

Challenges and Tensions in Area Based Transitions

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Abstract

Transition management has been developed as an approach for realizing fundamental societal changes. Originally it has been aimed transitions in functional systems such as the transport system. Recently the transition approach has been applied to geographically bounded areas. In this paper we discuss the tensions that arise when aiming at transitions in areas, on the basis of two cases. We first identify tensions that are typical to transition management based on existing literature and then confront these tensions with our cases. We find that some tensions that arise in the cases are similar to those that we identified based on transition management literature. However, in several respects the specific context of geographical areas adds new dimensions to these tensions. The analysis of those tensions provides lessons for future attempts to realize transitions in geographically bounded areas.

Keywords

Transition management, area based transitions, area based governance, tensions

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1. Introduction

Modern societies are confronted with complex and unstructured problems, such as climate change, resource depletion and persistent poverty. The complexity of these problems arises from the presence of multiple actors with diverse interests, resources, and interdependencies (cf. Rittel and Webber 1973), and from the role and function of institutions and their interaction with actors (Frantzeskaki and Loorbach 2009). For example, problems of youth crime in urban areas are embedded in a complex web of problems related to education, employment, policing and community development.

In response to the complex and interconnected problems in the local, there has been an upsurge of area-based governance attempts in numerous countries such as the UK (Alcock 2004), the Netherlands (Kuindersma and Boonstra 2010), and Belgium (De Rynck and Voets 2006). Characteristic of area based governance is the focus on and line of reasoning from the perspective of a geographical area. The aim is to arrive at the integration and coordination of policies at the local or regional level (cf. Kuindersma and Boonstra 2010) and develop an integral approach to the problems in that area. Area-based governance aims to deal with “complex policy issues that demand a flexible, made-to-measure policy for a specific sub region or area” (De Rynck and Voets 2006, 59). Area based governance has grown into a way of dealing with interdependencies among actors by involving multiple actors into governance and a way of integrating policies at regional and local level.

Recently attempts have been made to apply Transition Management (TM) in area based approaches, thus shifting TM from a sector based strategy to an area based strategy. These efforts aim to realize fundamental change in area based governance, and address two major critiques: (1) area based governance in practice often builds upon the regular, non-local governance culture and practices that do not fit the area; (2) area based governance fails to address the local persistent problems such as poverty and degradation. Within TM it has been argued that such persistent problems require an approach that explicitly deals with the patterns of thinking and acting that are deeply rooted in existing institutions of modern society (Loorbach 2010). In this regard, applying the principles of TM to area-based governance seems a promising endeavor.

However, it is to be expected that TM cannot be simply transferred to area based transitions because TM has not been developed for application to geographical areas but to functional systems such as the energy system (e.g. Rotmans, Kemp, Van Asselt, Geels, Verbong, and Molendijk 2000), or the transport system (e.g. Kemp and Rotmans 2004). Application in areas brings certain aspects which are still “unfamiliar” to TM such as the emotional involvement of people with their area, and historically grown social relationships in communities. Such issues may ask for adapting practices of TM.

This article aims to contribute to the understanding of attempts to address complex and persistent problems in geographically demarcated areas by aiming at regime change¹. The central research question of this article is ‘what specific tensions are encountered when applying principles of TM to area based governance?’ To answer this question we first introduce a theoretical framework for analyzing tensions in TM. As a basis for our theoretical framework we will use the transition management framework developed by Derk Loorbach (2007; 2010). To this we will add insights from TM literature with regard to tensions TM entails. From our theoretical framework we derive an analytical framework

that is used for analyzing two empirical cases in which principles of TM have been introduced to area based governance processes. Based on our analysis we provide lessons for future attempts to realize transitions in geographically bounded areas.

This paper is structured as follows. In section two we introduce our theoretical framework and our accompanying analytical framework. In section three we present the research design. In section four we offer an analysis of the two empirical cases. In section five we present the conclusions, and the wider implications of our findings.

2. Theoretical Framework

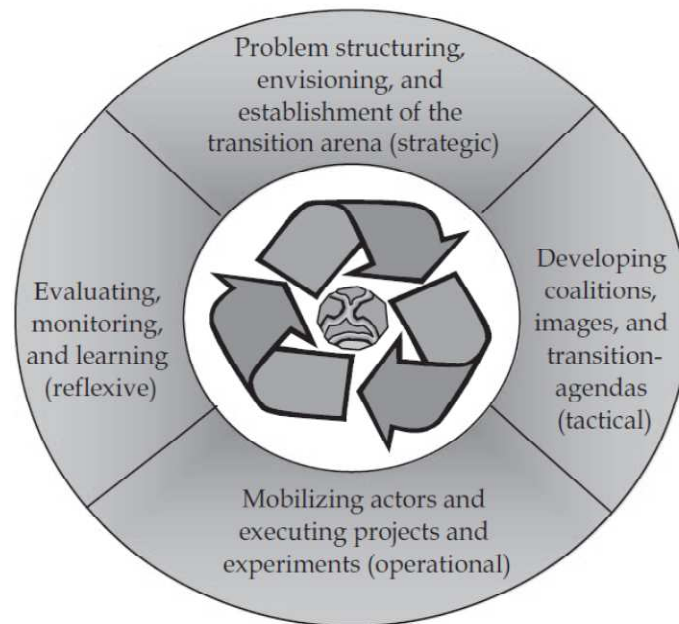
TM aims to achieve transitions by engaging actors in a radical learning process. Transitions are seen as “large transformation processes in which large parts of society change, in a fundamental way, over a generation or more” (Moors, Rip, and Wiskerke 2004, 33). Transitions are gradual processes in which society transforms structurally and culturally (Rotmans, Kemp, and Van Asselt 2001). They may come about through combinations of endogenous innovation in societal systems and pressures from external changes in society (Loorbach 2010). In order to achieve transitions, TM advocates a cyclical learning process in which participating actors learn about the fundamental structures and institutions of our society, anticipate what situation is desirable in the long-term and develop and implement practices to modulate ongoing societal developments accordingly.

As transitions are long term processes, taking place over periods of more than 25 years (Geels 2002; Grin, Rotmans, and Schot 2010), TM contains a long-term, strategic component. However, TM at a program and project level also requires middle-term and short-term decisions at tactical and operational level. Given the uncertainties that often occur in the complex environment of persistent problems it is also essential to monitor the ongoing processes and reflect on the decisions taken continuously. In short, TM requires governance activities which can be divided into four different components: strategic, tactical, operational and reflexive (Loorbach 2007; 2010).

2.1 Tensions in Transition Management

As a basis for our framework we use the transition management cycle model developed by Loorbach (2007; 2010) (see figure 1). The cycle takes the governance activities at strategic, tactical, operational and reflexive components as recursive and mutually intertwined activities. The literature on TM describes several tensions that may arise in the application of TM principles. We connect these tensions to the components of the transition management cycle, thus arriving at a theoretical exploration of the tensions that may occur in the different components of transition management.

Figure 1. The transition management cycle (source: Loorbach, 2010)



2.1.1 The Strategic Component.

The first component of the cycle is dedicated to strategic activities which cover the development of a long-term vision, the formulation of long-term goals and defining the major problems to be dealt with. A crucial element of the TM-approach is the establishment of a transition arena. Loorbach defines a transition arena as '(...) a small network of frontrunners with different backgrounds, within which various perceptions of a specific persistent problem and possible directions for solutions can be deliberately confronted with each other and subsequently integrated' (2010, 173).

In the literature we find several tensions that arise in this component of the transition management cycle. The first tension is between different values and preferences concerning the direction of change. The persistent problems that TM attempts to deal with are characterized by dissent on goals, values and meanings (Kemp, Loorbach, and Rotmans 2007). The problems at hand, the solutions needed, and the desired trajectories of development are not given beforehand. Meadowcroft argues "that the identification of precisely *which* systems are of interest, and *what* sort of transition they are to undergo, are far from trivial' (2009, 326). In the end the specification of what should change is a normative and politically charged question. A decision on this matter usually cannot satisfy the wishes and desires of all stakeholders involved.

The choice of what to change is inextricably intertwined with who are involved in the transition process, in particular in the transition arena. The TM framework suggests that the transition professionals should

critically select a small but diverse group of participants (frontrunners) based on their background and competencies (Loorbach 2010). This is based on the premise that transition processes depend on the activities of innovative individuals that are willing to commit themselves to the process. Whatever the criteria are, certain actors will be included and many others will be excluded. This raises a second tension in the strategic component of the transition management cycle between the exclusion of actors and the legitimacy of the change process. The potential number of people that will be affected by the change process is much larger and more diverse than the number of people that will be selected for participation.

2.1.2 The Tactical Component.

The second component of the transition management cycle is dedicated to tactical activities: the development of coalitions and the establishment of transition agenda's on basis of the long term vision. Where strategic activities mainly revolve around the long term shared vision, tactical activities are about developing an agenda for the coming five to fifteen years and finding the right parties to bring the agenda further (Loorbach 2010). Advocates of TM argue that the problems and visions formulated within the strategic component of the transition management cycle should be elaborated in a bottom-up fashion. The specification of problems and visions through the development of transition paths and transition agendas should proceed through deliberation and collective learning processes in which the perspectives of the participating stakeholders are aligned.

A tension in the tactical component of the transition management cycle occurs between the (common) transition agenda and the (individual) agendas of the various actors that participate. Like in other programs in the public sector actors may want to frame (ongoing) projects that are part of their own agenda as a part of the transition process, even if it does not contribute much to the transition process. The tension between the transition agenda and individual agendas is partly prevented through the process of envisioning in the strategic component of the transition management cycle. However, while this process will potentially lead to broad rhetorical consensus among the participating actors, different perspectives are bound to be articulated again when the abstract visions are translated to more concrete pathways or experiments in the tactical and operational components of the transition management cycle (Smith and Stirling 2008).

A second tension occurs between the benefits of developing coalitions with regime actors and the risk of being incorporated by regime actors. As the literature mentions, both the transition process and the experiments that follow from it often depend on regime actors because they are the ones who have important economic and political resources (Loorbach 2010). This brings the risk of transition initiatives being incorporated by the regime, which likely leads to softening of radical initiatives and excluding initiatives regarding fundamental changes in the regime (cf. Meadowcroft 2009).

2.1.3 The Operational Component.

The third component of the transition management cycle is dedicated to operational activities: the bottom-up establishment and implementation of transition experiments and the mobilization of the resulting transition networks. In the context of area based governance this involves the mobilization of, for example, a diverse group of residents (Loorbach 2010).

In this component there is a tension between the preference for bottom-up initiatives and the lack of time, capacities and/or interest of non-professional actors. Many actors are quite comfortably accustomed to hierarchy (Avelino 2009), thus it cannot not simply be assumed that the participants are willing to engage in bottom-up initiatives. Often they lack time and capacities to do so.

There is also an important tension visible with regard to the timing of scaling up activities within the transition arena to involve a much broader network of actors. The tension is between the protection of the process and the broadening of the process. On the one hand abandoning the protected space of the transition arena exposes experiments to selection pressures and lobbying from stakeholders, which increases the chances of the experiments' failure. On the other hand, maintaining the limited exposure to selection pressures for too long decreases the chances for support outside the arena (Schot and Geels 2008).

2.1.4 The Reflexive Component.

The fourth component of the transition management cycle is dedicated to reflexive activities: the monitoring, evaluation and learning of lessons from the transition experiments, and accordingly, the making of adjustments to the vision, agenda, and coalitions based on the results of the experiments (Loorbach 2010).

One tension can be identified in this component between reflection and maintaining momentum in the process. Marjolein Caniëls and Henny Romijn (2008) argue that when the process is underway, managing the process also involves the identification of promising next steps. A useful way to do this is to review the progress in ongoing experiments periodically in the light of the long-term views developed during the strategic component of the transition management cycle (Caniëls and Romijn 2008). The TM framework explicitly combines anticipatory and adaptive approaches to constantly re-evaluate long-term goals and short term-actions and adapt them to changing conditions and dynamics (Loorbach 2007). However, there are no specific guidelines for deciding when it is time to reflect. Reflection is important for maintaining the alignment between short-term activities and long-term views, but it is also important that reflections do not take the momentum out of the process with the risk of losing the commitment of the participants.

2.2 The Analytical Framework

We developed an analytical framework for analyzing the challenges and tensions in empirical cases where efforts are made to realize area based transitions. First, we can distinguish the four different components in an empirical case based on the activities that are performed in certain phases of the studied process. After distinguishing the four components in the empirical case, we proceed to identify the challenges and tensions that are described in our theoretical section (see table 1).

<i>Strategic component</i>	<i>Tactical Component</i>	<i>Operational component</i>	<i>Reflexive component</i>
<p>Challenge: Decide on subject and direction of change</p> <p>Tension: between different values and preferences concerning the direction of change</p>	<p>Challenge: Alignment of perspectives</p> <p>Tension: between the (common) transition agenda and the agendas of the participating actors</p>	<p>Challenge: mobilize and activate actors</p> <p>Tension: between the preference for bottom-up initiatives and the lack of time, capacities and/or interest of non-professional actors</p>	<p>Challenge: Balancing between reflexivity and momentum</p> <p>Tension: between maintaining alignment of activities and momentum of the process</p>
<p>Challenge: Recognizing the 'right' participants</p> <p>Tension: exclusion of actors and legitimacy</p>	<p>Challenge: forming coalitions with the regime in order to acquire resources and support</p> <p>Tension: between the benefits of developing coalitions with regime actors and the risk of being incorporated by regime actors</p>	<p>Challenge: Scaling up of activities</p> <p>Tension: between the protection of the process and the broadening of the process</p>	

Table 1. The analytical framework

3. Research Design

3.1 Research Strategy

This research follows a case study approach. We have studied two Dutch cases where efforts have been made to realize transitions: a community in the city of Rotterdam and a region in Friesland. Both cases are efforts towards area based transitions, aiming to deal with persistent problems and realize fundamental change in a geographical locality through transition management. We selected these cases first of all because they are (rare) cases of attempts to apply transition management to areas. Both cases contain the three elements that are crucial for our analyses of transition management in areas: they are attempts at fundamental and long-term change (1) through bottom-up approaches (2), and they both

include a geographical demarcation (3). The two cases provide a detailed understanding of many tensions in area based transitions, but these insights need to be empirically validated in more contexts before they can be generalized. In line with case study methodology we draw on theory to analyze the cases, and the analysis of the cases generates new theory (cf. Yin 2009).

In terms of the research strategy we applied action research (Argyris 1985; Reason 1998) as an important aim of the research was to contribute to the reflexive governance processes in practice. As a consequence of contributing to action, it is common in action research that researchers are subjects of their own research (Edelenbos, van Schie, and Gerrits 2010; Greenwood and Levin 1998). In line with action research principles, researchers and other participants developed knowledge in mutual interaction (e.g. Greenwood and Levin 1998). The researchers contributed to problem solving in different roles, varying from a research role doing formal interviews, observing processes and analyzing them, to more participative or action oriented roles of facilitating processes of change, organizing and chairing meetings, writing project reports and texts for websites or news-letters. Engagement with actors helped to build long-term and trusting relationships with actors, and obtain many reliable and in-depth data.

3.2 Research Methods

Both cases can be characterized as extensive research efforts, in which many relevant data were gathered. Data were collected through a combination of observations (participatory and non-participatory), interviews (formal and informal), and document analyses. Observations were done during arena-sessions and many other sessions related to the projects.² Also, we conducted ten in-depth interviews in the first case, and forty in-depth interviews in the second case. Furthermore, we had hundreds of conversations or informal interviews as a part of the process towards regime change, but also with the aim to research the perceptions of the actors involved. Developments in all cases were also observed during more than fifty visits to the field. In addition, we analyzed secondary material such as websites, policy documents and scientific reports.

4. Case Studies

4.1 The Case of Oud-Charlois

In 2010 transition researchers started a neighborhood arena in Oud-Charlois, a neighborhood in Rotterdam with 13.000 inhabitants. This neighborhood arena is the first attempt to apply the concept of a transition arena to a local and relatively small-scale setting of a neighborhood. Oud-Charlois is known as one of the deprived areas in Rotterdam and is characterized by poor infrastructures and persistent social-economic problems, but also contains important assets such as public green space and a lively art scene. The efforts of several municipal departments to improve the situation have met little structural success, feeding a growing discontent among citizens of Oud-Charlois about the capabilities of the municipality.

The neighborhood arena was established to address the persistent problems in a different manner, aiming (1) at a local societal transition by self-organization of local actors to tackle persistent problems and (2) at a policy transition toward an integral approach of problems in the area, and empowerment of

local actors. In November 2009 a transition team³ assembled a group of 'frontrunners' in Oud-Charlois. The selection of the group was the outcome of an extensive preparation phase of data collection and preliminary interviews. The frontrunners, approximately thirty persons, were selected based on their intimate relationship with the neighborhood and their motivation and potential to make positive changes to the neighborhood. The group consisted of people from different backgrounds (e.g. municipality, local entrepreneurs, citizens, and housing corporations).

In a period of one year eight broad meetings (dedicated to problem structuring, envisioning, and agenda building) and twenty section meetings (dedicated to mobilization of actors and setting up transition experiments) were held. The first meeting of the neighborhood arena was in November 2009. After discussing the problems in the neighborhood and possible visions for the future during three meetings and reaching limited consensus on these issues, it was decided to start with concrete experiments. These experiments included the redevelopment of a square of the neighborhood in a process of co-production between residents and the municipality, the building of linkages between the different subcultures in the neighborhood, and addressing the problem of deprivation.

In November 2010 the last transition arena meeting was held. Although both the transition team and the participants wanted to continue, the team did not manage to arrange funding for an extension of the process, and the local government did not generate the capacity to continue the process themselves. The arena continues to have effect: the most tangible result is the physical transformation of a square in a co-creation process between inhabitants and municipality. The first phase of this transformation is completed and the new square has been formally opened.

4.1.1 Tensions at the Strategic Level.

The first meetings of the neighborhood arena were dedicated to discussing the problems at hand and working towards a common vision for the future of Oud-Charlois. This is where a tension between the exclusion of certain actors and legitimacy arose. The participants to the neighborhood arena soon pointed out that the actor selection strategy of the transition team conflicted with the legitimacy of the neighborhood arena because the selection did not fully represent the inhabitants of the neighborhood (e.g. it favored highly-educated people). After the issue was raised several times, the transition team decided to involve other actors in the neighborhood arena as soon as the discussions became more practical and the first experiments started.

Another tension at the strategic level of the process evolved around the questions of what needed to change and what strategy to follow. The questions were not fully elaborated at the beginning and remained ambiguous in the remainder of the process. This was caused by the fact that several participants to the Neighborhood arena called for concrete action in the first meetings, while there was still dissent on the problems in the neighborhood and no clear vision for the future had been formulated. Some members of the transition team felt that the move to concrete action would be permanent, but finally decided to meet the call for concrete action and form several subgroups, each of which would work on a specific transition initiative that was chosen by the participants themselves. Although shortly thereafter a vision – formulated by the transition team and five members of the neighborhood arena –

was embraced as the leading vision of the neighborhood arena it remained ambiguous what exactly needed to be changed and how as a result of the quick move from deliberation to concrete action.

4.1.2 Tensions at the Tactical Level.

After the subgroups were set up, the participants to these groups made efforts to translate the ideas for initiatives to concrete actions and form different coalitions of residents, professionals and public officials. A particular tension that arose in this phase was between the need to form a coalition with the regime and the risk of being incorporated by the regime was clearly present. The transition team and the participants to the neighborhood arena saw the municipality's practices as something that needed to change drastically. Several of the ideas that were developed for transition agendas involved a move from top-down steering by the municipality and superficial consultation of residents to co-production of policy by the municipality and the residents together. However, the involvement of the municipality could also expose the activities of the neighborhood arena to selective interventions and steering by the regime, potentially causing the process to suffer an early end. A specific example of this tension between the need to cooperate with the regime and risking to be incorporated surfaced in an experiment to redevelop a local square in a process of co-production between the municipality and the residents of Oud-Charlois. The municipality had deliberately kept the square as a 'blank spot' in its redevelopment plan for Oud-Charlois to give the neighborhood arena the opportunity to come up with an innovative plan. Although this opportunity was appreciated by the arena-members, to some it felt as if they were being incorporated in a pre-planned process, especially because the municipality established boundaries for the experiment both in time and space.

4.1.3 Tensions at the Operational Level.

As soon as the subgroups were set up and carried out their experiments it became clear that not all participants could or wanted to invest the necessary time and energy to successfully realize the ambition of the groups in a bottom-up fashion. For some participants the additional workload of the neighborhood arena became too much as the process progressed. The result was that in later stages only a few core participants were always present and most participants were present on an incidental basis. Some participants stopped participating altogether. The transition team, together with some participants, tried to involve other residents and professionals. However, these efforts were met with little success because of a lack of interest, time or budget. Twelve people became involved in the experiment to redevelop a square in the neighborhood on a long-term basis. Half of these people were representatives of the municipality. About fifty additional people got involved only once in the redevelopment process but did not remain involved for the remainder of the process. The consequence was that most of the experiments conducted by the subgroups faded out before they could scale up to larger networks of people. Thus, at the operational level the tension between the preference for bottom-up initiatives and the lack of time, capacities and/or interest of non-professional actors became apparent.

4.1.4 Tensions at the Level of Reflection.

Several of the tensions mentioned above indirectly also relate to the reflexive component of transition management. These tensions often required the transition team to decide whether they should adapt to changing circumstances or 'stick to the plan'. With regard to the tension between reflexivity and speed

deducted from literature, there seemed to be more stress on speed in this project. Because the arena was weary of deliberate and abstract activities there was constant pressure to take concrete measures constantly. In addition, policy makers and public officials pushed for tangible results. Because of this constant pressure reflexivity in the arena suffered. However, this does not imply that there were no moments of reflexivity during the process. On the contrary, there was a lot of reflexive debate within the transition team. Also, interviews were held with participants after several months which helped to reflect on the process. Other moments of reflexivity were two workshops for policy administrators, public officials and other interested people. In these workshops they were not only informed and asked to join (or take up certain arena-activities), but also reflected on the arena process from their own field of expertise.

4.2 The Case of Friese Wouden

From 1990 till 2010 farmers in the Northern Friesian Woodlands and researchers from Wageningen University engaged in a transition trajectory⁴ to realize a more sustainable way of farming that would fit the local landscape and spatial characteristics of the area. At first two environmental cooperatives⁵ VEL and Vanla started the trajectory. Over time, more environmental cooperatives were established in the region and joined in and the emphasis changed towards a transition of the area including developing nature conservation and landscape management, water management, and regional economy. A central strategy of the participants was to establish self-governance by the farmers and make existing policies more area-specific. The strategy included the regional implementation of existing policies, but also the more radical component of changing policies, rules and regulations in such a way that they fit the area. The specific nature of the area turned out to be an important part of the transition. An early milestone in terms of self-governance and area-specific policies was in 1994, when the Dutch government agreed to give space in existing policies so that the two environmental cooperatives would be allowed considerable freedom to develop their own strategic innovations to achieve sustainability on their farms.

Over time a protected space was created (in terms of finances and regulation) which allowed the farmers to experiment with their novelties. The government set the goals but gave the farmers more freedom to determine collectively how to realize these national goals. In return, the farmers promised to achieve the environmental policy targets faster than other farmers. One specific type of experiment was crucial: the government allowed the farmers to experiment with broad cast surface spreading on the land instead of shallow injection. Broad cast surface spreading was not allowed anywhere else in the Netherlands, as scientific standards stated it was polluting in terms of nitrogen excretion. However, the farmers in the cooperatives claimed that broad cast surface spreading, when properly done under the right weather conditions, was not at all that polluting and was actually better for soil life and organic matter content of the soil. To achieve scientific evidence for their claims the farmers sought cooperation with agricultural scientists. In 1999 this led to the start of a regional scientific experiment, called the Nutrient Management Program (Atsma et al. 2000). The program, in which the farmers had a leading role, was meant to develop an innovative trajectory that would result in a regime change in agriculture that would favor the usage of natural resources, in particular soil and manure. The participants started several scientific on-farm experiments to develop the necessary new knowledge, including the making of 'good

manure' that would emit less ammonia and be better for the soil on 60 farms (Eshuis and Stuiver 2005; Stuiver 2008). They established a research council to guide the program. The research council was not formally designated as a transition team but it functioned as such since it took the most important decisions regarding the direction of the transition process.

After 2000 the emphasis shifted towards broader spatial aspects of the area because the farmers broadened their trajectory of change to include landscape management more intensively. As a consequence, over time more stakeholders were involved in the trajectory. The two cooperatives joined forces with four others to create a joint regional approach for landscape management. In 2001, the six cooperatives established themselves as the NFW association. All farmers in the area (not only those that were member of the cooperatives) could participate in learning and implementing the landscape management measures. The NFW intensified its cooperation with governmental parties and other stakeholders to arrive at a regional covenant. In 2005 a regional covenant on landscape management was signed by the NFW, two ministries, the province of Friesland, the five municipalities in the area, the water regulatory authority, the main farmers union, and the Environmental Federation Friesland. A steering committee was formed to guide and oversee the implementation of the covenant.

4.2.1 Tensions at the Strategic Level.

In the beginning of the trajectory the identification of the subject of change in the area took place largely among the members of the environmental cooperatives and scientists who visited the area and assisted in the establishment of the cooperatives. The members of the cooperatives are farmers, and they decided that local citizens and entrepreneurs could be consulted but not become member of the cooperatives themselves. In practice, citizens and entrepreneurs were largely excluded from the envisioning process. Farmers who were not members of the cooperatives were also excluded. This did not cause tensions as long as the envisioned changes were limited to experiments on the farms of the involved participants. However, when the cooperatives wanted to broaden the scope of the trajectory to the management of the landscape in the area, it became important to include more participants. Tensions were avoided by allowing all farmers in the area to join the initiatives on landscape management and nature conservation. However, this caused new tensions around the scope of change because the new participants were less committed to realizing fundamental regime change. They were merely interested in carrying out landscape management and receiving governmental subsidies.

There were several tensions regarding the direction and scope of change among the members of the research council. Some members wanted to drastically change policies and agricultural routines to make possible the switch from slit injection to broadcast surface spreading of manure on the land. Other members wanted to keep operating within the existing rules and routines for the application of manure. Another tension occurred because some argued that sustainability was to be realized mainly by changing animal nutrition, while others argued that sustainability was to be realized through an integrated approach that included the entire farm system. This tension was directly related to institutional interests, because some research institutions are specialized in livestock and other in farming systems. After several discussions, the research council decided to take an integral approach including the entire farming system. In a later phase of the trajectory, when the activities already had been broadened to landscape management and spatial developments, tensions arose because the new actors that joined

wanted to broaden the process to include regional economic development, while for others the process was mainly about environmental sustainability. One solution was to develop a project on product market combinations. Among the product market combinations were the 'old' ambitions of self-governance, improving manure quality and landscape management, but also new ideas focusing on regional branding and gaining energy from timber. This was a pragmatic solution to deal with the tensions between different preferences but did not prevent entirely that sometimes conflicts came up about what to work on in the transition trajectory.

4.2.2 Tensions at the Tactical Level.

At the tactical level there was a clear tension between actors who wanted to develop an area specific agenda for change and actors whose agenda was linked to the existing rules and practices of the national regime. For example, some members of the research council wanted to make the switch to broad cast surface spreading because it fits well in their area. This was opposed by members of the research council who had already developed techniques for slit injection and were mainly interested in optimizing this technique. This tension between frontrunners and regime players partly played out as a tension between the local area (the locally specific) and the national (generic) regime.

There was also a tension between the need to form coalitions with the regime on the one hand, and being incorporated by the regime on the other hand. Although the cooperatives struggled for changes in the existing policies and practices of the regime, they also depended on them. They needed the subsidies from the government and governmental cooperation to adapt existing policies. As the main commissioner of research the government largely determined which institutes would be involved in the research. These were not always the researchers preferred by the members of the research council because some members thought that the proposed researchers would be unable to carry out research that would respect the specific local context of the area. However, to get subsidies and gain the trust of the government it was important to cooperate with research institutes and researchers that were trusted by the government. There was an ongoing concern that the researchers that fitted best with the established regime would take over the transition agenda.

4.2.3 Tensions at the Operational Level.

In the early phase the program revolved around a group of sixty farmers who became highly involved. They actively experimented with new ways of working on their farms and also actively participated in the study-group sessions. However, after the initial phase with a small participating group of enthusiasts, things changed when in 2005, after the signing of the regional covenant, a working plan was drawn and a steering committee with working groups was formed to oversee its execution. Mobilizing more participants was important to arrive at the goal of realizing change in the entire area but it created tensions at the operational level. The new group of participants was not enthusiastic about establishing radical regime change and it was very difficult to mobilize them for working groups. Most of them joined in because they wanted to engage in landscape management on their own farms and learn new farming methods but they were not interested in regime change. The early participants feared that once the group was broadened the direction of the experiments would change. Their dilemma was how to involve participants without losing focus. In practice, few new participants were mobilized. For instance, in the new groups on nature and landscape management twenty five percent of the new participants were

citizens and entrepreneurs but their structural involvement and influence on the overall program of the steering committee of the cooperatives was low.

4.2.4 Tensions at the Reflexive Level.

The local and area-based character of the transition brought some specific tensions concerning the speed and the contents of what was learned. The actors often disagreed about what research to carry out, what lessons could be drawn from the research, and how this should be translated to the political domain. The main tension in this regard was that between local, situated knowledge and general knowledge. Some of the actors argued that generally valid scientific research had shown that their models and guidelines gave the best results. Other actors argued that the general (prevailing) models were based on averages from different test plots and repetitions and were valid only in conditions that reflected the research plots, rather than in the local conditions of the farmers in the area. They found that the project progressed too slowly, that they knew things already to be true on the basis of their elaborate on-farm experiences and that they were needlessly waiting for a few scientists to figure out this same truth. One specific example is that some of the farmers complained that researchers who were in favor of shallow injection denied farmers' knowledge about manure application to be valid knowledge. While the farmers were already convinced that sustainable broadcast surface spreading was possible, the scientists who were more convinced of shallow injection were in favor of doing more research before acknowledging the sustainability of broadcast surface spreading and they warned not to draw hasty conclusions before things were scientifically proven.

5. Conclusions

When sectoral based TM principles are applied in a context of area based governance specific tensions arise, as is demonstrated in the two cases. Several of the encountered tensions are comparable to those we deducted from TM literature. However, the specific context of realizing radical change in areas instead of in sectors adds new dimensions to several tensions, and changes how tensions become manifest (see table 2). Specific tensions arise in area based transitions as compared to other (sector-based) transitions because there is a community of inhabitants involved, and an area with particular spatial characteristics.

Table 2. Overview of analysis.

Component	Tension	Oud-Charlois	Friese Wouden
Strategic	Between different values and preferences concerning the direction of change	Tension between discussing the problems in the area and possible visions for the future versus taking concrete action early on in the process.	Tensions between actors that wanted radical change and actors who wanted to stay within existing policies and routines.
	Between exclusion of actors and legitimacy	High pressure to involve many community members for reasons of legitimacy	Exclusivity of the process was sacrificed to avoid tensions.
Tactical	Between the (common) transition agenda and the agendas of the participating actors	Not a clear issue in the case of Oud-Charlois.	Tensions between agendas of the frontrunners and regime.
	Between the benefits of developing coalitions with regime actors and the risk of being incorporated by regime actors.	An added dimension in this tension was the physical context of the process. The municipality established spatial boundaries for the neighborhood arena by assigning it a 'blank spot' in its redevelopment plan.	A coalition with the regime was necessary to attract subsidies but caused ongoing concerns about incorporation by the regime.
Operational	Between the preference for bottom-up initiatives and the lack of time, capacities and/or interest of non-professional actors	People outside the arena preferred to remain inactive. For some people inside the arena the workload became too large, which caused them to drop out.	Not a clear tension in this case.
	Between protecting the process and broadening the process	Not a real issue because experiments faded out before they could scale up to larger networks.	New actors were not enthusiastic about regime change, posing a potential threat to the radical nature of initiative.
Reflexive	Between maintaining alignment of activities and momentum of the process	Worries about lack of speed and progress caused decreased focus on reflexivity.	Tensions not between reflexivity and speed but between different kinds of knowledge.

In the case of Oud-Charlois the tension between different preferences for the direction of change did not clearly occur. Instead, there was a tension between on the one hand the preference of some participants and members of the transition team to engage in problem structuring and envisioning, and on the other hand the preference of others to take concrete action early on in the process. We see two reasons why this tension occurred. First, the TM approach prescribes that the participants to transition arenas should participate in abstract discussions in order to structure problems and develop visions for the future (Loorbach 2007; 2010). However, for the transition team this criterion was only one of the criteria for selecting participants, thus they also selected participants averse to abstract discussion. Also, depending on the characteristics of the community area based transitions may need more efforts to empower people for engaging in abstract discussions about problems and visions. However, we propose that the requirement to engage in abstract discussions is problematic altogether in the context of area based transitions because in some communities the number of people that meet this requirement may be very limited. Our cases show first attempts to adapt transition management by working from the concrete to the abstract instead of the other way around; problem structuring and the development of visions also occurred in a learning-by-doing fashion.

The tension between exclusion of actors and legitimacy was highly relevant in Oud-Charlois. The small group participating in the transition arena urged to involve more people as to increase the legitimacy of the transition efforts. Interestingly, this tension was largely avoided in the Friese Wouden by allowing all farmers in the area to participate at some point in the process. The exclusivity of the process was sacrificed to broaden the scope of the process. This may have contributed to tensions with regard to the operational component of the process: many of the new participants were not interested in radical change but preferred to work with existing policies and routines. This posed a threat to the radical nature of the initiative. On the one hand this confirms TM literature arguing that working with a small group of participants that are willing to think about innovative solutions is important for the radical nature of transition process. On the other hand it shows that area based transitions have to take into account the many values and functions that actors attribute to the area at some point in the process. We argue that this will always be a balancing act.

In the Oud-Charlois case an added dimension of the tension between forming coalitions with the regime and being incorporated by the regime was the spatial context of the process. The municipality clearly demarcated a square as a 'blank spot' in their development plans where the participants to the neighborhood arena were allowed to experiment, thereby establishing spatial boundaries for certain aspects of the transition process. The spatial structure outside the square remained the domain of the municipal development plans, which prevented conflicts with the regime but also significantly diminished the radical nature of the experiment. This brings to light that the spatial structures evident in areas can become an important dimension of area based transitions. The specific spatial characteristics of area based transitions thus add a new dimension to the struggle between frontrunners and regime.

The Oud-Charlois case shows how difficult it is to involve more people in area based transition experiments because many people prefer to remain inactive. For several participants to the

neighborhood arena the workload finally became too large and some participants therefore abandoned the process. This may have been a consequence of the actor selection strategy. The transition team selected people who were known for their efforts to make positive changes to the neighborhood. These efforts already took up a lot of their time and the neighborhood arena added to their workload. This problem could have been solved if attempts to scale up the transition experiments and involve other people would have been more successful. The question of how to successfully scale up experiments in the context of area based transitions is important in future attempts to realize area based transitions. In this regard it will be crucial to take into account characteristics of the local community.

In both cases the tension with regard to reflexivity had an added dimension. In the Oud-Charlois case many actors worried about speed and progress of the process, and reflection hardly seemed relevant to them. This was strongly related to the preference of many participants to take concrete action instead of engaging in abstract discussions. Again the case indicates a need to reconsider what we expect from participants to area based transition processes. In the case of Friese Wouden the tensions with regard to reflexivity were between different kinds of knowledge that were to be considered in reflexive activities, namely scientific knowledge and local knowledge. Local knowledge about the area adds a new dimension to transition processes that is less familiar to sector based transitions. One of the challenges to address in future area based transitions is to find out what role local knowledge should play in relation to other types of knowledge in the process.

From the above we conclude that area based transitions bring new tensions compared to sectoral transitions because of the involvement of communities of inhabitants and the spatial context of area based transitions. These characteristics ask for specific adaptations in terms of the set-up of the transition process. These adaptations should contribute to the development of area based transition management that is suited to working with communities of inhabitants with particular socio-economic characteristics, competencies and local knowledge, and adapted to deal with the specific spatial context of areas.

Notes

¹ Regimes refer to the grammar or set of rules within a coherent complex of institutions and infrastructures. The rules pertain to (scientific) knowledge, management and engineering practices, production processes, ways of defining problems (cf. Rip and Kemp 1998).

² See Atkinson and Hammersley (1998) and Burawoy and colleagues (1991) for information about participatory inquiry and observations.

³ Ideally, a transition process is facilitated by a team in which such as the initiating organization, experts in the field under study, transition management experts and process facilitators are represented (Loorbach 2007). In the case of Oud-Charlois, the transition team was constituted

by researchers from the Erasmus University Rotterdam and the Technical University of Delft and representatives of different levels of the municipality of Rotterdam.

⁴ The process was not intended as a transition trajectory at the beginning of the process but was based on principles that are very similar to those of TM.

⁵ An environmental cooperative is a regional organization of farmers who collaborate to integrate environmental values into their production process (Eshuis and Stuiver 2005; Glasbergen 2000).

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