Community sustainability and agricultural landscape change: insights into the durability and vulnerability of the productivist regime

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Abstract

Food is produced in material places: distinct combinations of landform, soil, climate, hydrology and biota. However agricultural landscapes are more than material, they are also social. Biophysical materials interact with phenomena including communities of place, and the wider economic, political and social context, to produce particular practices and arrangements of food production. The sociologically-informed concept of place-making has recently been introduced to sustainability science, with the suggestion that it can assist in identifying practical pathways towards more sustainable landscapes, through offering insight into this variety of relations between the physical and the social. Here we apply this perspective to a case study of an Australian rural community of place that is grappling with questions surrounding the future of its farm land. We have used "community sustainability" as a conceptual entry point for exploring how landscape development trajectories result from discursive place-frames that draw on different sets of place-making relations. In this case the relations that reproduce a broadly "productivist" trajectory in landscape change are strong, but under some pressure, most evident in community perceptions of the relative unattractiveness of traditional farming livelihoods to a younger generation. However place-making relations that might lead in alternative directions are weak. Incremental change toward a more diverse agricultural landscape appears possible if different economic and discursive relations can be drawn on to create a different place-frame that offers an equivalent promise for maintaining community in place.

Keywords: Place-making, community sustainability, sustainable landscapes, sustainability transitions, dairy farming, Australia

1. Introduction

The often negative consequences of "productivist" (large-scale, input-intensive, specialised, yield-maximising) agriculture for the natural environment and for rural communities have been well documented and theorised, leading to frequent assertions that this constitutes an "unsustainable" mode both of food production, and of rural land use (Buttel 2006; Marsden and Sonnino 2012; Lawrence *et al.* 2013). Nevertheless the productivist agricultural landscape development trajectory remains dominant in many places, including Australia, both in policy and practice (Bjørkhaug and Richards 2008; Lawrence and Campbell 2014). It has further been observed that a global food security discourse, newly enlivened as a result of the 2008 world food price crisis, is serving to strengthen productivism (Burton and Wilson 2012; Rosin 2013).

Proposals advocating alternative agriculture and food futures also abound, at scales from the global to the local (e.g. Ambler-Edwards *et al.* 2009; McIntyre *et al.* 2009), and in this regard too, Australia is no exception (Campbell 2009; Grayson *et al.* 2013). Frequently drawing on concepts and models from agroecology (Altieri 1995) and alternative food networks (e.g. Tregear 2011), such alternative proposals are often couched in terms of "sustainability". The argument is that comprehensive food system transformation is needed, inclusive of different production methods, social and economic organisation of value chains, international trade relationships and diets, and

that the results will include *inter alia* reduced negative environmental impacts and enhanced social conditions for rural communities.

Imagining a radically different food future can assist with the task of characterising the scope and nature of desired change: “by envisioning what the ideal might be [...] we can better navigate away from what is not working” (Rosin *et al.* 2012: 228). Other scholars have focused on proposing or evaluating new discursive and policy paradigms, and specific policy interventions for creating such change. Buttel (2006: 222), for example, evaluates the potential of a number of competing “visions of the road to sustainable agriculture”. The underlying metaphor in both cases is of a journey from *here* (productivism ascendant) to *there* (sustainability). All metaphors reveal some aspects of phenomena, while concealing others (Ison *et al.* 2013). Here the journey metaphor communicates the need for change, but somewhat obscures the heterogeneity and complexity of what is actually involved in such change. Food and agriculture systems are comprised of natural materials and processes, technologies, people, livelihoods, markets, businesses and policy frameworks all interacting in complex ways. The change required is not so much to steer this ‘vehicle’ down a road as to create the conditions whereby the vehicle itself can reconfigure. The metaphor of process is perhaps more apposite than that of journey.

The Multi-level Perspective (MLP) of Geels (2002) offers one conceptualisation of socio-technical change focusing on change as process. It has been widely applied to the issue of sustainability transitions, including in the case of food production (Marsden 2013a; Hinrichs 2014). The MLP conceptualises sustainability transitions as

an interaction between socio-technical processes occurring at three levels: (1) socio-technical landscape (or exogenous context); (2) dominant socio-technical regime; and (3) niche innovations. The mechanism of transition is that changes in the exogenous context put pressure on the regime, allowing some innovations to break through resulting in a new configuration of the regime. The "heterogeneous set of elements" that constitute the regime include physical infrastructure, technology, policy, markets, commercial strategy, culture and symbolic meaning, knowledge and practices (Geels 2002: 1263). The MLP is conceived to apply at broad temporal and spatial scales. It is concerned with change in pervasive socio-technical regimes that produce particular routinely accepted types of solutions for meeting human needs such as energy, shelter, transport and food (Geels 2010).

In the case of agricultural change in Australia, productivism can be viewed as a dominant socio-technical regime, supported by existing policy, institutions, market relationships and knowledge networks and by social processes such as identity or culture. The many on-going experiments with alternative production systems (e.g. agroecology or organics) and supply chains (e.g. alternative food networks) can be considered niche innovations. Examining change through this lens focuses our attention on sources of pressure on the regime (e.g. changing societal expectations), on the interactions between the elements that uphold the regime (e.g. changing market context, technology and policy drivers), and on the presence and nature of niches innovations.

Marsden (2013a) has applied the MLP specifically to the case of regime change in the food system and has argued that it can benefit from a greater engagement with recent social science work on place (Marsden 2013b). The argument is firstly that physical place is where the multiple interactions that constitute a socio-technical regime become concrete and manifest. Place is “the constituent ‘meeting point’ between ecological, economic and social/cultural community relationships” (Marsden 2013b: 216).

Yet the significance of place goes beyond this. Drawing on a rich tradition of social science research on place as a social phenomenon (e.g. Greider and Garkovich 1994; Massey 2005), Pierce *et al.* (2011) characterise places as political and contested entities. Physical place is understood and represented by human actors in different ways, and such understandings and representations draw their weight and substance from the many different kinds of relationships in the social, economic, political and ecological realms in which places are embedded. Just as political actors frame issues in particular ways in order to convince and enrol others, so too actors deploy particular “place-frames” (Martin 2003), emphasising particular constituent relationships, as they attempt to influence what is made of particular physical places. What a place is in the social and political domain of human affairs, and what it is and can become in the material sense, are entwined through this process of on-going, contested, “relational place-making” (Pierce *et al.* 2011). Thus in considering the possibility for change towards sustainability, we must consider how such change can occur in particular places, understood as social and contested objects, embedded in networks of relations:

[I]t would seem that we need to recognise both the fluidity and relationality of place on the one hand, whilst at the same time also recognising that sustainable 'transitions' in themselves will indeed need to be rooted in real places and time frames if they are to indeed become wholesale transitions. (Marsden 2013b: 215).

Where Marsden (2013b) has used relational place-making to interrogate the spatially differentiated emergence of different food system paradigms across European regions (the bio-economic and eco-economic paradigms), we apply it to examination of the conditions under which a departure from a broadly productivist landscape development trajectory might or might not be possible in rural Australia. Australia is frequently cited as the global ideal case of the productivist agricultural development trajectory (Lawrence and Campbell 2014), but others claim it is ripe for an "industrial scale" landscape transformation (Bryan *et al.* 2013). Bryan *et al.* (2013: 279) identify several "key drivers" toward transformation, including a shift in broad community attitudes to the land, increased policy focus on rectifying past environmental damage, recognition of the need to adapt to climate change, the use of market instruments and property rights as management tools and diversification in the sources of rural livelihoods. Thus an Australian case study provides a suitable vehicle for investigating how place-making relations and processes condition the possibilities for landscape change.

Linking back to the conceptual schema of the MLP, relational place-making alerts us that the various elements of a socio-technical regime such as productivism, exogenous contextual developments such as those identified by Bryan *et al.* (2013) and the

trajectory of niche innovations all find their expression in part through the way that place is understood and represented. The process of change will need to be worked through in the ways that place is made and re-made, in the context of its political, economic and ecological relationships. This is an inherently social process, and we can expect it to be contested. Thus individual and shared social worlds become immanently relevant to the question of sustainability transitions, as the social science literature exploring farmer identities attests (Burton 2004; Hunt *et al.* 2013).

In this study we use 'community sustainability' as a discursive entry point for exploring place-making processes in local social interaction. This is not to say that the activity of place-making is limited to the realm of local social interaction. Clearly it is not, as the exposition of relational place-making above makes clear. Rather, we take community to be a window offering access to place-making processes operating at a variety of spatial and temporal scales. 'Community' can no longer be taken as an unproblematic descriptor of a single social world experienced commonly by all residents of rural places (Bourke 2001; Alston 2005; Panelli and Welch 2005), yet it remains a salient category around which rural residents organise interactions and agendas (Liepins 2000; McManus *et al.* 2012). 'Community sustainability' situates this important social category in relationship with the idea of sustainability, offering the promise of insight into whether and how agricultural change towards sustainability is enabled and constrained by the place-making processes and contests revealed.

2. Case description: a "productivist" landscape and the possibility of change

Our case study is of community deliberations over the future of farming, and particularly dairy farming, in the Mitta Valley in north-east Victoria, Australia (see Figure 1). The Mitta is one of four major river systems that flow north from the Victorian Alps towards the Murray River. Originally part of the estate of the Yaitmathang people, it was first traversed by European explorers in 1824, and began to be settled by pastoralists soon after (Gardner 1996). Today the settled part of the Mitta Valley extends over some 60km southwards from its confluence with the Murray in northern Victoria. The vast majority of the flatter land in the floor of the valley has been cleared for farming, but the surrounding hills remain forested. The Valley's population in 2011 was 800, and declined by about 8 percent over the last inter-census period (ABS 2014).

[INSERT FIGURE 1]

Figure 1: The location of the case study site in north-east Victoria, Australia

Mining and forestry were important land uses through much of the 19th and 20th centuries, but agriculture and specifically beef and dairy farming are now the major remaining industries. Of the Valley's approximately 45,000 hectares of private land, around 15 per cent is used for dairy farming, while 68 per cent is used for extensive beef grazing. Agriculture is the largest industry of employment in the Valley, providing 40 per cent of all employment for Valley residents, split about equally between the beef and dairy industries (ABS 2014).

Dairy farming has been an important industry in the Valley since the 1860s. Its first co-operatively owned butter factory opened in 1892, and was exporting butter to Britain by 1896 (Mitta Valley Heritage Society 2003). In 1968 this company merged with Murray Goulburn Co-operative Company Limited (MG), which is now Australia's largest milk processing company, and all of the Mitta Valley's dairy farmers remain MG supplier-shareholders. MG has a processing plant in a neighbouring locality which manufactures products for local, national and export markets.

Australian dairy farming is large-scale, technologically-advanced and economically efficient, and the industry at the national level is keen to pursue apparent export growth opportunities, particularly in Asia (Linehan *et al.* 2012). The industry embraces a broadly productivist development trajectory, but is also cognisant of the need to respond to new customer and regulatory expectations in relation to environmental impacts, animal welfare and rural community development, which it groups under the banner of "sustainability" (Dairy Australia 2012; Horizon2020 2013). The last ten years have seen high price volatility for farmers, which, combined with extended drought conditions, has created a lack of confidence, and little overall production growth (Dairy Australia 2013).

Both milk production and dairy farm numbers in the Mitta Valley declined significantly during the long Australian "millenium drought" (2001 – 2009). Milk production has since recovered somewhat, but farm numbers have not, indicating a continuation of the trend of scale expansion and consolidation that has long been present throughout Australia's dairy industry (Dibden and Cocklin 2010). In 2012/13 the Mitta Valley's 28

remaining dairy farms produced some 35 million litres of milk, with a farm gate value of around A\$10 million.

Since 2011, Valley residents have been participating in two externally funded projects that touch on the future of farming in the Valley. The Alpine Valley Dairy Pathways (AVDP) Project, operating at the north-east Victorian regional scale, has a goal of substantially increasing milk production from the region (Bridge 2014). It arose in part in response to concerns expressed to MG by community leaders from the Mitta Valley about “economic decline and job losses” associated with the “decline of dairy” in the valley (Bridge 2014: 6), in concert with broader regional economic development and industry growth interests of other stakeholders. It involves collaboration between State and local government, MG Co-operative and the wider dairy industry and representation from dairy farmers across the region, including from the Mitta Valley. The second project – Our Valley, Our Future (OVOF) – is operating at the local scale of the Mitta Valley. While it is funded from a dairy industry source, it is intended to be a broad community planning exercise, with no primary focus on the dairy industry (OVOF 2013).

Holmes (2006) has highlighted the emerging differentiation of Australian rural landscapes in response to different local weightings of production, consumption and conservation values. Barr (2008) has attempted a quantitative assessment of this process in Victoria, and identifies the Mitta Valley as a "transition" landscape, on the fringe of the "amenity" zone, highlighting that this is a landscape where change may be underway. The deliberations taking place in the AVDP and OVOF projects offer a

glimpse of the place-making processes involved in agricultural landscape change, and in particular into how or whether the established productivist trajectory might change.

3. Methods

In this study we sought to identify the mobilisation of place-frames, and the different place-making relations involved, through analysis of interview data and of AVDP and OVOF project documents. We completed 44 semi-structured interviews with Mitta Valley community members (as individuals or nuclear family groups), between May 2012 and May 2013. Interviews covered personal histories, experiences of community and community leadership, experiences of social and economic change, perspectives on the role of farming in general and dairy farming in particular, and expectations of future opportunities and challenges facing the community. The interviews also discussed 'community sustainability'. We didn't offer interviewees any particular interpretation of this concept, but rather asked what it meant to them, whether they thought it important, and how it might be maintained or strengthened in the case of their own community. (The names attributed to the interview extracts below are pseudonyms). The makeup of the sample is indicated in Table 1. Further data come from AVDP and OVOF project documents. The first author attended most committee meetings and other activities of the two projects between March 2011 and March 2014.

Table 1: Description of interview sample

Category of interviewee	Number of interviews	Number of male participants	Number of female participants
Dairy farmers	22	35	24
Retired dairy farmers	4	6	4

Other farmers	8	13	9
Other community members	10	15	6
TOTAL	44	60	36

Interview sampling was purposive. In the case of the dairy farmers, the small size of the total population (28 farms) created the opportunity to interview one or more people from most farms. For the other categories of interviewees, sampling sought to access as great a diversity of views and experiences as possible, hence the sample included township residents as well as farmers, newcomers into the valley as well as "born and bred" locals, and people involved in the tourism and retail business sectors. Community members who are involved in the AVDP and OVOF projects provided some assistance with recruiting interviewees. This is likely to have resulted in some bias towards interviewees who are generally aligned with a "traditional" view of the Mitta Valley as a farming community. However we specifically sought out diversity in views on dairy farming in particular. Young people (under 30) are underrepresented in the sample, and non-residents (holiday home owners) are excluded.

Interviews were transcribed in full and then analysed thematically with reference to the theoretical perspective of relational place-making outlined above. We first report results regarding the relationship between community and place, and the nature of community sustainability, to establish the relevance of this choice of discursive focus (Sections 4.1. and 4.2). We then move on to the results of our analysis of the relations invoked in contesting place-frames, and of the way these are negotiated in local social processes (Section 4.3 to 4.5). In Section 5 we relate these observed place-making

processes to the mechanisms of socio-technical transition posited by the MLP to draw conclusions about the possibilities for agricultural landscape change that are revealed.

4. Results

4.1 Community and place

Most interviewees firmly endorsed 'community' as a relevant and valued aspect of their experience of life in the Mitta Valley:

When you're in a little community like this you become very aware of keeping that community alive because that is what you have." (Sally, Int44A).

Further, they understand their community in relationship with its place, drawing connections between the basic material landform of the Valley itself, and the character of community life:

Mitta Valley's unique because it's a valley that, I guess, it's a bit isolated. Like, you can't get out of the valley until you get down here [...]. Everyone knows each other and they all work together I guess you'd say. And some people say they all fight together too! (Kyle, Int35A).

A sense of confidence in the attributes of the place itself also gives rise to a widespread, but not universal, sense of confidence about the future:

I think the future's fairly promising. How can it not be? It's a beautiful place and it's rich soil. You can irrigate effectively. There's plenty of things going for it. So I don't see how it could go too badly. (William, Int55A).

4.2 *Community sustainability and farming*

The concept of "community sustainability" was one that we brought to the research, but it found ready resonance with interviewees. They identified five interdependent processes that contribute to community sustainability: attracting and keeping people; providing livelihoods; sustaining services and activities; living community (that is, maintaining the practices and norms of behaviour that people associate with "community"); and maintaining physical place (the valued aspects of the biophysical environment that also contribute to making the community what it is).

The Mitta Valley exemplifies community sustainability to many of the interviewees. They refer to their perception of the number and quality of social ties, to the practices of mutual help that these ties support, to the number of community-run groups, services and facilities and to the high levels of involvement of local people in these groups. But there is also a widespread sense that community sustainability is threatened by the possibility of on-going population decline:

That's the biggest worry is getting your community smaller. That's what you don't want because everything just falls away then. (Rodney, Int14A).

Thus the ability of the local economy to provide jobs and livelihoods to attract and keep people in the Valley is considered fundamental to community sustainability. People can narrate in detail the history of industrial change and employment decline in the Valley. The local employers that remain are the farms, general stores, the pubs, a handful of local small businesses, and a small number of public services. People

consider the Valley's land, climate and water resources to be major strengths, and so consider that these should be a source of livelihoods:

We are so lucky in that we have one of the most fertile valleys, a good climate, we can grow just about anything. (Trudy, Int61A).

They also see farming livelihoods as keeping people in the Valley full-time, which ties people more firmly into local interactions and activities, and farmers are widely considered to have a particularly strong norm of involvement in many community activities, such as sports and volunteer-run emergency services. Agriculture is also embedded in the maintenance of physical place. Thus agriculture, and in particular dairy farming, is widely seen as being important to community sustainability:

My comment would be that they're the backbone of the valley really. That's what the whole valley's about, is the dairy farmers. (Maxine, Int41A).

People understand that economic change is inevitable and is continuing, and are well aware of the social and economic pressures that are influencing farming. Nevertheless the view is that if agriculture can be made to work then that is valuable.

4.3 Productivism redux: reinventing dairy

Despite the observation that from a basic land capability perspective the Valley can "grow anything", dairy farming occupies a particularly privileged position in people's deliberations about the future of farming. Their rationale is that no other profitable agricultural land use appears feasible, given the combination of the Valley's constrained geography, prevailing farm sizes and current market conditions:

Dairy farming's probably basically the only sole viable farming operation in the Valley I see. No beef farms are really big enough to be viable. (Glen, Int10A).

Current beef producers also express this view:

[T]o be quite honest with you, the beef industry's in more bloody strife than the dairy industry and probably less sustainable. And it needs as much help as it can possibly get. (Max, Int46A).

People recognise that other intensive industries such as horticulture might also be profitable, however the history, skills base and supply chain relationships don't exist for these industries, whereas they do for dairy. And so in this account dairy farming is the obvious farming future for the Valley:

I've tried the alternative and it doesn't work, I can tell you. And [...] we've been through the sort of horticultural talks ten years ago and all that sort of stuff and nothing's come out of any of it. (David, Int12A).

This account rests on an argument about dairy's relative profitability, and was articulated by dairy farmers, beef graziers and non-farming community members. There is a future orientation in this too: while the less intensive land use - beef grazing - is providing livelihoods for many in the Valley right now (although for many this income is supplemented by other sources), a common view is that is unlikely to generate new livelihoods for the next generation, and thus has less to offer for the community's future.

However, there is a widely shared sense amongst dairy farmers, other farmers and non-farming community members that the social reproduction of all farming in the Valley, including dairy farming, is facing challenges. The evidence offered is the breakdown of family succession processes on family-owned farms. People have observed the slow, steady decline in the number of active dairy farms and attribute this to the observation that "there is no younger generation coming through", which in turn is understood to be a result of the relative unattractiveness of dairy farming as a livelihood, in comparison to other options that are available:

[T]hat was the thing. If you had a farm and your parents owned it, you were just committed automatically to go back to it. [...] But now things've changed. And that's what's happening. A lot of the young blokes have got out. There's other things out there. (Ewan, Int25A).

The range of causative factors implicated in the unattractiveness of dairy are unsurprising to those familiar with scholarly, media or popular accounts of change in farming and rural communities (e.g. Gray and Lawrence 2001; Auclair and Vanoni 2003; RRC 2012). These include the cost-price squeeze on farm profitability; the resulting need for increasing scale; price volatility; high entry costs; arduousness; and elevated aspirations regarding income and lifestyle (reflecting those in Australian society at large), in comparison to previous generations. There is thus a disjuncture between perceptions of biophysical potential, and socio-economic realisation of that potential:

There's no worries about doubling production. We just need the price. We can grow the grass and feed the cows to do it but unless there's a decent milk price it's not going to happen. (Glen, Int10A).

In response to this, the AVDP project has drawn attention to economic assessment of the potential profitability of dairy, and the comparative advantage that the region enjoys on the basis of its climate, land and human resources and land prices (Mulvany 2010). It argues that change in the biophysical and financial parameters of dairy farms is needed to enable the region to take advantage of this "dairy opportunity".

The project's vision for the future (Bridge 2014: 27) is of substantially increased milk production (80 per cent increase on 2013 production, by 2025), from a similar number of farms. Each farm will be milking more cows, through a combination of physical expansion and more intensive grazing, and realising increased yield per cow. The vision also sets out other parameters that would enable such an increase in production to be "sustainable". These include incorporation of farming system design principles to manage the cost of production, "ensuring nutrient and waste management principles meet regulatory and customer requirements", and "improving working arrangements on farms, so that wealth creation and lifestyle expectations are improved" (Bridge 2014: 27). The project asserts that these parameters, and the required level of performance, are already being achieved by the "top" 25 per cent of farms in the region, and so the task is to lift the performance of the others.

The project sees other changes in farms' economic and social organisation as needed to facilitate these changes in performance (Bridge 2014). Larger farms will utilise full-

time employees, thus reducing the arduousness of the work for owner-operators. They will embrace a wider variety of farm business models, in particular moving away from the traditional assumption in Australia that to be a farmer involves outright ownership of the land on which the farming occurs. This will enable a greater variety of career pathways for people coming into and out of dairy farming. There will also need to be a more rigorous embrace of business management principles and tools to guide farm decision-making, to engender a greater sense of control and agency in relation to market context.

Some dairy farmer interviewees in the Mitta Valley endorsed the feasibility and desirability of this trajectory of change, but others were highly sceptical that it can be achieved.

4.4 Experiments in diversity: new products and supply chains

Other interviewees expressed interest in opportunities for farming-based livelihoods beyond the mainstream beef and dairy value chains. The usual motivations were a desire to escape from what they saw as the position of "price takers" in markets controlled by remote forces, and a desire to capture more of the value of farm production locally. A variety of people spoke of this, including non-farmers and recent settlers in the Valley, but also beef and some dairy farmers. Ideas included new, high-value products (e.g. saffron, tree nuts), provenance branding, local processing into value-added products, including dairy products such as fresh drinking milk or cheese, and participation in existing higher value supply chains, such as for premium-grade beef.

Only a small minority of dairy farmers indicated interest in these options. Many spoke in general terms about the role of their milk co-operative (MG) in strengthening their position in the value chain, yet still understand themselves primarily as "price takers". Their lack of interest in alternative farming livelihoods was linked to a judgement that they are unlikely to succeed on a scale that would represent an alternative farming future for themselves, and hence for the Valley:

I shouldn't say anything "they can't do", but there is... you go down that corner down there at [...], someone tried to grow apples and that didn't last. There's all been these little niche things, you know, but they sort of just haven't got off the ground and got going. (Ewan, Int25A).

A couple of [people] that we're pretty friendly with, they sort of get the idea that tourism is going to take over the Valley [...] so I should be [...] making cheese and selling it out on the edge of the road. And I said [...] "I get 5000 litres a day milk. What would I make? 1000 litres of cheese a day? [...] What am I going to do with the other 4000?" But they forget about all the work and the infrastructure you've got to have for that sort of thing. (Stan, Int37A).

They also observed that tradition holds strong sway: that people (including themselves) will keep producing the products and supplying the supply chains that they have always supplied, because that is what they know.

In fact several ideas for new products and value chains are currently being implemented at least on a trial scale by one or more landholders in Mitta Valley or in

neighbouring localities. One beef produce is developing a second more intensive alternative cropping enterprise. A small-scale dairy processor in a neighbouring valley has managed after twelve years of work to create a successful brand and product, which processes a portion of the milk produced from the farm on which the enterprise is based. Another beef producer has tapped premium markets that generate significantly higher returns than those available in the traditional supply chain. Few people currently see these individual experiments as part of an emerging different future farming landscape for the Valley, and those that do expect change to be incremental:

But I think in terms of smaller diverse farming operations succeeding, you need a – it's partly a cultural thing and it's a market thing and without a sort of a grouping of enough [...] profitable businesses, there's no real – yeah, people are less likely to go into things I guess. (William, Int55A).

4.5 Community agency: "every farmer's farm is their farm"

A final important aspect of the relationship between local social processes and landscape change relates to community agency in farming and land use decision-making. There is consistent agreement that local norms do not allow for overt community input into these decisions:

Well, what happens, every farmer's farm is their farm [...] If someone decides to retire from dairy and go into beef, well, we say "Well, good on ya Jim, that's fine." (Craig, Int15A).

Well probably it really is their decision, isn't it? I mean, what right does the community have to say that you can't sell your cows and change your farm into a beef farm [...]. I can imagine they'd tell you to get stuffed! (Glenda, Int46A).

The implication of this is that while the Valley's high quality agricultural land is seen as a key community asset it is in practice not one over which community processes can exert much influence directly. To date the community deliberations that are occurring under the auspices of the OVOF project have not seen this norm challenged.

What is expected to drive agricultural change is not community agenda-setting, but some combination of commercial opportunity and economic necessity affecting individual family decisions. Several interviewees expressed the view that the prevalence of older farmers on smaller farms with little debt creates a situation that is resistant to change in the short term (there is no imminent need or incentive for anyone to do anything different) but possibly ripe for significant change in the medium term:

Over the next ten, fifteen years ... there'll be that next step won't it? The generation now will be phasing out and then there's got to be someone coming in to replace them. You'd think there's got to be quite a few changes over the next ten years. (Simon, Int13A).

5. Discussion

5.1 *Place-making and agricultural landscape futures*

Our study highlights the many different types of relations implicated in the on-going processes of place-making in the Mitta Valley, consistent with Marden's (2013b: 215) conception of these processes as "diverse, contested and contingent amalgams of economy, community and ecologies". The Valley's long history as a dairying community has unfolded as an interaction between the biophysical suitability of the physical landscape for this purpose, developing community institutions and social practices, and the policy and market context in which dairy products have continued to be in demand. The Mitta Valley as a dairying place is now inscribed in physical and economic infrastructure (farm layouts, dairy sheds, milk factories, milk transport networks), as well as in the social processes of community identity and skills and knowledge reproduction.

Our exploration of the concept of community sustainability highlights the alignment between the productivist socio-technical regime and place-making processes at local community and landscape scale. The Valley is understood, valued and represented by its residents as a beautiful, green, fenced and productive farming landscape and at present it is the productivist dairy farming development trajectory that appears to community members to offer the most promise for reproducing this version of place into the future. Thus community sustainability, as it is understood in the Mitta Valley, is for many community members still compatible with the reproduction of a productivist landscape.

This framing of the Mitta Valley as a productivist dairy place is not being strongly contested but it is being questioned. Witnessing the slow on-going decline in dairy farm numbers in the Valley, residents are concerned as to whether productivist dairy farming is socially reproducible. Again there are a variety of relations involved in this dynamic. Creating attractive farming livelihoods that can compete with those available in other industries and professions requires scale expansion and intensification, but the Valley's physical geography, patterns of land holding and farming traditions can impede the necessary physical expansion of farms. In terms of the MLP, this mismatch between the configuration of dairy farming demanded by the market and the configuration of dairy farming as it currently exists is a site of vulnerability in the productivist socio-technical regime, whereby its reproduction is at risk. Community members and particularly dairy farmers themselves are questioning the practical and social feasibility of reorganising the Mitta Valley landscape in accordance with the productivist socio-technical regime, and so other place-frames, which could be described as post-productivist, are in play. Perhaps the Valley's future is a tourism destination, or a rural residential community for retirees and commuters? These futures accord less easily with the community's current view of itself and its place but if the productivist agricultural trajectory is the only one on offer, and if it is unravelling, then these appear to be the alternatives.

The AVDP project can thus be seen as recognition by the multiple stakeholders involved that the social and spatial reproduction of dairy farming is under threat, and as an effort to address this threat by reasserting the feasibility and desirability of the productivist development trajectory. It is an attempt to address the vulnerability in

the regime by redesigning dairy farming within the regime's own logic. The AVDP project has brought the institutions and resources of Australia's large and well-organised dairy industry to the task of strengthening the productivist dairy place-frame.

While the productivist place-frame is being questioned by some Mitta Valley community members, a coherent alternative agriculture-centred place-frame is yet to emerge. Many interviewees expressed interest in a more diverse farming future, and some are indeed innovating in this way, growing new crops, and supplying different value chains. The norm of non-interference in private landholder decisions means that in practice such innovation is not resisted by community social processes. But at present these innovations don't cohere at the collective community social scale into an imaginable future agricultural landscape. The supply chains and market opportunities are not readily visible as they are for dairy, and such a place-frame is not being specifically articulated by policy or industry actors. This is in stark contrast to the way that the AVDP project has mobilised actors around the productivist dairy frame. In MLP terms, niche innovations are present, but are yet to “align” and “stabilise in a dominant design” (Marsden 2013a: 125).

5.2 Conclusion

Our case study supports Marsden's (2013b) contention that the MLP can be more usefully applied to the study of agri-food sustainability transitions if we remember that food is produced in particular places, where place is understood as a complex, heterogeneous and in part social phenomenon. In Australia the productivist

agricultural development trajectory is embedded in individual and collective farming identities, in the physical and economic arrangements of farms and their supporting infrastructure and in policy, institutional and market relationships. This makes a productivist place-frame readily available for mobilisation by actors as place is remade and contested. The socio-technical regime is upheld by actors invoking these social, economic and policy relationships.

Our findings also affirm the importance of community and community sustainability as relevant aspects of the social relations influencing place-making in rural Australia (McManus *et al.* 2012). Despite evident vulnerabilities in the productivist socio-technical regime (Santhanam-Martin and Nettle 2014) it appears to remain the most promising option for communities that wish to retain an agricultural character and identity. Thus while scholarly and activist discourse labels productivist agriculture as fundamentally unsustainable, it nevertheless continues to be viewed positively by community members and policy-makers alike in discussions about community sustainability.

We suggest that this mismatch in understandings of sustainability is important because it points to an on-going tension in rural place-making that makes it difficult to imagine and hence create different agricultural landscapes. If, as this study suggests, sustainability transitions must be worked through in place, and if community is one of the social locations where place is made, then the change process must engage with community sustainability as it is locally understood and practised. This implies that agricultural landscape change towards sustainability, as broadly understood by

sustainability scholars, is likely to be an incremental process that builds on existing physical, social and economic relations in places.

Acknowledgements

We thank the steering committees of the Alpine Valleys Dairy Pathways Project and the Our Valley, Our Future project, and all our interviewees, for agreeing to participate in this research. Thanks to Ruth Beilin, Iris Bohnet and Fiona Miller for their contributions to the development of the ideas in this paper. Thanks also to the RIRG writing group, and to two anonymous reviewers for their insightful and constructive comments.

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Title:

Community sustainability and agricultural landscape change: insights into the durability and vulnerability of the productivist regime

Date:

2015-04-01

Citation:

Santhanam-Martin, M., Ayre, M. & Nettle, R. (2015). Community sustainability and agricultural landscape change: insights into the durability and vulnerability of the productivist regime. SUSTAINABILITY SCIENCE, 10 (2), pp.207-217. <https://doi.org/10.1007/s11625-014-0268-2>.

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