the weeding equipment	• Average number of paths of mechanical weeding per crop • Average proportion of soil surface weeded by the weeding equipment		
Soil type	Soil type per parcel	Description of soil type/texture from soil analysis using the soil triangle specification		• Every 5 years
UAA area with drainage	UAA area that has drainage, by type of land (grassland, cropland, peatland, etc.)	UAA with drainage	Land cover	

Soil management

Liaison Agencies' position on the collection of the sub-topics

Legend: ■ *Already collected*   ■ *Small effort to collect*   ■ *Significant effort to collect*

Sub-topic	Already collected	Small effort to collect	Significant effort to collect
Irrigation of agricultural land	5	16	7
Land Use	8	15	5
Soil tillage per crop	4	23	1
Crop residues removal	2	22	4
Mechanical weeding applied per crop	0	21	7
Soil type	3	19	6
UAA area with drainage	2	21	5

Issues in data collection & reporting
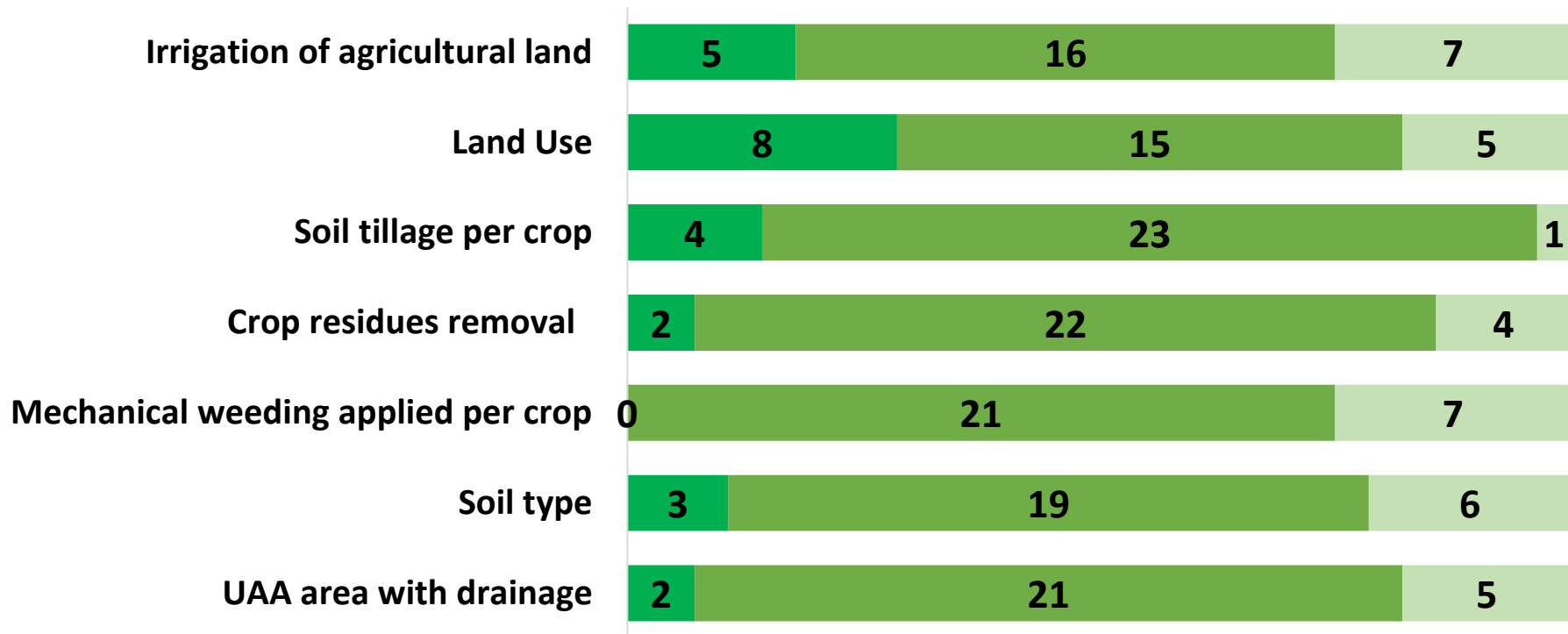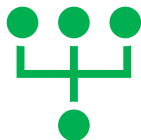
Operational Issues:

➢ High burden of data collection for such a long list of variables
➢ Unwillingness of farmers to collect more data
➢ Tracking the volume of water used where there are restrictions can be a sensitive issue
➢ Potentially high cost of soil analysis

Technical Issues:

➢ Typology of crop residue needed

Data source - Data collection methods

Feasible data sources:
- ➢ Farm accounts, farm records, including logbooks
- ➢ Public and private advisory services
- ➢ FSS and IACS
- ➢ Crop management system

Feasible data collection methods:
- ➢ Farmers recording on paper/electronic format/survey

Proposed way forward

➢ Allow estimation rather than calculation for most variables (e.g. water used for irrigation)

➢ Soil type data could be taken from soil maps if link to parcel level can be established

Topic: Circular & bioeconomy

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories	Granularity/ Frequency
Quantity of slurry and manure imported into and exported from the farm	Quantity of manure and slurry imported into the farm (purchased or for free, excluding commercial fertilisers) and quantity exported out of the farm	• Amount of manure imported into the farm (purchased or for free, excluding commercial fertilisers) and corresponding N and P content • Amount of slurry imported into the farm (purchased or for free, excluding commercial fertilisers) and corresponding N and P content • Amount of manure exported out of the farm (sold or for free) and corresponding N and P content • Amount of slurry exported out of the farm (sold or for free) and corresponding N and P content	• Type of manure • Type of slurry	• Farm level • Yearly
Energy produced on the farm	Amount of energy (electricity, and heat) produced on the farm	• Amount of electricity (kWh) • Amount of heat (MJ)		

Circular & bioeconomy

Liaison Agencies' position on the collection of the sub-topics

■ *Already collected* ■ *Small effort to collect* ■ *Significant effort to collect*

| Quantity of slurry and manure imported into and exported from the farm | 6 | 13 | 9 |
| Energy produced on the farm | 4 | 18 | 6 |

Data source - Data collection methods

Feasible data sources:
- ➢ Farm accounts, farm records, including logbooks and energy network provider
- ➢ Public and private accounting firms

Feasible data collection methods:
- ➢ Farmers recording on paper/electronic format/survey

Issues in data collection & reporting
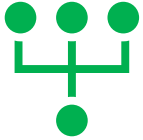
Operational Issues:

- ➤ High burden of data collection
- ➤ Unwillingness of farmers to collect or share data, e.g. for fear of non-compliance with existing legislation on the quantity of slurry imported to and exported from the farm

Technical Issues:

- ➤ Recording the quantity of slurry and manure is not easy
- ➤ Energy produced on farms in terms of using biomass for heat (self-consumption) is not commonly recorded

Proposed way forward

➤ Use estimations rather than calculations

Topic: Sustainable food production
including waste management

Sub-topics – Variables – Categories

| Sub-topic	Sub-topic description	Variable description	Categories	Granularity/ Frequency
Quantities of slurry and manure reused	Quantities of slurry and manure produced in the farm reused on the field	• Amount of manure produced on the farm and reused • Amount of slurry produced on the farm and reused	• Type of manure • N and P content	• Farm level • Yearly
Manure and slurry application techniques in the field	Manure and slurry application techniques in the field	• Share of total UAA on which application took place for each application technique (annual basis) • Area treated with type of application technique (annual basis) • Total UUA	Type of application technique	
Production of potentially endangering waste	Production of potentially endangering waste per year on the farm	Quantity of potentially endangered waste (all categories included)	List of products which are considered endangering waste	
Participation to quality schemes and certification	Participation to quality schemes and certification (yes/no) by type of scheme	Participation to quality schemes	Typology of schemes	

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories	Granularity/ Frequency
Waste produced on farm	Quantities of waste produced on farm (slurry, manure, waste water)	• Quantity of slurry • Quantity of manure • Number of animals • Quantity of wastewater produced	• Excretion factors slurry and manure per animal • Animal species	• Farm level • Yearly
Food/biomass losses on the farm	Share of total biomass losses on the farm in value and volume	• Share of volume of biomass losses • Share of value of total crop biomass losses on a yearly basis	• Growing • Harvest • Transport • Processing • Storing • Selling	
Access to and use of reclaimed water	Access to reclaimed water and use of reclaimed water in agricultural irrigation	• Access to reclaimed water • Share of reclaimed water on used water on the farm on a yearly basis		

Data source - Data collection methods

Feasible data sources:
- Farm accounts, farm records, including logbooks
- Public and private accounting firms

Feasible data collection methods:
- Farmers recording on paper/electronic format/survey

Issues in data collection & reporting
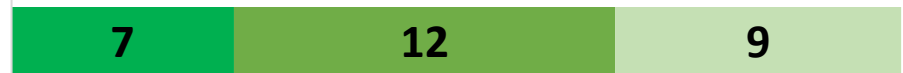
Operational Issues:

➢ High burden of data collection due to large number of variables

Technical Issues:

➢ Difficulties even to estimate volumes of some variables

Proposed way forward

➤ Use estimations rather than calculations for most of the variables

➤ Reduce the number of variable to 3-4 max

Topic: Animal welfare

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories	Granularity/Frequency
Use of antibiotics	Use of antibiotics per species of animal and product	Total quantity of active ingredients (mg)	• Normative weight of animals • Animal species • Type of active ingredient	• Farm level • Yearly
Area of housing and type of animal places	Area of housing and animal places by animal species and type of housing	• Animal density • Number of animals • Number of animal places	• Animal species • Type of housing	
Time access outdoor area	Time animals have access to outdoor areas (including grazing time)	Time access outdoor area	• Type of outdoor areas • Grazing time • Animal species	

Data source - Data collection methods
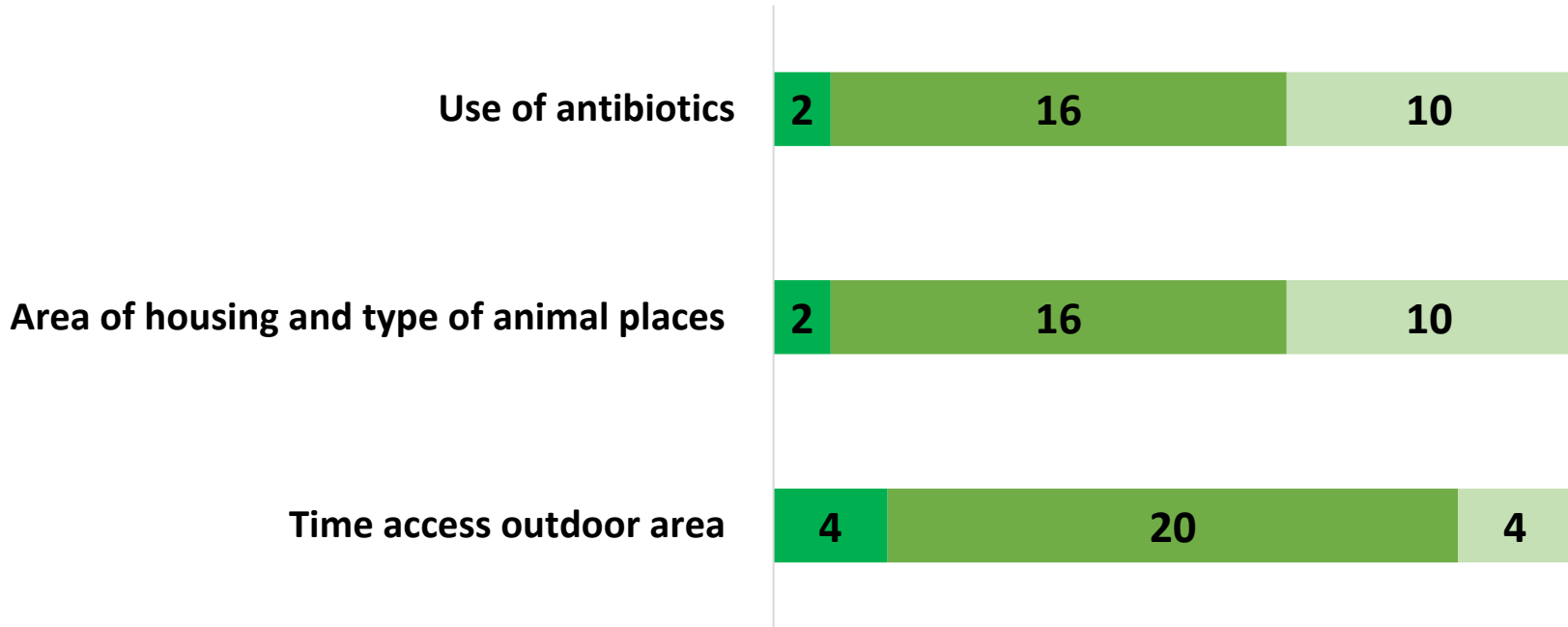
Feasible data sources:
- ➢ Farm accounts, farm records, including logbooks
- ➢ Pharmacy/veterinaries/census/IACS
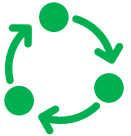
Feasible data collection methods:
- ➢ Farmers recording on paper/electronic format/survey

Issues in data collection & reporting

Operational Issues:

➢ Fragmented databases per livestock sector or no central registration

➢ Data on the use of antibiotics is often kept with the veterinarian not the farmer

Technical Issues:

➢ Data on time that animals spend outside is not invoice-based, there may be an issue with farmer recall for dates

➢ High number of details required for data on the area of housing and type of animal places

Proposed way forward

➢ Collect estimations rather than calculations

➢ Facilitate access to veterinary records on antibiotic use and integrate the data into a national register

Q&A

Coffee break

See you in a few minutes!

Social Sustainability

Antonio Bubbico - Ecorys

Topics and identified sub-topics and variables

Social

4 topics
23 sub-topics

Other social topics
3 Sub-topics

Attractiveness
Generational renewal
3 Sub-topics

Attractiveness
Social security
3 Sub-topics

Attractiveness
Working conditions
8 Sub-topics

Social inclusion
3 Sub-topics

Education, training, and advice
3 Sub-topics
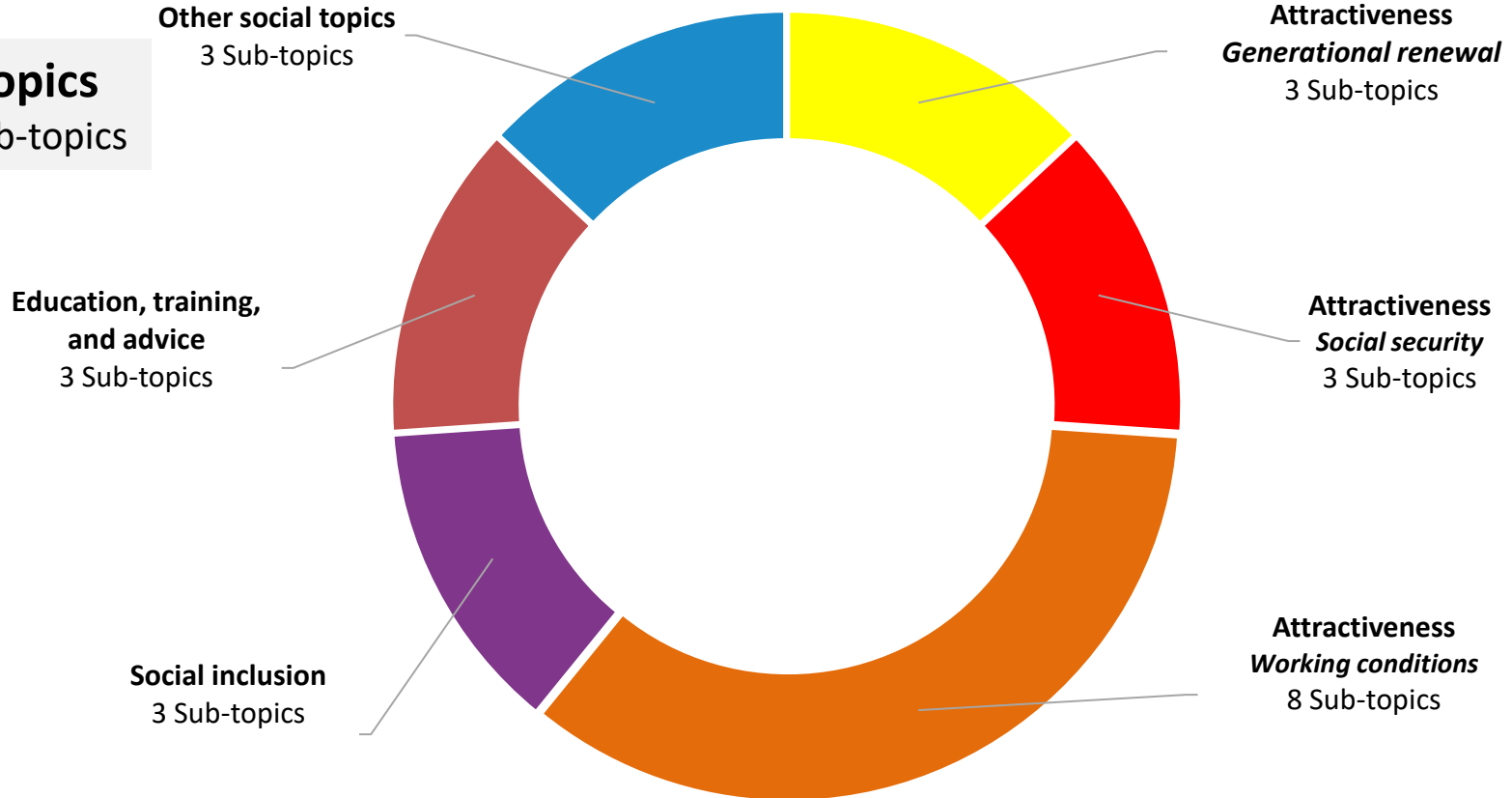
Topic: Attractiveness of the farming sector

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories
Farm management by the same family	Management of the farm by the same family for more than one generation	Farm managed by a family member of the previous manager	
Continuity in farm management	Period of activity of the manager	Number of years since the last manager entered the farm	
Security about farm succession	Plan for farm manager succession	Indication of the presence of a plan for farm manager succession	Gender of the foreseen future manager

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories
Additional retirement schemes	Access to additional retirement schemes by farm manager and farm workers	Share of farm manager and workers who access to additional retirement schemes	• Gender • Category of labour
Access to social protection schemes	Share of workers who are beneficiaries of social protection schemes	Share of farm managers and workers who are beneficiaries of social protection schemes	• Gender • Category of labour • Type of social protection scheme
Leaves and care responsibility	Time used by workers and farm manager for care leaves reported	Number of days used by farm managers and workers for care leaves	• Gender • Category of labour • Type of care giving activity

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories
Working hours	Working hours of the farm manager and workers	Average number of working hours per day of the farm manager and workers on farming related activities and non-farming related activities	• Category of labour • Gender
Services provided to workers	Services provided to workers by the farm (accommodation, transport, and sanitary facilities)	• Average farm investment in accommodation per worker and their family members, both on the farm holding premises and outside it • Average farm investments and costs for workers commute per worker • Average space for accommodation provided by farm per worker (including worker family members) • Availability of sanitary facilities located close to the workplace (yes/no) • Availability of locker rooms located close to the workplace (yes/no)	
Work/life balance	Managers and workers holidays	Average number of days on holidays per manager and worker	Category of labour

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories
Category of labour	Category of labour by characteristics of farm manager and workers	Total number of farm managers and workers (persons and AWU)	• Gender • Nationality • Age
Wage	Daily wage	Average daily wage of workers	• Category of labour • Gender • Nationality • Age
Farm safety plan	Implementation and dissemination of a farm safety plan	• Existence of a farm safety plan (yes/no) • On-farm risks identified • Dissemination of farm safety plan to farm workers (yes/no)	• Likelihood of risk • Potential impact of risk
Training on health and safety	Health and safety standards training and awareness activities	Number of health and safety training and awareness activities attended by farm managers/holders and workers	• Awareness activity • Training activity
Work accidents	Work-related accidents	Accidents incidence rate in the farm	• Category of labour • Age • Gender • Type of accident
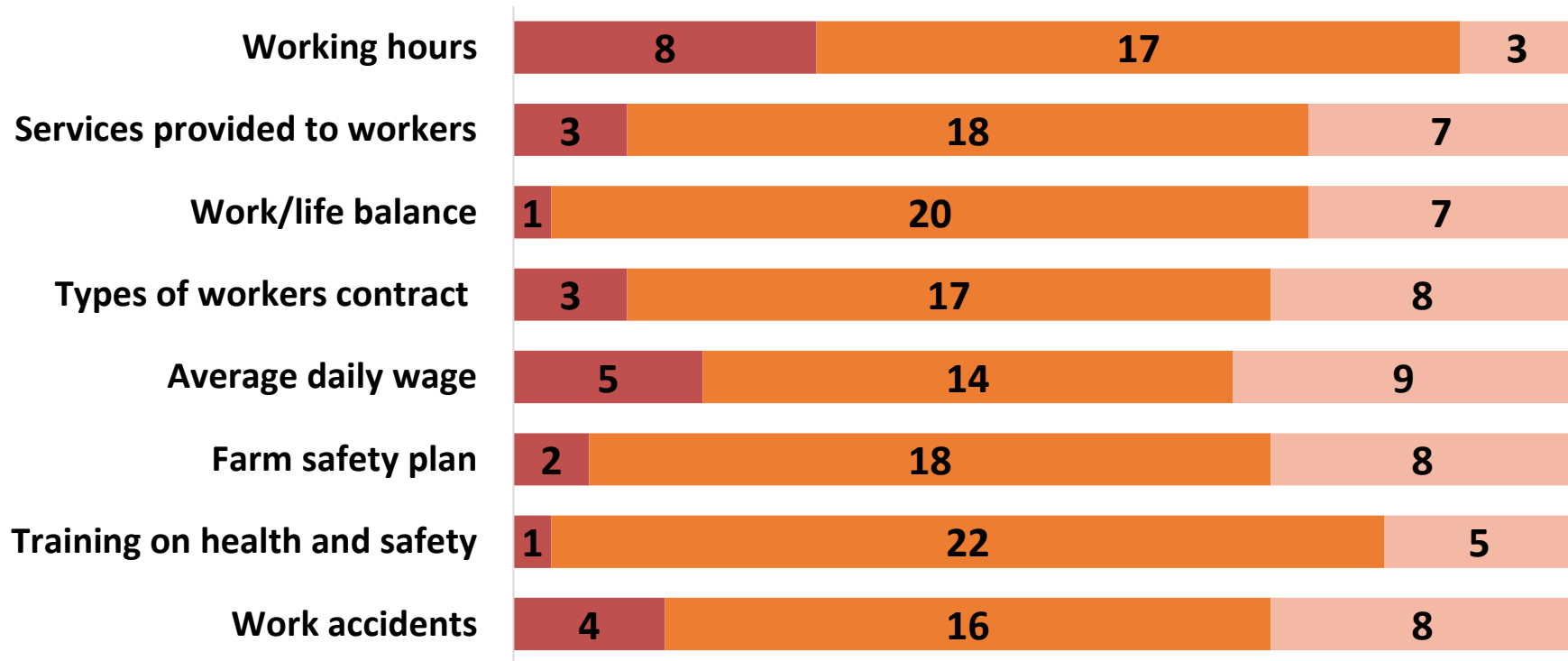
Issues in data collection & reporting, and proposed way forward

Legal issues:

➢Concerns related to data protection and privacy, including GDPR implications

➢Fear of legal responsibility and liability

Operational issues:

➢Exchange of information with other data collectors, such as insurance companies for work accidents.

➢Reliance on farmers' answers can lead to biased data (reduced willingness to answer correctly)

Proposed ways forward:

➢Agreement with other organisations to exchange data, where GDPR compliant

Topic: Social inclusion

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories
Disability	Disability of the managers and workers	Number of managers and workers with disability	• Type of disability • Gender
Vulnerability	Farm managers and workers belonging to vulnerable groups	• Indication that the farm manager belongs to a vulnerable group • Number of workers belonging to vulnerable groups	• Type of vulnerable groups • Gender
Social farming	Implementation of social farming activities	Indication of the implementation of social farming activities in the farm	Type of social farming activity
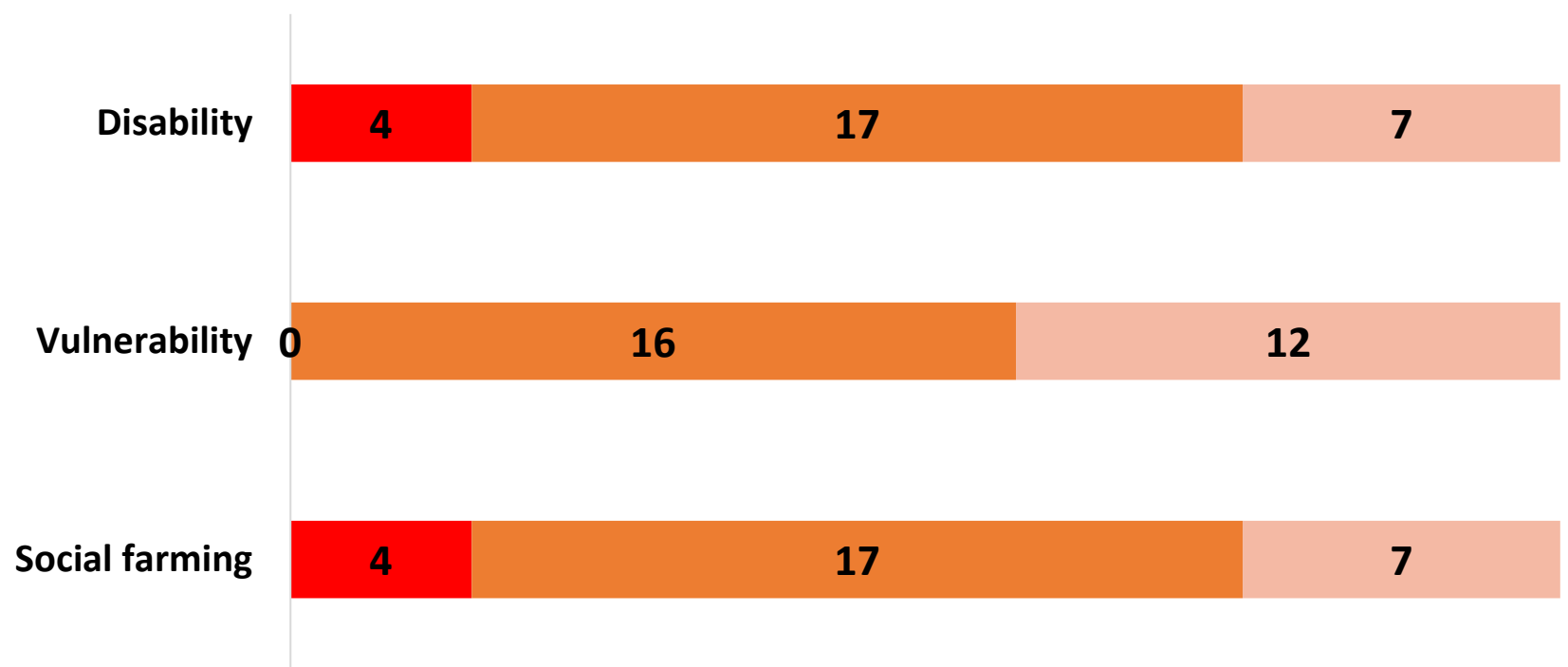
Topic: Education, training and advice

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories
General education level	General education level of farm manager and workers	Indication of the education level	• Category of labour • Gender
Training	Training related to the management of the farm activities, including agricultural practices, marketing, accountancy	Average hours of training per manager and worker	• Category of labour • Gender • Type of training
Advisory services	Advisory/consultancy	Number of received consultancy/advisory services by the farm manager	• Topic of received advice • Type of advisor
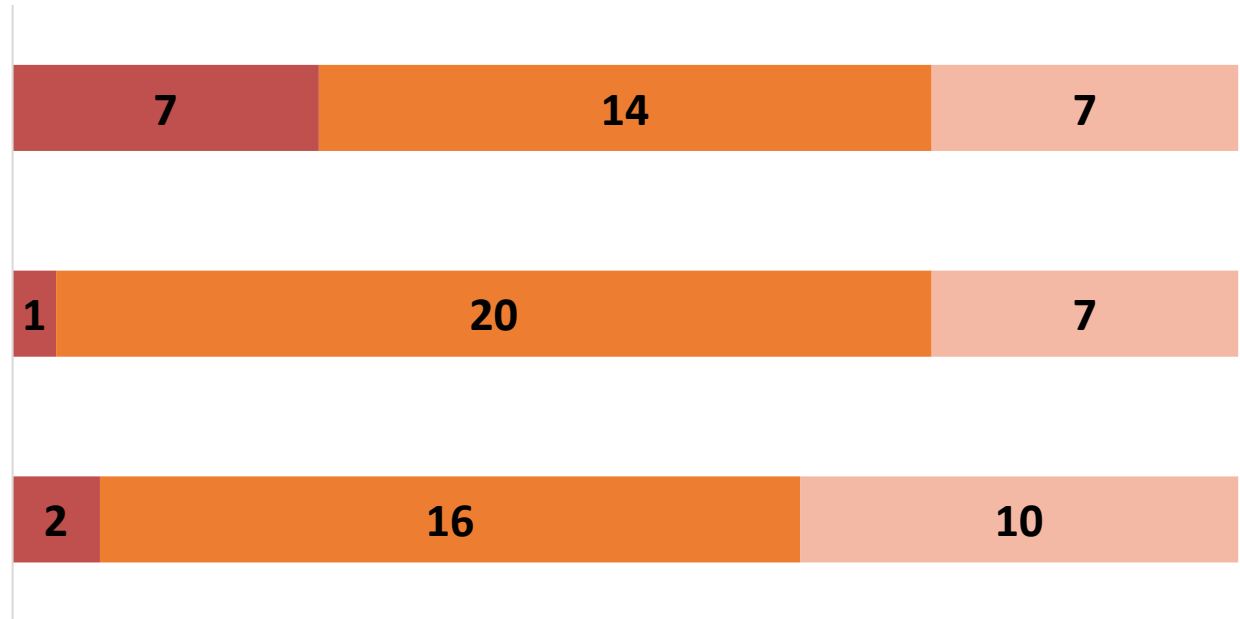
Topic: Other social topics

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories
Access to internet	Access to broadband connection	Access to broadband infrastructure (yes/no)	
Holder's/manager's family living in the farm	Holder's/manager's family living in the farm	• Number of individuals part of the managers family living in the farm (including managers) • Size of accommodation used by managers family living in the farm • Average space for accommodation per managers family component living in the farm	Age groups
Availability of public transport	Availability of public transport	Distance of the farm center from public transport facilities	

Liaison Agencies' position on the collection of the sub-topics

■ *Already collected*　　■ *Small effort to collect*　　■ *Significant effort to collect*

	Already collected	Small effort to collect	Significant effort to collect
Access to internet	4	18	6
Holder's/manager's family living in the farm	2	18	8
Availability of public transport	0	21	7
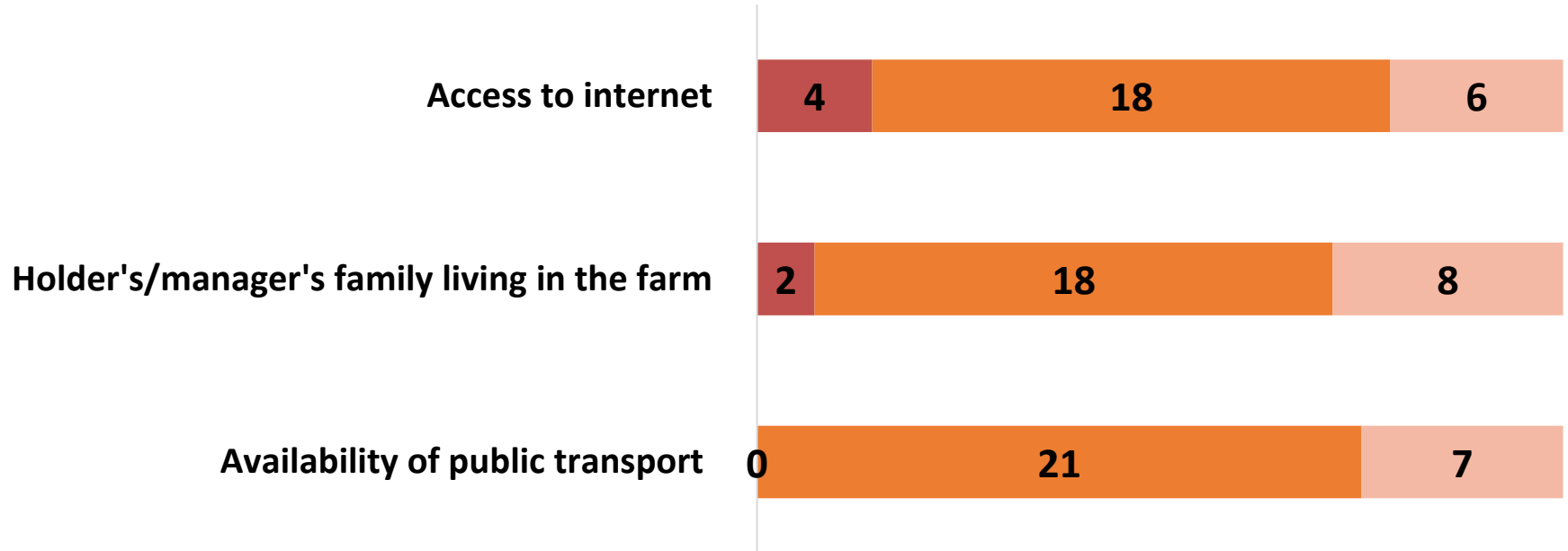
Data source - Data collection methods
All Social topics

Feasible data sources:

- ➢ Farm accounts, farm records, including logbooks
- ➢ Public and Private Advisory services
- ➢ IACS; Administrative sources; other databases (EU-databases/Banks/Census)

Feasible data collection methods:

- ➢ Farmers recording on paper/electronic format/databases

Issues and ways forward
All Social topics

Legal issues:

➢ Concerns related to data protection and privacy, including GDPR implications

Operational issues:

➢ Sensitive topic and reluctancy or unwillingness of farmers to record or report private and sensitive information

Proposed way forward
All Social topics

Proposed ways forward:

➢ Implement financial incentives such as additional compensation, subsidies linked to data submission, and appropriate payment for data collection

➢ Foster better cooperation and willingness among data providers and other organisations to exchange data

➢ Adapt definitions and data collection methods to avoid asking sensitive information
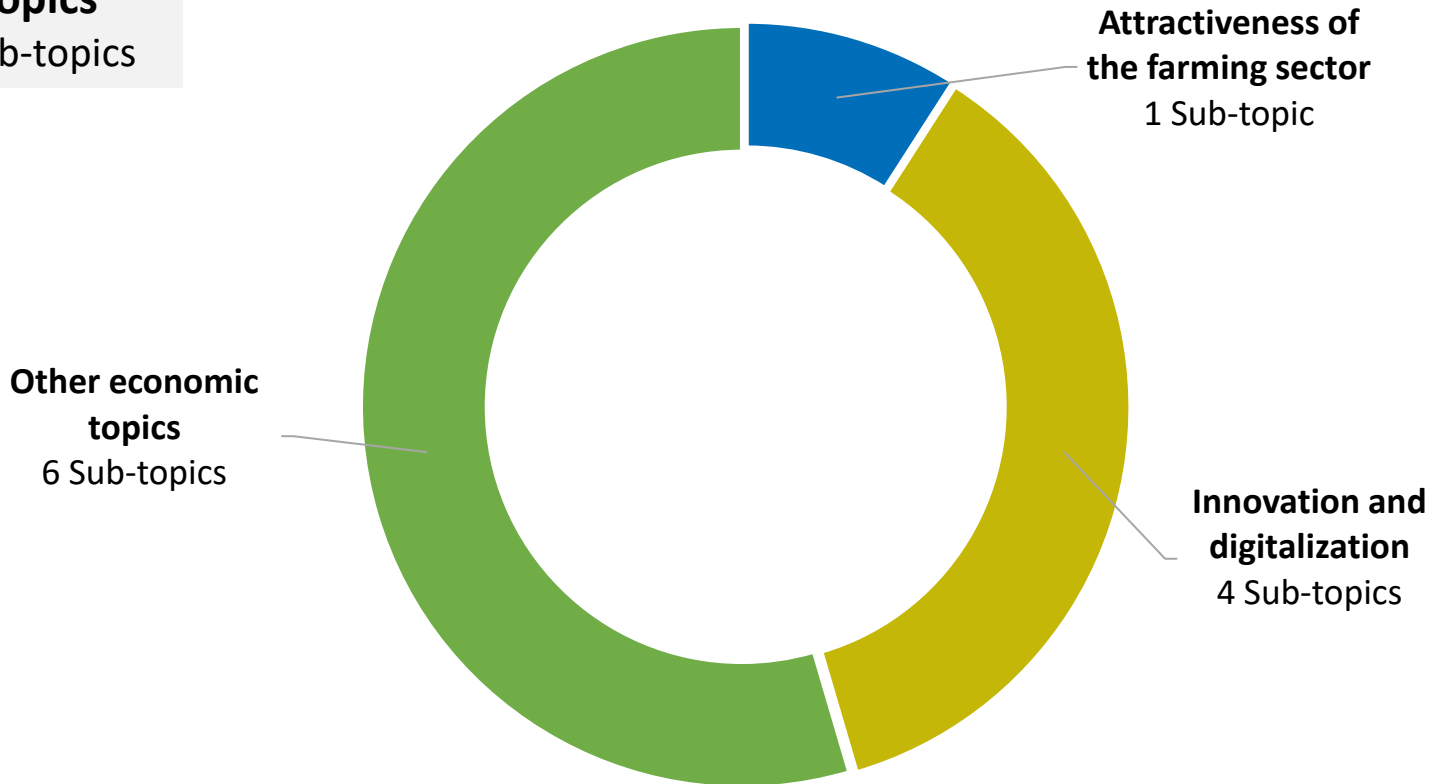
Q&A

Economic Sustainability

Antonio Bubbico - Ecorys

Topics and identified sub-topics and variables
## *Economic*

3 Topics
11 Sub-topics

Attractiveness of the farming sector
1 Sub-topic

Innovation and digitalization
4 Sub-topics

Other economic topics
6 Sub-topics

Topic: Attractiveness of the farming sector - economic

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories
Contribution of farm income in farmers' total income	Contribution of income from farming and farm related activities on total income for each farm manager	Share of income from farming and farm related activities in total income from each farm manager	• Category of non-agriculture source of income • Gender
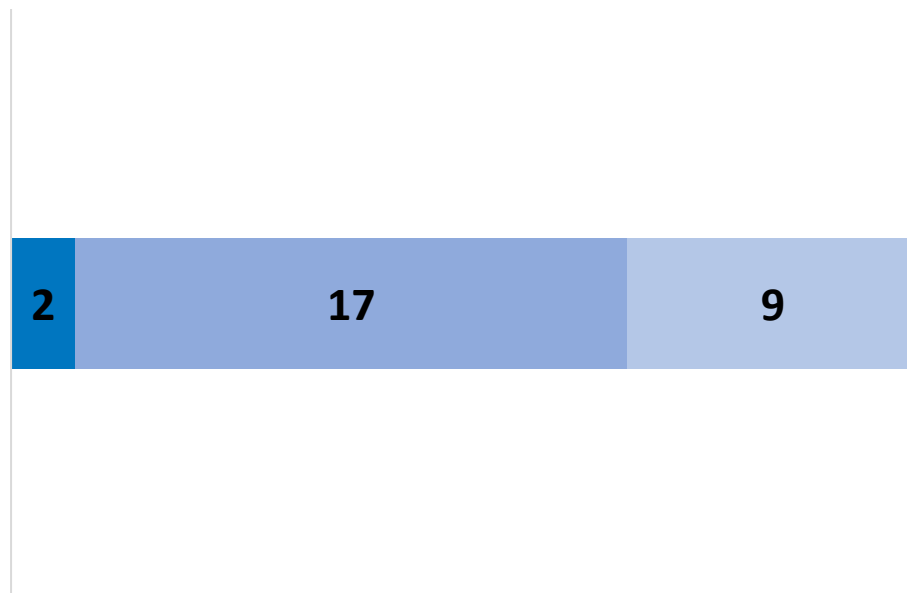
Issues in data collection & reporting, and Proposed way forward

Legal issues:

- Risk related to accessing personal income data

Operational issues:

- Concerns over sensitive information, leading to potential unwillingness of farmers to share data

Proposed way forward:

- Adapt definitions and data collection methods to avoid asking sensitive information

Topic: Innovation and digitalisation

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories
Involvement in a community of practice	Active engagement with a group of individuals to share knowledge, experiences, and collaboratively enhance skills	Indication of the participation to a Community of Practice	Nature of the community of practice involved in
Knowledge sharing, innovation	CAP subsidies received for knowledge sharing and innovation	CAP subsidies received for knowledge sharing and innovation	
Technology use	Technology use in terms of presence of precision agriculture and whether a DSS system is used or not	• Share of area under precision agriculture • Use of a Decision Support Systems (DSS)	
Farm investment in digital technologies	Allocation of resources by agricultural enterprises into modern tech solutions	Farm investment in digital technologies (EUR)	
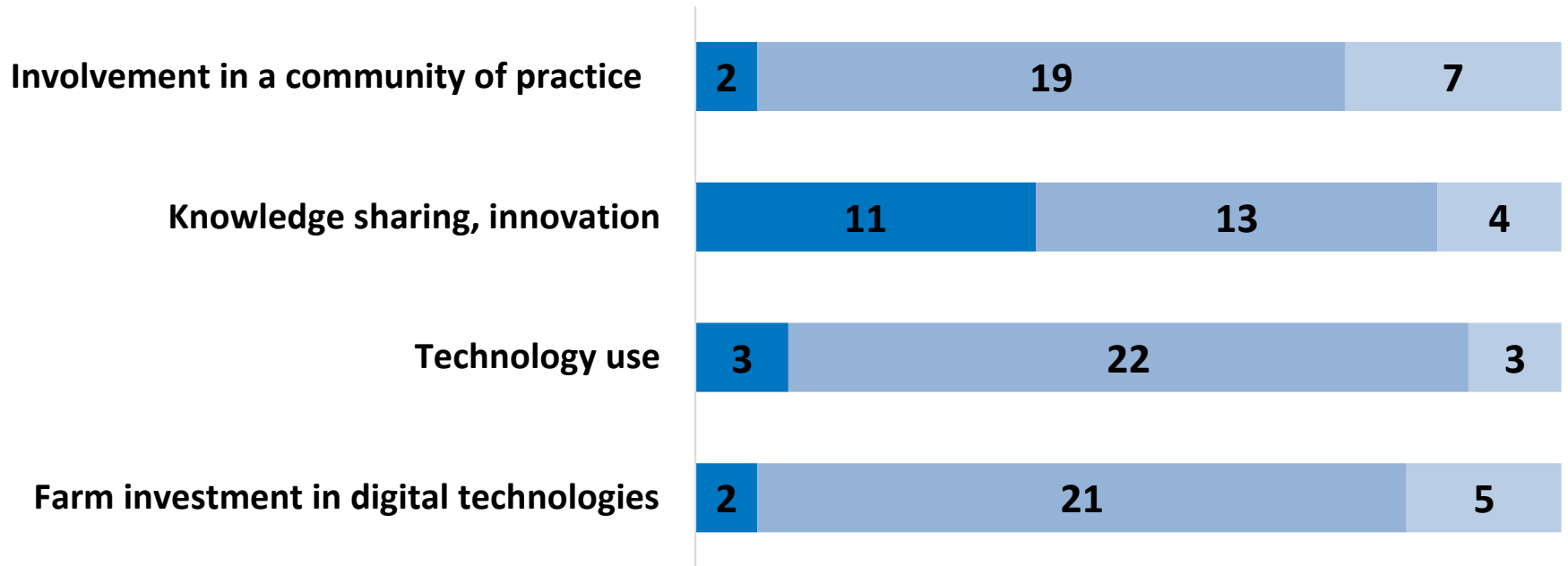
Topic: Other economic topics

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories
Manager of farm and land	Indication if the farm is owned by one or more of the farm manager, rented, or the land is owned by NGOs/municipalities	Number of managers	Legal status of the agricultural holding
Market outlets	Share of farm output sold via market outlets	Share of products sold to cooperatives; industry; producer organisations (other than cooperatives); retailers; consumers; other economic actors	
Credit support	Share of finance/credit requests	Share of credit requests rejected in credit requests submitted to the bank or other financial organisation to which the request was submitted	
Risk management tools	Number of risk management tools	Number of risk management tools (including insurance)	
Product marketing	Proportion of crop forward sold versus total farm input	Share of crop forward sold in total farm input in: • Volume • Value	
Membership in a cooperative	Membership in a cooperative, farmers union	Number of memberships	Type of membership

Other economic topics

Liaison Agencies' position on the collection of the sub-topics

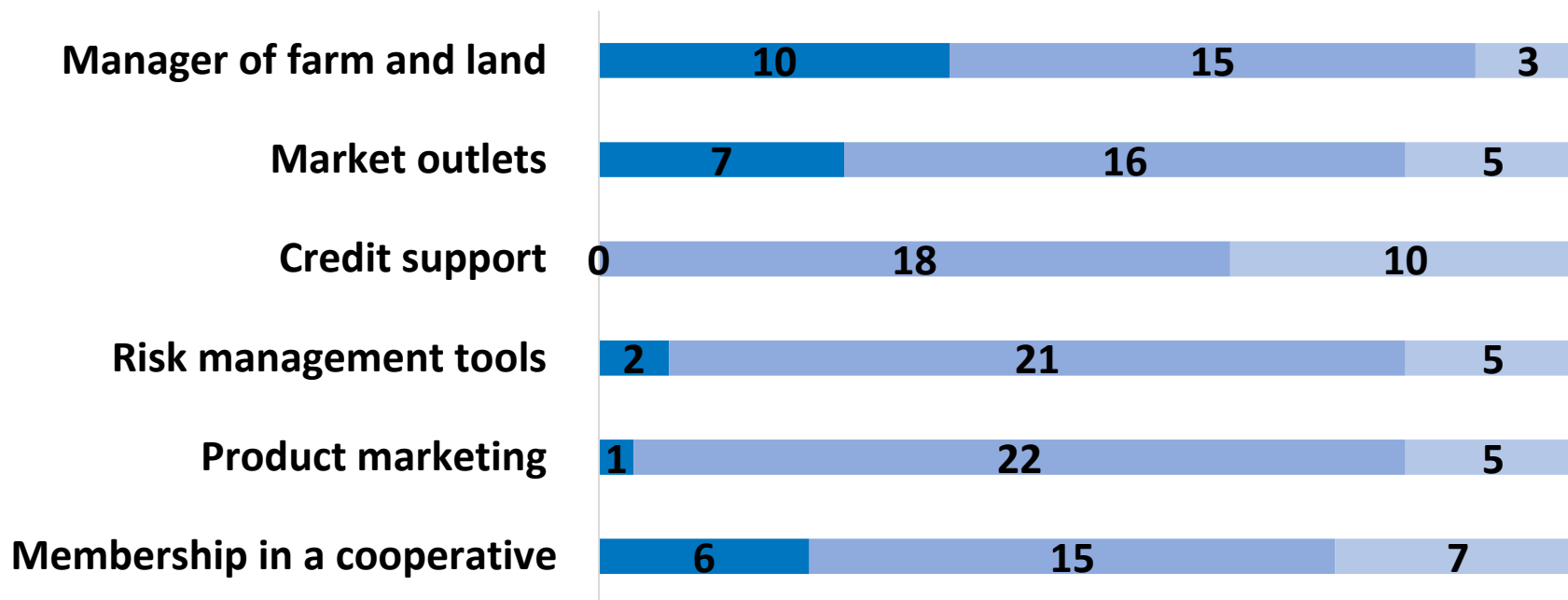■ *Already collected* ■ *Small effort to collect* ■ *Significant effort to collect*

Topic	Already collected	Small effort to collect	Significant effort to collect
Manager of farm and land	10	15	3
Market outlets	7	16	5
Credit support	0	18	10
Risk management tools	2	21	5
Product marketing	1	22	5
Membership in a cooperative	6	15	7

Data source - Data collection methods
All Economic topics

Feasible data sources:
- ➢ Farm accounts, farm records, including logbooks
- ➢ Banks/Insurance companies
- ➢ IACS (specific for innovation)

Feasible data collection methods:
- ➢ Farmers recording on paper/electronic format

General issues and way forward
All Economic topics

Legal issues:

- Concerns related to data protection and privacy, including GDPR implications

Operational issues

- Administrative challenges, including high costs, data collection burdens and resource constraints

Proposed ways forward:

- Implement financial incentives: provide direct monetary compensation and link CAP subsidies to data submission

Q&A

Lunch break

Final Conference

*Converting Farm Accountancy Data Network
(FADN) into Farm Sustainability Data Network (FSDN)*

Brussels – 15 September 2023
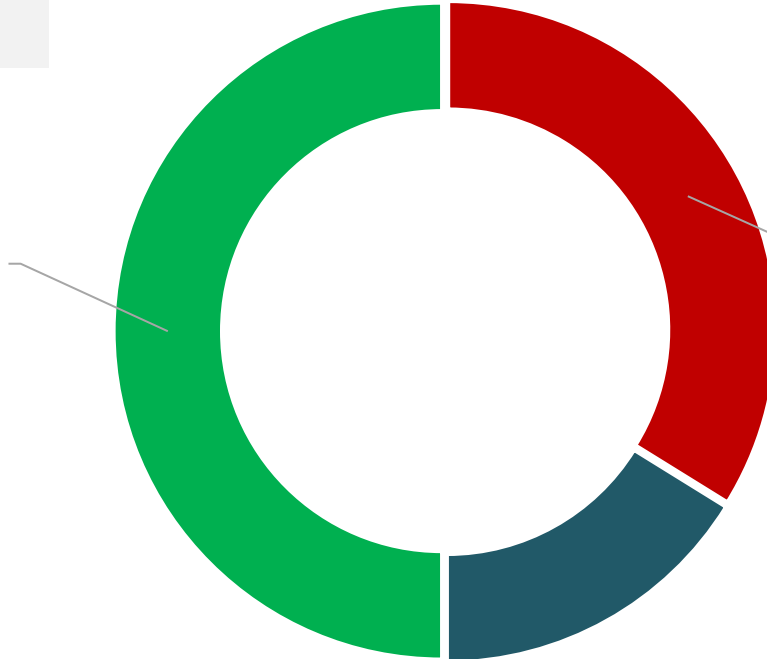
*Agriculture
and Rural
Development*

Overall conclusions on the feasibility of collecting *Sustainability Data*

15 Sustainability Topics
68 Sub-topics

Detailed fiches available per:
- Sub-topic
- Member State

Environmental Sustainability
34 Sub-topics

Social Sustainability
23 Sub-topics

Economic Sustainability
11 Sub-topics

Conclusions on the feasibility of collecting *Sustainability Data*

➢ The sub-topics identification is aligned with the legislative framework and the need to support the monitoring of the CAP and other policy initiatives (Green Deal, F2F, Biodiversity Strategy, etc.)

➢ A set of sub-topics is already collected by some Member States

➢ The definition of variables is based on literature review, expert knowledge and feedback from the Liaison Agencies during the data collection

➢ Crucial aspects of definitions that affect the feasibility of collecting the variables concern granularity, frequency and the availability of common/agreed definitions

Conclusions on the feasibility of collecting *Sustainability Data*

➢ The diversity of data collection systems among Member States has to be taken in account

➢ The feasibility of collecting data is tied to available resources

➢ Data collection for environmental topics faces technical and operational challenges sometimes related in terms of availability of digital tools for farmers to collect the data

➢ Data collection for social and economic data faces mostly legal and operational challenges. The legal issues are mainly related to data protection and sensitive information

Recommendations on the feasibility of collecting *Sustainability Data*

➢ It is crucial to leverage existing data sources and to strengthen cooperation and coordination among various authorities and stakeholders.

➢ Use quality control mechanisms and validation processes already in place for the FADN to ensure the accuracy and reliability of all collected data.

➢ Safeguard sensitive data in compliance with relevant data protection regulations and consequently adapt data collections methods to build trust among farmers and stakeholders.

➢ Foster the exchange of good practices and experiences among different countries.

➢ Foster awareness of the importance and specific character and use of farm-level data.

Q&A

Session 3 - International experiences and benchmarking

Agriculture and Rural Development

International experiences on collecting sustainability data

Dylan Bradley – S&P Global

International experience – Switzerland

- ➢ **Swiss FADN** - equivalent to EU FADN

- ➢ **Swiss Agri-Environmental Data Network** (SAEDN) overlaps with the Swiss FADN sample:
  - ➢ Farm-level data on the environmental and sustainable aspects of agricultural production
  - ➢ Due to be phased out - plan to collect sustainability data in other, lower-cost, ways with reduced farmer burden, no indication that social aspects will be included

- ➢ The **digital nutrient and plant protection product management** (dNPSM) project will, from 2025/26, provide farm-level data on PPP and fertilisers

- ➢ Data are mainly used in research and for publications rather than to inform farmers directly

International experience
United States of America

- USDA's **Agricultural Resource Management Survey** (ARMS) – broadly equivalent to FADN, but wider ranging in scope, including social aspects and a conservation practices module

- Other periodic surveys can, in principle, be linked to ARMS:
  - **Conservation Effects Assessment Project** (CEAP)
  - **Conservation Practice Adoption Motivations Survey** (CPAMS)
  - **Irrigation and Water Management Survey** (IWMS)

- Data are used in various publicly-available reports

- The provision of specific benchmarking data has been discussed as a means to increase response rates, but has not been implemented

International experience – New Zealand

- ➢ **Sector-based approach** involving levy-funded bodies

- ➢ **Farm Monitoring Programme**:
    - ➢ Phase 1 2019-2023:
        - ➢ Sets a baseline
        - ➢ Sample of 2 000 farmers in the main agricultural sectors
        - ➢ Covers environmental sustainability issues
    - ➢ Phase 2 2023 onwards:
        - ➢ Expands sectoral coverage
        - ➢ Will focus on identifying trends over a 5-20 year period

    - ➢ Data will be used more for research and to inform future policy than farmers directly

International experience - Lessons learned

➢ Examples of combining environmental sustainability data collection with economic/financial data collection and also examples of separate data collection systems

➢ Data are collected on a range of environmental sustainability issues, demonstrating practical feasibility; fewer examples of data collection covering social sustainability issues

➢ Variables used in all third-country examples:
  ➢ Use of inputs
  ➢ Soil management
  ➢ Some measures of animal welfare

➢ Variables not used in third-country examples:
  ➢ High diversity landscape features
  ➢ Sustainable food production and waste management
  ➢ Attractiveness of the farming sector

➢ There is a need to be aware of the burden on farmers and to seek ways to reduce it

Benchmarking

Rino Ghelfi - ERGO

Aim and approach

- Identify and evaluate farmers' motivations to participate in FADN and future FSDN
- Understand incentives and disincentives for voluntary participation
- Identify key elements for the benchmarking module
- Develop a strategy for efficient and effective implementation of the benchmarking module

Sources of information

- Pilot Project Questionnaire for farmers (see Sections III and IV)
- Online survey for Liaison Agencies reporting tool and benchmarking
- A deeper analysis using a combination of literature review and case study methodology

Outputs

- Four case study summary reports
- One cross-case study analysis report presenting evidence about the strategies for designing and implementing the benchmarking service

How to implement an effective strategy for the benchmarking service

1. How to interact with farmers
2. How to create user-friendly data
3. How to increase the usefulness of data for farmers
4. How to motivate farmers to participate in FADN/FSDN

For each requirement, at least one policy implication was highlighted
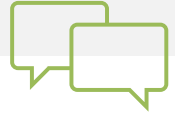
1. How to interact with farmers (1/2)

- **Institutional cooperation:** Emphasising practical cooperation among institutions

  Policy: Define roles, responsibilities, and encourage collaboration with incentives such as funding or recognition

- **Personal commitment.** Strong farmer-advisor relationships.

  Policy: Enhance advisor training, resource allocation, and communication tools; prioritise feedback channels

1. How to interact with farmers (2/2)

- **Tailoring outputs for diverse audiences:** Addressing IT literacy.

  Policy: Collaboration among policymakers, Liaison Agencies, and stakeholders to align the benchmarking service with varying farmer needs

- **Enhancing farmer-adviser interactions.** Boosting feedback and support.

  Policy: Promoting responsive advisers via a dedicated help desk, enabling ongoing farmer feedback for refining data collection and analysis in benchmark reports

2. How to create user-friendly data

- **Advisory service:** Valued but with concerns (possible bias, liability risks)

  Policy: Ensuring fair advisory design for all farmers, regardless of FADN participation, and implementing safeguards against liability risks

- **Farmer Training:** Limited but valuable

  Policy: Prioritising pilot training projects and leveraging available resources

Suggestions include prioritising visuals over tables or text and offering editable tools within specific software or online platforms

3. **How to increase the usefulness of data for farmers**

- **Data timeliness:** Case studies consistently show FADN reports issued within a year of the accounting period's end.

  Policy: Foster prompt data submission for accurate and effective reporting, potentially through resource allocation or farmer incentives

- **Data Diversity:** Current reports mostly focus on economic performance, while the growing interest of civil society results in a potential interest for farmers in benchmarking their sustainability data.

  Policy: Consider financial incentives or resource aid for comprehensive data collection and analysis.

4. How to motivate farmers to participate in FADN/FSDN (1/2)

- **Effective communication:** Raise awareness of available tools from LAs and optimise their utilisation among farmers

  Policy: Collaborate with FADN stakeholders and communication specialists for strategy development

- **Ensuring data protection:** Prioritising privacy concerns of multiple entities (farms, farmers, workers, working relationships/agreements, etc.)

  Policy: Enforce stringent data safeguards such as anonymisation, controlled access, and secure storage and transmission

4. How to motivate farmers to participate in FADN/FSDN (2/2)

- **Acknowledge bonus points for funding applications:** FADN/FSDN participants could earn extra points for national or EU-backed initiatives or for simplifying follow-up checks

  ➢ Policy: Collaborate with pertinent funding agencies to validate FADN/FSDN involvement within funding requisites

- **Provide predictive analysis and investment guidance support:** Ensuring editable tools that allow users to freely conduct extensive analysis and comparisons

  ➢ Policy: Foster tool development, training and support for farmers to optimise utilisation

Factors to consider when recruiting farms

- In a broader context, farmers' willingness to provide their data can be enhanced through incentive programmes, technical assistance and educational programmes.

- Data protection is critical to ensure farmers' confidence in data-sharing initiatives.

- For farmers, a gradual implementation strategy when transitioning from purely economic to sustainability data collection is beneficial for understanding the benefits of receiving services such as benchmarking reports.

- The relationship between farmers and data collectors/advisors fosters trust and encourages participation.

- Existing data sources should be utilised to enrich environmental, social and economic data collection; cooperation and coordination among various stakeholders are vital.

In your opinion, what are the main incentives for farmers to participate in reporting and benchmarking?

ⓘ Start presenting to display the poll results on this slide.

Q&A

Session 4 - Reduction of administrative burden through improved IT systems

Agriculture and Rural Development

IT-solutions for data collection and submission

Identification and presentation of pros/cons of novel IT systems to facilitate data recording and data submission

- Many national systems contain valid sources of farm-level sustainability data.

- There is no one-size-fits-all technological approach to provide all necessary data. In some cases, there is an overlap in data captured across systems.

- Data collection tools that collect data without significant interventions from the data provider (farmer) are required to reduce the burden in data collection. Some initiatives exist in this field, but most of solutions are not mature.

IT-solutions for data collection and submission

Identification and presentation of pros/cons of novel IT systems to facilitate data recording and data submission

- **FMIS (Farm Management Information Systems) seem to be the most complete systems** that envisage the complementarity of more technologies within one system.

- FMIS Systems are potentially the most versatile tool capable of detecting a considerable amount of sustainable data at the farm level.

- However, current FMIS systems do not sufficiently integrate **automatic recording** and this makes most of them an extra tool in which data needs to be typed in (low added value)

Unique farm ID
Lack of clear understanding of the current situation

- **Data compatibility** approaches and **interoperability between IT systems** have been reported in several Member States (8) but deeper analysis of the situation shows that such compatibility is obtained "manually" (by asking FADN farmers to provide their IACS or IFS ID during data collection by accountants – authorities then request data from IACS or IFS to match these IDs)

- There is only one current initiative (HU) to implement a unique ID across different IT systems; Italy is starting to work on it too

- Past initiatives of improving interoperability (e.g. in FR) have not been positive. In the NL, it has been decided to keep 8 different IDs and establish relationships between datasets

Unique farm ID

Challenges to set-up a unique farm ID at the EU level

The large majority of the interviewees recognise that data analysis could be significantly improved if various datasets containing farm level data are connected/interfaced via a unique Farm ID. However, major challenges exist:

- Need to create a national mandatory registry to list all agricultural holdings ("farms").

- Government public bodies may be reluctant to implement the necessary changes to leverage the unique Farm ID.

Unique farm ID

Challenges to set-up a unique Farm ID at the EU level

Reasons why Government public bodies are reluctant to arrive at a unique farm ID:

- Inability to see the benefit for their organisation. Benefits for FADN/FSDN are well understood for FADN, but less obvious for other DBs
- Potential impacts to administrative processes in places are unknown
- A need to adapt legal texts
- Data sharing and data protection issues need to be faced
- Lack of funding or resources
- Interviewees (mainly LAs) provided multiple examples of technical difficulties, not to create a unique Farm ID but, to assign such ID to a given data set
- There is no governance established at national levels to work across DBs and legal frameworks. Who should initiate the initiative? Who should lead it? Where should resources come from?

Unique farm ID

Preliminary good practices to set-up a unique Farm ID

- **Implement a step-by-step approach**: the unique farm ID should be established at Member State level and implemented in a limited number of DBs (2-3 DBs to be identified). Then a European approach should be considered

- Ensure **effective leadership and vision**

- Carry out a **national legislative review early in the project** as legal changes will be required to implement the unique Farm ID

- **Plan for implementation** as well as **long-term management of the unique farm ID "solution"**

- Implement effective **data governance policies**

Feasibility of one single IT system for data collection and submission

Objectives and background information

➢ Perform a feasibility study of setting-up a single European FSDN IT system at Member State level

➢ It is very difficult to arrive to a single IT system between the Member States.

➢ Great heterogeneity in terms of IT technical solutions between FADN at Member State level

Background information (lessons learned from IT systems analysis)

➢ Lack of interoperability and compatibility between FADN systems and other relevant systems such as the national IACS, or other IT systems, some of which may have already been adapted to accommodate sustainability data

➢ Difficulties in establishing a unique farm ID at the EU level

➢ Infeasible to develop a unique FADN IT system in a short period of time

Feasibility of one single IT system

The best practices which can be seen as models to identify the possible unique FADN/FSDN IT system

- ➢ In our study, we selected existing FADN systems as "best practice" which can embrace several characteristics

- ➢ In our analysis we considered two different models: The Netherlands and Italy

  - **Why the Netherlands?** The system encompasses a wide variety of data sources; it is interoperable with local data flows, systems and definitions; it employs a flexible, configurable approach.

  - **Why Italy?** It is already at an advanced stage in collecting environmental and social variables; it guarantees interoperability with institutional IT systems; it is testing data collection by FMIS.

Feasibility of one single IT system

Challenges to set-up a unique IT-system at the EU level

Setting up one single IT system is not feasible for the time being for the following reasons:

➢ **Technical and methodological challenges** (which reflect the difference in the technical and methodological characteristics of the FADN systems at the national level):

➢ **Political challenges** (which identify the other variable which may impact the situation):

- Uncertainty on a new start; No need for sophisticated system; Lack of skills; Higher workload; High investment cost; Willingness to change the system; Different organisational structure in the Member States; User acceptance on data sharing; Legal restrictions in combining data sources; and Level of maturity of other data sources.

Feasibility of one single IT system
Conclusions

➢ The conclusion of this analysis is: developing a unique FADN/FSDN IT system in a short period of time is not feasible. There are too many differences between countries, also in terms of needs.

➢ Arriving to a unique FADN/FSDN IT system requires deep changes in Member States since agricultural sectors, taxation rules, legal obligations to keep accounts, the use of IT in the agricultural sector and their level of development, and the extent of electronic data exchange differs among them.

Recommendations on IT tools, unique farm ID, and feasibility of unique IT systems

➢ Current FADN IT systems are evolving and while there have been challenges in compatibility with other databases, this has highlighted the opportunity for greater coordination. With the transition to FSDN on the horizon, there is a promising potential for a more harmonised and integrated approach, paving the way for enhanced efficiency in the future.

➢ The development of data collection systems can be resource-intensive, but the introduction of machine sensors and linking farm management logbooks to accounts can facilitate the process.

➢ Despite the challenges, two existing systems – the Dutch system for its flexibility and the Italian GAIA software for its connectivity – can serve as models for future development.

Q&A

Session 5 - Conclusions

Agriculture
and Rural
Development

Concluding remarks

DG AGRI

Concluding remarks

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