



# Data for the assessment of environmental effects of the agricultural policy: Experiences from research projects in Germany

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# Background / Context

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- Assessment of the impact of the 2013 CAP reform on selected environmental indicators in Germany (Research project funded by federal or regional agencies)

## **Result, impact, context indicators covered**

- “Land Cover” (C.31)
- “Farming intensity” (C.33)
- “Natura 2000” (C. 34)
- “Farmland Bird Index” (C.35 / I.08)
- HNV-Farmland (C.37 / I.09)
- “Soil organic matter” (C.41/I.12)
- “Soil erosion” (C.42/I.13)
- GHG-emissions (only from organic soils) (I.07 / C.45 / R.15\_PI)
- Organic farming (R.10\_PI)
- “Crop diversity” (R.11\_PI)
- Share of grassland (R.12\_PI)
- Share of EFA (R.13\_PI)

# Key issues identified (Land use data general)

| Data source             | Key issues identified   | Solutions to address them  | Solution that we applied   |
|-------------------------|---|--|--|
| FSS /<br>FADN /<br>IACS | <b>Differences between observation</b> caused by differences in / changes of the terminology of activity data (esp. livestock categories and crops)       | Carefully adjust the definitions (esp. purpose) in the dataset (ensure a clear hierarchy and wall-to-wall mapping) | <ol style="list-style-type: none"> <li>1) Validation e.g. with external data (Land cover data from remote sensing or land surveying agencies)</li> <li>2) Development of a mapping typology with associated rules on data aggregation and (more important) disaggregation</li> </ol>   |
|                         | <b>Not one data source contains all relevant data:</b><br>Direct linkage farm level data (e.g. by farm-id) prohibited by Data protection regulation (DPR) | Changing the respective DPR  | <p>Indirect linkage:</p> <ol style="list-style-type: none"> <li>1) aggregating data to indicators or units that are not DPR-sensitive (e.g. farm type, regional aggregates, regression models);</li> <li>2) applying the model / the indicators on micro-level data (normally IACS)</li> <li>3) <i>Sensitivity analysis</i></li> </ol> |

# Key issues identified in IACS / FADN data

| Data source | Key issues identified   | Solutions to address them                                  | Solution we applied  |
|-------------|---|--|--|
| IACS / LPIS | <b>Differences in data structure</b> between Federal States and years   | Increased standardization of data structure                | “Ex-post”-homogenization of the data structure over Länder and time                            |
|             | <p>IACS / LPIS are a running system (continuously updated)</p> <p>➔ Geographic and alphanumeric <b>information do not</b> perfectly <b>match</b> (loss of up to 8% of the area)</p> <p>➔ differences in data between deliveries likely causing problems in securing <b>code</b> and <b>data integrity</b></p> | Having fixed “Release” dates at least for “historic” years | Searching for Geometries in other LPIS years (problems with less than 0.1% of the area remain) |

# Recommendations for ex-post evaluation

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## ... to the EU-Commission and Managing Authorities

- **Extend the years covered** in ex-post evaluation by considering impacts of previous periods for similar interventions (be aware of the time lag between the intervention and the observable impact in natural resources)
- **Decouple impact evaluations from support periods and individual RDPs** since mid/long term effects as well as external shocks (weather, other support policies) are not captured
- Promote **cross-regional thematic evaluation studies with** uniform methods and comparable databases (exploit the potential of the different implementations and settings as natural experiments)
- **EU Evaluation Tenders** should have markedly longer time horizons and receive a better resource allocation, the value of the current studies is relatively limited esp. due these restrictions

# Key recommendations for setting up the data management system for the CAP post-2020 ...

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## ... to EU-Commission and Member States

- Ensure **long term storage & accessibility** of micro-level IACS / LPIS data and livestock inventories
- Establish clear **access rules** for research on IACS and comparable inventories
- Create “fixed” **release version of the databases** (e.g. once a year) to improve data and code integrity
- Clear guidelines and requirements for the storage of **metadata**

# Key Recommendations for setting up the data management system for the CAP post-2020 ...

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## ... recommendation to EU-Commission, Eurostat & Member States

- Decouple the process of defining impact / context indicators from the support periods
- Devote **resources** to the provision of data for **impact / context indicators**
  - Esp. for biodiversity additional S.M.A.R.T. Indicators are needed at the moment we have at best 2 (Farmland-Birds-Index & HNV) in next period we will just have 1 (Farmland-Birds-Index)
- Carefully **review** (avoid breaks in the time series as much as possible) the
  - **Definitions** in the different sources and try to homogenize them
  - **Sampling plans** and adapt them to the needs emerging in last two decades



# Thank you

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