



# Farm level indicators for new topics in policy evaluation

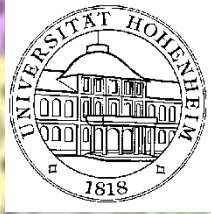
Hans Vrolijk, LEI, Netherlands

Presentation at FADN Committee Meeting, Brussels, April 18<sup>th</sup>, 2016



Source: EUROSTAT (Demographic data) and DG AGRI LEIT (Thematic data)  
Cartography: DG AGRI GIS-Team 11/2009  
© EuroGeographics Association for the administrative boundaries

0 100 200 400 600 750 km



IT



# Background

- Challenges facing agriculture are changing: e.g. sustainability, climate, innovation
- In response - CAP has evolved
  - Income still important but also greening
- When policy changes – information needs change – data must keep up

# Current situation

- Information needs on sustainability from private sector, government, NGO's and research
- Official agricultural statistics (slowly) adapt to new information needs
- No agreement on what the future data infrastructure at EU level should look like.
  - Extend FADN, link FADN to other administrative data or separate environmental data network
- Developments
  - Combining statistical and administrative data
  - Farmers often have to collect and provide data on sustainability and food safety issues (Global Gap, BRC, SAI initiative, cool farm tool etc.)

# Objective FLINT project

- To establish a **tested data infrastructure** with up to date **farm level indicators** for the **monitoring and evaluation of CAP** and to contribute to a **better targeting** of CAP and other policy measures
- Use FADN to develop indicators that capture the different dimensions of the sustainability concept
  - Economic, social, environmental
  - Incl. innovation, risk management

# Why do we use EU FADN in this project?

- Interest is at the farm-level
- Need a data source – economic, social, environmental
- EU harmonised data
- Yearly implemented
- Indicators must be credible
  - Objective, verifiable and empirical data
- BUT where possible link to existing data

# Advantage of an Integrated data set

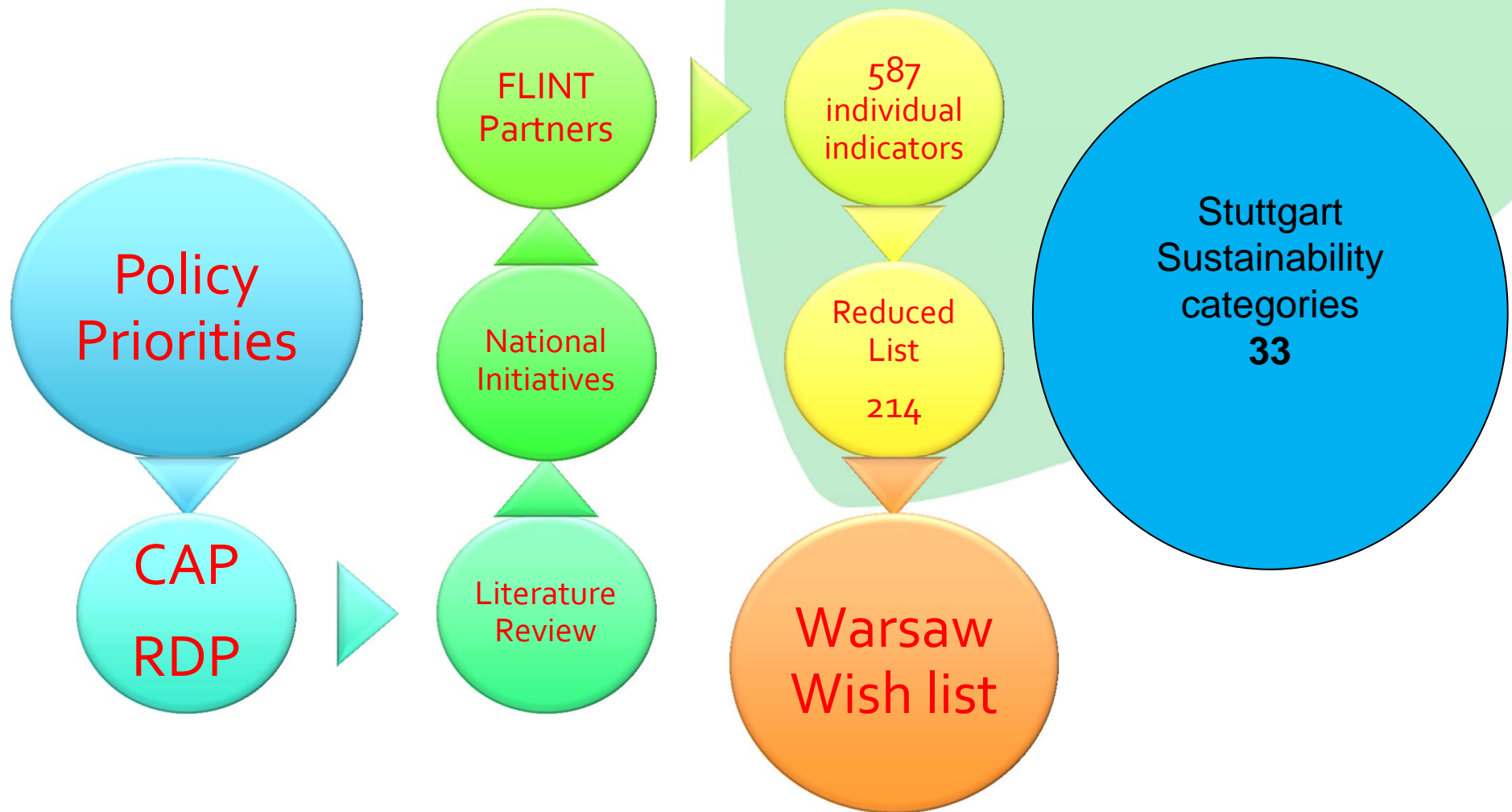
- Measurement of different sustainability indicators on the same set of farms
- Allows the analysis of the full chain from: Policy objective -> policy measure -> impact on farm -> farm management decisions -> up to: sustainability performance of farms
- Trade-off and jointness of performance on different sustainability measures as a consequence of policy measures
  - (for example is the economic performance at the expense of environmental performance, sustainability performance of large farms etc.)



# Project Approach

- Assess policy evaluation needs
- Evaluate existing indicator frameworks
- Define indicators and data variables
- Involve sector to assess feasibility
- IT infrastructure for data collection and exchange
- Pilot data collection on 1000 farms in the EU
- Use farm level indicators in policy analysis
- Make recommendations about future data collection

# FLINT: INDICATOR SELECTION



Environmental

E1: Greening

E3: Semi-natural areas

E4: Pesticide usage

E5: Nutrient balance

E7: Indirect energy use

E8: Direct energy usage

E9: On-farm RE prod.

E6: Soil organic matter

E10: Nitrate leaching

E11: Soil erosion

E12: Use of legumes

E14: GHG calculation

E16: Water usage,  
storage

E17: Irrigation practices

Economic,  
innovative

EI1: Innovation

EI2: Producing under  
label

EI3: Market outlet

EI4: Farm duration

EI5: Efficiency field parcel

EI7: Insurance

EI8: Marketing contracts

EI9: Risk exposure

EI6: Modernization

Social  
sustainability

S1: Advisory service

S2: Education and  
training

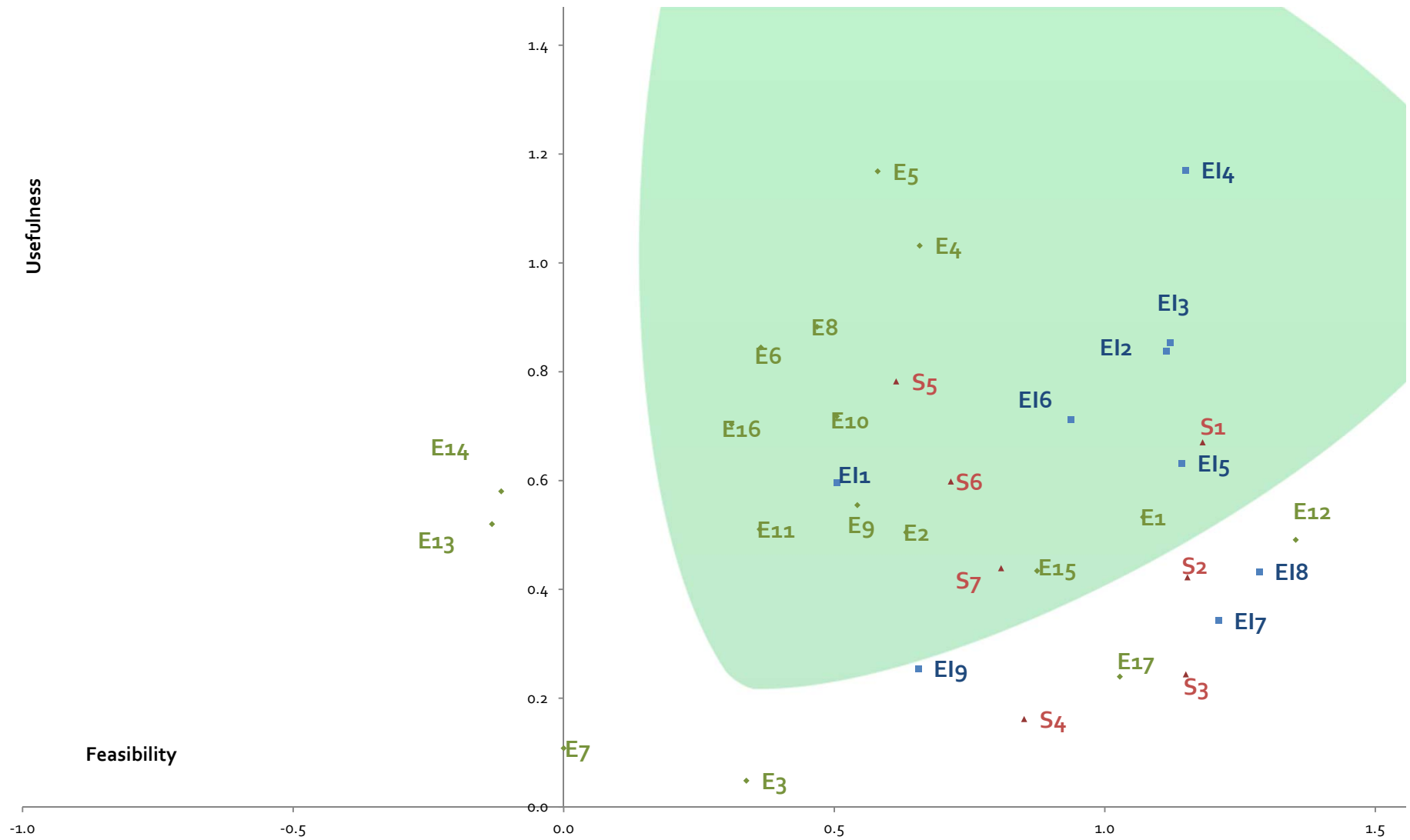
S3: Ownership  
management

S4: Social engagement

S5: Working conditions

S6: Quality of life

S7: Social diversification



Only an average...  
 Why do the stakeholders assess like that?



# Ultimate goal: use of data in policy analysis

- To illustrate the added value of having FLINT type of data
  - Monitor objectives of the CAP
  - Analyse environmental, social and economic impacts of policy measures
  - Analyse trade-off between environmental and economic results of farms
- FLINT will use pilot data in a number of cases to illustrate / evaluate added value

## Next presentations:

- How were these indicators transformed into forms and procedures to collect the data; the FLINT farm return
- What are the preliminary experiences with collecting the data



## Process and objectives of FLINT Farm return

Szilard Keszthelyi Phd., AKI, Hungary

Presentation at FADN Committee Meeting, Brussels, April 18<sup>th</sup>, 2016



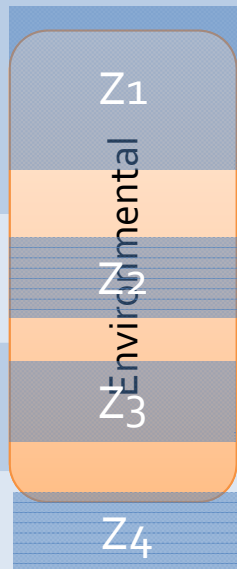
# The FLINT data collection in numbers

- 9 Member States
- 1000 pilot farms
- 33 topics
  - 7 social
  - 9 economic/innovative
  - 17 environmental
- 10 new tables
- 1060 new items
- Around 300-400 new data per farm

In the pilot stage! Reduction foreseen based on experiences!







E1: Greening

E3: Semi-natural areas

E4: Pesticide usage

E5: Nutrient balance

E7: Indirect energy use

E8: Direct energy usage

E9: On-farm RE prod.

E6: Soil organic matter

E10: Nitrate leaching

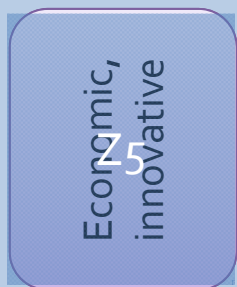
E11: Soil erosion

E12: Use of legumes

E14: GHG calculation

E16: Water usage, storage

E17: Irrigation practices



EI1: Innovation

EI2: Producing under label

EI3: Market outlet

EI4: Farm duration

EI5: Efficiency field parcel

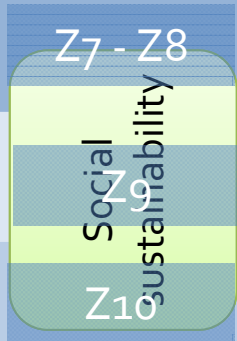
EI7: Insurance

EI8: Marketing contracts

EI9: Risk exposure

EI6: Modernization

Z6



S1: Advisory service

S2: Education and training

S3: Ownership management

S4: Social engagement

S5: Working conditions

S6: Quality of life

S7: Social diversification

# General principles

- The general rules are the same in FADN and in FLINT
- The data should relate to a single agricultural holding and to a single accounting year of 12 consecutive months.
- Data in the farm return concern exclusively the agricultural holding. These data refer to the agricultural activities of the holding and to the other gainful activities directly related to the holding.

# Structure of the FLINT farm return (example)

Code	Category	Columns	
		Value Type	Quantity
		VT	Q
<b>AS</b>	<b>Advisory Services</b>		
<b>1011</b>	Consultancy of Public Advisor	Z1_AS_1011_VT	Z1_AS_1011_Q
<b>1012</b>	Consultancy of Farmers' cooperative	Z1_AS_1012_VT	Z1_AS_1012_Q
<b>1016</b>	Consultancy of Other farmer based providers	Z1_AS_1016_VT	Z1_AS_1016_Q
<b>1013</b>	Consultancy of Private Advisor	Z1_AS_1013_VT	Z1_AS_1013_Q
<b>1014</b>	Consultancy of Companies	Z1_AS_1014_VT	Z1_AS_1014_Q
<b>1015</b>	Consultancy of Others	Z1_AS_1015_VT	Z1_AS_1015_Q
<b>CI</b>	<b>CAP and Cross Compliance</b>		
<b>2010</b>	Information Sources	Z1_CI_2010_VT	
<b>ET</b>	<b>Education and Training</b>		
<b>3010</b>	Manager Training	Z1_ET_3010_VT	
<b>3020</b>	Employee Training	Z1_ET_3020_VT	Z1_ET_3020_Q



# Structure of the FLINT farm return (example)

Category	Column	Notes
<b>Group of information AS - Advisory Services</b>		
<b>Consultancy</b> <b>Cat. 1011 to 1016</b>	Type of Advice Z1_AS*_VT	<p>Public Advisor (1011): It includes all public advisory services or public extension agents offering direct advice services to the farmers: e.g. advisory centre, chambers of agriculture, agricultural authorities, state-owned advisory firms, public research institutes.</p> <p>Farmers' Cooperative (1012): It includes farmers' cooperatives or its organizations which offer direct advisory services to the farm.</p> <p>....</p> <p>Others (1015): Includes all the providers not covered on the previous categories: universities, environmental NGOs, private research institutes, religious organizations.</p> <p>Allowed values for value type (column VT), multiple selections are allowed:</p> <p>1 = Accountancy, bookkeeping, taxes: includes advisory service for bookkeeping; accountancy, taxes, FADN.</p> <p>2 = Management, business planning, and marketing: includes advisory services for planning, monitoring or executing plans. It includes: business/financial/marketing planning, human resources, management, marketing advice, marketing information service.</p> <p>3 = Crop production: it includes advisory service with the aim to solve problems and implement solutions of all the categories of crops contemplated in Table I (Crops)</p> <p>4 = Livestock production: it includes advisory services with the aim to solve problems/ implement solutions of all the categories of livestock described on Table J (Livestock production)</p> <p>...</p>



## Advantages of same structure as in FADN

- Same structure – easier to understand and apply
- Easier to be included in national and EU FADN
- Allows use of same testing infrastructure
  - Testing in FLINT by RICA 1 system
- In pilot: detailed level of data – can still be simplified

# Z1. Information and Knowledge

S1	Advisory service provided to the farmers
S2	Education and training
S3	Ownership management
S4	Social engagement
S7	Social diversification

# Z2. Working Conditions and Quality Of Life

S5	Working conditions
S6	Quality of life
E14	Past/Future duration in farming

# Z3. Innovation

E11	Innovation
E16	Modernization

## Z4. Economic

E12	Producing under label
E13	Market outlet

## Z5. Land Management

E1	Greening
E3	Semi-natural farmland areas
E6	Soil organic matter
E10	Nitrate leaching
E11	Soil erosion
E12	Use of legumes
E15	Efficiency field parcel

## Z6. Risk Reduction

E17	Insurance
E18	Marketing contracts
E19	Risk exposure

## Z7. Pesticide Usage

E4	Pesticide usage
----	-----------------

## Z8. Nutrient Balance

E14	GHG calculation
E5	Nutrient balance



## Z9. Energy

E7	Indirect energy usage
E8	Direct energy usage
E9	On-farm RE production

## Z10. Water

E16	Water usage and storage
E17	Irrigation practices



## Data collection experiences

Thia Hennessy, Teagasc, Ireland

Presentation at FADN Committee Meeting, Brussels, April 18<sup>th</sup>, 2016



# Pros and cons of different approaches

- Integrated data collection FADN + FLINT
  - (+) Jointness and trade-off between objectives / indicators
  - (+) Allows integrated policy analysis
  - (+) Use of existing procedures and quality mechanisms
  - (-) Increased complexity of data collection
  - (-) Need to reconsider field of observation?
  - (-) Wide variety of objectives complicates sample design
- Separate network for e.g. environmental variables
  - (-) No or weak link with economic performance and farm management
  - (-) No direct link with policies, policy measure more difficult to evaluate
  - (-) Needs to be established (requires time and resources)
  - (+) Possibility to optimise design for specific variables
  - (+) Optimised design results in more reliable estimates
  - (+) Burden can be distributed among farmers

# Data collection - Different types of FADN

- No standardised approach
- Countries with Type X
  - Data provided by (fiscal) accountants
  - Re-use of accounting data for FADN purposes
  - Less Expensive
  - More difficult to make changes
- Countries with Type Y
  - FADN Data collection by FADN liaison agency (or delegated to other)
  - Dedicated FADN data collection
  - Relatively expensive way to collect FADN data
  - More flexible to make changes in data collection



# Data collection in FLINT

France	Agricultural students
Ireland	Researchers and NFS data collectors
Spain	Farm advisors and accountancy offices
Poland	Advisors who are involved in Polish FADN
Greece	Two Agronomist-researchers data collectors
Germany	2 researchers
Hungary	Accounting offices who are involved in FADN
Netherlands	Advisors who are involved in Dutch FADN
Finland	ProAgria-FADN data collectors

# Connection between Flint data collection and FADN data collection

France	Separate
Ireland	Yes
Spain	Separate
Poland	Separate agreement but same stuff as in FADN
Greece	Separate (with FADN data collectors)
Germany	Separate but in cooperation with the FADN liaison institute
Hungary	Separate agreement but same stuff as in FADN
Netherlands	Direct connection
Finland	Separate (with FADN data collectors)

# Initial experiences (data collection)

- Some countries already collecting more data than required by FADN – experienced
- Many FLINT variables already indirectly available in FADN information flow (eg. quantities on invoices)
  - reduce information collected from farmers
- Knowledge/skill of data collector important
  - Explain how data will be used
  - Explore where data may be already available
  - Ensure quality of data collected
- Problematic variables tended to be country specific
  - some social indicators are cultural specific

# Initial experiences (farmer participation)

- Relationship with normal data collector important for participation
- Perceived importance & awareness of sustainability varies by country
  - Impacts on willingness to participate
- Some variables are 'threatening' or 'private' – country specific
  - Reconsider in recommendations, skip or explain.
- Average time need between half and hour till max. 4 hours for additional FLINT variables



## Initial experiences (overall)

- Collection of new data always causes some initial problems and need for adaptation –
  - Despite reviews and prior testing, still some issues need to explained more clearly
- However, first year collection of sustainability data seems far less complicated than first year FADN data collection
- Collection in scope of FADN provides advantages in terms of farmer participation and quality assurance

## Next steps

- Finalise data collection
- Collect experiences in a more detailed and systematic way from data collectors
- Review data items based on feedback
- Assess the quality of the data
- Take into account experiences from use of the data with respect to relevance and added value – specific case studies

➔ Final assessment of feasibility  
and need for data elements





# Introduction workgroup assignment

FADN Committee Meeting, Brussels, April 18<sup>th</sup>, 2016



# Scenarios for the future

Budget/workload	Data collection on full FADN	New variables on a sub sample of FADN farms	Reduced FADN sample for old and new variables	Reduced frequency of some variables (once every X year)	Alternative farm level data collection system
Scope of data collection					
No change in data collection					
Extension of FADN with new data with fully integrated data collection					
Extension of FADN with additional data on same farms but separately collected					
Separate environmental network with fully separated data collection					

# Questions

- What will the implications be for data collection?
  - Implications for existing data collection processes
  - Implications for existing data collection tools
  - Implications for farmers
- What would the implications be for the work load at the LA office and data collection?
- Would it be feasible to reduce the workload by reducing the number of FADN sample farms in your country, and why?
- Which further impacts should be considered?