FLINT: Farm Level Indicators for New Topics in Policy Evaluation

Monitoring and evaluation of sustainability goals

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Overview

- Background of FLINT
- FLINT selection of indicators
- Different approaches in data collection
- Value added of FLINT indicators in evaluations
- Lessons for adoption in Member states
- Recommendations for future monitoring
European policies are (being) adapted:
- Common Agricultural Policy: Cross Compliance, Greening
- Rural development, innovation, risk management, viability, sustainability
- Nitrate directive; Water directive
- Green deal, farm to fork strategy, bio-diversity strategy

Policy evaluation has a need for data on these topics
Assessment ‘current’ situation

- Information needs on sustainability from private sector, government, NGO’s and research
- Official agricultural statistics (slowly) adapt to new information needs
- Several initiatives on indicator frameworks, collection of sustainability data still in its infancy
- 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., sustainability schemes)
Objectives FLINT

- To demonstrate the feasibility of collecting policy-relevant data in different administrative environments

- To demonstrate how the new farm level indicators can be used to evaluate policies and improve the targeting of policy initiatives

Indicator selection and definition

• Policy Needs
  CAP Rural Development Policy, other CAP policies, competitiveness policies, other policies that affect Agri-Food sector.

• Literature Review
  Overview of sustainability indicators based on international literature and national initiatives.
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FLINT

ENVIRONMENTAL
- E1: Greening
- E4: Pesticide usage
- E7: Indirect energy use
- E10: Nitrate leaching
- E13: GHG emission per ha
- E16: Water usage, storage

- E2: Ecological focus areas
- E5: Nutrient balance
- E8: Direct energy usage
- E11: Soil erosion
- E14: GHG calculation
- E17: Irrigation practices

- E3: Semi-natural areas
- E6: Soil organic matter
- E9: On-farm renewable energy production
- E12: Use of legumes
- E15: Carbon sequestering land uses

ECONOMIC, INNOVATIVE
- E11: Innovation
- E14: Farm duration
- E17: Insurance

- E12: Producing under label
- E15: Efficiency field parcel
- E18: Marketing contracts

- E13: Market outlet
- E16: Modernization
- E19: Risk exposure

SOCIAL SUSTAINABILITY
- S1: Advisory service
- S4: Social engagement
- S7: Social diversification

- S2: Education and training
- S5: Working conditions
- S6: Quality of life

Source: FLINT 2017
Why data collection in connection to FADN

- Increasing importance of the farm-level
- EU harmonised data, implemented annually
- Need for measurement of different indicators on the same set of farms
  - To evaluate cost effectiveness of measures
  - To evaluate trade off and jointness of sustainability measures
- Indicators must be credible: Objective, verifiable and empirical
## Structure of the FLINT farm return (example)

<table>
<thead>
<tr>
<th>Category</th>
<th>Column</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group of information AS - Advisory Services</strong></td>
<td></td>
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<tr>
<td>Consultancy</td>
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</tbody>
</table>
| Cat. 1011 to 1016 | Type of Advice Z1_AS_*_VT          | 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. Farmers’ Cooperative (1012): It includes farmers’ cooperatives or its organizations which offer direct advisory services to the farm. Others (1015): Includes all the providers not covered on the previous categories: universities, environmental NGOs, private research institutes, religious organizations. Allowed values for value type (column VT), multiple selections are allowed: 1 = Accountancy, bookkeeping, taxes: includes advisory service for bookkeeping; accountancy, taxes, FADN. 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. 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) 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) ...
Experiences on data collection

- Data collectors attitude changed from hesitant to more enthusiastic

- Collection of new data always causes some initial problems and need for adaptation –
  - Land management
  - Innovation

- Feasible to collect sustainability indicators in different countries

- In connection to FADN provides advantages in terms building trust and cross checking data
Feasibility of data collection in different administrative settings

Evaluations to show added value

- Range of studies conducted (partly published in scientific journals and accepted for conferences)
- Taking into account the pilot project limitations: sample size, representativity, one year data, time pressure
- To illustrate added value of these type of data
  - **Filling gaps** in research methodology (i.e. social performance, economic viability)
  - Provide better **understanding in the sources of sustainability** performance (i.e. impact advisory services, age of assets, age of farming population).
  - Additional insights in **challenges faced by farmers** (i.e. trade-offs between environmental and economic performance)
  - Provide **more precise recommendations** for policy makers (i.e. effect of CAP subsidies on technical efficiency; impact investment subsidies on age of assets and sustainability)
## Evaluations conducted

<table>
<thead>
<tr>
<th>Evaluation Area</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Risk management</strong></td>
<td>the adoption of risk management strategies in European agriculture</td>
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<tr>
<td><strong>Technical efficiency</strong></td>
<td>the Cap subsidies and technical efficiency including environmental outputs: the case of European farms</td>
</tr>
<tr>
<td><strong>Innovation</strong></td>
<td>the adoption of innovation in European agriculture</td>
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<tr>
<td><strong>Farm fragmentation</strong></td>
<td>evaluates farm fragmentation, performance and subsidies in the European Union</td>
</tr>
<tr>
<td><strong>Social indicators</strong></td>
<td>the social indicators of farm-level sustainability</td>
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<tr>
<td><strong>Age of assets</strong></td>
<td>effect of age of assets on farm profitability and labour productivity</td>
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<tr>
<td><strong>Economic sustainability</strong></td>
<td>evaluates the farm economic sustainability in the EU: a pilot study</td>
</tr>
<tr>
<td><strong>Farmer age</strong></td>
<td>impact of farmer age on indicators of agricultural sustainability</td>
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<tr>
<td><strong>Extension</strong></td>
<td>the role of extension in agricultural sustainability</td>
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<tr>
<td><strong>Greening</strong></td>
<td>investigation of indicators for greening measures: permanent grassland and semi-natural area</td>
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<td><strong>Nutrient use</strong></td>
<td>develop nutrient use efficiency indicators for milk production</td>
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<td><strong>Trade-offs</strong></td>
<td>tradeoffs between economic, environmental and social sustainability: the case of a selection of European farms</td>
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<td><strong>Advisory services</strong></td>
<td>advisory services and farm level sustainability</td>
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<td><strong>Soil organic matter</strong></td>
<td>indicators for soil organic matter management from flint data</td>
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<tr>
<td><strong>Water usage</strong></td>
<td>water usage, source and sustainability: examples from the region of Navarra (Spain) and Greece</td>
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Lessons for adoption in Member States

- Collection in scope of FADN provides advantages for farmer participation and quality assurance
- Having an integrated dataset is crucial for policy evaluation (even if it is not optimal for certain aspects)
- Allows the analysis of the full chain from: Policy objective -> policy measure -> impact on farm -> farm decisions -> sustainability performance farms
- Including FLINT data on all FADN farms would increase total running costs with 40%
- Feasible option to collect FLINT data on a subsample of farms

Recommendations for future monitoring - evaluators

- Evaluation poses higher demands than monitoring
- Evaluators often need to understand relation between policy measure and farm management, exact relation between inputs, outputs and results
- Consider monitoring and evaluation needs as soon as possible
  - By policy makers as well as evaluators
  - In connection to Green Deal, Farm to Fork and national policies
- FLINT shows feasibility of data collection, but it takes some time
Recommendations for future monitoring – data collection

- Willingness of farmers to cooperate depends on trade-off between (administrative) burden and value of information, so:
  - Consider information needs of different stakeholders, especially farmers (benchmarking, farm decisions, reporting needs)
  - Be aware of rights and interests of farmers
  - Make use of link between economic and environmental accounting
  - Integration instead of duplication
  - Be open to consider new technologies (H2020 project MEF4CAP assesses the potential of technological developments to meet monitoring needs)
Further information

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