

Socio-cultural sustainability of pig production: farm visits with citizen panels in the Netherlands and Denmark



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Socio-cultural sustainability and values



- *All* dimensions of sustainability are **value-loaded**
Whether something is sustainable or not from your point of view, depends on which values you find most important

- Values are the core of a **culture** (Hofstede, Schwartz)
- Members of a society (**citizens**) are bearer of societal values and culture
- Sustainability as a **socio-cultural concept**:

“Socio” refers to members of society, i.e. citizens

“Cultural” refers to values of society

-> *reflects various values and concerns of citizens*

Trends

Agri-culture



Agri-industry

Shared
values

Shared
values?

**Rural
society**



**Urban
society**



Research question

How well does pig production fit in Dutch and Danish cultures?



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2008

DK 13.6 million pigs

NL 11.2 million pigs

DK 127 people/km²

NL 401 people/km²

DK 79 kg/person/year

NL 41 kg/person/year



Figure 2 Number of sows by region (2008)
(Eurostat)

Methods: citizen panels

Panel composition in the Netherlands and Denmark.

| Selection criteria | The Netherlands | Denmark |
|--|-----------------|---------|
| Number of citizens (divided over two panels) | 18 | 8 |
| Gender (# female) | 10 | 5 |
| Urbanisation degree (# urban) | 13 | 7 |
| Age distribution (#) | | |
| <20 years | 3 | 0 |
| 20–40 years | 7 | 2 |
| 40–65 years | 6 | 3 |
| 65 years> | 2 | 3 |
| Education level (#higher education) | 16 | 4 |



Methods: farms

| Farm characteristics | Conventional farm | | Organic farm | |
|-----------------------------|-------------------|-----------|--------------|-----------|
| | <i>NL</i> | <i>DK</i> | <i>NL</i> | <i>DK</i> |
| Sows (#) | 500 | 170 | 160 | 190 |
| Fattening pigs (#) | 8000 | 2200 | 1100 | 1000 |
| Pigs delivered (# per year) | 18,000 | 5000 | 3100 | 2300 |
| Size of farm (ha) | 49 | 90 | 13 | 160 |
| Labour on the farm (FTE) | 4 | 2 | 2.5 | 3 |



Methods: farm visit

- Individual panel members
 - See hear smell & feel
 - 6 photographs each of positive and negative aspects per farm
 - Write motivation
-
- Qualitative clustering in themes and aspects



Results: themes, aspects and issues

Table 3
Socio-cultural themes (SCT), aspects (SCA) and issues (SCI) of pig production according to Dutch and Danish respondents.

| Socio-cultural themes (SCT) | Socio-cultural aspects (SCA) (including 29 SCI's ^a) |
|-----------------------------|---|
| 1. Meat production | 1.1 Production system* 1.2 Consumer awareness* 1.3 Pigs for production* |
| 2. Farming practices | 2.1 Working conditions* 2.2 Automation and mechanisation* 2.3 Hygiene and cleanness* 2.4 Farm management* 2.5 Care for the animals* 2.6 The farmer* |
| 3. Farm income | 3.1 Financial profitability* 3.2 Efficiency* 3.3 Economic conditions* |
| 4. Farm animals | 4.1 Animal nutrition* 4.2 Animal health* 4.3 Animal wellbeing* 4.4 Animal behaviour* 4.5 Animal handling* 4.6 Animal transport* |
| 5. Housing system | 5.1 Stocking density* 5.2 Freedom to move* 5.3 Outside access* 5.4 Distraction material* 5.5 Straw* 5.6 Climate* 5.7 Ventilation* 5.8 Daylight* 5.9 Atmosphere in the sheds |
| 6. Environment and nature | 6.1 Environmental load* 6.2 Nature (only in Denmark) |
| 7. Culture and landscape | 7.1 Farm characteristics 7.2 Countryside 7.3 Nostalgia (only in Denmark) 7.4 Landscape* |

^a Socio-cultural aspects marked with * were identified as socio-cultural issues (SCI).



Results: themes, aspects and issues

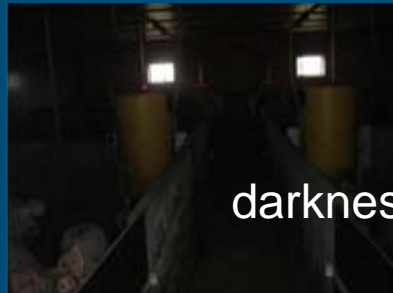
| Themes | Over-exploitation of animals | Dynamism of farm enterprise |
|------------------------|---|---------------------------------|
| Meat | Pork consumption? | food |
| Farming practice | | efficiency, technology, hygiene |
| Farm income | | entrepreneurship |
| Animals | injured pigs, castration, tail docking, natural behaviour, | |
| Housing | space, outside access, playing elements, day light, fresh air | |
| Environment and Nature | | |
| Culture and landscape | | |

Photo's

Climate control



hygiene



darkness



ill and dying
animals
ear tags



straw



Results: expectation vs. reality

- **Conventional:** many were shocked (reality < expectation)
- **Organic:** more care for animals than expected (reality \geq expectation)



Discussion

- Similar study of dairy farming: trade-off's between naturality-modernity and tradition
 - Modernity: food, innovation, entrepreneurship
 - Tradition: pork as food not the production system
 - Naturality: major concern in conventional
- Emotional impact of pigs > of dairy
 - Worse than expected
 - Reconsider consumption
- NL and DK quite similar



Discussion

- Dilemma: economics/innovation vs. welfare/naturality
 - What should science do?
 - Win-win?
 - Good vs. bad?
 - Accept complexity/battlefield/human component



• Thanks for your attention

