THE GERMAN SYSTEM OF EMISSION INVENTORIES IN AGRICULTURE

Challenges of data production in agriculture
Case study: Manure
by
Martin Freier

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Commitment to UNFCCC, Kyoto and European Law

- As a State Party to the United Nations Framework Convention on Climate Change (UNFCCC), Germany has been obliged since 1994 to create, publish and regularly carry out inventories on national greenhouse gas emissions.
- With the entry into force of the Kyoto Protocol in February 2005, the international community is obligated for the first time to implement binding targets and implementing instruments for global climate protection.
- As a result of the European implementation of the Kyoto Protocol with the adoption of EU decision 280/2004, these requirements became legally binding for Germany in the spring of 2004. Pursuant to Decision 3 / CP.5, all States listed in ANNEX I of the Climatic Convention must draw up and submit annually a National Inventory Report (NIR).

The German National System

- Established by the Federal Ministry for the Environment, Nature Conservation, Construction and Nuclear Safety (BMUB) at ministerial level.
- **Federal Environment Agency** (UBA) is the coordinating body and composes the NIR.
- The emission inventory in agriculture is composed by the Thünen-Institute (TI), a federal research institute under the Ministry of Food and agriculture.
- The German Statistical Office (NSO) is, of course, also a part of the German National System.
- Many other Ministries and institutions involved.
Data on German agriculture and the UNECE Climate change related indicator

A SET OF CORE CLIMATE CHANGE-RELATED STATISTICS USING THE SYSTEM OF ENVIRONMENTAL-ECONOMIC ACCOUNTING - Data availability in Germany

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<td>Drivers</td>
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<td>Losses of land covered by (semi-)natural vegetation</td>
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<td>Thünen Institute territorial</td>
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<td>GHG emissions from land use</td>
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<td>Carbon stock in soil</td>
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<td>21</td>
<td>Proportion of land that is degraded over total land area</td>
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<td>GHG emissions from land use</td>
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Challenges of data production – Case Study-Manure

- Manure data was surveyed within the German Farm Structure Survey (ASE) in 2016, first survey was in 2011.
- Data also for the Thünen-Institute to calculate emissions in agriculture from manure management.
Challenges before/within/after the survey

- Very complex topic which raises many questions during the whole process of the survey!
- What information do I want and what are the appropriate questions do get those information?
- At the same time: How can I get the information with the least burden for the respondent?
- Plausibility of the data:
  - Is it plausible that a farm with 30 ha of land and 200 cows applies 150,000 qm3 of liquid manure?

Data on manure in German agriculture

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<tr>
<th>Aspects of Manure management</th>
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<td>Dispatched and received economic fertilizer</td>
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<td>Amount of liquid and solid manure on arable and permanent greenland</td>
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<td>Shares of liquid manure types (cow manure, pig manure etc.)</td>
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<td>Application technique</td>
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<td>Duration of application of liquid and solid manure</td>
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- These aspects are relevant for the climate change report and go far beyond the demand of the EU and the Integrated Farm statistics (IFS)
Excerpt of the Farm Structure Survey

GHG emissions from agriculture in Germany 1990-2015 in Mil. Co2eq
The NDC-Partnership

- Nationally Determined Contributions (NDCs) form the core of the Paris Climate Agreement.
- To support developing countries in implementing their NDCs, the Federal Ministry for Economic Cooperation and Development (BMZ), together with the BMUB, the Moroccan Government and the research institution World Resources Institute (WRI), established a global "NDC partnership" in 2016.
- Open to every country: [http://www.ndcpartnership.org/](http://www.ndcpartnership.org/)

Future data demand in agriculture

- Right now two regulations are being negotiated in the European Union:
  - The Integrated Farm Statistics -> IFS
  - The Statistics on Agricultural Input and Output -> SAIO
Thank you for your Interest!
Questions welcome!

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