Monitoring sustainability of Dutch agriculture – Lessons learned

Koen Boone, ICAS V, Kampala, 15 October
Content

- Project
- Themes and indicators
- Results
- Lessons learned
Monitoring sustainability of Dutch agriculture

- Dutch
- Agriculture
- Quantitative
- Long term development (1990 – most recent)
- Structural development (long year averages for volatile indicators)
- Linking to government policies and goals
Structure report

- Chapters for 7 main farm types in the Netherlands and total Dutch agriculture
- Chapters split in Introduction, Profit, Planet, People and Integration
- Profit, Planet and People split in 25 sustainability themes
- Per theme:
  - Why relevant
  - Goals government and/or sector
  - Description indicator
  - Development of indicator in relation to goals
  - Explanation of development of indicator
Data sources

- Tens of different data sources
- Intensive use of Farm Accountancy Data Network:
  - Split into farm types
  - Split into organic and diversifying farms (other gainful activities)
  - Next to averages per indicator, spread in results available
    - % of farms with income levels below poverty threshold
    - % of farms that reach environmental goals of government
- Linkage between themes
Themes

Introduction
- Geographical distribution
- Number of (specialized) farms, area
- Organic agriculture
- Multifunctionality

People
- Spatial quality
- Image/Reputation
- Labour
- Succession
- Animal welfare and health
- Food Safety

Planet
- Energy use
- Climate change
- Nutrients
- Water use
- Crop protection
- Biodiversity
- Animal feed
- Soil quality
- Plant health
- Fine particulate matter

Profit:
- Income
- Financial position
- Investment
- Innovation
- Competitiveness
Example of indicators

Income:
- Family farm income per family labour unit
- % of farms with a total household income below poverty threshold
- Output divided by total costs (including unpaid costs for own labour and own capital)

Nutrients:
- Nitrogen and Phosphate balance
- Nitrogen concentration in surface water split into soil type
- Organic and artificial manure applied per ha
- Soil balance (Nitrogen and Phosphate) per ha
- Ammonia emission split into sources
Theme: Geographical distribution

indicator: ESU per ha
Theme: Farm Income

Indicator: average farm income per family labour unit

- Italy
- NMS
- EU-15
- UK
- EU-25
- Netherlands
- Ireland
- France
- Spain
- Germany
- Denmark
- Belgium

2002-2007
1996-2001
1990-1995
Theme: Farm Income

indicator: percentage of dairy farms with total income (including off-farm) below poverty threshold

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Theme: Innovation

Indicator: percentage of innovations and innovators in greenhouse horticulture

![Bar chart showing the percentage of farms implementing product and process innovations, innovators, and early vs. late adapters from 2003-2005 and 2005-2007.]

- **2003-2005**
  - Product and process innovation: 10%
  - Process innovation: 10%
  - Product innovation: 15%
  - Innovator: 5%
  - Early adapter: 10%
  - Late adapter: 10%

- **2005-2007**
  - Product and process innovation: 12%
  - Process innovation: 12%
  - Product innovation: 18%
  - Innovator: 6%
  - Early adapter: 12%
  - Late adapter: 12%
Theme: Nutrients

Indicator: nitrate concentration in upper groundwater

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<th>Year</th>
<th>Sand (mg/l)</th>
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<th>Peat</th>
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<td>40</td>
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<tr>
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<td>110</td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td>2006</td>
<td>80</td>
<td>40</td>
<td>20</td>
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</tbody>
</table>

Policy objective:
Theme: Crop protection

Indicator: pesticides use and environmental impact points for arable farms

- Surface water
- Ground water
- Soil
- Kg active substance

Graph showing the trend of pesticides use and environmental impact points from 2002-2004 to 2006-2008.
Do integral sustainable farms exist?

- Select homogeneous group of farms: Dairy farms
- Calculate 3-year average score for all farms on all themes
- Identify per theme the 25% best performing farms
- Select the farms that are most often part of this 25% group
- Compare the performance of these farms with average farm
- Identify the characteristics of these farms
Comparison of the scores of the most sustainable farms with the average farm
Lessons learned

- Necessary to consult large group of specialists
- Integrated data assembling on micro level has large advantages

How to get more integrated conclusions?
- Integrated analysis on farm level
- Qualitative research (workshops/interviews)
Lessons learned

- Internet site next to report
  - Always latest numbers available
  - More possibilities to add more detailed data
  - Links to government policy and methodology
  - Links to sites where data is already reported

- International comparisons
More Information


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Thank you for your attention

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