

Innovation from a discursive perspective: Discourses and accountability in pig farming policies.

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Abstract: Innovation is rarely considered a point of contention. It invariably seems to denote some type of intrinsically desired newness most ordinarily associated with effective commercialization of a new technology, idea or organizational form. However, once considering innovation as something happening within a network or ‘system’ of interdependent actors, it becomes clear that different interpretations and appropriations of innovation are co-evolving in a competitive framework. Although we fully acknowledge the importance of collective learning processes as a basis to overcome barriers for innovation in networks we nevertheless wish to caution for an approach that insufficiently conceptualizes the role of power. To gain insight in how more inclusive innovation processes can be built we evaluate how farmer’s interests can be articulated and how innovation networks be held accountable to ensure fair representation of farmers. Based on political theory we propose a framework anchored in deliberative democratic theory, an approach which attributes significant transformative power to deliberation in decision making. We elaborate an approach based on the concept of discursive accountability (Dryzek, 2010), in which representation is related to a procedure guaranteeing a maximum of relevant discourses to be articulated within collective decision outcomes of governance networks. We substantiate our approach by drawing on a case-study of pig farming in Flanders. A discourse analysis reveals how discursive framings of farmers reflect an ongoing tension between the linear and the participatory discourse on innovation. We complement this analysis with an assessment of the collective outcomes of a series of empowered dialogue days in the Flemish pig sector (2011). Reasoned from the perspective of discursive accountability we elicit a disproportionate consistency with the existing constellation of discourses in the public sphere.

Keywords: innovation, discourses, discursive accountability, pig farming, policy outcomes.

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Introduction: Linear vs. Participatory innovation discourse

Innovation is rarely considered as a point of contention. In common speech it invariably seems to denote some type of intrinsically desired newness most ordinarily associated with effective commercialization of a new technology, idea or organizational form. However, once considering innovation as something happening within a social field of interdependent actors it becomes clear that different interpretations of innovation are co-evolving. Shifts in how innovations are interpreted can alter the discursive circumstances of how innovation processes lead to outcomes. This article wishes to address the role of farmers in co-shaping the discursive conditions of innovation.

Reasoning from an interpretivist perspective (Nahuis and van Lente 2007), we can discern two overall conceptions on what constitutes an agricultural innovation. Still largely dominant is the

linear model of innovation in which innovation is conceived as a unidirectional line from science to practice (Leeuwis, 2004; Godin, 2005). This mode of thinking ascribes little agency to farmers considering them as adopters of innovations developed by science and research departments. On a general yet substantive level, the linear model is contested by what we can term as a *relational approach* embracing not only knowledge suppliers but the totality of actors involved in innovation (World Bank, 2006) (Klerkx, Mierlo, & Leeuwis, 2012). A relational approach considers the interplay of interrelating ‘parts’, i.e. the co-evolution of social, economic and political factors shaping the conditions of agricultural innovation processes (Klerkx et al., 2012). The adoption of technology is then considered within a larger framework of stakeholders and the totality of innovation outcomes is considered in relation to its societal relevance (EU SCAR, 2012; Bock, 2012). In this approach farmers are recognized as legitimate actors in co-constructing innovation. Because farmers are equally competent actors, it is argued, they need to be included more actively in processes and networks of innovation. On the European level, this concern e.g. exemplified by the organization of the European Innovation Partnerships (EIPs) which aims to more systematically ensure a voice to farmers in adapting research to the needs of farming practice (EU, 2013).

We stipulate these discourses as respectively *linear* and participatory³⁴ innovation. The following table further works out the difference between both:

Table 1: Discourses of linear and participatory innovation (Leeuwis, 2004 ; Godin, 2005; Koopmans et.al, 2011)

	Linear innovation	Participatory Innovation
Object of innovation	New Technology	Innovation system
Relationship between actors	Division of labor	Co-production of knowledge
Type of knowledge	Codified knowledge	Tacit knowledge
Type of interest articulation	Self-regarding interests	Self and Other-regarding interests
Mode of cooperation	Autonomous actors in network	Networked governance
Conception of farmer	Adopter, follower	Competent actor, stakeholder
Motivation of agency	Commercial implementation	Collective innovation

But how can we understand the transition towards this more participative role of farmers in innovation networks as it is being advocated in the ongoing contestation of the linear model of innovation? A recurring response is the argumentation to foster learning processes. The challenge is then framed as stipulating the conditions to foster efficient knowledge interaction and interactive learning processes between all stakeholders. Mechanisms concerning knowledge brokerage (Hargadon, 2002), creating trust for learning (World Bank, 2006) and communication between different epistemic communities (Hoffmann, et al.; 2006) are considered key in promoting successful and inclusive stakeholder interaction in innovation networks.

Although we agree that including farmers in processes of innovation involves an epistemic dimension, we consider the challenge to be more than merely fostering knowledge interaction. This can be considered so because participants in an innovation system are also representatives of their respective constituencies and practices. Any innovation network *nolens volens* mediates various

³⁴ We choose this term because a relational approach towards innovation actually reveals an underdeveloped social role for farmers in innovations processes, and hence the need for a more participatory for of innovation.

interests and how these play out in the problem framing, implementation and evaluation of innovations (Nahuis and Lente, 2008). An innovation process is thus not only comprised of the mutual generation of knowledge but also connected to processes of interest articulation as they are performed by the different participants and social groups. In this process a heterogeneous group of actors is involved in aspects concerning power - play, inclusion, exclusion, contestation and conflict (Nahuis, 2007b). This consideration reveals a political dimension of innovation and warrants a questioning of whether innovation networks are always intrinsically 'collective' and 'good' (Mansbridge et al., 2010) (Moe, 2005). This political reality of innovation networks thus makes it necessary that there is some procedure that can secure the (deliberative) legitimacy of its collective outcomes. Including farmers is thus not only a question of inducing learning processes but also one of ensuring that innovation networks become accountable to the interest of farming practice³⁵.

Ensuring that innovation networks become accountable to the interests of farming practice is however not an easy undertaking. To begin with, we need to make clear what we mean by accountability. In its abstract form, it has the tendency to become an elusive buzzword justifying ongoing political processes (Bovens, 2005, Busuioc, 2013). We therefore specify it as a social mechanism of relations (Van Parijs, 2013). Accountability is about an actor that feels an obligation to explain and to justify his or her conduct to some significant other (Bovens, 2005).³⁶

Accountability mechanisms are meant to ensure some way in which *empowered space* answers to *public space* (Dryzek, 2010). Empowered space need not be a formally authorized institution but can be any institutional arrangement producing collective outcomes. Innovation networks such as those subsidized by e.g. European framework programs can in this sense be considered as empowered space. Farmers are largely unrepresented in these types of institutions mostly dominated by research, business and societal actors. Taking the shift from a linear to a more inclusive systemic model seriously means finding some way to include farmer's interests within these processes.

Approach: discursive representation

In this paper we adapt the concept of discursive representation (Dryzek and Niemeyer, 2008; Dryzek, 2010) as a potentially operational approach to integrate the emerging participatory discourse within the discursive framings of ongoing innovation processes. The concept is anchored in deliberative democratic theory and puts forward the idea to represent 'interests' by means of representing 'discourses'. Discourses defined as 'real-world phenomena based on socio-interpretative ensembles of concepts, ideas and categorizations that give meaning and constitute practices' (Hajer, 1995) embody a set of pre-suppositions on how 'a problem' should be understood and who gets which role (agency) on what grounds (motivation of agency) in the resulting set of 'solutions'. This means that when within a given political context (e.g. a set of political terms) only a limited amount of discourses are taken into account, there is a risk that certain actors will be excluded as being relevant in collective decision making processes. Discursive accountability, now, aims to guarantee that 'all relevant discourses get represented, regardless of how many people subscribe to each' (Dryzek and Niemeyer, p.482).

It is important to note that this process of engagement in and contestation of discourses is not necessarily restricted to empowered political institutions. Consistent with deliberative theory, Dryzek speaks of discursive legitimacy "to the extent a collective decision is consistent with the

³⁵ Cf. Affectedness thesis

³⁶ Every mechanism of accountability thus holds an 'element of justification' and an 'element of recognition' within a given relationship. Including farmers in accountability mechanisms should thus enable them to both justify their own innovation behavior as well as confront them with the justifications of other innovation actors

constellation of discourses present in the public sphere , in the degree to which this constellation is subject to the reflective control of competent actors” (Dryzek, 2010, p35). Within public space³⁷, a variety of discourses are articulated and contested. A provisional outcome of this process is then ideally *transmitted* to some type of authorized political actors (public authorities, empowered stakeholder networks, authorized political actors)

Also for networks – which can be linked to public space , empowered space, or both³⁸ - discursive accountability can be endeavored by reflecting on its underlying discursive justifications. As Dryzek notes, one way of trying to reach accountability “is to try and ensure that a network is not dominated by a single discourse whose terms are accepted uncritically by all involved actors in a way that marginalizes other discourses that could claim relevance.” (Dryzek, 2010; p50)

The articulation of a discourse can thus become a political vehicle to engage more balanced agency in ongoing innovation processes. In our case, the articulation of the participatory innovation discourse which advocates the empowerment of farmers in collective decision making (concerning e.g. knowledge creation, economic arrangement and social evaluation of innovation processes) can then become an important counter-discourse. Considering this discourse vis-à-vis other innovation discourses (i.e. the linear model), will ensure a form of democratic contestation, enabling a more reflective stance on ongoing decisions processes.

In this article we illustrate how discursive accountability can be understood as an innovative mechanism for agricultural innovation processes by drawing on a case on pig industry in Flanders. The case of pig farming is particularly relevant, because an ongoing economic crisis affecting farmers, forces actors to question the ‘normal’. This process of questioning ongoing behavior in the pig food chain is essentially a process of accountability in which actual relationships are reconsidered from a perspective of mutual justification.

Using discourse analysis we analyze pig farmer’s discursive framings of innovation. In our discussion we try to understand how these framings reveal certain structural inequalities and power imbalances in terms of the both acquisition and creation of knowledge and the validation of innovation efforts.

In a second move, we analyze the policy outcomes of a series of dialogue days that were organized in Flanders in 2011 as a reaction to the ongoing crisis in the pig industry. This process initiated by the cabinet of agriculture empowered stakeholders to debate several themes relevant to overcome the perceived stalemate position and resulted in a set of 22 policy measures. We analyze these recommendations from the perspective of discursive accountability by examining the balance of the linear vis-à-vis the participatory innovation discourse. Without claiming to be exhaustive nor politically salient, the analysis does reveal how the dominant discourse of linear innovation is still disproportionally represented within the political terms and technical guidelines that accompany the policy outcomes. Before turning to this we turn to the methodological approach of this paper.

Data gathering

We conducted in depth interviews with 9 farmers. Most farmers were working within a vertically integrated sector (intensive pig farming) and 2 farmers were working in a mixed farming system. We also conducted two focus groups with pig farmers. In addition we interviewed 3 experts and did extensive document analysis. Interviewees were selected on the basis of the farmer’s alleged

³⁷ Part of public space are amongst other; social media, any type of public place (bars, schools, farms, etc.), public hearings, media commentators, social movements, designed citizen forums.

³⁸ Contemporary scholars show how political authority is increasingly diffused in informal networks of various state and non-state actors (Dryzek, 2010, Cast).

networking behavior, i.e. it was aimed to approach both farmers with high/low intensity qua networking routines. The interviews and focus group questions were semi-structured. A list of questions was used but not handled systematically, in order to obtain a sufficient degree of expressive freedom. In the interviews, a first set of questions dealt with innovation and a second series of questions discussed the importance of networks. In the focus groups these two main topics framed conversely as in the interviews, i.e. first questions about the importance of networks then about innovation.³⁹ Innovation was widely regarded as any significant change on the farm, either recently introduced (last 5 years), either planned or considered in the near future.

With the help of a discourse analysis⁴⁰ we have analyzed our data, on the basis of which we have discerned two discursive framing of innovation ('adoption as usual' and 'innovation by demand'). The data analysis was based on processes of coding and categorization. (Marshall & Rossman, 1999) First, an open coding process was used to analyze the data of the interviews and focus groups. Dominant meanings were delineated at sentence level, using the 'nodes' function in NVivo. Analytical refinement led to a second more specific categorization of the data into four distinctive discourses on 'innovation'. The discursive framings revealed, open a debate on innovation that relativize unilateral interpretations and plea for a differentiation of discourses on innovation.

Analyzing discursive framings in the public sphere: how do pig farmers perceive innovation?

Adoption as usual.

The first framing on innovation we labeled 'adoption as usual' and relates to motivations pig farmers express regarding their role in the development and implementation of technological and technical innovations in their farming practice. Here, farmers frame themselves as predominantly passive adopters. They associate innovation with the ability to assimilate new yet externally developed applications that increase productivity and cost-efficiency on their farm. Interviewed farmers indicated that personal economic criteria are of primordial importance in their decision for adopting these external innovations: "*Within agriculture I think innovation basically means, well, 'return on investment', not? You are able to bring in extra costs, investments and all kinds of systems can be applied but in the end it has to generate more than the investment. That, I think is innovation related to income.*"

Typically the greatest concern farmers express regarding innovation is the financial risk involved of investing in a project or purchasing the novelty. Conditions related to changing labor conditions or the affection with its usability are often considered as being of secondary importance.

Where farmers emphasize the guarantee of financial resilience as the main condition for choosing to adopt a particular innovation, when probed for the personal motivation to innovate they often

³⁹ In the interviews, networks were often described in function of 'innovation because innovation came first and because questions like' what is the use of networks?' and "How do you make use of knowledge?" Were recorded. In the focus groups, with networking as the first topic, the focus on networks may have influenced an open interpretation of innovation

⁴⁰ Although discourses – here defined as as real-world phenomena based on socio-interpretative ensembles of concepts , ideas and categorizations that give meaning and co-constitute practices (Hajer, 1995) – are both dynamic as well as appropriated differently by different actors , empirical and policy research made it clear that definite discourses do exist and have a clear impact on the behavior of (political) actors (Paredis, 2013; Crivits et al., 2010; De Krom et al., 2013). Also in agricultural research, discourse analysis revealed how competing discourses affect agricultural practices and decisions concerning agricultural restructuring (Tilzey an Potter,2005), multifunctional agriculture (De Krom et al., 2013) and the response to climate change measures (Fleming and Vanclay, 2009b).

resorted to structural arguments: “ *I think you have to move with the times, if not the value of your company decreases drastically. Especially if you want to leave it to your children or want to sell your company*”

“ *Yes, it is something that keeps on evolving. Also economically, the supply chain , yes that is of course something over our heads.*”

“*I think there is going to change a lot [...] The situation of the market forces you to evolve in a certain way.*”

Farmers, thus, are not inclined to promote the intrinsic qualities of innovations but consider it to be an external inducement. Strikingly in this context was that a ‘novelty’ was depicted as ‘*something you need to work with*’ or even as ‘*something that feels as a limitation*’.

This framing of innovation as ‘intrusive’ can be related to the common experience of a tension between ongoing expansion of pig farms and persistent negative results in terms of price setting, labor conditions and overall profitability of the sector. The perception of increased uncertainty about the effects of scale enlargement plays a role in how farmers innovation have come to question innovation as something intrinsically good or neutral.⁴¹

Both the both focus on the external pressure to innovate and the difficult economic situation within the sector provides farmers with an image of the ‘hindered innovator’ or a mere follower outside the locus of innovation. Within this discourse the farmer seems to identify himself in quite great similarity with how farmers are depicted in the Rogerian adoption/diffusion model that has long come to dominate agricultural innovation policy and governance (Godin, 2005).⁴²

The above consideration of the ‘passive receiver’ is however only a partial account of how these farmers perceive the process of the adoption of innovations. Interviewees also clearly indicated how their innovation decisions are influenced by their ‘active’ relationships with other supply chain actors Crucial agency is ascribed to particular subjects in the so-called *farm input supply chain*, further subdivided in merchants (e.g. feed dealers, barn constructors ,veterinarians,..) and creditors (e.g. banks, investors, ..) Merchants and creditors are important mediators of innovation adoption because they have direct interests in the investments of pig farmers.⁴³

The analysis suggests that farmers have a two-fold relationship with these actors. On the one hand, it is argued that input actors are invaluable guides to support technical and economic decisions. Flemish pig farmers have often developed longstanding personal relationships with farm

⁴¹ Note that farmers did not state that scale enlargement as such is objectionable, but that a great deal of particular farmers are not in a position to either make or cope with scale enlargements: “I am convinced that a lot of farms have become too big and that the focus has – the last few years – been too much on the growth of farms, and I think this is not the essence”.

⁴² In both innovation theory and extension practice, adoption has long been considered as the touchstone of innovation. Especially when time and effort has been invested, a novelty would only be considered a ‘successful’ innovation when there is adequate acceptance of the community in question. Communication (or diffusion) is then an essential prerequisite to influence and ensure sufficient adoption and implementation of a new application in the market. In (agricultural) innovation studies, the word ‘adoption’ became famous through the work of Everett M. Rogers on the diffusion of innovations (Rogers, 1962; Rogers, 1995). His work can be seen as an essential scholarly representation in the construction of the linear model of innovation (see Godin, 2005). Interestingly, Rogers initially framed ‘innovation’ within a sociological understanding. In his 1962 book, *Diffusions of Innovations*, innovation took place along the following steps: innovation – communication – consequences on the social system and consequences over time. It was only by the third edition of his book (Rogers, 1983) that he considered innovation within an economic (and individualistic) framework. (Godin, 2005).

⁴³ Here it is apt to note that any discourse – as a meaningful discursive frame to interpret concrete situations – always designates well-defined roles to specific actors. A more full picture thus emerges when we consider (1) the way farmers perceive the importance of those actors but also (2) the vantage point of the other actors implied in the context relevant for that discourse (i.e. innovation) are included. Knowledge interaction in the contemporary setting of ‘farmer vs. extension’ is delineated by routines based on commercial services rather than deliberation (See for instance Leeuwis, 2004).

input agents. One interviewee specifies this habituation process by suggesting that a lot of pig farmers only shift feed company when their personal merchant-adviser does so.

On the other hand, farmers clearly articulate awareness of the commercial motivation of merchants and the resulting non-neutral nature of the mutual knowledge interaction. Farmers speak of e.g. ‘colored information’:

“It is colored information. You have to always keep in mind: why does he tell this? Why does he promote one specific variety of maize? Because the seller has the most from that variety. Why should that boy present a variety which will give him one euro less a bag? He wouldn’t do that, right?”

This remark hints an underlying interest pig farmers hold and is particularly important in the political context of innovation. It expresses the need to deliberate with other actors (farmers, researchers,..) within a non-commercial framework.

Farmers are critical towards ongoing commercial relationships, and warrant for a more balanced, symmetric exchange of information. As one farmer describes his ‘solution’ to reconsider contemporary relationships in the pig farming chain:

“It remains a commercial relationship. This is a fault in the system. If it would be possible to gather in a group, not working together but just sitting together, exchanging ideas on an objective basis, assisted by a coordinator who leads the discussion and knows where the tricky points are...”

This observation resonates with a general need farmers have expressed to become engaged in more horizontal, symmetric form of inter-farmer deliberation. A recent study e.g. confirmed that 79% of the Flemish pig farmers feels the need to work together with other farmers (BEMEFA, 2012). This reflects the need to attain betterment qua discursive representation, i.e. the need for a ‘forum’ where other perspectives on ongoing practices can be deliberated.

Innovation on demand.

Where the ‘adoption as usual’ discourse is anchored in the technological and production orientated dimension of innovation in farmer practices, we claim to have found another important discursive conceptualization of innovation related to the element of ‘demand’. The framing of *innovation by demand* is largely determined by farmer’s negative perception on and interaction with changing societal expectations and how it is translated to legislative measures and consumer preferences.

Several pig farmers indicated how they felt disconnected from the intricate interaction between societal perceptions, practices and purchase behavior. The framing of *innovation ‘on demand’* connotes farmer’s expression of discontent regarding the alleged ease with which they would have to adapt to the changing demands of market, government or society. As one farmer expressed: *They expect us to change all the time, but have they ever considered what this means to us?*

Also the high speed at which they are expected to adapt themselves can be associated with farmer’s discontent regarding their societal role: *“You learn things of which you know: Ok, in the future this has to go down, so we would better work on it now, before they make it mandatory. Everything has to go so fast, that makes things somewhat harder.”*

In practice, however, farmers take a central position at the interface between changing expectations in society and marketing behavior. Often quite directly, they experience the concrete trans-

position from societal demand to the structure of their production system.⁴⁴ A recent development of this sort, is the response to European animal welfare legislation inducing innovations such as group housing and of antibiotics in livestock industry. For this transposition from society-to-farm, for (most interviewed) pig farmers, economic conditions again prevail. This is clearly reflected in the way farmers categorize specific innovations. In this regard one, for instance, criticized the use of air washers because these *'contribute nothing to productivity'* while asserting that the reduced use of antibiotic *'is a conscious choice because it in the first instance reduces costs'*.

But to a significant extent in contrast with the previous discursive framing, other non-financial matters related to job satisfaction, concern for the direct environment and recognition of other societal actors here play a more decisive role. As this pig farmer for instance indicates:

"Yes economically. But also in terms of animal welfare, we may have the name of being economic thinkers, but also other things counts. For example the needleless injection, when the use of antibiotics lowers, the health on your farm is also better, isn't it? It's not just - how should I say - for the animals it's also enjoyable. .. if you constantly have to work with sick animals, after a while there is not much fun anymore."

Further on this very same farmer, frames 'innovation' in terms of communication with the consumer:

"If there is innovation towards consumers, I think it would be more interesting for the farmers if things were explained better, that things are framed better. Now it is always like two opposing parties. Do you understand? The consumer desires something and therefore this is imposed by retailers, but often farmers in fact do not understand the position of the consumer".

This last concern shows how farmers frame innovation in terms of gaining more communicative access to the articulation of demand. Although farmers acknowledge and work with 'structures of demand' as they exist in 'the' market today, their views on demand show how they struggle with the symbolic and immaterial dimension of 'consumption'.

The following excerpt comes from a focus group with pig farmers. The group in question concerns a young group of farmers who are into intensive pig farming and have a dominantly entrepreneurial approach. Two farmers express how they feel frustration in their position on demand:

"There isn't one consumer who is interested. Not one, you know. In the shop they buy the cheapest. When they are asked 'do you think' it is important healthy pigs?" all of them say: yes! But if they have to buy than they buy the meat from Brazil. We have to come to terms with all kind of demands from Europe. And we just keep on paying.

[Interviewer]: Do you think it's the fault from the supermarket?

No, the government.

Look, we think it is important that people who eat meat in Europe eat controlled and good meat. And then... that is what forms the market price. Then I think the government should demand the same from all the meat that enters Europe from abroad."

On the one hand these farmers acknowledge their situation within the rules of the economic game. The translation from a societal demand (in this case coming from the 'European citizen') is *what forms the market price*. However, these farmers hold accountable the government for a 'fair' representation of demand in the process of production. A government thus needs to create conditions for someone to be able recognize, indeed account for, their efforts.

⁴⁴ Cf. Consumer/Citizen Divide

This framing broadens the conception of what innovation means. Restricting innovation to mere commercial implementation (Godin, 2013), one might be inclined to equate it with mere purchase preferences, i.e. actual purchasing behavior of who-ever is buying the products. In this account, however, one fails to distinguish between the economic notion of ‘demand’ and the sociological notion of consumption (Harvey et al. 2001; Slater, 2007). Where the former represents purchase behavior in dominant market systems the latter can be conceived as the entire social context in which societal expectations are realized. Farmers engaging in innovative actions and investments to meet ‘demand’ expect efforts to be rewarded and recognized both *de facto* through increased revenues as well as *symbolically* through communicative access with consumers. Within pig industry farming – mostly operating in international markets and vertically integrated food chains – farmers are often dependent on other actors for the communication with consumers.⁴⁵ This enhances the likelihood of missing out both symbolic and financial recognition for their innovations ‘on demand’. It is this likelihood that warrants the claim to make responsible ‘a government’ to ensure political terms which allow the discursive representation of farmers that voice farmers in the remuneration and participation of the transposition and formation of ‘demand’.

Contestation in public space and dialogue days

The analysis of both production as well as consumption related framings expressed by farmers shows how the linear model of innovation is both reproduced as well as criticized and contested by Flemish pig farmers. On the one hand, several farmers acknowledge structural tendencies that confirm their position of adopters in the innovation system. On the other hand, farmers connect their hampered connection with innovation to amongst other the symmetric relationship with other actors in the agro-food chain, their broken up communication with consumers and societal change and their expectations w/r responsiveness towards efforts. These worries are intrinsic to the rationale of the participatory innovation discourse.

Pig farmer’s worries did not go unattended. In 2011, after crisis persisted for several years in the Flemish pig farming chain, cabinet and farmer representatives initiated a series of dialogue days which had the aim to hear the problem areas within the sector and constructively search for solutions and new strategies⁴⁶. Within these empowered stakeholder sessions experts, agro-food chain actors, farmer representatives and government officials were gathered to debate and discuss several themes related to market strategies, profitability, research and innovation and the relation with the feed industry (VILT, 2011). Without explicitly being presented in this way these dialogue days can be considered as a process of accountability because several actors within the agro-food chain are prompted to explain their ongoing behavior.

In this paper we wish to assess the policy outcomes, reasoning from the above mentioned perspective of discursive accountability. Our analysis of the qualitative data on the framing of innovation by farming constituents confirmed the ongoing friction between the discourses of linear and participatory innovation. Following Dryzek, we could now ask the question whether the policy outcomes have achieved discursive legitimacy, i.e. to what extent collective decisions are consistent with the constellation of discourses present in the public sphere. In our case, to what extent are both discourses represented in the policy outcomes of the dialogue days? We address this question in the following section.

⁴⁵ Existing institutional arrangements do not easily allow farmers to have connection between the sociological formation of ‘consumption’ and the economic formation of ‘demand’. Within food economy, supermarkets have a decisive role in the structuration of both production and consumption (see for instance; McMeekin, 2002; Harvey et al., 2001; Grin, 2012) Through their marketing practices they embed ‘demand’ both within the sphere of productivity (by demanding and offering low priced goods) as in the sphere of symbolic and social interaction (by offering a message of quality, concern and convenience). As such they re-enforce a conflictual dialectical relationship between undue pressure on the production process of farmers and fulsome marketing efforts to translate issues of social distress or demand

⁴⁶ <http://www.groenekring.be/Default.aspx?tabid=2464>

Assessing policy outcomes

The dialogue days resulted in 22 actions which have the intention to initiate new mid-term strategies related to (1) increasing transparency (2) improving quality and sales (3) research and innovation and (4) accompanying measures. We have assessed all policy outcomes by analyzing it from the point of view of some sub-dimensions of accountability:

- a. **Underlying problem:** Addresses the alleged problem to which the outcome responds.
- b. **Performance:** Addresses the way the outcome is supposed to have an impact on the matter of concern.
- c. **Authorized actor:** Describes who is authorized to organize the completion and implementation of the action.
- d. **Expected relevance for farmer:** Addresses how a pig farmer can benefit from the policy outcome.
- e. **Accountability relationship:** This dimension specifies which actor answers to which actor.
- f. **Additional beneficiaries:** Addresses who are other potential beneficiaries of the policy outcome.

Table 2 assesses all 22 policy outcomes from these six dimensions. When we now evaluate these outcomes in terms of their consistency with the linear and participative discourse, respectively, a strong disproportionality emerges qua discursive accountability⁴⁷. The disproportionality runs along several lines.

The most striking finding in Table 2 is the overall absence of farmers as authorized actor in the organization and completion of the policy actions. Farmers are thus not articulated as competent actors while in some actions they could be directly involved. Farmers could play a key part in e.g. co-designing key indicators of profitability, discussing transparency of prices, negotiating with retailers, promoting pig meat, thinking through alternatives for imported proteins, etc. Nonetheless, other actors are defined as competent and responsible.⁴⁸

Secondly, when scrutinizing the expected role and relevance for farmers a lot of outcomes conceptualize the mechanism of the outcome in terms of the acquisition of knowledge. Farmers are than either informed by documents, warned or guided by codes or invited to request information. In neither case they are considered as continued knowledge partner in the evaluation or co-creation of the organization of the policy-outcomes. This assumed epistemic ignorance is consistent with the linear discourse of innovation. Overall, none of the outcomes articulated the need for farmers to further deliberate on a horizontal level. In all cases solutions are made for farmers not by farmers.⁴⁹

⁴⁷ Note that this paper does not address the deliberative process of the dialogue days as such. This analysis is not possible due to space restrictions. On the other hand, ensuring discursive accountability will always necessitate some form of ex-post assessment of the outcomes of a political process. The paper aims to contribute to this 'assessment aspect' of an accountability mechanism by reflecting on discursive framing of the political terms that comprise the policy outcomes.

⁴⁸ Note that this does not mean that these policy outcomes are insufficient or irrelevant or that all policy making should proceed in a participatory manner. The linear perspective maintains its relevance, yet what is striking is that within the design process of the measures no broad nor inclusive farmer consultation or participation is considered. Nor are the terms comprising the policy measures scrutinized from a perspective of discursive legitimacy. One notable example is the policy measure on producer organizations. This measure, however, was more an externally (i.e. on European level) developed measure.

⁴⁹ Note here the peculiar position of the farmer organization. Although some of these representatives are farmers the measures they support still frame the composition of a measure as a task of non-farmers.

Table 2: Assessment of policy outcomes.

Sub-dimension	(a) Underlying problem	(b) Performance of policy measure	(c) Authorized actor	(d) Expected relevance for farmer	(e) Accountability relationship	(f) Additional beneficiaries
Outcomes						
Key figures profitability	Need for general Flemish data to evaluate profitability and investments within pig farming sector	Publication of key indicators	Administration, study department	Receiving information	Sector farmers -	Investors
Transparency of prices	Lack of transparency price setting. Need for better negotiation.	On-line publication of prices slaughter houses, doctoral thesis on market power	Administration	Receiving information on market prices	Slaughter houses - farmers	
Compliance with proper payment	Take-over of farms due to long-term customer credit	CSR barometer publication of feed industry association	Belgian Compound Feed Industry Association	Being warned for risk	Feed companies - farmers	Banks, Feed companies
Calibration of carcass classification	Lack of clear protocol for the classification of pig carcasses	Simplifying procedures for carcass classification and machine types	Department agriculture	Transparency in price setting	Slaughter houses - farmers (products)	
Orientation towards Futures market	Price volatility	Groups of farmers on future market	Education departments of farmer organizations (NCLB, NAC)	Receiving education on futures markets	/ (opportunity in market)	Stock market experts
Negotiation between suppliers and retailers	Asymmetric relationship between supply and retailing	Deliberation actors agro-food chain	Agro-food chain representatives	Being represented	Farmer organization - farmers	All chain actors
Support for producer organizations and inter-branch organizations	Low bargaining power for pig farmers	New legal regime for cooperation in market	EU, Cabinet, sector representatives	Organizing cooperation	European economic policy - farmers	
Support Belgian Pig meat	Lack of differentiation and popularity abroad	Promotion	Department, promotional department (Belgian Meat Office)	Receiving marketing support as sector	State - farmers	Traders

Simplification of quality control	Overlapping procedures for quality control	Code for good slaughtering	Department	Being informed on quality, compliance with quality specifications	Farmers – slaughter houses-retailers	Retailers
Maintaining Pietrain pig breed	Maintaining international quality standards	Subsidies for keeping Pietrain sows	Department, European subsidies	Subsidies for breed selection	Support (transfer from public sphere to empowered space)	Breeders <i>pietrain</i>
Information on conversion to organic agriculture	Absence of organic pig farming	Informed farmers	State extension department	Receiving information	/ (market opportunity)	
Short supply chain information and project subsidies	Lack of direct marketing and short supply chain	Informed farmers	Flemish Network on short chain	Subsumed in general program/no active role for pig farmers	/ (market opportunity)	consumers
Promotion of local meat	Need for promotion of meat	Promotion campaigns	Department, office of promotion	Being promoted as	State	Traders, retailers
Action plan for alternative proteins in feed	Decreasing dependence on soy import, economic opportunities to validate waste streams and by-products for feed	Cluster of biotech projects, certification efforts (. RTRS)	Feed industry association, Several research institutes	Adopting new technologies	Feed industry, protein producers	Feed industry
Service desk for pig farmers	Lack of communication between farmers and research	Answering farmer questions on various issues (research, policy,..)	Department, service desk, several research institutes (public-private)	Requesting specific information	/Increasing responsiveness to farmers (explicitly no accountability)	
Demonstration project technical indicators	Lack of knowledge w/r on farm processes	Providing average key figures on ratio's (e.g. age /weight)	Research institutes	Possibility to consult research report, ex cathedra presentations	/ (instrument)	Research?

Strengthening research infrastructure	Lack of public research on pig farming technology	Experimental pig stable	Research institutes	Possibility to consult research report, ex cathedra presentations	/	Research
Study and integration of available technologies for data exchange in the genetic evaluation procedures	Need to modernize (software programs) existing studbook, genetic information	Proving data on genetic quality of pigs	NPO studbook Flanders	Registration of pigs/ Receiving information on breeding (genetic) value	Breeders-farmers	Breeders
Accompanying measures w/r animal welfare	Costs of investing in group housing and alternative castration	Subsidies for investments and information on alternative techniques	Administration (VLIF), Extension research	Adoption of policy measures	Farmers – state society	Society, animals
Accompanying measures w/r (tightened) manure policy	Need for farmer's compliance with manure policy	information desk and working groups (VCM)	Administrations (VLM,) , Coordination center manure;	Adoption of policy measures	Farmers – state – society	
Structural re-orientation of the entire sector	Maintaining a 'good' sectorial infrastructure (i.e. antibiotics, artificial insemination and financial investment)	Continuous deliberation	Cabinet	Being represented	Cabinet - farmers	Agricultural supply industry

Conclusions

The discourse analysis of pig farmers interviews revealed a distorted relationship with the discourse of linear innovation and a articulation of the nascent participatory discourse. The transfer from both discourses was however not reflected in a significant governance network within the empowered space. An assessment of the pig farming dialogue days showed how the linear discourse is still largely dominant in the political terms that frame the agency and competence of agency within processes on the evaluation of innovation. The mechanisms of discursive accountability, now, warrants a more reflective stance. Starting from a better representation of the participatory discourse within ongoing and future decision making processes and collective outcomes would imply the empowerment of farmers along the several sub-dimension constituting the understanding of solutions to the ongoing crisis within the pig farming sector.

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