

Socio-cultural issues of dairy production systems in the Netherlands assessed through farm visits with citizen panels

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Introduction

Agricultural development in the Netherlands has reached a historical crossroad; food production as the sole objective of land-use is no longer obvious. Demand for sustainable agriculture is a general expression of collective concern. This project focuses on the societal part of sustainability. Socio-cultural sustainability is about values, subjects and processes that really matter to people. This research had the objective to assess socio-cultural *issues* of dairy production systems essential for design of sustainable future dairy production. The hypothesis underlying this object is that *Socio-cultural issues* arise when farming aspects and societal perception change in different ways.

Societal perception

Societies change and develop and one way to look at these changes is the priority of values. Whereas 25 years sufficient food, clothing and fuel were main values, nowadays other values became (more) important. These changes have consequences for agriculture, because food production is no longer the sole objective of agriculture. Agriculture has more values for society, but what are these values?

Therefore we asked Dutch citizens what they found valuable to preserve for the future and how they perceive a dairy farm. When we talk about 'societal perception' we mean 'perception' by different senses. So Dutch citizens visited dairy farms and we asked them what they smelled, heard, felt and saw.

Research method

In three areas of the Netherlands (Zuid-Holland, Friesland, Brabant) two citizen panels (eight respondents per panel) visited two dairy farms. On farm, each respondent filled in a questionnaire about his/her individual perception (hearing, smelling, seeing and feeling) and by means of a digital camera, each respondent recorded ten aspects per farm which he/she found valuable to preserve for the future. Data of the six panels were analysed qualitatively with the program 'Atlas/ti' to structure and code the answers of the respondents. The analysis consisted of two steps: First we identified main themes that were mentioned by the respondents and secondly we analyzed citizens' valuation of the themes.

Results

Step 1) 10 main themes

Firstly we coded 658 different elements which respondents mentioned. Secondly these elements clustered into 48 aspects. And finally these 48 aspects merged into 10 main themes. To give an example: The element "Automatic milking" is part of the aspect "Automation", which is classified under the theme "Farm activities". Table 1 gives an overview of the 10 themes and 48 aspects.

Concerning the 48 aspects, we divided these into two types. Firstly there are more or less *constant* aspects, which remained more or less the same over the last 25 years. These were 27 aspects of the 48 aspects. Secondly there are *changed* aspects, which changed considerably over the last 25 years. These are the other 21 aspects. An example to clarify our categorization: The theme farm "Farming characteristics" contains a constant aspect, which is "A way of living", and a changed aspect "Farm management", because management of a farm is reasonably different nowadays in comparison to 25 years ago.

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Table 1

Socio-cultural themes of dairy production systems in the Netherlands according to Dutch citizens.

Main themes	Constant aspects ¹⁾	Changed aspects ²⁾
1. Farming characteristics	Farm characteristics A way of living The farmer Family farm	The farm Farm management
2. Food production	Milk production	Quality Hygiene
3. Farm activities	Milking Manual work	Automation Technique Legislation
4. Farm income	Land as scarcity	Income Costs
5. Animals	Animal behavior (cow) Birth / new life Separation of calf and dam	Animal housing Animal health Animal nutrition Animal wellbeing Animal breeding
6. Landscape	Open / spacious Buildings (private house) Farm yard and with plants	Landscape conservation Buildings (stables)
7. Nature	Birds Cows Other animals (sheep, chickens) Sides of ditches	Wildlife conservation (birds)
8. Environment	Re-use of resources (internal purpose: economize)	Re-use of resources (external purpose: care of environment) Environmentally friendly
9. Culture	Regional Identity Dutch culture History / Idyll Breed of the cattle	
10. Services	Fresh country air Quietness / Peaceful Atmosphere / Ambiance Human – Animal interaction	Recreation Education

1) Constant aspects remained more or less the same over the last 25 years

2) Changed aspects changed considerably over the last 25 years

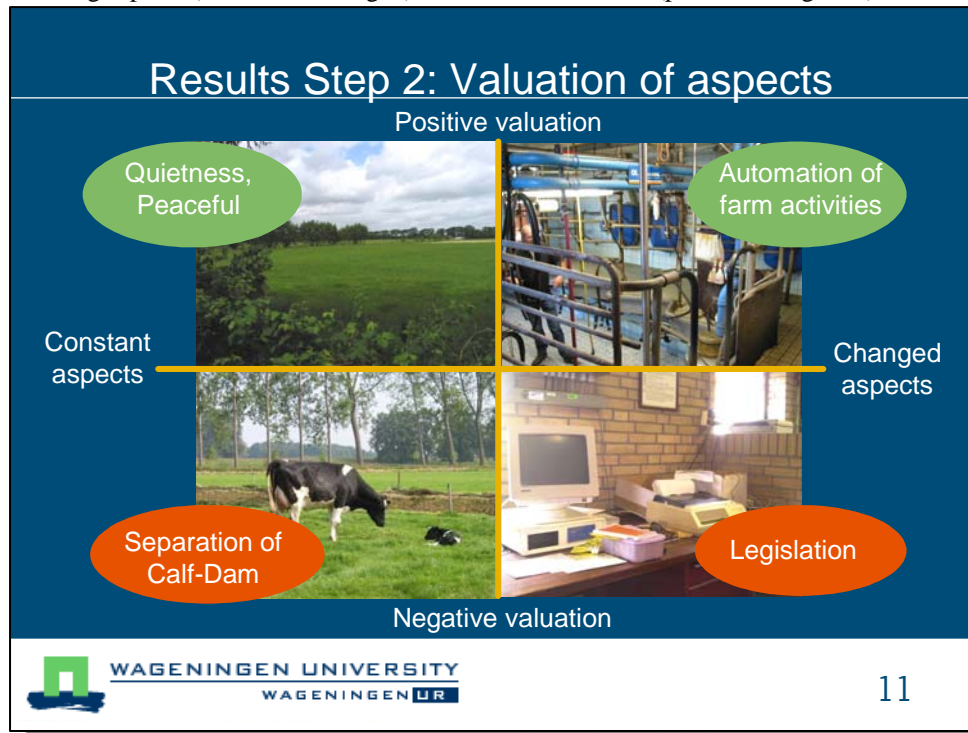
Step 2) societal valuation

Societal valuation can be *positive* or *negative* and due to changes in society, farm aspects nowadays are perceived differently than 25 years ago. So, stated that socio-cultural issues arise when societal valuation and farming aspects change differently it will be interesting to combine these. On one axe we placed the aspects of farming which are constant vs. changed and on the other

axe we placed societal valuation which was positive vs. negative (see figure 1, slide 11 of the oral presentation on the EAAP).

Figure1.

Farming aspects (constant – changed) vs. Societal valuation (positive – negative)



This model gives four possibilities to look at the relation between society and farming. An example of a positive valuation of a constant aspect is ‘Quietness and Peaceful of the countryside’. Many respondents answered that they (highly) valued the quietness and peaceful environment. This is not so much a change of the farming system, it was already quite and peaceful 25 years ago, but due to changes in society, nowadays it is more appreciated. It was even said that we “need the countryside as a contrast for the busy city-life”.

An example of a positively perceived changed aspect is “Automation”. People were very enthusiastic about the developments in automation because these aspects lighten the working activities of the farmer, as well in time as in physical load.

A negatively perceived changed aspect which most people agreed on was “Legislation”. The most important arguments were that the farmer has to do a lot more administration than before and that the farmer has less freedom in his activities.

Finally, an example of a negative aspect which has not changed: “Separation of calf and dam”. Many people had really difficulties with the fact almost directly after birth a calf was separated from the dam and had to grow up “without it’s mother” as most of the people said.

What we do with this model? It gives insight in how we can deal with socio-cultural issues.

The last example was only one aspect in this quadrant; there are more aspects, as represented by the red circles in figure 2 (slide 12 of the presentation). A closer look to the last example shows us that most of the people understood that separation of calf and dam is a consequence of the fact that we keep cows for milk production and that this an aspect of the way the system works. So, although people were unhappy with this situation, most of them accepted it. So the main way of dealing with an issue in this quadrant is get people to accept this aspect. This is possible to a certain level. If the benefits are of the total system are high enough, people will accept a few negative aspects.

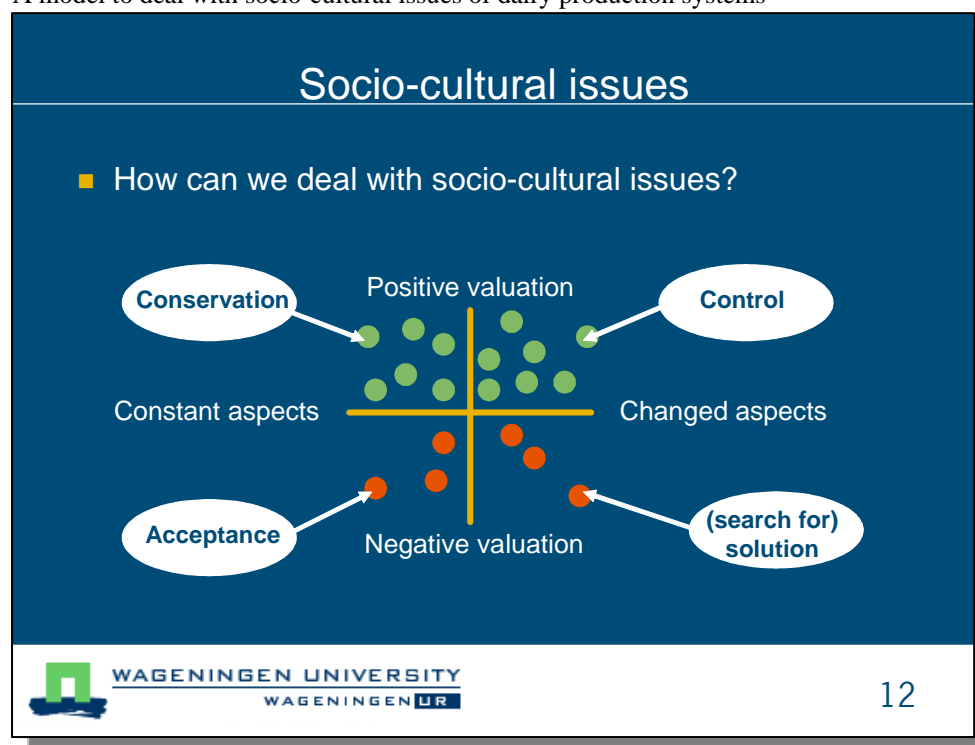
Concerning the following quadrant: people are satisfied with a constant situation, e.g. the quietness, keep it that way! We called this conservation.

If people are happy with a certain change/development it is important to keep changing/developing. For example further innovation in technology. However people mentioned that “technology shouldn’t be too much, because there are still animals involved, it is not an industrial factory”. So there is a limit in this situation. The change should not go too far and be ‘under control’.

In case people are not happy with a certain aspect which has changed, this means that we can do something about it. We can search for a solution and there through moving the aspect up to ‘positive valuation’.

Figure 2.

A model to deal with socio-cultural issues of dairy production systems



With this model we showed a way to gain insight into socio-cultural issues and how we can deal with these. It is important to explain that the given examples were examples on which majority of the respondents agreed. However, there are farming aspects which are valued negative and positive at the same time by different people and some even by the same person. It would go too far to discuss all the variations and differences at this moment.

Conclusions

Farming themes consisted of *constant* and *changed* aspects and societal valuation is *positive* or *negative*. The presented model combined farming themes and societal valuation into four possibilities. A few examples of socio-cultural issues are: Quietness and Peace of the countryside, Automation, Legislation and Separation of calf and dam. The model shows four ways to deal with different socio-cultural issues: Societal acceptance, Conservation, Control and (search for a) solution

To gain more insight in societal perception of the 10 main themes (including the 48 aspects) we will conduct a follow-up research in 2007. This will be done by means of a national survey among Dutch citizens.

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