

## **Pigs in the city**

Metze, Tamara; van Zuydam, Sabine

*Published in:*

Journal of Environmental Policy & Planning

*Document version:*

Peer reviewed version

*Publication date:*

2013

[Link to publication](#)

*Citation for published version (APA):*

Metze, T. A. P., & van Zuydam, S. (2013). Pigs in the city: Reflective deliberations on the boundary concept of agroparks in The Netherlands. *Journal of Environmental Policy & Planning*, 2013(2013), 1-18.

### **General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

### **Take down policy**

If you believe that this document breaches copyright, please contact us providing details, and we will remove access to the work immediately and investigate your claim.

This article was downloaded by: [Tilburg University]

On: 25 September 2013, At: 07:17

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office:  
Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## Journal of Environmental Policy & Planning

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/cjoe20>

### Pigs in the City: Reflective Deliberations on the Boundary Concept of Agroparks in The Netherlands

T.A.P. Metze<sup>a</sup> & S. Van Zuydam<sup>a</sup>

<sup>a</sup> Tilburg School of Politics and Public Administration, Tilburg University, LE  
Tilburg, The Netherlands

Published online: 20 Aug 2013.

To cite this article: T.A.P. Metze & S. Van Zuydam , Journal of Environmental Policy & Planning (2013): Pigs in the City: Reflective Deliberations on the Boundary Concept of Agroparks in The Netherlands, Journal of Environmental Policy & Planning, DOI: 10.1080/1523908X.2013.819780

To link to this article: <http://dx.doi.org/10.1080/1523908X.2013.819780>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

## Pigs in the City: Reflective Deliberations on the Boundary Concept of Agroparks in The Netherlands

T.A.P. METZE & S. VAN ZUYDAM

*Tilburg School of Politics and Public Administration, Tilburg University, LE Tilburg, The Netherlands*

**ABSTRACT** *The concept of an agro-production park combines industrial with environmental and animal friendly agriculture. In The Netherlands, academics and government introduced this idea—what we consider a boundary concept—to align economic and environmental ambitions. In this contribution, we argue that boundary concepts are important in deliberations as they create a sphere of engagement that enables participants to scrutinize their routines and to explore new interpretations and practices that replace their normal ways. In this way we ground the notion of ‘reflexive governance’ in deliberative practices for sustainable agriculture. We explored if and how the concept of an agropark induced frame-reflective conversations about conflicting and overlapping interpretations. We conducted a frame analysis of four Dutch national newspapers from which we derived four possible interpretations of an agropark: Pigs in the City, Surviving Farmers, Pigs in the Mud and Surviving Citizens. Next, we analysed 10 deliberative sessions about agroparks to study if reflectivity occurred. Our findings suggest that to move to more sustainable agriculture, the introduction of innovative boundary crossing concepts invites participants to reflect on conflicting frames and engage in reflective governance. However, facilitators and governmental actors need to support this boundary crossing for it to become tangible.*

**KEY WORDS:** Reflective deliberation, boundary concept, reflexive governance, sustainable agriculture

### 1. Introduction

We live in a world with an ever growing population: the seven billionth citizen was welcomed on the 31 October 2011 (United Nations, 2007). For animal welfare, environmental, urban planning and logistic reasons this population growth demands innovations in our food production. Challenging practical and theoretical questions occur: How to produce enough food in a sustainable way?

---

*Correspondence Address:* T.A.P. Metzke, Tilburg School of Politics and Public Administration, Tilburg University, Postbus 90153, 5000 LE Tilburg, The Netherlands. Email: t.metze@tilburguniversity.edu

How to encourage food producers to move to more sustainable alternatives? How to deal with unpredictable side effects of a different way of food production? These are questions of what Voß and others called reflexive governance as these require a constant reconsideration of practices, routines and the outcomes of governing (Voß *et al.*, 2006, p. 6). In this contribution, we empirically study a collaborative effort of academics and governmental actors to govern in a more reflexive way—namely by the introduction of the concept of an agro-production park—in a deliberative setting that was especially designed to encourage more reflective conversations about this concept. To be able to conduct this study, we analysed what frames were used to interpret the concept of an agropark in national newspapers.

In the densely populated Netherlands, several solutions for more sustainable industrial food production have been explored. One of them was the introduction of the concept of an agro-production park. In the 1990s, Wageningen University Research (WUR) in cooperation with the Dutch Council for Rural Research and later on Innovation Network started to develop the very idea of these parks (in short agroparks) (Grin & van Staveren, 2007). These parks—in their ideal form—cluster agriculture, pig husbandry and other forms of livestock farming, food processing and distribution in more efficient, safe, environmental and animal friendly ways (Smeets, 2011). Agroparks have been described in numerous visions of the future (Hoes *et al.*, 2012a) but implementation remains problematic. To our understanding this envisioned form of an agropark is a *boundary concept* as it aligns environmental, economic and societal concerns. A boundary concept is a multi-interpretable concept—or object—that is

Both plastic enough to adapt to the local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. [Boundary concepts] are weakly structured in common use, and become strongly structured in individual use. (Star & Griesemer, 1989, p. 393)

This multi-interpretability is their strength: these concepts and objects can be embraced by otherwise conflicting actors and can thus help to cross the boundaries that divide them. It is, however, also a weakness because conflicting interpretations can become apparent and strengthen the fracture lines. For boundary crossing in boundary concepts to be tangible and accepted by otherwise agonistic actors, *reflectivity* is a vital condition (Metze, 2010).

In this contribution, we explore if boundaries following from the different frames employed by agribusinesses, environmentalists and others were indeed being crossed and if this enabled the sustainable version of agroparks to be accepted. To explore this, we studied two sets of data: first, we mapped the frames used on agroparks in Dutch newspapers. Furthermore, we analysed which of these frames had been enacted in the conversations of participants in an especially designed deliberative setting. In this setting, an independent facilitator invited participants to collaboratively further develop agroparks as a clustering of more environmentally friendly agribusinesses in the area between Amersfoort and Hengelo in the Middle East of The Netherlands. The facilitator was hired by governmental actors and he applied a specific design—in this case scenario planning—and facilitation techniques to encourage participants to be reflective and to explore and negotiate the meaning of the concept agropark. We wanted to know if participants engaged in a frame-reflective discourse that

encouraged boundary crossing or if they stuck to a specific interpretation of the boundary concept.

Below, we first theoretically explore the relations between boundary concepts, reflectivity and deliberative practices in reflexive governance. Second, we examine what frames were employed in newspapers to interpret agroparks. Next, we turn to the deliberative setting and discuss some of the reflective moments that occurred in this setting by using the frames on agroparks found in the media analysis. Last but not the least, we explore if this reflectivity led to interpretations that explicitly crossed boundaries.

## 2. Reflectivity and Boundary Concepts in Deliberations

Governance for sustainable development implies conscious reflection about the past, present and future, including the potentially radical interrogation of the nature of social progress. (Meadowcroft, 2007, pp. 310–311)

Reflexive governance and reflectivity are a Siamese twin: without reflectivity dealing with modernity as ‘a theme and a problem for itself’ (Beck *et al.*, 1994, p. 8) would be impossible. We understand reflectivity to be necessary for two reasons: (1) to be able to scrutinize and alter routine practices and taken for granted interpretations and (2) to create a ‘synthesizing kind of judgement across existing differentiations and distinctions’ (Grin *et al.*, 2004). As we understand it, reflectivity both means critical investigation of routines, assumptions and the like as well as a search and negotiation of ‘developmental constructs’—as Lasswell called them in 1951—that can replace the routine practices.

### 2.1 *Reflectivity at Three Levels*

We differentiate between three interrelated levels of reflectivity: the macro-, meso- and micro-level. At the macro-level of society, for example, Ulrich Beck, Anthony Giddens and others speak of ‘reflexive modernization’. This means that modernity is undergoing a ‘meta-change’ not within but of ‘social structures’ as a result of unintended side effects of modernity (Beck *et al.*, 2003, pp. 2–3). At this level, often ‘reflexivity’ is used rather than ‘reflectivity’ to emphasize that this condition emerges as opposed to being created (Lynch, 2000). Looked upon from this macro-level perspective, an experiment with deliberative governance can be considered as an attempt to be less reflexive and more reflective about this transition towards a reflexive modernity.

At the meso-level, theorists of reflectivity discuss how science or other types of (academic) knowledge and interpretations can produce or evoke reflectivity in interactional processes (Lynch, 2000). Deliberative democracy theory focuses on this level and claims that ‘a fuller account’ in interactions will lead to a more reflective form of governing. Reflectivity in deliberations means being ‘empathetic with the plight others, more considered, and more far-reaching in both time and space, taking a fuller account of more distant times, more distant places and more distant people through long term goals and consequences’ (Goodin, 2003, p. 7; Goodin & Niemeyer, 2003). The exchange of arguments in a reflective way enables more informed decision-making, collaborative learning and change (Dryzek, 2000,

pp. 78–79). In fact, the whole point of deliberation is to make decision-making more ‘reflective’ (Goodin & Niemeyer, 2003, p. 629; Manin, 1987, pp. 351–354).

However, this type of group reflectivity seems impossible without reflectivity at the micro-level, which means the ability of individuals to problematize their own presuppositions and go back and forth between different types of knowledge and interpretations. It is an ‘active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends’ (Dewey, 1933, p. 9). Reflectivity at the individual level can be considered as a monitoring of actions. In addition, it is the capacity to turn and bend back on oneself (Bröer, 2006, pp. 50–62; Hendriks & Grin, 2007, p. 334). It is this individual and group ‘talk back’ that necessarily includes both empathy and criticism that can lead to reflexive governance.

Reflectivity in deliberations means being better thought out and at the same time includes problematization at the individual level, group level and about society. In deliberative practices, the three levels of reflectivity connect, and as such reflectivity is a strategy of reflexive governance. It is a way to break away from routines, repetitions and tacit knowing, and taken for granted frames and discourses. Moreover, it is the creation of alternatives to these routines, for an individual a group and a society. In this respect, reflectivity in deliberative practices is crucial to reflexive governance: when reflectivity in interactions occurs, participants can collaboratively alter dominant constellations.

To induce reflectivity, deliberations have to meet certain requirements. A conversation needs to be ‘inclusive, open, accountable, reciprocal’ and upright, ‘and when the participants learn through an iterative dialogue’ (Hajer & Versteeg, 2005, p. 176; cf. Gutmann & Thompson, 1996). Participants should have equal speaking time and equal enforcement power (Gutmann & Thompson, 1996). Or, as Hendriks summarized, an interaction of a deliberative quality is ‘a social communicative process in which free, equal, and relatively impartial participants consider arguments on issues in view of the collective good’ (Hendriks, 2006, pp. 571–572). Hence, it is the communicative style in deliberations that encourages reflectivity at the micro- and meso-level, which can reduce reflexes and routines of participants, and as such contributes to more reflexive governance. Boundary concepts contribute to this.

## 2.2 *Boundary Concepts in Reflective Conversations*

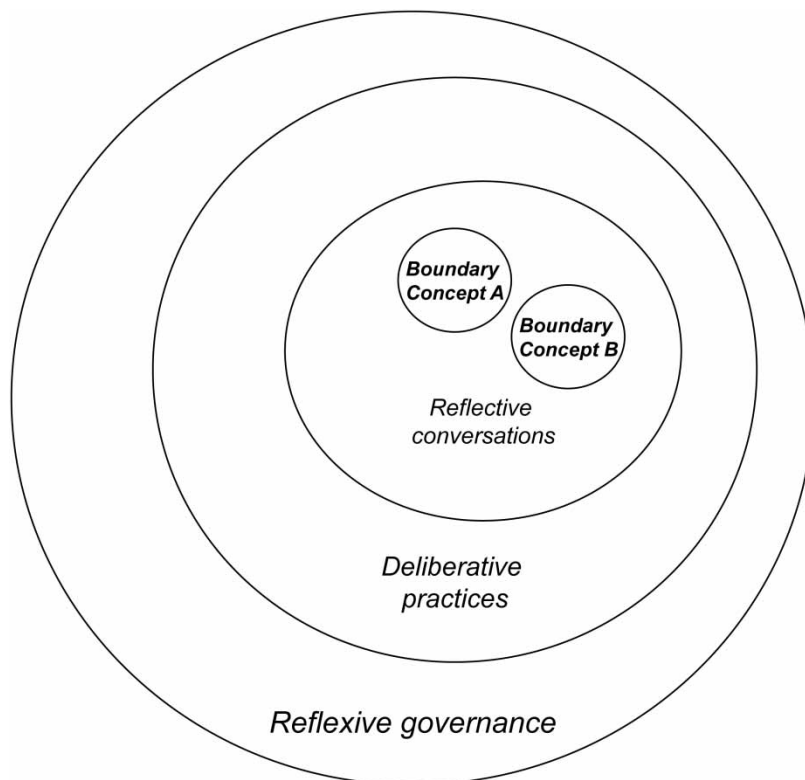
One way to induce reflectivity in deliberations that not only scrutinizes routines but also introduces synthesizing judgements is with the help of boundary concepts. Academics, governmental actors, activists or artists can introduce a boundary concept but it can also emerge in interactions. As researchers, we can identify a boundary concept due to its multi-interpretability. Boundary concepts sit at the boundaries between different frames and as such bridge those by introducing a possible new interpretation and practice. Here, a frame is defined as a ‘structure of thought, of evidence of action, and hence of interests and values’ (Rein, 1983, p. 96). Frames provide ‘a perspective from which [...] a situation can be made sense of and acted on’ (Rein & Schön, 1993, p. 146).

The boundary crossing feature makes a boundary concept multi-interpretable, and therefore, acceptable to otherwise possibly conflicting interpretations. Boundary concepts somewhat resemble a ‘developmental construct’—a speculative model—that specifies ‘the institutional pattern from which we are moving and

the pattern to which we are moving' (Lasswell, 1951, p. 98). A boundary concept is such a construct although it does not address an institutional pattern, but it does facilitate the collaborative construction of an alternative direction for—in our case—industrial agriculture. Boundary concepts create new discursive horizons. Their ambiguity enables coordination and cooperation between otherwise agonistic interpretations and routines of actors.

Both the bridging of different frames and the ambiguity of a boundary concept create an opportunity for reflectivity. Actors can engage in a collaborative inquiry of this boundary concept to scrutinize what is being bridged and what different interpretations are possible. In a way, the boundary concept 'talks back' to participants, which stimulates them to talk back and forth at the group level, but also to turn and bend back on oneself. When introduced in a deliberation—a conversation with specific procedural requirements to enhance reflectivity—a boundary concept provides a substantive device to scrutinize conflicting and taken for granted interpretations.

Hence, to be able to govern in more reflexive ways, reflectivity at the meso-level can be induced in deliberations with the help of boundary concepts. In deliberative practices reflectivity is aimed for with help of a communicative design, rules of participation and facilitation techniques. Boundary concepts compliment this by introducing a possible synthesizing option as well as by creating a sphere of engagement in which participants can elucidate and reflect upon the ambiguity



**Figure 1.** The relationship between reflexive governance and reflective conversations about boundary concepts.

of the concept. This may result in a credible and tangible new boundary concept. In short, boundary concepts can encourage frame-reflective discourse<sup>1</sup>: ‘a policy discourse in which participants would reflect on the frame conflicts implicit in their controversies and explore potentials for their resolution’ (Rein & Schön, 1993, p. 150). Boundary concepts at the same time stimulate reflective talk and introduce a way to resolve frame conflicts.

This is where our study of actors’ reflectivity about boundary concepts meets reflexive governance: to enable boundary crossing and resolution of frame conflicts governing actors (including non-governmental actors) need to be reflective. This way they can explore new strategies and practices that replace their normal ways and their routines of dealing with problems of modernity (Beck *et al.*, 1994; Grin, 2006; Loorbach & Rotmans, 2006). Boundary concepts can encourage this. Hence, we focus on the meso-level and study if, and if so how, participants reflect upon a boundary concept in a deliberative setting (see Figure 1).

### 3. Agropark: Boundary Crossing or Fracture Lines?

Agroparks are clusters of agro-activities in which all links of the food chain are located in one place. Preferably, they are located in or near harbors, airports and other types of industrial parks to minimize transport (costs) of animal feed and products and to claim less land. This clustering—sometimes in three or four storey buildings—combines economic efficiency with ecological benefits. Clustering, for example, enables co-digesting of manure; the processing of food at the production site; and the use of manure of on-site cattle to fertilize fruits and vegetables at the same location. Furthermore, fewer farms in the countryside and more in industrialized areas would create more space for tourism and nature conservation (Innovation Network, 2005; Smeets, 2011; WUR & Buck Consultants and Rijnconsult, 2003) (Figure 2).

The idea of an agropark was developed between 1995 and 2000 by the Sustainable Food Initiative (Duurzame Voedsel initiatief) of the Dutch Council for Agricultural Research (*Nederlandse Raad voor Landbouwkundig Onderzoek*). In the early 2000s, the governmental *Innovation Network Agrocluster Green Space*

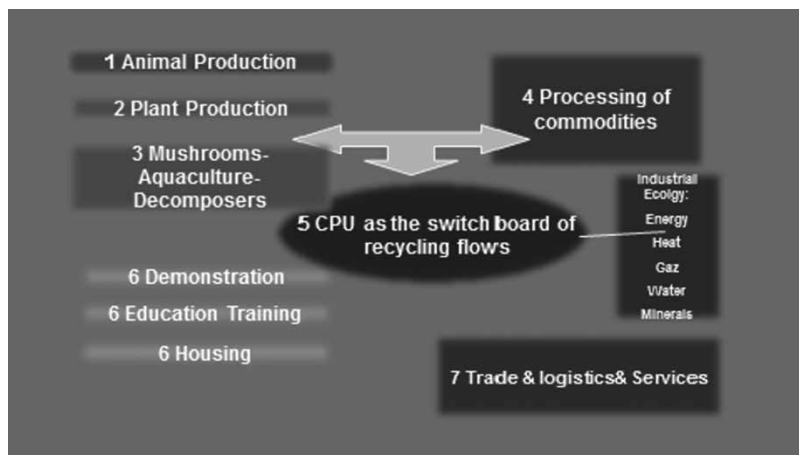


Figure 2. Systemic map of an agropark (Altera, 2011).



(in short Innovation Network) together with WUR and other consultants further developed this idea (Grin & van Staveren, 2007, pp. 57, 61). The same year, the Minister of Agriculture, Laurens-Jan Brinkhorst, publically expressed a desire to experiment with a 'piggery apartment' in the Rotterdam Harbour or in Westpoort Amsterdam (AgriHolland Nieuws, 2000). Animal welfare organizations and organic consumer organizations, but also farmers, objected to this. Farmers feared to lose their independency and that they had to apply more industrial forms of farming (c.f. Grin & van Staveren, 2007, p. 69; Innovation Network, 2004; Interview de Wilt, 2004; Interview-Smeets, 2005). The public resistance made the Innovation Network realize that they needed to (re)introduce the concept of an agropark, and develop it together with other societal partners, not only to receive support for it, but also to be able to implement it (Interview de Wilt, 2004; Interview-Smeets, 2005; Smeets, 2011). The Network facilitated three Dutch initiatives to implement this concept in a more deliberative way: the Rural Park (*Ruraal Park*), A1 Corridor and Agropark Westpoort (Grin & van Staveren, 2007, p. 56).

We first analyse what frames emerged to interpret the concept of agroparks in the Dutch national newspaper reporting. Second, we explore if, and if so how, these frames were enacted and reflected upon in the deliberative practice in the area between Amersfoort and Hengelo in the Middle East of The Netherlands.

### 3.1 *Research Methods*

To study the frames in the national Dutch media and in the deliberative practice we analysed two sets of data. First, we conducted a frame analysis (Brandwein, 2006; Goffman, 1974; Schön & Rein, 1994) of reporting on agroparks in national newspapers. Second, we studied the framing of the boundary concepts and frame reflection in deliberations. Here, we conducted an interactive frame analysis as we studied how a policy issue—in our case agroparks—was being framed in conversations (Dewulf *et al.*, 2005). To do so, we first applied 'a more static analysis of the way a policy issue has been framed' (Yanow, 2000, p. 13) on the newspapers and then studied how these frames were enacted in interactions of participants.

For the frame analysis of the newspapers reports, we used LexisNexis, a database containing newspaper articles of all Dutch newspapers and most news magazines from the early 1990s onward. We limited our search to four national newspapers that represent different political backgrounds in The Netherlands.<sup>2</sup> We also limited our search to the period between 2007 and 2012. Even though the concept of an agropark was invented in 2000, it was not until 2007 when implementation of one of these parks received wide-spread national media attention, that this issue became salient. We first searched for the key words 'agropark', 'megastal' ('mega stable') and 'varkensflat' ('piggery apartment'). This resulted in 235 newspaper articles, of which 196 articles turned out to be relevant. Non-relevant articles were, for example, double-listed or crossword puzzles in which the word 'megastal' was used. The relevant articles were analysed manually by inductively coding the content of the articles. We searched for possibly competing interpretations of the concept of an agropark. We coded the concerns, values and interests and this enabled us to construct four frames from which agroparks were understood.

We then turned to an interactive frame analysis of the deliberative setting and studied the emergence and interplay between these four frames—and reflection

on them. The deliberative setting was part of the A1 Protein Corridor Project, a project initiated by two Dutch Provinces, the Ministry of Agriculture and the InnovationNetwork. As part of this project, a deliberative setting was created to further explore and try to implement the organizational and spatial clustering of agribusinesses with the ambition to make them more sustainable. This project is one of the rare examples of an effort to implement an agropark in The Netherlands (with some exceptions, for example, the New Mixed Farm in Horst aan de Maas, see Hinssen & Smulders, 2011; Hoes *et al.*, 2012b). Therefore, we decided to revisit a data-set that we had created before to study if the frames from the national newspapers had already been present in this project and if these were being reflected on.<sup>3</sup> The data-set was created in 2004 and 2005 with Transana 2.21 Software. We interviewed a total of 30 stakeholders—governmental actors, facilitators, farmers’ representatives, farmers and environmental organizations. We also conducted participatory observations of 6 out of 10 sessions for the scenario development and we attended two presentations of results of clustering projects. Six sessions for scenario development were transcribed. We also used the minutes of the remaining four sessions. Whereas in a previous analysis of these data we focused on boundary work in a shift from government to governance (Metze, 2010); in the current reanalysis of this data-set, we explored: (1) the four frames on the boundary concept, (2) if and when reflective moments occurred and (3) what the results were of these reflective moments.

### 3.2 *Interpreting Agroparks: Frame Analysis of Four National Newspapers*

On the basis of the newspaper reporting on agroparks, we constructed four different frames. We found, for one, that agroparks were interpreted from an economic and environmental perspective. Second, there was a difference between the interpretations related to specific cases in which the development of agroparks was proposed and the more generic discussions about these parks. In specific cases of development of agroparks, participants in the debate were most apprehensive about the costs and benefits: how their business should survive or what effects were on the environment or house prices. This resulted in the construction of two frames: the ‘Surviving Farmer’-frame and the ‘Surviving Citizen’-frame. From a more generic perspective, concerns are mainly related to environmental impacts and to the desired scale of the agricultural industry and prices of food: should it be large scale and concentrated in urban areas or small scale and dispersed throughout the country? These interpretations led to the construction of two additional frames: ‘Pigs in the City’ and ‘Pigs in the Mud’ (see Figure 3).

3.2.1 *Pigs in the City.* The ‘Pigs in the City’-frame is most closely related to the theoretically developed concept of agroparks. It includes concerns for animal welfare, rural planning and the environment, as well as for maintaining a viable business. It is considered as a solution to the problem of producing food in a sustainable way. In this frame, an agropark is understood to improve the environment because, for example, farmers can afford to equip their businesses with air scrubbers to limit the harmful emissions and a closed circuit is possible in which waste products can be reused (NRC, 2007; Trouw, 2008b). In addition, an agropark is believed to improve the environment and the landscape because different businesses are clustered in one park, ideally situated in industrial areas or cities, which eases the burden on the country side, both in land use

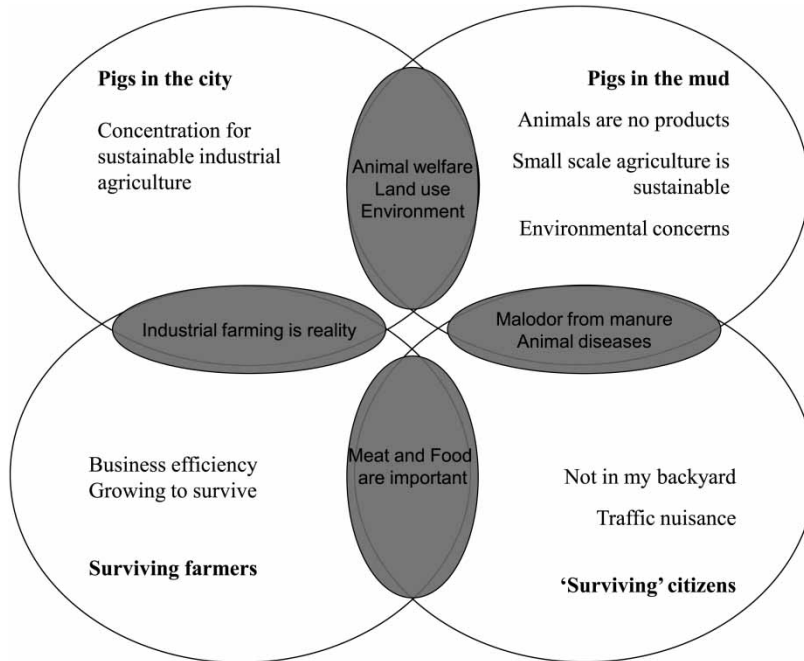


Figure 3. Overlaps and difference in four discourses on agroparks.

and environmentally. Furthermore, an agropark is understood as a way to advance animal welfare because new farms have to comply with the most recent rules and regulations. In this respect, the size (the scale) of the agroparks does not matter for animal welfare; rather, it is the space available to each animal that is relevant (NRC, 2009; Telegraaf, 2011). Thus in this frame, agroparks are understood to house ‘happy pigs in the city’ that produce affordable meat.

**3.2.2 Pigs in the Mud.** In the ‘Pigs in the Mud’-frame, agroparks are interpreted as large industrial farms without care for the animal welfare and the environment. This interpretation is grounded in a more generic debate. The attempts to make industrial farms more sustainable hamper achieving ‘truly’ sustainable agriculture (Trouw, 2008c). In this interpretation, agroparks prolong the costs of industrial agriculture because of harmful emissions of particulate matter, ammonia and nitrogen as well as increased freight traffic, the increased import of animal food for which forests in Brazil are cut (according to Friends of the Earth) and a manure surplus (Trouw, 2009, 2011; Volkskrant, 2008b). Citizens, politicians and some scientists wonder whether animals are not treated too much as ‘things’ (Volkskrant, 2011b). Animal welfare is seriously impeded because animals hardly see any daylight and cannot behave naturally (NRC, 2011). In this respect, the overconsumption of meat in the world (embodied by the agroparks) should be questioned and altered (NRC, 2008). In other words, pigs should play in the mud. Finally, although economic arguments are not the most prominent, they also matter because politicians—for example—worry about small farmers being outcompeted (Trouw, 2008a).

3.2.3 *Surviving Farmers.* The frame ‘Surviving Farmers’ comes to the fore in reports on local planning for the development of clusters of farms. It is mostly practiced by farmers either taking part in agroparks or intending to do so in the future. Their arguments partly overlap with those on the national level concerning animal welfare. They also refer to local concerns about public health. However, they are most apprehensive about commercial considerations. Purely economically, they argue that people want the cheapest meat, regardless of how it is produced. The economic argument is that agroparks are a way to meet this growing demand and to survive as an individual farmer. Small family farms have more difficulties to comply with environmental rules and regulations (Volkskrant, 2011a). This is an overlap with the frame of the pigs in the city: agroparks are not only efficient in producing meat, but are also efficient in food and energy use. Besides, animals benefit as there is optimal ventilation, more comfort, warmth and balanced food (NRC, 2009). In this respect, a farmer states: ‘a happy cow is a productive cow’ (NRC, 2008). Also public health would not be harmed because in agroparks it is easier to prevent infectious diseases and stop these from spreading as there are air scrubbers and good chimney’s (Volkskrant, 2009, 2010). The ‘Surviving Farmers’ interpretation mostly considers agroparks as a solution for economic problems.

3.2.4 *Surviving Citizens.* Finally, we distinguished the ‘Surviving Citizens’-frame. Citizens of municipalities in which the building of agroparks is planned interpret agroparks as large industrial farms that cause local nuisance and the spreading of diseases. They are worried about traffic nuisance and malodor. Related, they are also concerned that nature is harmed and that a very large building ‘will pollute the skyline’. Finally, public health is brought forward, partly because of the particulate matter that might be emitted and partly because of the risk of animal diseases that might transfer to humans (NRC, 2010; Telegraaf, 2007; Trouw, 2008d; Volkskrant, 2008a). In this interpretation, the agroparks are considered as mega-stables which threaten the welfare of ‘Surviving Citizens’.

3.2.5 *Conclusion frames in newspapers.* As we see in Figure 3, the four frames on agroparks in part overlap: the ‘Pigs in the City’-frame and the ‘Pigs in the Mud’-frame both are concerned with an improvement of environment and animal welfare. The ‘Surviving Farmers’-frame and the ‘Surviving Citizens’-frame share an interpretative coalition on ‘cheap meet’. In addition, the ‘Pigs in the City’-frame and the ‘Surviving Farmers’-frame share the idea that industrial farming is a reality that needs to be dealt with. The ‘Pigs in the Mud’-frame and the ‘Surviving Citizens’-frame share concerns for malodor and animal diseases. These overlaps and differences can create—either intentionally or unintentionally—frame reflection in deliberations. Either a facilitator or participants can make these explicit. New discursive coalitions might emerge and new meanings can be explored. The four frames on agroparks are thus not only employed in newspaper reporting, but they can also be studied in interactions.

### 3.3 *Frame Analysis of a Boundary Concept in a Deliberative Setting*

We now turn to the analysis of the deliberations on the concept of an agropark. We studied the framing of and frame reflection on this concept in one of the projects

that the Innovation Network facilitated to promote agroparks: the A1 Corridor. Part of this project was a vision trajectory—a process with the aim to generate a desirable future for the region. In this trajectory, the development of agroparks and agroclusters took place in a deliberative practice in which agricultural entrepreneurs, project developers, local governments, financiers and animal welfare organizations and environmental organizations were collaboratively negotiate the meaning of agroparks and agroclusters. We consider this a deliberative practice as it was established temporarily around a policy problem; it included both governmental and non-governmental actors and it had a ‘deliberative design that addresses the conditions, rules and strategies for interaction’ to encourage transparency, learning and reciprocity (Metze, 2010, p. 25).

Scenario planning was applied to stimulate reflectivity in the conversations and possible and plausible scenarios were developed (c.f. van Asselt *et al.*, 2003; In’t Veld, 2001). As the facilitators claimed, these scenarios had to simulate deliberation about what should be done in case any of the scenarios would come true: ‘The question is: if this happens, what will we do’ (Transcript SWPL1, 2004)? In 10 sessions (four plenaries and six parallel workshops), all organized within one day, participants discussed these four scenarios and started to explore if, why, how and under what conditions agroparks and agroclusters were to be further developed in this specific region.

These sessions were attended by a total of 13 stakeholders: two representatives from the agro-sector, one person from the National Forest Protection Service, one landscaping architect, one representative from retail, two people from the two provinces (Gelderland and Overijssel), two representatives of the Innovation Network, three investors (Triodos Bank, NIB Capital and Rabobank) and one person from Wageningen University. A consultant facilitated the plenary sessions. Animal welfare organizations and environmental organizations had been invited but were not present at the meeting, which indicates that the deliberative design was not functioning well. This probably influenced the frames that were employed. We will discuss this more extensively later on.

3.3.1 *Framing a boundary concept: agroparks for Surviving Farmers.* From the analysis of the sessions, we conclude that participants most of all framed agroparks as a solution for Surviving Farmers. According to participants, small farms in The Netherlands face several financial and economic challenges. First of all, there is an increasing competition from industrialized farming, both in The Netherlands and from abroad:

the current competition on the world market, we need to develop a force that is powerful enough in The Netherlands that can resist that [...]. In the long run the question is if we can compete with this cheap production. (Agriculture representative and Investor, Transcript SWPA1, 2004)

Second, current strategies to cope with this marginalization of family farms are not paying off. For example, farms develop new business activities and combine farming with providing care to the elderly or disabled people. However, it was doubted whether this will rescue this type of farming: ‘A camp-site or those type of small things, with all due respect, is a soft landing for a farm’ (Investor, Transcript SWPL3, 2004). A third challenge is that farmers are not willing to collaborate: ‘we in the sector are at the very beginning. You have to want to collaborate, which is not easy in pig husbandry’ (agriculture representative in Transcript

SWPA1, 2004). Developing clusters and chains of (collaborating) agro-businesses will help to improve the efficiency and innovativeness of the agro-sector (Transcript SWPA2, 2004).

Some participants—most of all the Innovation Network and the National government—attempted to frame the concept of an agropark from a ‘Pigs in the City’-perspective. They emphasized the spatial concentration and environmental and other benefits of that type of clustering: ‘The question is if the [agro] sector will start moving [will start clustering] by itself, also in the spatial meaning, or do we need to include tourism, recreation, nature [conservation], and others to create that movement?’ (Innovation Network, Transcript SWPL1, 2004). As we can tell from this quote, the Innovation Network cautiously questions the dominant Surviving Farmers-frame, rather than opposes it in an attempt to make participants aware of other possible interpretations.

Not surprisingly, when we consider who participated, the frames of ‘Surviving Citizens’ and ‘Pigs in the Mud’ were hardly ever mentioned but often regarded as irrelevant: I told a couple of you already about the angry man of Natuurmonumenten (foundation that protects the Dutch Natural Monuments and Resources) that I spoke with on the phone. He did not want to participate because he dislikes the name and said: ‘How can you come up with a name protein corridor in these times? This is a reference to chickens and pigs as being protein; therefore, I refuse to participate’ (facilitator, Transcript SWPL3, 2004). Moreover, participants considered citizens primarily as consumers that either were ‘emotional’ for willing to pay a lot of money for niche-products or were unwilling to pay higher prices for more animal and environmental friendly products (Investor and Province, Transcript SWPA1, 2004). Hence, the limited variety of participants—and as such the frames represented—also restricted the frames from which the agroparks concept was interpreted. Described like this, there was little room left for frame reflection. However, when we tune into the conversations, we came across at least two instances at which the bridge between the two competing frames was being explored.

### 3.4 *Frame Reflection on a Boundary Concept: Pigs in the City?*

In the scenario sessions, several instances of frame reflection occurred at which interpretations were being explored and differences were made explicit. Each time, we understood this as a confrontation between the ‘Surviving Farmers’-frame and the ‘Pigs in the City’-frame. We will highlight two examples to illustrate what happened when frame reflection occurred.

3.4.1 *Frame reflection 1: agroparks.* Participants in the deliberations struggled with two meanings of an agropark or agrocluster: was it a voluntary relocation of agribusinesses to survive economically that was being initiated by businesses and facilitated by government or was it a spatial redevelopment in which other actors, such as the tourism sector and nature conservation agencies, should or needed to participate? In other words: the ‘Surviving Farmers’-frame and the ‘Pigs in the City’-frame were deliberated. The Innovation Network made these two interpretations explicit and instigated frame reflection when it claimed that there were two domains for agroparks. The network made a distinction between ‘the domain of food-production in large clusters’ on the one hand and ‘the domain of the quality of life’ on the other hand (Transcript SWPA1, 2004).

Moreover, the Innovation Network argued that these two domains entail two different interpretations of the landscapes in the region. Actors in the domain on food production consider landscapes as production landscapes that are 'oriented toward food production and the consumer'. Actors in the domain of the quality of life consider a consumer landscape as oriented 'towards green and the citizen' (Transcript SWPA1, 2004).

This remark on the meaning of an agropark induced a frame-reflective conversation in which participants including the representative of the agrarians (Land - en Tuinbouw Organisatie) argued that a one-sided focus on large-scale food production in the area would be impossible. Society would not accept a clustering without further enhancement of the 'quality of life' in the area: 'You will not get these clusters accepted in society. You will have to take into account the other story' (Transcript SWPA1, 2004). All participants concluded that cluster development, interpreted as the relocation and cooperation of businesses, needed to be 'well embedded in the scenery' (Transcript SWPA1, 2004). Businesses from the food domain should initiate and implement cluster development and these should have 'esthetic qualities' and be 'socially accepted' (Transcript SWPA1, 2004).

In the concluding plenary session, the Innovation Network presented the boundary crossing conclusions of the reflective conversation (Transcript SWPL4, 2004). Nevertheless, the facilitator of the plenary session interpreted the concept differently. He argued that this societal challenge already was taken care of in the provincial reconstruction plans and did not need to be included in the further development of clusters and agroparks (Transcript SWPL4, 2004). The facilitator concluded this discussion on agroparks and cluster development by summarizing it as follows:

We will keep in mind what the other sectors want in terms of nature and environment. They do not need to sit at the table all the time. We can go back to them in a year and ask what they think of it. (Transcript SWPL4, 2004)

Surprisingly, none of the participants contested this conclusion. On the contrary, both provinces reassured the facilitator that their elected officials would also agree that this project focuses on cluster development of the primary sector (Transcript SWPL4, 2004).

Thus, two governmental actors in a coalition with the facilitator dismissed the boundary crossing interpretations of participants. They ignored the fact that participants reflected on and bridged two colliding interpretations. First and foremost—the governmental actors agreed—businesses needed to be convinced that they would need to cooperate and relocate in agroparks and clusters for their businesses to survive. They reiterated a fracture line between two frames.

*3.4.2 Frame reflection 2: what is in a name?* Because of the name protein corridor, as we saw, the invited Nature Conservation organization refused to participate. Based on this refusal, the facilitator had decided that one of the sessions should be about this name. When this group reported back to the plenary session, another instance of frame reflection occurred. Again the 'Surviving Farmers' and the 'Pigs in the City' frames were confronted: Were agroparks a way to create more efficient agro-businesses or were they a transition towards sustainable agriculture? The Innovation Network summarized:

The name A1 Protein Corridor, we concluded, is in itself attractive for the original [target group] intensive livestock farming. [...] But, when you take a look at the other target groups: agriculture, leisure, water, and nature, then you need to realize that your objective, namely, to improve the spatial quality, is what you want because that also benefits the agro-sector. (Innovation Network, Transcript SWPL4, 2004)

The group unanimously agreed that the idea of a protein corridor is perfect to attract intensive livestock farmers but that other actors, such as nature conservationists or the tourism industry, might not be drawn to it. When this conclusion was shared at the concluding plenary sessions, the facilitator of this session responded. He argued that a broader concept for this region was not necessary. He argued that the protein corridor needed to focus on cluster development of the primary sector and to focus on activating the business chain. In reference to provincial reconstruction plans, he argued for a more exclusive approach:

The start is the reconstruction that took place in both provinces and in which all parties participated, including nature conservationists and environmentalists. [...]. The idea is not to continue such a broad spectrum in this project. That is very ambitious. We know what nature conservationists and environmentalists want. But, aim [the project] at the primary sector and processors; there lie the biggest challenges, and then the name is perfect. (Transcript SWPL4, 2004)

The economic interpretation of agroparks was dominant: it was most of all a way to make agro-businesses and the whole sector viable. Moreover, the facilitator altered the nature of the sessions, whereas previously they had to be inclusive and all the actors mentioned by the Innovation Network—one of the assigners of the facilitator—were supposed to participate; now this overtly had been limited to the primary agro-sector and processors.

These two illustrations of frame reflection demonstrate that participants engaged in frame-reflective conversations and indeed altered their interpretation of the concept of an agropark. They started to interpret it from a Pigs in the City-frame and aligned economic and environmental concerns. The examples also demonstrate some limitations. First of all, the facilitator—backed up by the two provinces—concluded that this boundary crossing was not necessary. They concluded that the ‘Surviving Farmers’-frame of an agroparks was to be the result of the sessions, even though the boundary crossing interpretation of ‘Pigs in the City’ had been agreed upon. Second, frame reflectivity was limited because not all frames had been represented by actors. Elements from the ‘Pigs in the Mud’-frame had been mentioned but also were quite easily excluded from the conversations.

#### 4. Conclusion and Discussion: Happy City Pigs?

The boundary concept of an agropark was introduced by academic researchers and governmental actors in The Netherlands around the year 2000 to create a more sustainable industrial food production process. We considered it to be a *boundary concept* as it connects agricultural, economic and environmental concerns. This bridging of conflicting frames offered a new discursive horizon in the transition towards sustainable agriculture and at the same time created



room for frame reflectivity. In this contribution, we studied how this boundary concept was being interpreted, what the conflicting frames were, and if these conflicts led to frame reflections and boundary crossing in deliberative settings designed to scrutinize the concept of an agropark.

To study this, we combined a more static and general frame analysis with an analysis of meaning in interaction in a specific practice (Dewulf *et al.*, 2005; Wagenaar, 2012; Yanow, 2000). The analysis of frames in the newspapers helped us to identify four different frames from which the agroparks could be understood: 'Surviving Farmers'; 'Pigs in the City'; 'Surviving Citizens' and 'Pigs in the Mud'. Next, we studied the emergence of these frames in a specific deliberative practice. This interactive frame analysis made visible that two out of the four frames were (still) missing in the interactions. Moreover, it demonstrated that conflicts between the two frames occurred, that participants reflected on them, and that they bridged the frames. Consequently, we argue that the individual value of a static frame analysis with an interactive frame analysis can be strengthened when they are combined. Frames cannot only be described but we can also study how these frames collide or are bridged in conversations: this is how reflectivity emerges or is organized and how reflexive governance takes place.

Even though reflexive modernity may be ineluctable, reflexive governance does not always emerge. It presupposes reflectivity at the meso- and micro-level—individuals and groups of governing actors that engage in a process of bending back and forth, of scrutinizing their routine practices and societal problems. This type of reflectivity can be created in a deliberative setting with a boundary concept. From the analysis, we concluded that indeed the boundary concept of an agropark allowed actors to reflect on their conflicting frames. Even in a setting in which the deliberative design and facilitation techniques failed to take into account deliberative norms, participants started to scrutinize the meaning of the concept. As such it was a substantive device to examine conflicting and taken for granted interpretations and bridge those.

Hence, for more reflexive governance, frame reflection can be induced not only in deliberative settings with a specific design but also by introducing and enacting boundary concepts. The concepts need to be put into action. Deliberating on boundary concepts enables participants to break away from routines, repetitions, tacit knowing and taken for granted interpretations. Moreover, it can stimulate the creation of alternatives to these routines. We demonstrated that boundary concepts have a strong potential of inducing frame reflection in settings that have a deliberative design, as well as in settings that do not fulfil the deliberative norms. Boundary concepts can contribute to reflectivity on reflexive modernization as they provide developmental constructs that both introduce substantive alternatives for modern ways of governing and create room for reflectivity on the routine practices of modern ways of governing by governing actors. The importance of this element of visioning—not only the process but especially the substance—of a more reflexive modernization is often neglected in the literature as well as in the policy practice.

Deliberating on boundary concepts is essential to reflexive governance: when frame reflectivity is induced by this concept and reflectivity in interactions occurs, participants can alter dominant constellations at the individual level, the group level and for society. Governing actors become less reflexive and more reflective about a transition towards a reflexive modernity. It is at the level of group interactions that three types of reflectivity collide: participating

individuals scrutinize their own frames; they are confronted with those of other participants and simultaneously reflect on problems of modernity and possibilities of overcoming those.

## Notes

1. Rein and Schön use the concept of discourse for talk and text and not in a Foucauldian way.
2. Trouw is Christian; de Volkskrant is more on the left side of the political spectrum, NRC Handelsblad is middle-right oriented and Telegraaf is on the right.
3. Future research on more recent attempts to implement an agropark is desirable. Unfortunately, we do not have these data (yet).

## References

- AgriHolland Nieuws (2000) *Brinkhorst wil proef met agroproductiepark*, October 4. Available at [www.agriholland.nl/nieuws/2000/40/22688.html](http://www.agriholland.nl/nieuws/2000/40/22688.html) (accessed 10 January 2012).
- Alterra (2011) *Metropolitan food clusters and sustainable development: The seven main components of an Agropark*. Available at: <http://www.alterra.wur.nl/NL/onderzoek/Dossiers/Metropolitan+Food+Clusters+en+Agroparks/Metropolitan+Food+Clusters+and+Sustainable+development/> (accessed 10 January 2012).
- van Asselt, M. B. A., van't Klooster, S. A. & van Notten, P. W. F. (2003) Verkennen in onzekerheid, *Beleid en Maatschappij—Themanummer Toekomstscenario's en beleid*, 30(4), pp. 230–241.
- Beck, U., Giddens, T. & Lash, S. (1994) *Reflexive Modernisation* (Cambridge: Polity Press).
- Beck, U., Bonss, W. & Lau, C. (2003) The theory of reflexive modernization problematic, hypotheses and research programme, *Theory, Culture & Society*, 20(2), pp. 1–33. doi:10.1177/0263276403020002001
- Brandwein, P. (2006) Studying the careers of knowledge claims: Applying science studies to legal studies, in: D. Yanow & P. Schwartz-Shea (Eds), *Interpretation and Method: Empirical Research Methods and the Interpretive Turn*, pp. 228–243. (New York: Turn M.E. Sharpe, Inc).
- Bröer, C. (2006) *Beleid Vormt Overlast* (Amsterdam: Askant).
- Dewey, J. (1933) *Experience and Education* (New York: MacMillan).
- Dewulf, A., Craps, M., Bouwen, R., Taillieu, T. & Pahl-Wostl, C. (2005) Integrated management of natural resources: Dealing with ambiguous issues, multiple actors and diverging frames, *Water Science & Technology*, 52(6), pp. 115–124.
- Dryzek, J. S. (2000) *Deliberative Democracy and Beyond: Liberals, Critics, Contestations* (Oxford: Oxford University Press).
- Goffman, E. (1974) *Frame Analysis: An Essay on the Organization of Experience* (New York: Harper and Row).
- Goodin, R. E. (2003) *Reflective Democracy* (Oxford: Oxford University Press).
- Goodin, R. E. & Niemeyer, S. J. (2003) When does deliberation begin? Internal reflection versus public discussion in deliberative democracy, *Political Studies*, 51(4), pp. 627–649. doi:10.1111/j.0032-3217.2003.00450.x
- Grin, J. (2006) Reflexive modernization as a governance issue—or: Designing and shaping re-structuration, in: J. P. Voß, D. Bauknecht & R. Kemp (Eds), *Reflexive Governance for Sustainable Development*, pp. 54–81. (Cheltenham: Edward Elgar).
- Grin, J. & van Staveren, A. (2007) *Werken aan systeeminnovaties: Lessen uit de praktijk* (Assen, The Netherlands: Van Gorcum).
- Grin, J., Felix, F., Bos, B. & Spoelstra, S. (2004) Practices for reflexive design: Lessons from a Dutch programme on sustainable agriculture, *International Journal Foresight and Innovation Policy*, 1(1/2), pp. 126–149. doi:10.1504/IJFIP.2004.004618
- Gutmann, A. & Thompson, D. (1996) *Democracy & Disagreement* (Cambridge: Harvard University Press).
- Hajer, M. & Versteeg, W. (2005) A decade of discourse analysis of environmental politics: Achievements, challenges, perspectives, *Journal of Environmental Policy & Planning*, 7(3), pp. 175–184. doi:10.1080/15239080500339646
- Hendriks, C. M. (2006) When the forum meets interest politics: Strategic uses of public deliberation, *Politics & Society*, 34(4), pp. 571–602. doi:10.1177/0032329206293641

- Hendriks, C. M. & Grin, J. (2007) Contextualising reflexive governance: The politics of Dutch transitions to sustainability, *Journal of Environmental Policy & Planning*, 9(3–4), pp. 333–350. doi:10.1080/15239080701622790
- Hinssen, J. & Smulders, H. (2011) *Van dingen beter doen naar betere dingen doen: Vergelijkende analyse Agroparken in Nederland* (Tilburg, The Netherlands: Telos—TSC—TransForum en Erac).
- Hoes, A.-C., Regeer, B. & Zweekhorst, M. (2012a) Innovation projects and visions on the future: Ambition and commitment in the Agropark case, *Journal of Chain and Network Science*, 12(2), pp. 111–124. doi:10.3920/JCNS2012.x007
- Hoes, A. C., Beekman, V., Regeer, B. J. & Bunders, J. F. G. (2012b) Unravelling the dynamics of adopting novel technologies: An account of how the closed greenhouse opened-up, *International Journal of Foresight and Innovation Policy*, 8(1), pp. 37–59. doi:http://dx.doi.org/10.1504/IJFIP.2012.044286
- Innovation Network Green Space and Agrocluster (2004) *Verguld en verguisd: Agroparken in de media* Report No. 04.2.075, Den Haag, The Netherlands: Innovation Network.
- Innovation Network Green Space and Agrocluster (2005) *Agroparken: Het concept, de ontvangst, de praktijk* Report No. 05.2.095, Utrecht: Innovation Network.
- In't Veld, R. J. (2001) *Eerherstel voor Cassandra* (Utrecht: Lemma).
- Lasswell, H. D. (1951) The policy orientation, in: L. D. Lerner & H. D. Lasswell (Eds), *The Policy Sciences: Recent Developments in Scope and Method*, pp. 3–15. (Stanford: Stanford University Press).
- Loorbach, D. & Rotmans, J. (2006) Managing transitions for sustainable development, in: X. Olshoorn & A. J. Wieczorek (Eds), *Understanding Industrial Transformation: Views from Different Disciplines*, pp. 187–206. (Dordrecht: Springer).
- Lynch, M. (2000) Against reflexivity as an academic virtue and source of privileged knowledge, *Theory, Culture & Society*, 17(3), pp. 26–54. doi:10.1177/02632760022051202
- Manin, B. (1987) On legitimacy and political deliberation, *Political Theory*, 15(3), pp. 338–368.
- Meadowcroft, J. (2007) Who is in charge here? Governance for sustainable development in a complex world, *Journal of Environmental Policy & Planning*, 9(3–4), pp. 299–314. doi:10.1080/15239080701631544
- Metze, T. (2010) *Innovation Ltd.: Boundary Work in Experiments with Deliberative Governance in Land Use and Planning* (Delft: Eburon).
- Rein, M. (1983) *From Policy to Practice* (New York: M.E. Scharpe).
- Rein, M. & Schön, D. (1993) Reframing policy discourse, in: F. Fischer & J. Forester (Eds), *The Argumentative Turn in Policy Analysis*, pp. 145–166. (Durham, NC: Duke University Press).
- Schön, D. & Rein, M. (1994) *Frame Reflection: Toward the Resolution of Intractable Policy Controversies* (New York: Basic Books).
- Smeets, P. (2011) *Expedition Agroparks: Research by Design into Sustainable Development and Agriculture in Network Society* (Wageningen: Wageningen Academic Publishers).
- Star, S. L. & Griesemer, J. R. (1989) Institutional ecology, translations and boundary objects: Amateurs and professionals in Berkeley's museum of vertebrate zoology, *Social Studies of Science*, 19(3), pp. 387–420. doi:10.1177/030631289019003001
- United Nations (2007) *World Urbanization Prospects: The 2007 Revision Population Database* (New York: United Nations).
- Voß, J. P., Bauknecht, D. & Kemp, R. (2006) *Reflexive Governance for Sustainable Development* (Cheltenham: Edgar Elgar Publishing Limited).
- Wagenaar, H. (2012) *Meaning in Action: Interpretation and Dialogue in Policy Analysis* (New York: M.E. Sharpe).
- WUR & Buck Consultants and Rijnconsult (2003) *Eindverslag KLICT: A1 Eitwitcorridor (Commissioned by Oost NV)* (Deventer, Dutch: WUR & Buck Consultants and Rijnconsult).
- Yanow, D. (2000) *Conducting Interpretive Policy Analysis* (Qualitative research methods series 47) (Thousand Oaks, CA: Sage Publications).

## References to Interviews and Transcripts

- Interview de Wilt, J. (2004) Interview Jan de Wilt, Innovatienetwerk. Interviewed by T. Metze, 30-11-2004 (Utrecht).
- Interview-Smeets, P. (2005) Interview Peter Smeets, Researcher/Advisor. Interviewed by T. Metze (Zoetermeer).
- Transcript SWPA1 (2004) *Transcript Scenario Workshop Scenario Expansion* (Zwolle).
- Transcript SWPA2 (2004) *Transcript Scenario Workshop the Financial How* (Zwolle).

Transcript SWPL1 (2004) *Transcript Scenario Workshop Plenary Introduction 1a and 1b* (Zwolle).  
Transcript SWPL3 (2004) *Transcript Scenario Workshop Plenary Start in the Afternoon* (Zwolle).  
Transcript SWPL4 (2004) *Transcript Scenario Workshop Plenary Closing, Afternoon* (Zwolle).

## References to Newspapers

- NRC (2007) Industrieel boeren: Wageningse onderzoeker Peter Smeets bepleit agropark in de stad, February 3.
- NRC (2008) Superboerderijen passen goed op industrieterrein: megastallen, extreme grootschalige veehouderij is omstreden, maar bidet dier, milieu en landschap voordelen, September 30.
- NRC (2009) Dieren willen best op de tweede verdieping liggen, July 30.
- NRC (2010) Noord-Brabant bezint zich op megastallen: Q-koorts aanleiding voor debat Provinciale Staten over gezondheidsrisico's van grootschalige veeteelt, March 18.
- NRC (2011) Brieven: megastal is veel meer dan een inpassingsconflict', September 26.
- Telegraaf* (2007) Geen rem op varkensflats: Kabinet gaat boeren geen regels opleggen, December 20.
- Telegraaf* (2011) Beslissing megastal bij lagere overheid, November 24.
- Trouw* (2008a) Megastal geen probleem voor Tweede Kamer, February 29.
- Trouw* (2008b) Discussie over megastal hoort in Den Haag: Groningen beperkt intensieve veehouderij in tegenstelling tot andere provincies, August 19.
- Trouw* (2008c) Steriele lapjes vlees, October 4.
- Trouw* (2008d) Gezondheid vergeten in discussie megastal, December 23.
- Trouw* (2009) Ook wetenschap laat bewuste boer vallen, June 19.
- Trouw* (2011) PvdA wil eind maken aan intensieve veehouderij, December 5.
- Volkskrant* (2008a) Megastal vandaag in Staten Overijssel, May 7.
- Volkskrant* (2008b) Het varken betaalt een hoge prijs: Proef, June 28.
- Volkskrant* (2009) GGD: megastal is geen gevaar voor gezondheid bewoners, October 2.
- Volkskrant* (2010) Megastallen horen bij bedrijven, March 17.
- Volkskrant* (2011a) Als deze stal niet mag, dan houdt het op, April 19.
- Volkskrant* (2011b) Archetype: dwarsverbanden tussen kunst en actualiteit, April 22.