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Conversion of Family Farms and Resilience in Southland, New Zealand

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Abstract. The well-known deregulation of New Zealand agriculture prompted the growth of dairy farming, particularly in the region of Southland. The formation of the giant cooperative Fonterra only exacerbated the conversion of sheep farms into dairy farms that challenged both farmers' and the region's traditional identity as a sheep country. Interviews with converted farmers show that farming families convert to dairy primarily in an attempt to preserve what is important for them: farm succession and a professional identity. At the community level, conversions to dairy prompted economic revival and a reversal of population loss. This article engages the literature on resilience and rural communities to explore Southland's adaptation to new economic and farming realities while exploring potential shocks in the future around financialization and environmental well-being.

Introduction

Rural sociology tries to understand social change (Lowe, 2010). Though assumptions of the rural often presume descriptions such as tradition, natural and the rural idyll (Lowe and Ward, 1997), alternative interpretations counter with moral conservatism, backwardness, and other variations on the hillbilly theme (Bell, 2006). The tension between persistence and adaptation permeate analyses of the rural and family farming throughout the agri-food literature (Buttel et al., 1990; Wilkinson, 1991). In this article, we examine farmers' perceptions and experiences of dramatic economic changes in relationship to farm(er)- and community-level changes. We focus particularly on issues of personal motivation and identity for farmers and adaptations and resilience at the community level. While theoretically engaged with

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issues of community and resilience, this article presents the case study of agriculture in Southland, New Zealand, to explore adaptations, continuity and loss in response to major economic shocks. At the same time, the article offers an empirical description of farm conversion from sheep to dairy in New Zealand. Despite playing a huge role in contemporary New Zealand agriculture, conversions have not been documented well thus far.

The major trend of conversion from sheep to dairy is related to the evolution of New Zealand agricultural and rural politics. Under Finance Minister Roger Douglas in 1984, the fourth New Zealand Labour Government implemented a range of reforms (nicknamed 'Rogernomics'), which eliminated subsidies and most state support to agriculture, including the rural bank that provided farm-specific loans. This process is commonly referred as 'deregulation' and created a unique case to study the consequences of a drastic neo-liberal turn in an industrial country (Campbell, 1994; Cloke, 1996; Liepins and Bradshaw, 1999; Larner, 2000). While some scholars integrated New Zealand's reforms into an analysis of the broader transformation of global agriculture (Le Heron, 1993), the research at the national level demonstrates a great interest in the destiny of family farmers. These authors dedicated their work to cataloguing the adaptations of family farmers trying to cope with the new 'rules' (Campbell, 1994; Wilson, 1994). Others took a longer-term view incorporating pluriactivity and adaptation at both the individual and community scales (Johnsen, 1999, 2001, 2003; Liepins, 2000; Smith and Montgomery, 2003; Haggerty et al., 2009).

The swift deregulation of agriculture did not affect the different agricultural sectors equally, though. In fact, the two main sectors, meat and dairy, were affected very differently by the withdrawal of the state subsidies, which were mostly concentrated on the meat and wool industries. Though dairy farmers still had to cope with the other effects of deregulation, such as skyrocketing interest rates, they were already engaged in free-market negotiations internationally. In addition, while the New Zealand (NZ) Dairy Board processed and commercialized the totality of the milk production, the NZ Meat Board and NZ Wool Board lost their major role and influence (Campbell, 1994). Dairy farming grew continuously from then on, notably colonizing the sheep farming areas of the South Island in Canterbury and Southland. There, low and flat land with good fertility encourages sheep farms and farmers toward intensive dairying. In this region, both the decline of sheep farming and the growth of dairy led to major social and economic changes in community life.

Wilkinson (1970, 1991) defined the 'community field' as a dynamic and unbounded configuration of social fields. Drawing on interactionist inspirations, Wilkinson challenged the notion of 'community' as a static construction. The 'local community' emerges through the *interaction* of many fields, including agriculture (Wilkinson, 1991). This definition of community incorporates social change and adaptation as normal features of social life. Community evolution is an ongoing process and not a succession of stabilized systems separated by periods of disruptions.

This emphasis on changeability offers interesting connections with the developments on adaptability and transformability in the theory of the resilience of socio-ecological systems (SES) resilience. Walker et al. (2004) draw on the concept of 'basins of attraction' to give a non-linear understanding of SES's stability and change. Systems are always evolving, due to internal or external forces. They move around an ideal state of equilibrium or an 'attractor'. The basin is the image representing this course of evolution. The actual state of the SES can be seen as a marble rolling in a bowl. Resilience is then understood as the capacity of absorbing changes

and evolving, while staying essentially the same, i.e. not rolling out of the basin. If changes are too important, the system might meet a threshold and evolve toward a new equilibrium, which is to fall into another basin of attraction, or it might collapse. Adaptability and transformability are the two ways for human actors to deal with the evolution of the SES. Adaptability is the capacity to manage the change while staying in the same basin of attraction. Transformability is the capacity to create new systems, when the present one becomes untenable. Folke et al. (2010) bring in one last element that is crucial for this article: resilience adaptability and transformability interrelate at multiple scales. This multiscale perspective is necessary to understand the dynamic interplay between persistence and change. Thus, 'resilience thinking' allows a nuanced understanding of dairy conversions in Southland, where change and continuity are entangled.

Recent work out of Australia deals with similar issues, looking at tensions between expectations of rural decline and the evidence of rural resilience (McManus et al., 2012). They summarize the definition of social resilience as 'the ability to embrace change, with a capability to adapt seamlessly to largely exogenous events (such as technological change) in a form termed *stable adaptation*' (p. 21). In their paper, they emphasize the crucial role played by people's (notably farmers') perceptions and sense of belonging in the resilience of the community. This article follows similar aims in exploring connections between social change, community, farming strategies and farmers' motivations.

Agriculture in Southland

Most Southlanders today remember the region as traditional sheep country. Sheep farming was central to the local and regional economy and social organization in the mid- to late-twentieth century just as it was in Canterbury (Hatch, 1992). However, many interviewees have memories of dairy farming prior to the 1950s and the prevalence of dairy factories throughout the region. Actually, good land and consistent rainfall provide a naturally favourable place to produce milk, or Southland's climate serves as an attractor for dairy. From the 1950s, high prices for meat and wool resulted in numerous conversions out of dairy into sheep and beef farming. Local, small-scale, dairy plants shuttered and Southland became sheep country; more so with the encouragement of state subsidies. As said, the difference in standing circa 1984 allowed for different trajectories for each sector in the wake of deregulation. Dairy, as primarily a regional supplier at the time, was already subject to the open market without the insulation of either preferred-nation trading status or per animal subsidies. Given the policies in place at the time, one could argue that the resurgence of dairy farming was, partly, a logical outcome of the removal of state intervention or the change in policy helped prompt a shift back into a dairy (albeit changed) basin. In the early 1990s, North Island dairy farmers found new opportunities in Southland to develop farming activities. There (and in South Canterbury), they found good land and suitable weather and were able to purchase farms at reasonable prices. The traditional dairy regions (Taranaki and Waikato) suffered from smaller farms that left farm prices steep and rarely available. Southland's branding as a new dairy region helped the dairy industry actively recruit North Island farmers to convert farms in the region. The personal attention also helped many to overcome hesitations to go to the coldest region of New Zealand (Stock and Peoples, 2012). In the 1980s very few local farmers had chosen to convert their farm. Conversion to dairy

farming was seen as an imported practice and a challenge to 'traditional' sheep and beef farming and related community life (ibid.). Slowly, however, more and more local sheep farmers made the decision to convert to dairy. If sheep farming remains the dominant activity in the hill country, the lowland grass has turned to dairy.

At the national level, the creation of Fonterra, the giant dairy cooperative, in 2001, consolidated the dairy industry by merging the principal actors of the trading and marketing sides (New Zealand Dairy Board) with the two major processors (New Zealand Dairy Group and Kiwi Co-operative Dairies). The meat and wool industry, on the other hand, continue to struggle without a single umbrella entity that drives prices down and leaves many in the industry embittered. At the end of the turmoil, the dairy sector emerged stronger both at the farm and the industry level. The contrast in fortune' between the two sectors (Le Heron, 2011) is quite strong and partially explains the continuous conversion of sheep and beef farms into dairy farms. Today, the dairy turn continues in Southland. The combination of Fonterra's emergence as a global dairy titan and the growth of infrastructure in Southland (the regional dairy factory in Edendale became one of the largest in the world) put Southland at the centre of global dairy commodity production. As a result, dairy organizations plan to double the number of cows in Southland in the future ((DairyNZ representative, pers. comm., 5 July2011).

Looking at the farm level, the evolution of Southland agriculture has been characterized by a succession of shifts from one industry to the other. Drawing on Walker et al. (2004), sheep and dairy farming can be understood as two attractors forming two neighbouring 'basins of attraction'. Farms shifted from one system to the other, mainly because of exogenous drivers (policy change, economic markets, and limitations in other regions). Given several negative factors, the sheep basins lost resistance – the bowl became flatter – while the dairy bowl got more attractive, making it easier to cross the threshold. The turn back to dairying does not equal jumping back to the former system, as the new dairy basin differs a lot from both former sheep and dairy systems. The scale of today's operations makes the new dairy system far different in many respects. Milk is still a biological product of cows; however, the cows, the grass, the labour arrangements, and the financial instruments – just about every aspect of the farm system – are significantly different.

The agricultural crisis resulting from the deregulation in the 1980s shaped the evolution of rural communities that were relying on farming as their dominant economic motor. In response, farmers generally cut spending on farm inputs, labour and investments. This 'belt tightening' tactic carried over to the local economy exacerbating the general rural downturn (Wilson, 1995). As an example, farmers' spending on 'repairs and maintenance' decreased by nearly 60% (Campbell, 1994). Farmers' conservative fiscal attitude forced many agribusiness companies to rationalize. At the same time, many public sector agencies that played a key role in the rural economy were privatized or restructured. Taken together, the 1980s reforms put the rural areas under immense pressure and contracted the local and regional economy. Southland, in particular, serves as a great geographic place to explore the deep sociological changes in rural communities subject to economic challenges (Liepins, 2000).

At the community and region scales, the increasing number of converted farms is an important factor of transformation. The rural downturn brought Southland close to the threshold of economic and social collapse. With Southland's economy in 'bad shape' and in 'decline', conversion to dairy served as a major answer to difficult

pressures. In this article, we will explore the nature and quality of the change at both farm and community scales.

Research Questions

These dramatic challenges in Southland highlight a few issues that can speak to agricultural change as related to community resilience and adaptation. Specifically, our article asks how has farming in Southland changed since 1984? What were, in the view of the farmers, the main changes related to the dairy turn at the individual, family, farm and community levels? Have the motivations for farming changed with a change in the kind of farming? How have these changes affected succession planning and farmers' identity? How has Southland, as a community, changed as a result in the shift from a sheep region to a dairy region? What can we learn about the relationship between agricultural changes – at the farm(er) and regional levels – and community resilience? These are vital questions in a time of climatic and economic disruption.

Methods and Analysis

Based on 31 qualitative interviews with farmers and people involved in dairy farming in the Southland region of New Zealand in 2010 and 2011, we examine the impact of major economic changes to the rural community.

Participants were selected through a 'snowballing' process, with multiple entries in order to overcome the boundaries of individual networks. Two-thirds (19) of the interviewees had converted their own farm from sheep (or sheep and beef) to dairy. The conversions occurred between 1992 and 2011 and allow us to explore the changing impact of deregulation over time as well as compare similar conversions to one another. These interviews revolved around the story of the conversion, from the initial decision to the current situation. In addition, a few sheep farmers (5) and inmigrant dairy farmers (3) have been interviewed to broaden the scope of research. Sheep farmers' interviews explore the alternative of non-conversion of the family farm in an emergent dairy area. When possible, both partners – husband and wife – were interviewed. Thus, the male farmer is often the main interviewee for each farm. The participation of the wife in the discussion fluctuated, from absence to equal involvement. Two interviews were made with women only, who were not considered (by themselves or their partner) the official head of the farm.

Besides the qualitative interviews, participants completed a questionnaire providing data on the farm structures and history. The remaining interviews (4) were carried out with professionals involved in Southland farming (including a stock agent, farm consultant, dairy extension officer and a representative with Environment Southland, the regional agency for environmental regulation). The latter interviews provided useful insights and comments on the broader trend of conversions in Southland.

The farmers are all owner-operators: they own the farm assets and manage the farm business. This precision is of importance in the New Zealand context where the owner and the operator of a farm business are sometimes different, especially in dairy farming. Dairy ownership in New Zealand is complicated by the unique system of share-milking. The share milker (often couples) generally owns the herd,

but not the farm or equipment to milk. The milk payout is shared between the share milker and the farm owner, generally 50:50. Share-milking is considered part of the so-called 'dairy ladder' that allows young farmers to enrich their careers, progressively accumulating capital, assets and responsibilities (Blunden et al., 1997). This scale includes a wide range of possibilities (for acquisition of capital and responsibility) in dividing ownership, farm management, and farm labour. Historically, farm ownership is the presumed top of the ladder.

All the interviews were fully transcribed and analysed using software for qualitative data (NVivo). In the analysis, the following questions were specifically addressed: What are the motivations to convert (or not) the farm to dairy? What is the history of the farm? How was the conversion process? Who was involved in the conversion? What are the differences between managing a sheep farm and a dairy farm? How did the conversions affect the local community and region?

Conversion and On-farm Change

The growth of dairy in Southland since the mid-1980s upset not just the kind of agriculture (sheep/beef to dairy), but how agriculture existed in and continued in Southland. The structural differences in how to be a farm(er) of sheep or dairy cattle upended the infrastructure of agriculture. We examine these changes through the financial-capital differences and the changes in on-farm labour needs.

Financial Differences

Converting a sheep farm to dairy production requires millions of dollars in capital investment. A newly constructed dairy shed involves expensive and highly technical systems. The farm has to be totally reshaped and reorganized. The converting farmer has to build a herd (initially through purchases, later through reproduction), rearrange the paddocks, adapt the fencing, build lanes that lead the herd to the milking unit, and, sometimes, cut down trees and hedges. Even the grass is progressively replanted with varieties better suited for dairying. Furthermore, the conversion often requires further land acquisition. Everything costs money. Sheep farmers used to complain about debt. Contemporary dairy farmers' debts overshadow those complaints, as this older farmer, a former accountant, reports:

> 'I spent half of my time at that table doing book work. It's horrendous the amount of accounts that come in. It's big money, I've never, in all the time that I was an accountant, ever had mortgages. Any client I had had the mortgage now and the banker tells us that our mortgage is a minor compared with some, so it's just mind boggling in that respect' (male, 67).

Compared to sheep farming, dairy involves far larger start-up capital. Despite these debts, the average dairy farm has a cash flow per hectare five times higher than the average intensive sheep and beef farm (MAF, 2009a, 2009b). The odds of making money in dairy rather than sheep (meat or wool) are far greater these days.

Skills and aptitudes in dealing with debt, money and banks are often said to be a condition to enter dairying. Many farmers speak about the difficulties they have with banks. No farmer can afford a dairy farm investment out-of-pocket. Thus, the rates of conversion parallel increased rates of borrowing from banks and high debt

levels. Several converted farmers unsurprisingly mention their banker as one of the main contacts during the conversion process. The elimination of the rural bank often meant a change in the main banker a farmer dealt with in the immediate aftermath of deregulation. Later, a farmer had to demonstrate confidence and ability to convince banks to extend credit. In order to convert a farm, farmers had to manage not only a new style of farming, but new lines of defense of their farming practices – even if in theory only. Invariably, the bank's underwriting is referred to as the moment when the conversion turned from a potential project into a real process. This is not always an easy step to pass through.

Once the money is spent and the conversion completed, the family business has grown. In order to secure ownership and organize the management of the business, it is then common to find legal and financial structures such as trusts and companies, or what Pritchard et al. (2007) have described as a 'an accommodating modus operandi for farm units within neo-liberal agricultural governance' (p. 85). As Australian tomato growers described in their work, many family dairy farms in Southland 'relate to their land-based assets through legal and financial structures characteristic of the wider economy' (ibid.). The boundaries between corporate and family farming are blurred and have no clear definition. More and more, dairy farming in Southland is 'neither strictly family-farm based, nor corporate', but led by 'family farm entrepreneurs' (Pritchard et al., 2007). One of the largest hurdles in shifting from being a family farm into family farm entrepreneurs is balancing labour outside of the family.

Labour

Dairy and sheep farming utilize labour quite differently. These differences help illustrate financial realities, personal feelings about acting as an employer and the wider context of farming in New Zealand. Sheep farming is often based on family labour. Workers or companies are contracted for specific tasks, such as shearing, but the day-to-day work is the responsibility of the farmer, with the help of family members. On the other hand, dairy farming often involves waged labour, especially on large-scale farms such as the ones found in Southland. All the converted farms in our sample included hired staff. The role and position of the waged employees vary, with very different levels of responsibilities ranging from simple workers, often foreigners, milking in the shed ('cupslingers'), to herd managers (Tipples, 2011). Managers are always connected with the milking and the herd, while the owner generally focuses on office and management work, including long-range planning, as well as the overall maintenance of the farm and the pastures.

The transition to business and staff manager generally follows the development and growth of the farm business. During the initial stages of the conversion, most of the farmers are involved in the milking and assume a large part of the work on the farm. The more the farm grows, sometimes including several dairy units, the more the farmer adapts his role. As time passes, they tend to step back from the day-to-day farm work. This farmer, head of a large farm, explains this change:

> 'We added on to this place one, two, three times, four times to the home farm, so we own about 12 houses now and we have about nine, 10 full-time staff. So, one day you wake up and you realize that you can't do all the work, that if something goes wrong today you can't do it, you have to have other people to do the work so you go from owner operator, totally in con-

> trol, to working with people to do the work for the day, and that is quite a difference just to do that. And you realize that you have got all these houses you have got to maintain, you know 12 houses… And then you realize that the people you employ, this is their solid income. You are it, when they take their pay each week, that is the money they have to raise their family to do the things they want to do (male, 52).

Similarly, when asked about what changed with the conversion, most farmers speak about becoming an employer. Beforehand, they were used to doing most of the work on the farm by themselves, and thus they had control of every aspect of their farm. With a new dairy operation, family labour was insufficient to handle the increasing workload. Regular staff becomes a necessity and forces the farmer to delegate work and to entrust others with some responsibilities. Following the interviewees, this has generally been a hard transition. Furthermore, they had to learn how to manage people. For the ones who developed their farms into several dairy units, some with more than 10 people involved on the farm, these skills become central. As said by one farmer: 'It's not just about the cows, it's about being able to manage your staff' (male, 48).

On first impression, looking at a converted farm, we might assume that the amount of family labour would decrease. The integration of sons and daughters in two farms challenge this assessment. Further analysis of the role played by female partners/farmers also shows no indication of decline in their participation with the conversion. On the contrary, some interviewees claimed that women tend to be more involved in dairy farming than in sheep farming:

> 'I would say that one of the big differences for women, they didn't have a strong role in sheep farms at all. It was very stereotypical: the husband would be out on the farm, women would be at home and cooking all the meals and doing all the beautiful food for them, but with dairy farming both doing everything together. Like you'll see young couples and they're both working on the dairy farm, but you just don't see that with sheep farming at all. That is a major difference' (female, 36).

Women in sheep farming are described mostly as mothers and housekeepers, with very little involvement in the farm work or management. Sheep farming followed and encouraged traditional masculine definitions of farming (Campbell et al., 2006). While more women seem to be actively participating in dairy farming (in the office and bookkeeping work), whether or not it is more egalitarian work is less clear as the volume of that work increases annually with auditing and other related paperwork. This is clearly illustrated by this woman, when she addresses the development of the farm over the years:

> 'From my point of view, I do all the accounts, order books and things. And it's gone from like one GST [tax] return to seven… It's a full time job really for me to do the books' (female, 48).

While more involved, wives seem confined to a subordinated position regarding the farm business. While the housekeeper on a sheep farm, women often remain the bookkeeper on dairy farms and remain in the gendered role of 'helper or assistant' (Brandth, 2002; Peoples, 2010).

Nevertheless, a few cases indicate farms where both men and women are more equally involved in the farm management. This is exemplified by this female farmer

who was working in town before the conversion. On the sheep farm, her husband was in charge of all the work and management. The switch to a new farm system offered challenges, but created new spaces for the woman to invest:

> 'I see now with the conversion, probably having a lot more say, not probably on the little day to day where does this mob go; it might be more on the bigger things, maybe like purchasing capital items or employing staff, things like that, some of the bigger stuff, you don't care what paddocks they go into, you know' (female, 44).

In addition to increased decision-making capacity, female farmers or the wives are often in charge of calving. There is strong evidence that conversions to dairy farming impact the gender division of labour, even if not always in a more egalitarian way. Further, and unexplored in these case studies, is the use and employment of foreign labour with specific manipulation of work visa programmes to facilitate lower labour costs for the dairy industry. However, farm development and the contracting of waged workers did not lead to a lower involvement of family members in the farm work, at least in the cases analysed here. The inclusion of share milkers, managers and wage labourers can tell a more complete story of the conversion process and the impact on regional finances and labour organization. Our concern remains on the farmers' experiences, motivations and identity connected to conversion.

Beyond Money: Motivations and Identity

The success of Fonterra, good milk payouts, and a struggling meat industry created an economic incentive to convert to dairy over the last few decades. The interviewed farmers never hid the role of money in their decision-making. As one stated clearly: 'whether we like it or not, it's all to do with money' (male, 36). Money provides a means to an end. The financial rationale for conversion resonates as a default assumption – no one farms to lose money. That being said, these farmers referred to other goals for farming that will be addressed here. After all, if it were only about profit, most of them would have sold the farm asset and could retire as millionaires. The farming lifestyle is often mentioned as something that has more value than money. A female sheep farmer, referring to their choice not to sell the farm, put it this way:

> 'When the prices were really high a couple of years back it was worth about seven million dollars. And that is what people said – you are crazy, you are crazy [not to sell] . So you can see the lifestyle thing to us is fairly important more than money and now and again you go "am I crazy?"' (female, 46).

Most refer to their option beyond simply selling the asset. The conversion is sometimes described as a matter of 'survival' – not just financial survival, but maintenance of the farming lifestyle:

> 'We went [to dairy] because of survival. It was farm survival: family farm, you were tied to it. And we thought: "No we don't want to lose this thing. It has treated us pretty well, we know the farm and this is the lifestyle, etc." So we converted. Yeah, 225 cows' (male, 52).

In fact, few farmers faced such an extreme situation. Most of them could have kept on with sheep, at least for a while. But all of them speak about conversion to dairy

as a way to maintain what they cared about – farming. This continuity – to be able to keep farming, for Southland to stay a farming region – was predicated on conversion. To stay fundamentally the same – and be resilient – major changes had to be made. This narrative of continuity echoes the interrelation between resilience, adaptability and transformability and the tensions between persistence and change described by Folke et al. (2010). What is more, it contradicts the narrative surrounding dairy's growth in New Zealand as an economic boom and justification for deregulation and productivism. Thus conversion, for farmers, has been guided more for a concern about continuity in lifestyle, than excitement about riding a cresting dairy wave. Yes, financial stability plays a role but is not the only reason. We explore this tension through two connected issues: farm succession and 'good farming'.

Succession and Farm Ownership

When located in an area where dairy farming is possible, sheep farms suffer the most pressure from skyrocketing land prices. The development of dairy farming resulted in a dramatic increase in the market value of convertible land. Real estate values are predicated on potential dairy productivity that is significantly higher per hectare than sheep farming or non-agricultural use. Dairy farmers are thus better positioned to buy land, because they can afford to invest more money and are seen as a less risky investment than sheep farmers. This puts strong limitations on the possible development of sheep farms. This farmer illustrates the unenviable position of sheep farmers when discussing the possibility of financing the purchase of neighbouring land:

> 'And when that [piece of land] came up here, the only way for us to fund it was to milk cows off it, we couldn't buy it and put sheep on it and fund it… Well the banks, it wouldn't have stacked up with the bank, the only way to actually cash flow it was with dairying and the banks would lend the money. They wouldn't lend you money if it was with sheep because the income from sheep wouldn't have covered the mortgage, you see' (male, 37).

As long as a farmer does not seek to develop the farm by purchasing new land, the issue of land price has a rather positive side, for it increases the value of the existing farm. Yet this very process can become problematic when the time comes for the next generation to take over the farm.

The importance of succession is a classic feature in the studies on family farming and has proved central in the understanding of farm decision-making in modern and industrialized agriculture (Ward and Lowe, 1994; McCrostie Little and Taylor, 1998; Burton and Walford, 2005; Inwood and Sharp, 2012). In the process of farm conversions in Southland, the issue of succession plays a key role. In the interviews, most of the farmers describe the conversion as a means to allow the next generation to take over the farm. Because of a combination of laws and tax regulations, the successor has to buy his parents' farm at the market price. In a place like the lowland of Southland, this means a price based on (potential) dairy productivity. For many farmers, there was no way they could maintain sheep production. Thus the choice was to convert to dairy or to sell the farm to someone who would convert it. Almost all the farmers said succession was their first and major motivator to convert, as exemplified by this farmer:

> 'I was given the opportunity to take over the home here and so maybe, you know, we want to perhaps try and do the same for our kids. Or one of them, you know, and pay others out a bit or whatever you can do. And we weren't going to be able to do it the way we were sheep farming, like we were, just sort of, you know, we're the bank, the bank was on our backside all the time, not all the time but we were 'at risk' customers to the bank' (male, 46).

As suggested here, farm succession is not a unidirectional process. In this sense, the farmers see themselves both as successors and as predecessors. When current farmers refer to succession and its importance in the decision to convert, it is often out of a sense of duty and fidelity to the family history in farming. Rather than risk losing the family farming legacy completely by staying in sheep, farm conversion insulated them from losing their inheritance. In their understanding of farm continuity, the inheritance and legacy were more important than the kind of farming.

Traditional succession anticipates that the successor would take over the ownership of the farm and become a farmer. However, when asked about the actual succession prospects on their farm, farmers deviate from those classical presumptions. Talking about the future, several farmers outlined the new possibilities offered by the conversion, primarily the fact that their children might take over the ownership of the farm business without having to work on the farm. The different options presented by a New Zealand dairy farm would allow them to choose their level of commitment in the farm business. They could run the farm themselves, enter the share-milking system, or delegate to a farm manager. The conversion to dairy multiplies the possibilities of succession based on a malleable relationship between ownership, management and work. While this leads to a major change compared to the interviewees' own experience of taking over the family sheep farm, they still refer to it as a way to maintain the family dimension of the farm: 'it's still family interest but it doesn't have to be physically hands on milking cows' (male, 48). In this understanding of the farm succession, the ownership of the farm business can obliterate the transmission of a professional status or identity. Some interviewees go even further, describing options where the 'farm' is described merely as capital that would allow the children to grow their own projects or businesses in any economic sector they like. Conversion as a way to build capital could be described as a strategy to enhance capacities for 'deliberate transformational change' (Folke et al., 2010) at the scale of the family.

Entering the dairy work system is said to give more opportunities to the children to step into the profession. On a sheep farm, there is little place for the next generation as long as the parents stay. The potential successor has to work elsewhere and to build capital on his own, waiting for the time when the parents will retire. The so-called 'dairy ladder' – the succession of positions a person might assume on a farm, progressively gaining capital and responsibilities – facilitates the integration of the successor at an earlier stage. He/she might work for the parents for a few years until accumulating enough capital and experience to run a farm independently or take over the family business. In our sample, two farms perfectly illustrate this process. Both are large-scale farms including several dairy units. In both cases, at least two sons and/or daughters work full-time on the farm, some as contract workers, and some managing one of the units on their own. Besides these examples, farmers offer multiple references to future or potential involvement of the children in the farm business, according to the farm life cycle. Increasing the size of the farm can then

be seen as one option to set up one or several successors into farming (Marsden, 1984; Burton and Walford, 2005). In this sense, and following Pritchard et al.'s (2007) analysis of large-scale tomato farms in Australia, conversions to dairy farming challenge the common idea that the capitalization and scaling up will necessarily lead to a weakening of the family dimension of the farm business. The emergence of modern dairy in New Zealand presents a contradictory story. On one hand, dairy offers a great opportunity for family farm survival (the continuity argument). On the other hand, dairy farming becomes a means to an end: gaining financial freedom to transform ones' situation. These two sentiments often coexist and a related issue involves the farmer's interpretation of what it means to be a farmer.

Neo-productivism and Good Farming

Deregulation resulted in a general intensification in the New Zealand agricultural sector (MacLeod and Moller, 2006). As an example, the lambs per ewe ratio (i.e. the average number of lambs a ewe gives birth to for one lambing season) increased by 19% between 1985 and 2009, while the weight of lamb carcass gained 39% (Institut de l'Élevage, 2010a). Dairy farming productivity grew even faster with average dry matter production per ha gaining 70% since 1980 (Institut de l'Élevage, 2010b). The intensification of farm practices (to ensure economic success) has challenged former definitions of stockmanship (Johnsen, 2003; Haggerty et al., 2009). However, the valorization of maximized production is a common and stable feature among farmers in industrialized countries, as shown by a wide literature addressing the development and evolution of productivist attitudes and behaviours (Evans et al., 2002; Burton, 2004; Ward et al., 2008). Those appear to be quite strong in New Zealand dairying, both in farm practices and in the industry (Jay, 2007; Burton and Wilson, 2012).

Though mainly pasture based, with little added fodder in international comparison, New Zealand dairy farming relies on the intensive use of fertilizer and a high stocking rate. The rotational pasture system helps maintain maximal grass production, both in quantity and quality. This increase in productivity and production is well perceived generally by farmers, as put simply by this female dairy farmer:

> 'Probably the other things would be just the productivity nature, like dairy farming is so much productive like you grow more grass. Just you're sending out more out the gate' (female, 34).

In other words, to go dairying, is to become a 'better farmer', according to productivist standards (Rosin, 2013). Converted farmers generally agree. Furthermore, some of the farmers added their frustration of getting no real reward for the effort they were putting into sheep farming because of the ineffective meat industry.

Many converted farmers were generally very successful sheep farmers beforehand. This identity of top farmer was under threat because of, among other reasons, the difficulties in the organization of the meat industry. If a sheep farmer had once been the top of the rural social hierarchy, this status was gradually eroded by the economic and productive success of dairy farmers. Conversion, then, has partly been an attempt to maintain an identity as a top farmer. At the same time, to forego an excellent sheep farm was a risk and comes with added pressure to succeed in dairy. As this young farmer suggests:

> 'It was a very good sheep farm and my parents had won sheep farming, South Island Sheep Farmer of the Year… awards… And so they were very good sheep farmers as well and so suddenly converting to dairying, it's like all these relatives and neighbours are thinking: 'What are you doing to that

> good farm?' So now we are trying to make it a good dairy farm because we took a good sheep farm and we want to make it into a really good dairy farm. So there's a lot of pressure' (male, 37).

'Good farming' and identity are important motivators in farm-level decision-making (Stock, 2007; Sutherland and Burton, 2011). The same holds true around decisions about farm conversion. For sheep farmers who were not particularly successful, conversion provided a way to stay in farming, a way to maintain a professional identity and a specific life style. Not to convert could have resulted, in the long term, in selling the farm or in taking an off-farm job to compensate the low profitability of the farm. Pluriactivity, while a successful survival strategy for family farms following deregulations, does not fit well with a general definition of successful farming in New Zealand (Johnsen, 2004). To become a part-time farmer compromises one's identity as a 'real farmer'. Conversion allowed them to confirm and reformulate a professional ethos inspired by productivist values and attachment to a farming life style and identity. Again, the continuity argument appears to be as important as the changing aspects of the conversion.

But those life styles and identities are shaped within communities. Deregulation affected both the farm(er) and the community.

Communities and the Dairy Turn

Economic Revival of Southland

Contemporary dairy farming offers substantial financial opportunity and security for farms, farmers and rural communities. The first dairy boom (initiated by two firms, Tasman Agriculture and Applefields) played a key role in the recovery of the regional economy (Wilson, 1995). Investments made in converting farms to dairy counterbalanced the 'belt-tightening' in sheep farming. To use the image of the basin, the marble went down again, going away from the threshold. This economic development has, however, led to a dramatic reorganization of the regional networks and ways of doing business. As said by this farm consultant, conversions have led to a process of learning at the regional scale:

> 'So that was a learning thing as well, just trying to create that infrastructure because, like with the dairy industry, if a pump breaks down in the dairy shed, you need somebody there to fix it now… And the farmer would ring up somebody to come and fix it and they'd say, Oh we'll be there on Monday and it was Friday… And the dairy farmer was saying: Hang on a minute, how am I gonna milk my cows? So that was hard. So it was just creating that infrastructure to actually make the industry work' (male, 55).

As another example, local builders had to learn how to make a dairy shed and, at the beginning of the dairy boom, dairy farmers had to contract builders from North who were used to this kind of work. Despite a historical dairy tradition, as a community Southland was not a fully formed dairy option – it had to be built. Resilience of the dairy system had to be co-constructed with farmers' and farm families' willingness to move to dairy, which then had to help mobilize the resources dairy had in place in other parts of the country (Lawrence and Campbell, 2014). Builders were contracted to build dairy sheds, lanes and houses; mechanic workshops found new customers ready to invest in machinery; and retailers could increase sales of nutrients, ferti-

lizer, and petrol. Conversions revived local businesses and regional economic cycles by bringing investments and employment. These comments by the Environment Southland representative demonstrate the importance of the economic revival:

> 'for the income, the money that is generated by the dairy farming activity. And you only had to be in here in the eighties and see engineering firms disappearing and builders with not enough work and all this kind of thing. And then through the nineties they all took off, I mean the number of engineering firms in small towns like Winton and that… just escalated. So that whole, and just car sales, property sales, building activity, all that sort of thing. The whole money go around thing, just took off' (male, 55).

Sheep farmers could also benefit from new financial opportunities connected to dairy. Some sheep farmers host (also known as grazing or wintering) dairy cattle on their farm during the winter; others take in additional income from selling fodder (silage). Adaptations and learning processes are central to the (social) resilience of communities (Falk and Kilpatrick, 2000; Wilson, 2012, 2013). The adaptability displayed by sheep and dairy farmers, local builders and all the actors created new possibilities and made dairy farming a viable option again. The dairy basin grew wider and deeper, which means its latitude (the maximum amount the system can be changed) and resistance increased (Walker et al., 2004).

In his work on community, Wilkinson (1991) insists on the importance of the economy: jobs and income are key to community survival and that economic development and social life cannot be a separated. This might seem straightforward and logical, but in Southland the connections between economic and community revival are both obvious and ambiguous.

Population and Community Life

The (re-)emergence of dairy in Southland has not only changed the economic foundations of the region, but also its demographics. For Southland, deregulation coincided with population decline, at least since the census of 1991. Invercargill, the main town of the region, lost almost 5% of its population between 1991 and 1996, and was the only New Zealand urban area to lose population (Statistics-NewZealand, 1997). In this context, the arrival of new inhabitants engaged in the first wave of dairy conversions has been perceived ambivalently. On the one hand, there is a cultural clash between the two ways of farming; on the other, increased population can lead to community revival. This female farmer – an early dairy convert in the 1990s – refers to the contradictory views of the new population growth:

> 'I think it was a shock to them [local people] because the local farms were selling to dairying, which they didn't know the people coming in; it was a whole different thing… a culture thing… But it's quite neat that all the houses around the farms they're all full again. Because they were all empty for years, because no one could afford to have farm workers' (female, 48).

Most of the interviewees refer to difficulties in dairy farmers' integration in community life. For a time, dairy farmers were branded as being 'antisocial', caring only about their work and their farm, because they were not involved in community activities. According to our interviews, there have been two major reasons for the lack of involvement. The first is the dairy workload and milking time, which was an

obstacle to assist with school and community events that were planned according to sheep farmers' schedules and habits. The second was the temporary dimension of dairy farmers' employment. Indeed, the presence of staff on dairy farms, together with the traditional share-milking system, result in a fluid labour market with frequent staff changes and moves. As individuals and families clamber up the 'dairy ladder' (often starting as simple 'milkers') they move quite often from one farm to another, depending on the latest contract. Several interviews underline the difficulties that temporary staff creates for small communities: unstable employment often leads to the loss of a sense of community and can even attract troublesome people. This sheep farmer refers to this loss, linking it to the ever-moving dairy people:

> 'It affects the communities and the schools and, when we first moved here, the neighbours. This is back in 1990, it might have been the same year we had a district farewell because they were leaving and that was the last district farewell. There has never been one since, because people since then have been coming and going. I mean we get to the point where we can't be bothered meeting any new neighbours because they will be gone next year. What is the point, unless you actually bump into them it really changes the flavour of… it used to be quite a community here, and since we came and the dairy farmers came it is gone' (female, 46).

Converted farmers seem to care about this issue for various reasons, notably because stability is better for the farm business. But at the same time, they refer to morality and social values such as the maintenance of community: to hire staff is to bring new community members and new children for the local school. It is the farmer's responsibility to look after their staff's behaviour and well-being. This dairy farmer describes it thus:

> 'A lot of owners aren't very good at employing staff, so staffs aren't always very happy with conditions they're working under… Perhaps they need to step up and actually say, or be told, guys you need to straighten this out because it's having not only an effect on your business or the business that you're trying to manage but on the local communities as well. So you know that's a big part of it because if you create the right environment and you've got the right people, then those people will stay. Because no-one likes moving on and on and on and on. It's pretty unsettling for children; it's pretty unsettling for adults' (male, 48).

The fact that the interviews focus on local farmers who converted to dairy rather than dairy farmers who in-migrated may present a rosier picture than is warranted. However, according to interviews, farmers' attitudes toward community and local life can be said to be evolving too. While initial converts to dairy or share-milking often sought the best financial arrangement that often included moving quite a bit or employing mobile staff, our interviewees are observing some semblance of stability emerging. Dairy farmers now make 'the shift to stay'. This allows a retired farmer to have quite an optimistic view:

> 'It's amazing the number of young share-milkers that have managed to get their own property… The kids gets involved in the schools, they get involved in the school and it's sort of got a flow-on effect. Years ago I thought our camaraderie within country districts would disappear entirely. Because, when I was a kid, everybody went to the dances together, everybody

> was involved in everything, and everybody in the district would go. And if someone didn't turn up, you know you'd get a phone call the next day: Are you alright?… So I suppose every district's different, but I do think it'll come back as people become more settled' (male, 67).

While this farmer parrots the expectation of the agrarian question literature that family farms and rural communities would disappear, his optimism and observations of Southland also parallel recent trends in rural sociology around community resilience. If conversions in the 1990s were mostly the result of immigration, today local farmers are the one to convert. This change is another argument indicating that social boundaries between locals (sheep) and outsiders (dairy) are of less importance in the 2010s. The dynamic dimension of the 'community field' (Wilkinson, 1970, 1991) allowed adaptation of the social structure, pacifying the tensions between the two 'cultures'. The contributions of dairy farms to Southland's social revival mitigate the initially 'bad' reputation of dairy farmers. Conversion has progressively become something acceptable and even desirable by locals. These shifts modified the relations between the two basins and probably eased the shift from sheep to dairy. The sheep basin got less resistant, shallower, making it easier to cross the threshold to dairy. In the meanwhile, the dairy basin acquired more latitude and attractiveness.

Problems of resentment, misunderstanding and integration are more often than not referred to in the past tense. They were, however, replaced by concerns around environmental issues and the dependence on foreign capital, as developed below.

Uneasy Reality: The Community in Flux

While both converted farms and Southland enjoy the new stability provided by dairy's rise and Fonterra's strength, many remain wary of the success. These concerns revolve around the influence of external (outside the region) finances and the impact of dairy on the environment. These concerns represent either ongoing disturbances or potentially bigger shocks in the future, and question the actual resilience of the dairy system and, by extension, of the whole region of Southland. The quest for continuity in farming might bring unwanted outcomes that undermine individual and collective capacity of adapting and transforming the system in an always evolving context.

Ownership and Financial Dependence

While long-term Southlanders were wary of North Islanders, direct foreign investments in dairy farms provide a different source of concern connected with the economic success of dairy farming. As developed above, New Zealand dairy farming is based on large financial investments and produces, so far, interesting incomes. This situation opened the sector to external investments, some of them from abroad. The result is an emerging process of financialization of New Zealand dairy farming, even if weaker than in other neo-liberal countries as the US or Australia. According to Lawrence and Campbell (2014), New Zealand seems to be somehow resistant to the development of big corporate farming, despite an hegemonic neo-liberal paradigm, notably because of its particular, variegated, landscape of farming. Nevertheless, the turmoil around the possible selling of the giant Crafar farm group to a Chinese in-

vestor is a paradigmatic example of how dairy farming in New Zealand can become a financial investment at the global level (Le Heron, 2011), while participating in the global capitalization of farming (McMichael, 2011). The strong public reaction and the hesitation of the Overseas Investment Office to approve the sale or not (Bennett, 2012) testify of the growing concerns about land acquisition by foreign investors. However, Fonterra develops the same kind of investment strategies in other countries and, in New Zealand itself, capital investment in dairy farming is already common. The 'traditional' system of share-milking – utilized on 38% of New Zealand dairy farms (DairyNZ, 2010) – simplifies this process: it is common to have two different people owning and actually managing the dairy farm. However, for the cases used in this research, land is primarily owned by families, sometimes including two generations. What is more, the converted farmers position themselves in a strong opposition to the financialization of farming, insisting on the family dimension of their business. They despise the attitude that one can simply invest in farming solely for financial interests. A newly converted farmer refers to the consequences for the local community in his criticism of syndicate ownership:

> 'They don't live here, they don't care about here. They don't give anything to the district. They almost, not rape, they take, don't they? And they take all their money back to Auckland or wherever and, they would never live here they would just invest money in here' (male, 39).

Another farmer follows the same logic to explain his choice in converting his family farm to dairy:

> 'I certainly don't want everything going corporate owned and Aucklanders owning… people not actually living on the land, just lawyers in Auckland and different equity owners and absentee owners, putting managers on. I don't think it's the best way to go really. So that's one of the main reasons we converted' (male, 50).

Attachment to family ownership and concerns for the community are other important factors, according to the interviews, that prevent a widespread financialization of dairy farming, which still relies largely on family farms. However, the scaling-up in dairy farming automatically means that family farms rely increasingly on bank investments. The regional economy is, therefore, thoroughly dependent on external capital while farmers pay interest out of the region. Thus, the community's resilience is dependent upon external forces or fields. This strong dependency on exogenous elements leads to questions about endogenous resilience and adaptability, as the capacity to avoid falling into undesirable systems.

In addition, to convert to dairy means to build a specific and long-term relationship with Fonterra – an organization based out of the North Island. Producers have to buy shares that allow them to deliver a given amount of milk. This represents a huge investment that cannot easily be recouped. Farm businesses are tied to their industry. The exclusive partnership with Fonterra is reproduced at the national and regional scales. Today, Fonterra manufactures and markets more than 90% of the milk produced in New Zealand and creates 7% of the national GDP on its own. It has become so important in the national economy that ,'thinking about New Zealand is to think about Fonterra; thinking about Fonterra is to think about New Zealand' (Gray and Le Heron, 2010, p. 1). This is increasingly true at the regional level too: Fonterra becomes the pillar of the Southland economy. So far, conversions have in-

creased diversity within the regional agriculture that was mainly sheep for more than 40 years. However, if the trend continues, it will lead to more regional specialization in dairy. Consequently, the regional economy will depend largely on one company for its economic stability. Such consolidation could be seen as a risk factor: if Fonterra gets into trouble, Southland (and New Zealand as a whole) might also. Is Fonterra too big to fail?

Fonterra and the Environment in Southland

The intensification of farming practices, particularly the development of dairy farms, resulted in important concerns about the decreasing water quality in New Zealand (Barnett and Pauling, 2005). Tensions about environmental impact were expressed at the national level, notably when the Fish and Game Council initiated the so-called 'dirty dairying' campaign. This campaign built a negative image of dairy farming as a greedy and damaging activity. According to the Resource Management Act 1991, regional councils are in charge of regulating and controlling these issues. Fonterra, on its side, has developed the 'Clean Streams Accord' (soon-to-be replaced with the 'Sustainable Dairying Accord'), which should improve on-farm environmental practices (Blackett and Le Heron, 2008). If the company has the 'stated aspiration of being the "world's most sustainable supply chain for dairy", and a world leader in sustainable and profitable farming systems' (Gray and Le Heron, 2010), water quality remains one of the hottest issues in public debates about dairy farming in New Zealand.

Furthermore, Burton and Wilson (2012, p. 62) suggest that Fonterra, 'rather than being a "top-down" regime implemented through state involvement in markets and subsidised productions' (as in classical productivism), is a paradigmatic figure of a new kind of productivism, promoted by farmers' cooperatives. The monolithic nature of Fonterra, while partially explaining its economic success, is problematic though. The pseudo-monopoly structure limits any counterpositioning from a structural, financial or environmental standpoint.

From the farmers' point of view, environmental preoccupations are globally accepted, but the inclination to productivist attitudes seduces them and is identified as one of the motivations to convert from sheep to dairy. Many farmers enjoy Fonterra's narrative and feel a strong attachment to being a part of something bigger. The tendency, then, is to moderate environmental questions with three different arguments. First, they tend to accuse a few 'bad farmers' whose carelessness damages the image of the entire industry. Second, they emphasize the fact that every farmer cares for the environment he's working with, because he wants to transmit it to the next generation. And third, they use the productivist 'feeding the world' argument (Horlings and Marsden, 2011; Rosin, 2013): 'We have to produce more to feed the growing and hungry population.'

But as Wilkinson (1991, p. 68) argued, 'It is not accurate or appropriate to treat the environment as though it were somehow separate from the social life it supports.' Thus, dairy, in Southland and wider New Zealand, while reinvigorating rural communities economically and demographically via the allowance of widespread ecological degradation may yet deem these successes merely temporary. Wilson (2010) addresses the connection between agricultural and community resilience. Following Wilson's and Wilkinson's arguments, rural communities within a super-productivist farming system present a low level of resilience. Resilience is stronger within sys-

tems based on multifunctional models, which are characterized by a balanced development of economic, social and environmental 'capitals'. The growing influence of neo-productivism through Fonterra's monopolistic position, both in economy and ideology, potentially undermines the future well-being of New Zealand communities.

Thinking about resilience, social and environmental issues should not be treated as separated fields (Wilkinson, 1991, p. 68). Super-productivist farming systems – with negative impacts on the environment – are then likely to produce low levels of resilience for rural communities (Wilson, 2010). Following these statements, the growing influences of a neo-productivist hegemony through Fonterra's monopolistic position, both in economy and ideology, potentially undermines the future well-being of New Zealand communities because of consequent environmental losses. Further, it produces specialization and uniformity, as opposed to multifunctionality (Wilson, 2010) and diversity that is crucial in building capacity for transformability (Walker et al., 2004).

Conclusion

The combined historical events laid out above exposed Southland more to the international market, thus reshaping the community. The exposure has encouraged adaptations such as the conversion of sheep farms to dairy farms and, more significantly, family sheep farms into family dairy farms, but also more corporate-looking farms. The entrepreneurial family farm exemplified in Australian tomato farming looks a lot like a New Zealand dairy operation. Those changes in agriculture have changed the region and encouraged the growth of certain businesses (and discouraged others). At this point Southland is still an agricultural community. It's just a dairy region now. While some are heartbroken, others celebrate. Many are filled with personal and community-level ambivalence trying to come to grips with relatively swift changes. Many are happy to still be farming and this continuity gives them hope and encouragement to make Southland the best community they can because it's theirs.

Despite the apparently incontestable success of New Zealand dairy farming, environmental concerns and the complex legal and social structure around farm real estate offer a contrasting image of an unsettled agriculture. Campbell and Lawrence (2003) suggested that the 'conjunctural crisis' created by the deregulation led to a 'structural crisis' involving broad social and cultural transformations in New Zealand. As the authors note in a new examination of Antipodean agriculture (Lawrence and Campbell, 2014), these concerns are still actual and have been reformulated with the recent development of agricultural financialization. It is in Southland that we still see these dynamics at play almost 10 years later.

Following McManus et al. (2012), how farmers care and are concerned by community can change a community's resilience. While the authors argue that, 'It is our contention that "rural resilience" has become popular in recent times, largely as a reaction to the notions of rural decline' (p. 21), the dairy turn in Southland flips the question on its head and asks: is it possible to be resilient to rural economic revival? Conversions to dairy have played a crucial role in the recovery of the Southland region after the shock of deregulation. It is becoming more and more central to the economy of Southland and New Zealand, like sheep before – maybe more so. At the farm level, the conversion process results in a further dependency to external capital

and to the industry while also improving the chance of succession and continued involvement of family members. At the regional scale, economic revival involves an increasing dependency on external investments. Bringing Walker et al.'s (2004) 'basin of attraction' concept to bear, these statements can be interpreted as a narrowing and deepening of the 'dairy basin', making it harder the get out of it. If dairy continues to grow, Southland could turn into a kind of agricultural 'monoculture'. What would happen if dairy (or Fonterra) gets in trouble? Will there be a new alternative for Southland rural communities? Will it be possible for farmers to step back from dairy, when they invested so much in the conversion? The situation may turn into a 'lock-in trap' (Allison and Hobbs, 2004) characterized by a low potential for change, disturbing capacity for adaptability and transformability. This loss of capacity to manage and arrange the system would affect both the farm and the community levels. Using Folke et al.'s (2010) words, deliberate transformational change toward a new system would become harder. In consequence, exogenous shocks or change will probably lead to 'forced transformation'. In the conversion from sheep to dairy farming, the shift to a new system has been made through rather 'deliberate transformability'. This allowed the farmers and the communities to preserve what was the most important to them. Conversion as continuity. Forced transformations might not give the same opportunities and the change might bring higher social and environmental costs.

Could the dairy boom lead to a 'global aftershock' at the social and environmental level? At the environmental level, the impact of Fonterra's neo-productivist ideology on farmers' perceptions will continue to have important consequences. At the social level, foreign investments and uncaring management undermine community life and well-being. But these concerns can be checked by active maintenance of community and ecological concerns. The maintenance of family involvement might be of great importance in the future of Southland and similar communities. Families and family farms not only transmit property and livelihoods, but community cultural capital. In many cases the conversion of family farms to dairy has led to more family and more corporate forms of farming, at least so far. Questions about future developments remain open, however. The future of dairy farming in New Zealand might then follow very different pathways depending on the ability of farmers to reproduce an 'ethos of farming' (Marsden, 1984; Ward and Lowe, 1994), where farm succession is more than capital inheritance. Nevertheless, Southland's ability to weather such disruptive times offers hope to other communities concerned about the vagaries of contemporary agriculture. Southland's resilience emerges from its maintenance of family farming and actively incorporating – economically and socially (and, hopefully, environmentally) – major changes since the 1980s.

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