Neoliberal natures on the farm: Farmer autonomy and cooperation in comparative perspective

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*Cover Letter

Vaughan Higgins, Special Issue Editor
Journal of Rural Studies
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27 May 2014

Dear Vaughan and the editors,

For your consideration we submit this revision of "Neoliberal Natures on the Farm: Farmer Autonomy and Cooperation in Comparative Perspective" for submission in the special issue of the Journal of Rural Studies on the neoliberalisation of markets and nature. We greatly appreciate the careful and guiding comments from you and the two reviewers.

We hope that you find the changes satisfactory and look forward to working with you throughout the completion of this special issue.

Please feel free to contact me with questions or comments regarding the manuscript. I appreciate your consideration and, along with my co-authors Jérémie Forney, Steven Emery, and Hannah Wittman, we look forward to hearing from you soon.

Sincerely,
Paul Stock

Response to Reviewers

4 June 2014

Dear Vaughan and Editors,

We have checked the file inventory and respond in the following way:

1) Our manuscript is uploaded as a .docx file and should be fine for publication.

2) We have no figures.

3) We submitted highlights as an office file with the file name “JRS Highlights” that reflect the revisions.

4) We have not submitted a Graphical Abstract.

Thank you once again. We are looking forward to seeing this special issue and our article published. Well done.

Sincerely,
Paul

Title page (including author details and affiliations)

Neoliberal Natures on the Farm: Farmer Autonomy and Cooperation in Comparative Perspective

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Neoliberal Natures on the Farm: Farmer Autonomy and Cooperation in Comparative Perspective

Abstract

The struggle over autonomy in farming is emblematic of the philosophical and practical tensions inherent in solving multi-scalar environmental issues. We explore the multiplicities of autonomy through comparative case studies of agricultural cooperation in England, Switzerland, New Zealand, and Brazil, which allow consideration of the implications of a range of approaches to managing farmed environments under different variations of neoliberalism. The original data emerge from separate projects examining aspects of cooperative autonomy in relation to the effects of the neoliberalisation of nature in agriculture. The comparative examination of autonomy and cooperation across distinct agri-food contexts highlights diversity in the social, ecological and economic outcomes of alternative forms of agri-environmental governance. This analysis provides a sobering corrective to both the over-romanticisation of cooperation across global peasant movements and the over-romanticisation of the individual entrepreneur in agro-industrial and family farming sectors. Our examination highlights the need for greater attention to the relationships between actors at and across different scales (the farm level, organizations and communities, the state, and industry) to understand how, in contrasting contexts of neoliberalisation, alternative conceptions of autonomy serve to mediate particular interventions and their material environmental consequences. A focus on actual autonomy, via the peasant principle and territorial cooperatives, creates an opening in theoretical and political dialogue to bridge concerns about farmers, livelihoods, and environmental outcomes.

Keywords

Autonomy; cooperative; farmers; independence; neoliberalism

1. Introduction

Neoliberalism - in all of its variety - complicates the relationship between the individual and the collective. While mythological as a unified thing or concept, the very plasticity of neoliberalism makes certain things real - it has significant consequences not just on the person (Stock and Forney, forthcoming), but on the planet (Heynen et al., 2007). Where other work explores the development of a bio- or eco-economy in which the rural and the farmed environments play a vital role in sustainable development (Kitchen and Marsden, 2011), this special issue focuses on the neoliberalisation of rural environments and nature. Farmers (and other rural actors) have been characterized as either legitimators or resistors of neoliberalism (Borras, 2010; Desmarais, 2007; Schneider and Niederle, 2010). Deeply

embedded in both natural landscapes and neoliberal policies, farmers make daily choices regarding the management of property, land, and water - choices that are negotiated (Burton, 2014).

In much western agrarian thought, autonomy is a key trait or tool of identification central to both farmers themselves and neoliberalism, in general. Typically, a neoliberal agenda equates autonomy with individual entrepreneurship and rational behaviour (Emery, 2010; McElwee, 2008). Alternatively, the idea of repeasantisation, popularised by van der Ploeg (2008), hinges on the exercise of "autonomy at higher levels of aggregation" or cooperative/collective autonomy, as resistance to Empire, code for the universalising tendencies inherent in neoliberalisation. The enactment and practice of autonomy is a complex relationship involving context, culture, situatedness and experience (Schneider and Niederle, 2010).

A form of individual autonomy predicated on entrepreneurialism and neoliberal understandings of value equates good farm outcomes as equivalent to the maximization of profit regardless of context. Here, cooperative efforts are often organized either by industry or the state. As McMichael (2012) points out, though, van der Ploeg's version of autonomy helps to shift the epistemic and material understanding of *value*. Thus, the practices of peasants and family farmers, often aligned in farmer-led cooperatives, are posed as potentially regenerative via resistance to those same neoliberal values. Those that pursue and utilize autonomy as a tool of resistance are involved in an "open struggle" whereby individuals choose to cooperate in pursuit of both social and environmental goals. We call this actual autonomy. Examples include regional cooperatives and place-based initiatives that not only trade on quality, but are also invested in maintaining such natural quality (Campbell et al., 2009).

How are environmental outcomes on farms affected by the kind of collective engagement that farmers engage in and how does autonomy (in various guises) serve to mediate this relationship? Building on the ideal type of territorial cooperatives described by van der Ploeg (2008: 182-185), we use the distinction between *neoliberal* autonomy and *actual* autonomy to compare case study examples from England, Switzerland, New Zealand, and Brazil. This comparison offers insight into the variety and diversity of cooperative efforts and their impact on environmental outcomes in rural landscapes. We propose, based on the case studies presented here, that, in contrast to neoliberal forms of autonomy, *actual* autonomy (and how it affects behaviours) is more likely (but by no means certain) to deliver environmental goods and prevent environmental bads. Our aim is to provide a more nuanced analysis in response to what we often see as an over-romanticisation of cooperation in characterizations of regional and global peasant movements, and a parallel over-romanticisation of the individual entrepreneur in the agro-industrial and family farming sector. We argue that this examination highlights the need for greater attention to the micro/macro relationships between actors at and across different scales (the farm level,

organizations and communities, the state, and industry) involving autonomy in neoliberal farming environments. A focus on actual autonomy, via van der Ploeg's focus on the peasant principle and territorial cooperatives, creates an opening in theoretical and political dialogue to bridge concerns about farmers, livelihood, and environmental outcomes without resorting to typical dichotomies between North and South, peasant versus family versus other kinds of farmers and other unhelpful distinctions.

2. Neoliberalism, Autonomy and the Farmed Environment

We know that neoliberalism (in its variety) affects the environment by transforming human relationships to it through commodification (Castree, 2010: 1731; Heynen et al., 2007); we also know that farmers in many parts of the world expressly value their individual and professional freedom, often referred to as 'autonomy' or independence (Emery, in press; Gasson, 1973; Mooney, 1988; Stock and Forney, forthcoming; van der Ploeg, 2008). Can we get a sense of how these two realities are related by comparing farmers' autonomy at higher levels of aggregation? Is all cooperation good for the farmer or the farm - not just as a business, but an ecological place and system? The aggregation of farmers' autonomy as a cooperative response to neoliberalism runs the gamut. Cooperation can be interpreted as the pursuit of profit sponsored by the state or industry through market boards or cooperatives like New Zealand's Fonterra milk cooperative (what we later characterize as neoliberal autonomy). The concept of autonomy is also prominent in language used by members of the global peasant movement La Vía Campesina. Here, discourse engages with a concern over (actual) autonomy in resistance to neoliberalism. To that end, we extend the theme of this special issue from neoliberalism and rural nature to a more specific discussion of how cooperation and autonomy can mediate environmental outcomes on the farm.

Neoliberal policies have penetrated rural governance, with significant implications for the material transformation of rural landscapes. While the relationship between neoliberalism and environmental degradation is not strictly linear, across many global landscapes the rise of the industrial revolution, mature capitalism, and more recently processes of neoliberalisation, have negatively impacted nature through species extinction, biodiversity loss, climate change, and soil erosion. In this paper, by focusing on tensions over autonomy, we follow the approach of Dibden et al. (2009: 301) to examine neoliberalisation through the mechanisms by which macro and micro scale processes intersect within agri-food contexts (see also Wolf and Bonnano, 2014).

In examining neoliberal processes and the farmed environment there is an important distinction to be made between the impact of neoliberalisation *on* the environment and the neoliberalisation *of* the environment. The former recognizes the unintended or indirect environmental consequences of neoliberalisation, whereas in the latter 'the environment' is brought into the neoliberal frame of reckoning

through its commoditization and marketization. The neoliberalisation *of* the environment can be taken to represent efforts to rectify the market failures that impact *on* the environment.

At the policy level, state-supported agri-environmental schemes (AES) and the more recent market-based approach to payments for eco-system services[1] (PES) are among the most common mechanisms to address negative externalities associated with farming. AES pay farmers to maintain, enhance or create environmental 'goods' and 'services'. With the government acting on behalf of society to redress failures of the market, these schemes provide a mechanism for the transaction of environmental goods and services between the farmer and the government (Mettepenningen et al., 2009). Whilst not fully representing free market exchange through the supply and demand of environmental commodities, these schemes do divide and price the environment into transactional components (e.g. payments per tree planted, per ha of wetland maintained, per meter of hedgerow maintained). There is considerable international effort, however, to further advance the use of market instruments through commodifying and trading environmental goods and services.

While PES schemes are market instruments generally initiated and/or managed by government agencies, voluntary sustainable food system initiatives such as organic and fair-trade labelling also reflect neoliberal values of individual choice, entrepreneurialism, valuation, devolution and self-improvement (Guthman, 2007, 2008a, b), but with more deliberate involvement from consumers. As such, farmer choices to reduce pesticide use, engage in habitat-friendly agricultural practices, and to practice soil conservation shift from autonomous ideological commitments related to environmental conservation to strategic engagement in niche market competition to reach consumers who 'vote with their fork'. This strategic shift is often mediated through cooperative enterprises such as farmers' market associations, community-supported agriculture schemes (CSAs) and organic certification associations (Beckie et al., 2012; Wittman et al., 2012).

Whereas proponents of neoliberal approaches to nature maintain that it is the most efficient and effective way to promote desirable environmental behaviours, others have argued that it represents 'the paradoxical idea that capitalist markets are the answer to their own ecological contradictions' (Büscher, 2012: 30). In order to contextualize how environmental outcomes may be predicated upon alternative conceptions of autonomy in the farming sector, the following sections turn to look at the importance of autonomy in influencing farming behaviours.

[1] PES is a term used to describe a range of government and private sector initiatives which include the components and processes of ecosystems as commodities, rather than considering them as externalities (Wynne-Jones 2014).

2.1 Neoliberalism and Autonomy on the Farm

According to Harvey (2005: 2), neoliberalism "proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets and free trade". It is immediately apparent, therefore, that certain conceptions of autonomy (liberty, freedom, entrepreneurialism) are central to the theories and practices of neoliberalism. The 'success' of neoliberalism, in part at least, has been facilitated by its ideological inculcation into the everyday realm of common sense (Harvey, 2005: 3). What we wish to explore in this paper is how that process attempts to succeed by deploying autonomy as a 'compelling and seductive ideal' that appeals 'to our intuitions and our instincts, to our values and desires' (Harvey, 2005: 5). Neoliberalism presents a *particular* and perhaps *peculiar* interpretation of what autonomy should entail and how it is to be achieved. But if we start from the premise that autonomy is the freedom to determine one's own actions and behaviour, then our remit is to explore how the ideological attempts at imposing 'neoliberal autonomy' fare when they come up against a host of alternative interpretations in the cooperative endeavours of farmers in a range of global contexts. For our purposes, '*neoliberal autonomy*' is based on the principle of *individualism*, whereby the individual is a paramount value (Dumont, 1986: 25), as opposed to ideas such as 'the social whole' and 'collective good' (Emery, in press; Lukes, 1973: 2). *Actual autonomy*, on the other hand, involves collective freedom for farmers as a social class [albeit acknowledging class differentiation within the farming sector] such that individual freedoms are integrally connected to the ongoing reproduction of the farming sector. In this way, actual autonomy is a social tool to navigate, mitigate and undermine neoliberalism (Emery, in press; Stock and Forney, forthcoming; van der Ploeg, 2008).

To further explore the difference between neoliberal and actual autonomy, we draw on Berlin's distinction between: i) the *freedom to* and ii) the *freedom from*. Freedom to, or positive freedom, describes the ability to make decisions about one's own life and practices (Berlin, 1958: 16). Those enacting neoliberal freedom act under the presumption that if they can produce according to the signals of the market, and to compete with other farmers (wherever they might be in the world) on a level playing field (Tilzey and Potter, 2006) they will enjoy success financially and personally. For those enacting actual autonomy, *freedom to* encompasses a wider variety of livelihood and personally valued things beyond simple financial gain (see van der Ploeg's (2008) discussion of these values in terms of re-peasantisation). *Freedom from* entails "not being interfered with by others" (Berlin, 1958: 8); for farmers, this may refer to state control and excessive regulation that imposes constraints on the ability to produce according to how one wants. There is a strong desire to be free from outsider's control; the 'outsider' being defined subjectively and interpreted differently according to neoliberal and actual conceptions of autonomy.

2.1.1 Neoliberal Autonomy

Neoliberal autonomy is conferred on an individual when he or she is 'free' to choose whether to destroy, protect or enhance the natural environment according to the specific and wider costs and benefits of doing so. Like neoliberal agriculture, the neoliberalisation of the environment also encourages competition, and is likely to maintain an individualized conception of autonomy that is to be realized in opposition to, rather than in cooperation with, one's farming peers. In some places, neoliberalism has led to policies that devolve responsibility for environmental outcomes from the state to smaller parcels of government or to the individual. This responsibilisation is problematic for a number of financial and practical reasons, the least of which revolves around available resources and property laws (Lewis et al., 2002). The freedom of the market, however, has been referred to not as allowing choice (and hence autonomy) but as an "illusion of choice" (Schmookler, 1993). Hence there is a significant strand of opinion which argues that neoliberal autonomy is a false autonomy and one that serves to inhibit, rather than enhance the quest for freedom (Lukes, 1973). Such alternative interpretations, and their diametrical opposition to neoliberal interpretations, are taken up in the following section (See Table 1).

[Table 1 here].

2.2.2 Actual Autonomy

Given that we have tackled actual autonomy around the self and the individual elsewhere (Stock and Forney, forthcoming) we will retain a focus on the aggregated actual autonomy that we typically find in farmer political movements or resistance movements. The idea of actual autonomy can be traced back to Marx's distinction between 'bourgeois freedom' and 'real freedom' and Illich's distinction between heteronomy and autonomy. Whereas bourgeois freedom pertains to free trade, real freedom is associated with the abolition of free trade and of the bourgeoisie itself (Marx and Engels, 1848: 499-500). And whereas heteronomy prescribes work that is performed with a view to commodity exchange, autonomy rejects commodity exchange and prescribes work that is organized by those performing it and which is an end in itself and thus serves as resistance (Gorz, 1989: 166; Illitch, 1976, 1978). For Marx, capitalism imposes ideological constraints on real freedom and prevents agents' 'self-realization in mutual identification and community with others', as the *perceived* freedom of the worker (according to bourgeois principles) in his exchange relationship with the capitalist masks his 'dependence on capital as a whole and the capitalist class in general' (Emery, in press; Lukes, 1985: 78-79). Hence, neoliberal/capitalist interpretations of autonomy stand not just in opposition to alternatives but suppress them and inhibit their realization. In other words, where individuals prescribe to neoliberal autonomy they

increase their dependency on capital and the structures of capital, whilst simultaneously obscuring themselves from actual autonomy which can only be achieved in rejection of capitalism. Achieving actual autonomy thus requires that individuals are able to subject the pressures and norms with which they are confronted to critical evaluation (Emery, in press; Lukes, 1973: 55).

These ideas underpin alternative approaches to agricultural production and organisation for both rural scholars and social movements. The international peasant movement La Vía Campesina and the International Institute for Environment and Development, for instance, emphasize a form of autonomy that allows for self-determination, but also argue that a neoliberal/heteronomous economy presumes a productivist orientation that constrains 'actual' autonomy regardless of class, race, geography, or gender(Pionetti, 2006). Similarly, van der Ploeg's (2008: 261) peasant principle focuses on the revitalization of family farming as a means of opposing the dependencies imposed by the neoliberalisation of agricultural production: "The peasant condition is composed of a set of dialectical relations between the environment in which peasants have to operate and their actively constructed responses aimed at creating degrees of autonomy in order to deal with the patterns of dependency, deprivation and marginalization entailed in this environment".

The ideas of environmental and agrarian citizenship and food sovereignty, meanwhile, present autonomy as a *collective* tool to mitigate, mediate and resist the neoliberalisation of agriculture and the farmed environment. Recent work on environmental citizenship highlights the intersection of the macro-micro linkages we are exploring here with farmers (Harris, 2011; Hobson, 2013; Latta and Wittman, 2012). Drawing on Woods's (2006, 2008) "critical politics of citizenship" in rural areas and Parker's (2006) countryside citizenship, Wittman's (2009: 127) work on agrarian citizenship describes how "it is political organization and debate (whether via associations or MST), and autonomy in agricultural production that links settlers to their rural identity as citizens, not their exclusion from land". The centrality of collective action here connects the individual farmer/activist's autonomy with that of the collective. Thus one's individual freedom to farm is contingent on that of the collective. The basic idea behind these oppositional and 'resistant' approaches, therefore, is that neoliberal approaches to production lead to injustices, to the uneven distribution of benefits and to the disempowerment of the farmer/food producer at the hands of monopolizing corporations and the structures of capitalist accumulation. And whilst concepts of sovereignty and citizenship have been advanced as principally collective *social* movements, they also emphasize the *environmental* benefits of alternative approaches that are based on collective autonomy and the common good, which do not encourage the by-products or negative externalities associated with neoliberal agricultural production (McMichael, 2012; Wittman, 2009).

To return to Berlin's distinction, we might therefore contrast 'collective autonomy' from 'neoliberal autonomy' by characterising it as representing the *freedom to* organise one's own work and work together to realise collective interests; and the *freedom from* the dependencies imposed by the structures of neoliberal accumulation and the prescriptions of neoliberal ideology (Stock and Forney, forthcoming).

3. Agricultural Cooperation

The link between autonomy and formal co-operative movements is clear. The International Co-operative Alliance defines a co-operative as:

> *… an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise. (ICA, 2014)*

ICA further proposes 'autonomy and independence' as a 4th guiding principle:

> *Co-operatives are autonomous, self-help organisations controlled by their members. If they enter into agreements with other organisations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their co-operative autonomy (ICA, 2014)*

Whilst this clearly suggests the principles for co-operation are often espoused on the basis of a collective idea of autonomy, the fact that agricultural co-operatives can be explained as 'associations of individual people and economic enterprises at the same time' (Copa-Cogeca, 2014) hints at the contradiction (or perhaps uneasy compatibility) of being motivated by collective interests on one hand, and individual interests on the other.

In some ways the move toward cooperation and cooperatives illustrates the diversity of options available in agriculture. While Burton and Wilson (2012) highlight the cooperative legal structure as merely a reincarnation of the justifications of productivism, Mooney (2004: 78) argues that agricultural cooperatives, by "retaining ownership, control, and benefit for the user-members is also an inherently political action in the context of a developed capitalist economy." In combination, autonomy and cooperativism do not yield automatic resistance to neoliberalisation, nor do they extend it. These are dynamic relationships influenced by context, place and history. In the context of environmental outcomes on the farm, a focus on cooperative structures illustrates the "importance of retaining a sense of contradiction and tension, even paradox, within the theorization of cooperation" (Mooney, 2004: 78).

Territorial cooperatives embody this tension of autonomy between the individual and the collective - autonomy at higher levels of aggregation - while also negotiating ways of cooperating that incorporate environmental outcomes. Van der Ploeg (2008) explores "three emancipatory moves" of territorial cooperatives to balance individual and collective autonomy with environmental outcomes. First, territorial cooperatives strive for "*regional cooperation*, which aims to integrate within farming practices activities that are oriented towards protecting the environment, nature and landscapes" (p. 184, emphasis in original). Second, the search for, and construction of new forms of *rural governance*" (p. 184, emphasis in original)… [where] the principles of responsibility, accountability, transparency, representation and accessibility became important beacons for gaining legitimacy" (pp. 184-185). Third, "territorial co-operatives represent a move away from expert systems towards the innovative abilities of peasants [and] are thus field laboratories [testing] the most adequate means of locally resolving global [environmental] problems" (p. 185). With this particular "cooperative approach, the management of landscape and biodiversity could be lifted to the level of the territory as a whole" (p. 188). These cooperatives are also entangled with various institutions at various scales, but for van der Ploeg, suggest a significant resurgence of repeasantisation throughout the world.

While some cooperative structures remain paradoxical in terms of promoting neoliberal autonomy and, often, negative environmental outcomes, we examine a series of case studies to assess the 'emancipatory potential' of a range of cooperative practices across the global agricultural landscape. This comparative analysis illuminates some of these paradoxes while also offering insight into new ways to conceptualize autonomy rather than leaving it as a tool of neoliberalism or presuming its transformational qualities (Böhm et al., 2010; Pellizzoni, 2011). In doing so, we hope to help maintain the possibility that autonomy, as a negotiated concept, can continue to inform alternative social and environmental practices, despite the pervasiveness of neoliberalisation (Forney and Haeberli, 2014).

3.1 Agricultural Case Studies of Cooperation and Autonomy

To explore the relationship between autonomy in the aggregate, cooperation and environmental outcomes on the farm, we look at four national cases with a focus on organizations or institutional arrangements that have been formed by or in response to the agricultural contexts in each country. Each of us has been working 'autonomously' on the relationship between cooperation and neoliberalism in the case study countries. Together we offer comparative analysis of the potential for actual autonomy within neoliberal agricultural and environmental contexts. In each of these cases, cooperation takes on diverse and often contradictory forms in terms of their motivations and intentions, according to neoliberal or/and actual understandings of autonomy. The cases studies offer examples of how diverse enactments of

autonomy interact with processes of neoliberalisations, resulting in varying environmental outcomes (intentional, consequential, real/perceived, positive/negative) within the selected agri-food initiatives. While environmental outcomes may not be part of the origination of a particular cooperative effort, the instantiation of a given set of policies or cooperative framework does indeed have environmental outcomes. We describe each case in relationship to these policies and outcomes.

3.1.1 England

English farmers are renowned for their reluctance to engage in formal agricultural cooperation (Morley, 1975; Rew, 1913). In light of this, this case study explores the proposed implementation of collaborative agri-environment schemes in England and pays particular attention to the role of autonomy, expressed as 'independence', in mediating farmers' responses to the idea of such collective engagements. In so doing, it allows reflection on the relationship between autonomy, collective action and environmental outcomes in the neoliberal context of English agricultural policy. In 2013 Agri-environmental policy went under review in England in advance of proposed reforms to the EU's Common Agricultural Policy (CAP) for the period 2015-2020. Increasing emphasis is being placed on the need to deliver environmental benefits at scales greater than the single farm. Research was undertaken to inform this policy transition based on 33 interviews with farmers in Peterborough, Grafton and Tamar (Emery and Franks, 2012; Franks and Emery, 2013; McKenzie et al., 2013).

Neoliberalism, and neoliberal conceptions of autonomy, can be seen to underpin the English government's approach to both agricultural and environmental policy. Within the EU, the UK has consistently advocated greater agricultural liberalization and the substantial reform and budget diminution of the CAP. This has always been counterposed to 'neomercantilist' Member States, such as France, that strongly favour continued state support for agriculture and the retention – through welfare provisions - of small-scale, multifunctional farms that are culturally ingrained in the 'European Model of Farming' (Potter, 2006; Potter and Tilzey, 2007). In its response to the EU Commission's '*The CAP Towards 2020'*, for instance, the English government argued for an acceleration of greater market orientation, greater agricultural competitiveness, the removal of market distorting subsidies and the more efficient allocation of public funding (Defra, 2011). Neoliberal conceptions of autonomy can be seen to figure in these arguments with the government claiming that the provision of subsidies makes farmers reliant and opposes their "independence" (Defra, 2011). This implies that autonomy is to be achieved through liberalization, marketization and increased competition. Similarly, the increasingly neoliberalised approach to environmental policy delivery in the UK is exemplified by the 2011 Natural Environment White Paper (HM HM-Government, 2011). This policy document placed greater emphasis on the establishment of 'ecosystem markets' and the elaboration of Payments for Ecosystem Services (PES)

approaches as part of the UK's intent to reap the financial rewards of an expanding 'green economy'. In light of this increasingly 'neoliberal' context, how are English farmers' attitudes towards cooperation influenced by *particular* conceptions of autonomy? Moreover, what are the implications of this for efforts to encourage farmers to co-operate for the delivery of environmental outcomes? Many interview respondents identified farmers' value in independence as a potential barrier to co-operation. For example:

> *They're a very independent breed, small farmers. And by default, if they start getting working together, you know, I think that is the biggest obstacle. It's a state of mind, it comes down to personalities ... the whole idea of being a small farmer is you are independent [farmer, Peterborough]*

This interpretation clearly maintains an individualistic interpretation of autonomy and was further demonstrated during interviews as the value in independence was explored. Although very practical reasons were expressed as to why farmers value their independence (i.e., the imperative for *timeliness* and need to be able to respond quickly to changing conditions on one's own farm – Emery and Franks, 2012), there were also lines of argument which presented independence as something 'natural' (e.g. bred-in as in the example above) and as stemming from a 'healthy competition' between farmers. This clearly resonates with neoliberal conceptions of autonomy that equate freedom with the ability to compete, unobstructed by one's peers, in the free market. Emery (in press) has argued that this kind of interpretation can be seen as ideological since it inhibits the pursuit of collective interests (and actual autonomy) against more structural forms of dependency, such as lenders and large buyers.

To minimize the barriers to landscape-scale agri-environment schemes, the government, in its 2013 consultation on the reform of the policy, proposed coordinated approaches between groups of farmers that retain individual contracts between the farmer and the government agencies (Defra, 2013). The coordination of the approaches will most likely be overseen by government or independent advisors, rather than by farmers themselves. This conforms with neoliberal interpretations of autonomy that have been used to justify and promote the extension of PES. Wynne-Jones (2012, 2014) demonstrates this in relation to the roll-out of PES in Wales, whereby the PES approach is presented (by conservation practitioners) as more acceptable to both society and farmers since it reduces farmer 'dependency' on subsidies that are not directly linked to environmental outcomes. This approach aligns with farmers' identification processes that uphold individual responsibility and entrepreneurialism. It also demonstrates a clear contradiction between the environmental benefits of collective approaches, on the one hand, and the neoliberal need to retain and extend environmental policy through individual contracts on the other.

In terms of environmental outcomes, the government notes that CAP budget cuts will reduce the area of England covered by agri-environment schemes from around 70% to about 35-40%. They maintain

nevertheless, that by being more targeted and co-ordinated the new regime would give rise to more effective environmental outcomes (Defra, 2013). There is certainly scientific evidence to support this argument but it represents a transition from one neoliberal configuration to another since it retains individual contracts between state and farmer. To conclude this case study we want to reflect, instead, on a common argument made by farmers on how to ensure the greatest benefit for the farmed environment. During earlier ethnographic fieldwork in the English uplands (Emery, 2010) farmers argued that the best way to protect the environment is to ensure that the farmer is able to make a decent living, and that a good number of small farms are maintained in the landscape. This argument, which was also endorsed by conservation organizations, is based on the premise that environmentally damaging practices are a result of the economic constraints placed upon farmers and the imperative to produce as much as possible for as little as possible. Without such constraints, they argue, they could practice more extensive agriculture and invest their time in environmentally beneficial practices. What this case study suggests, however, is that the realization of environmental outcomes according to this interpretation will also require the mobilization of an alternative (actual) interpretation of autonomy among English farmers.

3.1.2 Switzerland

Farmers' cooperatives have a long history in Switzerland. As in many European countries, international transportation, industrialization of the national economy, and changing social structures impacted deeply on agriculture in the liberal 19th century. In this changing context, farmers' cooperatives developed to improve farmers' positions in buying and selling products (Baumann and Moser, 1999). Local dairy cooperatives invested in small cheese factories. In time the cooperatives merged, creating bigger structures both in geographic scale and processing capacities. Most of them adopted a corporate structure in order to improve profitability and farmers generally control most of the shares (Forney, 2010). The removal of state-based milk quotas, market support and protectionist tools in 2009 has led directly to sinking farm prices (FSO, 2013: 25), exacerbating competition between farmers, and between farmers' regional cooperatives or federations. Attempts by the national dairy farmers' federation to establish a single producer system failed, because of diverging opinions between its members (regional federations and cooperatives) and ideologies strongly marked by a neoliberal understanding of autonomy. Instead, at the regional or local level, collective structures – producers' organizations, local cooperatives or small and local businesses - are (re-) inventing cooperative actions to find new added value for their products and collective forms of autonomy: mainly small cheese and dairy factories with local food strategies are built or developed in order to escape the big corporate industries (Forney and Haeberli, 2014). Neoliberalisation of agricultural markets in Switzerland thus resulted both in individualistic attitudes and collective processes.

This section draws on ongoing research on new food chains that arose from the milk crisis in the aftermath of deregulation. Data were collected through semi-structured interviews of actors (48) involved in these new food-networks, observations during assemblies and meetings, and document analyses. Prolait is a regional federation of local dairy cooperatives, covering most of the Cantons of Vaud and Neuchâtel, in western Switzerland. Its recent activities illustrate an attempt to place collective (actual) autonomy at the centre of producers' strategies. The federation fought first for the unification of the milk producers under the banner of their national federation, in order to keep control over the quantity of milk produced in the hand of the farmers, through a strict regulation of delivery contracts and joined negotiations with industrial partners. After the failure of the national project, Prolait still manages the milk quantities in its area and acts as an intermediary between farmers and the processing industry, mainly Cremo, the second largest Swiss dairy processor who buys 90% of Prolait 'industrial' milk. This objective dependency to one industrial partner has a strong impact on the federation strategies towards actual autonomy. The solidarity principle is deeply rooted in the discourses of this federation, as well as the conviction that the only way for farmers to survive will be to unite, as expressed by one of Prolait leaders:

> *This is the 'profession' dimension, to fight for the common cause, sometimes even before my own. (…) I see my interest through the others. About the milk price issue, if I work only for myself, alright… I might make it profitable… But, to improve the price… this needs the collective [action].*

Inspired by the same conviction of collective struggle, Prolait launched a new line of cheese production with a marketing concept oriented toward locality and provenance. The objective is both to find new added value for the milk produced in their area and to break free (even if only partially) from industrial partners control, paralleling similar initiatives of food re-localisation (see e.g. Bowen and Mutersbaugh, 2013; DuPuis and Goodman, 2005). Based on a cooperative structure, it targets "fair prices" to producers, in a sector of the market overly dominated by imports (from France, mainly). The cheese specialities are made of milk produced in a 30 km radius around the factory and are commercialized in regional and national supermarkets under labels of "terroir" and regional products. Reduction of transportation is the first environmental positive outcome, according to the federation. There is also a conviction among Swiss farmers and farmers' representatives that agriculture is more ecological in Switzerland than in other countries (especially when compared to France, the main competitor for this specific market), because of stronger environmental regulations. This argument is more political than science-based and it has been contested (Baur and Nitsch, 2013). Nevertheless, its common use by

farmers indicates a growing acknowledgment of environmental aspects in the regional agricultural 'milieu'.

This choice for actual autonomy and solidarity among farmers at a regional or local scale in their efforts to challenge big processing companies has one primary impact: the strict control over delivery contracts limited the intensification of farming, by restraining strategies of growth among the members of the federation. In neighbouring regions where no such limitation occurred, intensification has been stronger, according to interviews. Collective limitations and control of the production have no clear consequences in farming practices and their environmental impacts. More promising consequences regarding environmental outcomes lay in the future developments that are discussed within the federation. From the beginning of the process, the federation considered various pathways to position its products in the market, including through addressing issues of health and environment. This positioning has always been more of a means to market access than an end by itself. Nevertheless, in order to get a chance in the competition against low-price or imported products on regional and national markets, the federation has to look for elements of differentiation for its products. One way to do it has been to develop discourses of re-localization across the production cycle, looking at the origin of the fodder. The federation contracted a research centre to assess the provenance of the fodder used by dairy farms in its area. Behind this research, the idea was to re-localize the food production system, notably by replacing imported fodder (mainly soy from Brazil) with regional production. This project has yet to be implemented. However, its existence testifies to the innovative thinking going on among conventional dairy farmers in relation with more sustainable food systems. Members of the board of the federation are adamant that the collective autonomy characterizing their federative and cooperative structures was crucial for the development of such strategies.

3.1.3 New Zealand

From its origins as Britain's farm in the Pacific, New Zealand farmers have embodied the spirit of productivism that characterizes neoliberalism (Lawrence and Campbell, 2014; Rosin, 2013). In 1984, the New Zealand liberalization experiment, particularly around agriculture, eliminated any market buffering mechanisms for farmers and pushed the country toward almost exclusively export orientations (e.g., 95 percent NZ milk is exported) (Johnsen, 2004; Le Heron and Roche, 1999). This tide of "restructuring" in New Zealand prompted the consolidation in dairy (Gray and Le Heron, 2010: 5). The merger of the two most prominent dairy cooperatives (Kiwi Dairies and the New Zealand Dairy Group) with the New Zealand Dairy Board into the giant dairy cooperative, Fonterra, in 2001 signalled a dramatic cultural and economic shift away from meat and wool production while creating the largest milk exporter in the world, producing roughly 7% of the country's GDP (Burton et al., 2012; Gray and Le Heron, 2010). Along with

the shift from sheep and beef to dairy (with related intensification processes) there has also been a dramatic increase in ecological pressure on New Zealand from agriculture as result of has greatly reduced the water quality of the country's rivers and streams (Jay and Morad, 2007).

In many ways, New Zealand farmers are still evolving to the "changing of the rules" (Wilson, 1994). This case study is informed by 113 semi-structured qualitative interviews and participant observation with farmers and those directly involved in farm operations, environmental council members, Fonterra representatives and various other representatives of the New Zealand agricultural sector in five NZ regions (Southland, Manawatu, Waikato, North Canterbury and the Hawkes Bay) conducted by Stock and Forney between 2009-2012 during the Rural Futures project, focused on rural change in response to financial or ecological shocks with an emphasis on both the sectorial and familial shift from sheep meat and wool production into dairy.

Fonterra boasts around 11,000 farmer shareholders that supply milk. While officially a farmer-owned cooperative, it effectively operates as "cooperative monopolisation" (Muirhead and Campbell, 2012). Others have taken to describing Fonterra as "cooperative productivism" because of the encouragement of low cost production and 3% per annum expectations of financial growth (Burton and Wilson, 2012). The creation of Fonterra coincided with New Zealand's devolution of environmental regulation to the regional level (without a transfer of the tax base or regulatory staff to manage the shift). The Resource Management Act (1991) effectively served as the transfer of environmental regulation from the government to the private sector as demonstrated by the lack of enforcement of what few environmental regulations were passed, particularly around water quality (Burton and Wilson, 2012: 61-62). The declining water quality of NZ rivers following the surge in dairying prompted a campaign against "dirty dairying" led by the Fish and Game Council among others in 2002 (Jay, 2007). In response, Fonterra wrote the Clean Streams Accord that set industry standards around effluent management, water quality and long term goals to maintain and improve environmental outcomes. The Clean Streams Accord targets, that even Fonterra's own reports document have not been met, will soon be replaced by Dairy NZ's Sustainable Dairying Water Accord that both speeds up the timeline for meeting environmental goals with a broader range of support (DairyNZ, 2013; Fonterra and MAF, 2011). The new agreement, while still privileging competition and production, notionally addresses the need to maintain some ecologically-friendly practices if only to maintain an ability to keep dairy farming. Both accords exemplify the push to limit the amount of environmental regulation while gain value-added for "environmentally friendly practices" by disregarding any benchmarks.

While small dairy processors went under during restructuring, so too did smaller meat processors. For some farmers the prospect of "going dairy" (which meant either physically converting a sheep/beef

farm or moving to a more-dairy friendly farm) represented a way to stay farming, a chance to maintain some semblance of individual autonomy while succumbing to some perceived impingements on that autonomy including increased labour hours, hiring staff, and a more physically demanding type of farming. This idea of continuity, expressed by some who converted sheep farms to dairy, indicated that the act of continuing farming itself was more autonomous than giving it up to do anything else (Forney and Stock, 2014). The wider neoliberal shift in New Zealand, partially parallel with the development of Fonterra, has converted farming from a culturally important and autonomous lifestyle (see Stock and Peoples, 2012 on this aspect), into an emphasis on the farm as a business first, as this North Canterbury farmer describes:

> *Because you've got to run it as a business to make money. . . . Like the '60s and '70s, I mean farming was pretty good. I mean it was a lifestyle, you know? You went out and did an honest days work, you made good money. Whereas now . . . . it's interesting, like even talking to the farm advisor, he'd say you can basically teach anybody to be a dairy farmer within about 12 months. Because it's all so set and routine."*

The shift to dairy has also undermined the anticipated positive environmental outcomes of ecological modernization in New Zealand (Jay and Morad, 2007). The shift to dairy has put some former sheep farmers into the uneasy position of having to increase their negative environmental outcomes by increasing the amount of effluent into the catchment/watershed, as compared to their sheep operations. Despite the rise of non-farm sector pressure on agriculture through the "dirty dairying" campaign, the combination of the devolution of environmental regulatory structures combined with lax industry oversight by Fonterra in pursuit of consistent economic gains challenges Brand New Zealand's proclamation of a clean and green industry. In New Zealand, the outcomes for farmers' livelihoods and nature remain connected to the instantiation of neoliberalism. For dairy this has increasingly meant negative ecological outcomes particularly around water quality. In this way, the cooperative structure of Fonterra has not contributed to positive ecological outcomes and in fact has exacerbated the negative outcomes. Thus, the traditional autonomy enjoyed by sheep farmers has eroded in the shift to dairy. While dairy farmers welcomed the growth of cooperative institutions to provide stability to their livelihoods, culminating in Fonterra, farmers that converted, mostly from sheep and beef farming sought out the stability of dairy (that happened to be in Fonterra's cooperative structure) while lamenting a shift to a more ecologically damaging kind of farming. The downside of giving up some autonomy, led to cooperative-guaranteed stability and an ability to stay farming. Fonterra provides an interesting case of the tension between cooperatives, autonomy, livelihoods and ecological outcomes.

3.1.4 Brazil

The neoliberal transformation of agriculture in Brazil has resulted in a bifurcated agrarian landscape in social and ecological terms. Booming agribusiness expansion in cotton, soybean and sugarcane is based on massive government and international investment in infrastructure and the loose environmental regulation of the agricultural frontier (Ferreira et al., 2012; Lapola et al., 2014). On the other hand, more than 5 million landless peasants and 4.3 million small-scale family farmers cultivating diversified farming systems struggle to supply regional food markets, currently responsible for 70% of national domestic food consumption (Fernandes, 2013; Wittman, 2013). Farmer identities and relation to the state are reflected in the distinct support programmes for each of these sectors: the Ministry of Agriculture supports Brazil's 800,000 large scale farmers and cooperatives that self-identify as rural "producers" and focus on maximizing the economic impact of agriculture within the global political economy. For the 2013-2014 growing season, the Ministry of Agriculture budgeted R136 billion (62 billion USD) in low interest loans, grants, and capital investment projects in support of the agribusiness sector, with R5.3 billion earmarked for large agricultural cooperatives (MAPA, 2013). The Ministry of Agrarian Development is mandated to support Brazil's 4.3 million small-scale family farms as a sector, and also places a significant emphasis on cooperativism and agricultural associations as a foundation of the sector (but with a significantly smaller budget of R39 billion for the 2013-2014 season) (MDA, 2013). This section is based on ethnographic fieldwork conducted by Wittman with six agricultural cooperatives associated with fourteen agrarian reform settlements in Brazil periodically since 2003. This has included semi-structured interviews with over 150 land reform settlers and social movement and cooperative leaders in Mato Grosso and São Paulo states.

The aims and identity of cooperative agriculture in Brazil have been the object of political dispute since the 1930s, when the first cooperative legislation was passed and state-organized cooperatives provided credit and marketing infrastructure to individual members (Mendonça, 2002). By the 1970s, large agricultural cooperatives, mainly in the Brazilian south, engaged in contract farming and price regulation focused on enabling individual farm entrepreneurs to compete in the global agricultural economy, as a form of 'neoliberal autonomy'. Members tended to specialize in singular commodities for market production, at the expense of subsistence production strategies. Promoting a 'business-oriented vision of agriculture' (Chase, 2003), by 2009 1,615 agricultural cooperatives, with almost 1 million members, exported over US$3.6 billion of agricultural products (SescCoop, 2013).

An alternative vision of cooperative farming supporting agrarian solidarity and the social economy is also promoted by social movements such as the MST (Landless Rural Workers Movement) which has mobilized to settle over 400,000 families on small-scale farms across Brazil as part of its

campaign for agrarian reform (Wittman, 2010). Here, the movement ideology expresses an aim "not to make the greatest profit possible, but to increase the quantity and quality of the work" (Arruda, 1996) and to serve as a "cooperative in opposition to capitalism" by fulfilling both political and economic functions (Almeida et al., 2000), in what we analyze here as an example of 'actual' autonomy. As one MST cooperative leader stated in a 2014 interview:

> *As a cooperative, we think differently – with the current state of the [neoliberal] agricultural sector in Brazil, cooperatives is the only way out for small-scale family farmers. We understand that we don't need to reach a similar level as Fonterra or other cooperatives of Brazil or the world that basically just care about profit. Our understanding is different. Basically our cooperative needs to grow but this growth needs to be towards the social area. You have to create policies of investment and growth of participation of the members.*

For small-scale farmers associated with the MST, the idea of cooperative and collective production is important as part of implementing a vision of food sovereignty that is ecologically and socially sustainable, and that reflects ideals of community well-being and "escaping a little from individualism" (Wittman, 2007). Decisions about settlement design and areas of environmental preservation are made collectively and remain common property.

One MST-sponsored cooperative with over 800 members in southern Brazil describes its history this way:

> *The land needed to fulfil its social function of feeding people. We analysed the supply chains in the region, and reached the conclusion that the activity most appropriate for our land was milk production, because this allowed a partnership between planting for subsistence and financial pursuits. The objective was to add value to our production, guarantee better profits, and promote the economic and social development of families within the settlement. (Terra Viva, n.d.)*

The ability of an agricultural cooperative to manage a multi-functional landscape that produces ecological resources, while producing social solidarity, and economic well-being, is also a key ideology of the MST. The MST successfully pushed for initiatives since 2003 that support family-scale agriculture through government purchasing programmes, with priority given to organic and agro-ecological produce (Wittman, 2013). These collective marketing programmes require farmers to be part of a cooperative or association to achieve necessary economies of scale for food distribution to schools, daycares, hospitals, and food banks. These programmes are the result of significant mobilization by agrarian social movements who demand that the government play a role in supporting multi-functional agriculture, and are widely supported by small-scale farmers.

Leaders of the 'food sovereignty cooperatives' associated with the MST and La Via Campesina argue that multi-functional family agriculture can feed the world and cool the planet, through an ideological commitment to cooperativism and the solidary economy. Indeed, to participate in government purchasing programmes and to access larger regional markets, it is necessary to cooperate to achieve the economies of scale to enter the market on terms that resonate with the peasant principle and 'actual' autonomy. But individual farm families within these movements are sometimes unwilling and/or do not have the skills to manage the social and economic relationships involved in agricultural cooperation, especially in the area of collective production. As one settler indicated, "I worked all my life for a boss [on a plantation] and I don't want another boss in the form of a cooperative telling me what to do". Another interview represents a common sentiment among settlers having difficulty with collective production practices:

> *It's great to be free: If I want to wake up one day and not work, I can, for the first time in my life. I don't work for anyone else. It becomes complicated when you work in a group - everyone wants to do something else and someone always ends up being in charge and others can't make it to work one day and everything falls apart.*

In contrast to the promotion of production cooperatives in the 1990s and 2000s, the transition to marketing cooperatives in the family farm sector has addressed some of the tensions between individual autonomy to make on-farm production decisions, with collective autonomy to survive as a social class. Farmers are free to run their growing operations autonomously and then share the responsibilities and costs associated with getting into markets. For one MST cooperative director, the marketing and processing cooperatives also provide an opportunity to "educate the public" about the role of agrarian reform and the family farm sector in local food system development, through product packaging and market engagement. The cooperatives also offer a supportive network for farmer-to-farmer exchange of ecological knowledge, especially around the transition to agro-ecological production practices.

4. Discussion: Cooperatives, Neoliberalism and Nature

Our case studies describe specific cooperative agricultural formations situated within different country-specific neoliberal contexts. To better understand the impact that cooperation (in the form of actual or neoliberal autonomy) has on mitigating or exacerbating the environmental effects of neoliberalism we compare each case study to the ideal type of aggregated actual autonomy in the example of the territorial cooperative laid out by van der Ploeg (2008). The North Friesian Woodlands formed in response to government legislation intent on protecting a historically valuable, created landscape. Six different organizations formed the North Friesian Woodlands cooperative to help protect farmer

autonomy "to farm as they like" while also agreeing to find novel and experimental ways to protect hedgerows and surrounding environment. To achieve these aims, these territorial cooperatives highlighted the emancipatory characteristics of 1) regional cooperation; 2) rural governance; and 3) a move away from experts. In forming unique cooperative farming organisations, the farmers maintained their aggregate autonomy while also achieving environmental outcomes. Here, we discuss how each of our case studies is situated relative to the level of aggregate autonomy and environmental outcomes.

4.1 Regional Cooperation

The NFW worked to integrate their farming practices with positive environmental outcomes, but can more broadly be seen as an effort to counter "asphyxiating" environmental regulation, that, while well-meaning, often constrained farmers. Further, the integrated approach spoke to the fact that biodiversity, clean air and water cannot be secured at the scale of the single farm (van der Ploeg, 2008: 184). The formation of the NFW from six farmer-led coops and organisations helped promote negotiation and relationships with regional, state or supranational organizations. The ensuing network of relations allowed and encouraged "new services, products and additional room [to manoeuvre] are created and delivered that otherwise would be difficult to achieve" (van der Ploeg, 2008: 185). At first sight, the English government's efforts to encourage landscape-scale co-ordination of agri-environmental outcomes appear to conform to the ideal of regional cooperation. It also seeks to redress weaknesses with existing policy approaches which are viewed as inflexible and constraining. However, the crucial difference in England is that the proposed scheme is state-led and maintains the use of individualized contracts. Whilst it might work toward similar environmental outcomes, therefore, it could not be argued that the government-led approach to co-ordination does anything to alter (but instead reinforces) neoliberal conceptions of autonomy.

In three of our case studies, the dairy industry is characterized by increasing regional cooperation. In Switzerland (Prolait) and Brazil (MST), new government purchasing agreements and regional point of origin labelling structures have secured benefits for smaller farmers. While not explicitly environmentally-driven, the activity and focus of Prolait has been limited to the interests of farmers and the dairy industry. Recent developments around local food production and more environmentally-friendly practices have fostered a clearer regional integration of multiple farmer-led coops, businesses, and regional players. MST in Brazil mediates between the state, consumers and farmers with an explicit political motivation. For example, the MST led a combined resistance to 2012 changes in Brazil's Forest Code that reduce fines for deforestation in regions of the Amazon and Cerrado. Those regions are threatened by rapidly advancing soybean cultivation and pasture. MST's involvement helped "show their

resistance to the destruction implemented by agribusiness." Not only does MST actively promote the livelihoods of their farmers and protection of the environment, they actively resist the same neoliberal autonomy-driven agriculture that undermines both.

Conversely, Fonterra, as a legalised monopoly with the New Zealand government's support, mobilizes regional cooperative structures to secure an export-oriented milk supply chain. Recently, Fonterra's cooperative structures have weakened through changes in the constitution as well as opening access to shares by non-members. Fonterra's increasing reliance on foreign holdings and income to stabilize its structure and bottom line undermines regional-level cooperation, and lessens the opportunity for environmental benefits for dairy regions in NZ. While the Clean Streams Accord (and its successor) seeks environmentally beneficial outcomes, these come only on the heels of public pressure and unlike territorial cooperatives, do not hold the environment at the heart of the productive relationship between land, region and farmer. Further, these environmental schemes come from the scientists and marketers at the top of Fonterra, rather than emerging from the farmers at the regional level. In this way, Fonterra's environmental "policy" shares some similarity with the regional-level schemes proposed in England that target environmental outcomes from the 'top' rather than the 'bottom'. The extent to which our cases resemble territorial cooperatives (as represented by NFW) derives powerfully from the impetus of the shared efforts. Those that are initiated at a higher level, such as Fonterra and the UK, still treat environmental outcomes as something to be controlled and co-ordinated (or ignored unless pressured), whereas for Prolait and MST, driven first and foremost by securing livelihoods for members without privileging capitalistic-profit at-all-costs, leave room for, if not actively promote farmer livelihoods as intimately connected to healthy land.

4.2 Rural Governance

As the NFW demonstrate, territorial cooperatives "accept the general objectives regarding landscape, nature and environment (and often promise to go beyond these objectives) on the condition that they receive room for manoeuvre to define for themselves the most adequate means of reaching the objectives" (van der Ploeg, 2008: 185). With an emphasis on negotiating relationships that protect and enable both the wider environment and space for farmers to practice diversity, the pursuit of rural governance for territorial cooperation privileges transparency, plurality and trust parallel to effective democratic organisation.

Fonterra and its mechanisms of environmental governance most clearly demonstrate the opposite. The RMA's devolution of regulatory structure to the regional-level without the infrastructure to do so, essentially shelved environmental regulation. Given the prioritisation of neoliberal market goals, the

means of farmer practice leading to environmentally damaging practices are a result of the economic constraints to the highest productivity placed upon farmers (see Stock and Peoples, 2012). Fonterra's own Clean Streams Accord and successor are reactive measures that do not prioritise the environment as a core value.

The English proposal, while just as top-down with government advisors retaining responsibility for overall design and management at the landscape-scale, does provide scope for greater community involvement in the design and management of the schemes (as argued by Emery and Franks, 2012). When compared to previous 'blanket' type approaches, this scheme is more likely to provide a sense of local ownership and responsibility over the local environment, and more room for manoeuvre in how objectives are met. However, despite operating at a larger than farm scale, contracts with farmers will continue to be administered on an individual, farm-by-farm basis, rather than negotiated at the cooperative level-like the NFW. Prolait, in Switzerland, while not overwhelmingly embracing the tenets of the territorial co-op in terms of rural governance, especially around environmental protection, has made overtures toward ensuring rural governance via new processing infrastructures and a branding strategy for regional dairy products. Here Prolait, rather than content to serve a mediating role between the processing industry and producers, is enacting a new relationship that could potentially widen to include environmental protection as evidenced by a new shift toward local foods. In Brazil, the form of rural governance put forward by MST is up against great odds. Diversified family farms only account for 24.3% of agricultural area in Brazil while agribusiness covers 75.7%. The agrarian elite controls rural governance (e.g. changes to the forest code), challenging territorial cooperatives' ability to enact environmental initiatives. PES schemes are incipient through government purchasing programmes in the family farm sector (premiums paid for organic and agroecological production) but this is a market mechanism rather than a regulatory mechanism. In the organization of agrarian reform settlements, the MST align their aims (autonomy for farmers with environmental protection, among others) and their means (through collective decision making and cooperative-level negotiations).

Our cases vary in their level of commitment to rural governance structures that provide opportunities for the realization of both actual autonomy and beneficial environmental outcomes. While some speak to the economic and political power of neoliberalised agriculture (e.g., Fonterra), others provide potential grounds for navigating alternative cooperative solutions ranging from the state-led (England) to Prolait as a mediating force. MST provides the most explicit counter to neoliberalism with an explicit aim to resist the neoliberalisation of agriculture and ways of living in the world. MST proposes forms of rural governance that privilege everything neoliberal policies treat as externalities and therefore unimportant.

4.3 Move away from expert systems

Finally, territorial cooperatives actively move away from expert systems that tend to seek out silver bullet, best-practice solutions that characterize much of the post-World War II agricultural consensus. The farms and producers within the NFW experiment and tinker with processes, products and practices within the territory to mutually arrive at solutions that are best for the territory - out of a sense of care for both the land and its people (van der Ploeg, 2008). The move for territorial cooperatives is away from the "Expert" toward knowledge production and processes respectful of the local and indigenous (Forney and Stock, 2014). For the NFW, the shift from manure as waste to the creation of "good manure" involved a renegotiated relationship between farmers and the agri-food science infrastructure of the area. So rather than a strict rejection of "experts," the NFW negotiated a new relationship (van der Ploeg, 2009: 203).

NZ's Fonterra most closely adheres to prototypical neoliberal agricultural expert knowledge that centres on the productivist pursuit of milk solids yields, with little respect to climate variations or other regional-level variables. In NZ there is a clear separation between farmer-knowledge and expert knowledge embedded in Fonterra, AgResearch or Dairy NZ. Where NZ dairy is expert-driven, the English scheme offers potential for farmers' own knowledge to be integrated into design and management (Emery and Franks, 2012). The extent to which this takes place will depend on the final scheme design, though it seems likely that government or independent 'expert' advice will continue to inform and dominate the co-ordination efforts. This is especially the case since the motive for developing collaborative agri-environment schemes derives from scientific research (particularly relating to ecology and delivery of ecosystem services) and conservation practitioners as opposed to being farmer-led.

Prolait, like the NFW, consulted widely with farmers and experts (ag economists, agronomists, marketers) prior to developing the cheese factory and brand project. However, the initiative developed so far did not imply changes at farm level or a territorial laboratory dynamic in the creation of new knowledge in agricultural practice. Rather, the experimentation and creative dimension emerged at the level of reinventing new roles and new ways of entering the food systems for farmers' cooperatives.MST, much like the NFW and territorial cooperatives in general, are creating their own expert systems, with the creation of a rural education curriculum that emphasizes agro-ecology, at the primary, secondary, and university levels. This curriculum is heavily networked with international agro-ecology research networks as well as farm-to-farm extension methodology. They are directly challenging the 'expert system' of agricultural extension sponsored by the Brazilian state, and the increasing privatization of agricultural knowledge in the agribusiness sector.

5. Final Verdicts

The NFW, since the 1990s, has promoted a diversity of knowledge and processes (organisational and farming) to ensure the integration of farmers' autonomy and environmental goods. Our case studies vary in the extent that they parallel or contrast these territorial outcomes. As our control case study embodying neoliberal policies and ideology, Fonterra adheres to productivist ideology, with a cooperative structure serving as a mechanism to dampen critiques of Fonterra's monopolisation of NZ milk production. Cooperation is not emancipatory here, as it leads to more integration to industry and dependency on uncontrollable world markets. On the other end of the spectrum, Brazil's MST cooperatives are actively resisting the neoliberalisation of the farming environment.

In England, the schemes work broadly toward territorial cooperation (namely landscape scale environmental sustainability) but differ in terms of being state-led and in maintaining a neoliberal conception of autonomy through the extension of individual contracts between state and farmer. In considering the schemes, social relations between farmers are seen as a barrier rather than a motive for greater cooperative working. Thus, despite offering some potential for greater farmer engagement with environmental policy-making it could not be said that the schemes are 'emancipatory' since they are underlain by neoliberal conceptions of autonomy and continue to work against actual autonomy.

Lastly, Prolait offers a hybrid example, without demonstrating an active productivist attitude. Rather, the strategy of the co-op has been to try to influence prices and market through controlling milk volumes. While not promoting environmental farming practices per se, the co-op targets a niche market where environmental criteria might produce added value. We can categorise Prolait as a hybrid in comparison to the politically engaged MST and the pseudo extension of a neoliberal government of Fonterra in New Zealand. Consequently, emancipation, while a central goal, is only partially pursued. As an active negotiator with the EU, the English (where Switzerland is not a part of the EU) example offers insight to the ongoing negotiation of the major European agri-actors with their highly varied opinions on the subsidization of European farmers.

What do these case studies tell us more broadly about the relationship between neoliberalised nature/agriculture, farmers' autonomy and environmental outcomes on the farm? With a similarity to the freedom to and freedom from dichotomy, the case studies presented here illustrate a tension between autonomy (in the aggregate) and dependence on an existing system that privileges individualism.

The pursuit of a landscape cooperation relationship in England, the establishment and evolution of Prolait, the formation of Fonterra and the rise of MST and LVC as global organisations speak to a potential crack in the faith in markets that undergirds neoliberalism. Where cooperativism, as understood as aggregated autonomy, can (and should, for some) act as an emancipatory strategy, in the case of

Fonterra, their cooperative productivism merely uses the organizational structure of cooperativism as a way to bolster their neoliberal aspirations. However, at the same time, the stability afforded by contracts and shares for farmers has provided a source of continuity, allowing family farmers a chance to survive in a harshly deregulated context.

Whereas the unintended environmental outcomes of neoliberal cooperation through Fonterra are decidedly negative, there is potential developing in other areas of agriculture and fishery management that involve co-management strategies both with local environmental councils and Maori (indigenous) governance structures. If the pressure from international trade treaties forces Fonterra's hand at demonopolising, then there are models in place in New Zealand they could turn toward. On the other side of the world, the unintended environmental outcomes of Prolait's more socially-driven cooperative are positive. If we contend that actual autonomy is best maintained through socially motivated collective action then the corollary of this distinction is that the pursuit of actual autonomy is more likely, in the long run, to lead to positive environmental outcomes than the pursuit of neoliberal autonomy. However, what about situations in which environmental outcomes are expressly sought through a neoliberal approach? While environmental benefits might accrue in this situation (relative to an unregulated neoliberalised agriculture) we suggest that the extension of neoliberal autonomy into agri-environmental policy-making does as much to extend the destructive force of neoliberalism (socially and environmentally) as it does to counter it (Büscher, 2012; Heynen et al., 2007). Of our cases the MST offers the best example of how emancipatory and environmental objectives can be pursued simultaneously, despite facing the same tensions with neoliberal autonomy as described in the other cases. Our examination highlights the need for greater attention to the relationships between actors at and across different scales (the farm level, organizations and communities, the state and industry) to better understand how alternative conceptions of autonomy serve to mediate particular interventions and their material environmental consequences. Further, an emphasis on actual autonomy helps provide a sobering corrective to both the over-romanticisation of cooperation across global peasant movements and the over-romanticisation of the individual entrepreneur in agro-industrial and family farming sectors. Just as the work on the Australian dairy sector has shown that policies emphasizing actual autonomy lead to beneficial outcomes, our study helps to provide nuance to our understandings of the relationship between neoliberal agricultural policies and environmental outcomes (Santhanam-Martin and Nettle, 2014). But, as recognized by many, connecting human and ecological well being is often mutally beneficial (Walliman, 2013; Wilkinson, 1991). A focus on actual autonomy, via van der Ploeg's focus on the peasant principle and territorial cooperatives, creates an opening in theoretical and political dialogue to bridge concerns about the implications of neoliberalization of nature for farmers, livelihood, and environmental outcomes without resorting to typical dichotomies between North and South, peasant

versus family versus other kinds of farmers and other unhelpful distinctions. Given these caveats, while balancing wider economic and environmental benefits continues to prove elusive in agriculture, MST's (and other peasant-oriented) efforts seem to point to a diverse, nimble and effective pathway that not only helps check the power of neoliberalism, but empowers individuals and groups willing to cooperate.

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Table

Table 1. A Simplified Distinction: Neoliberal Autonomy and Actual Autonomy

	Organising Principle	**Freedom To**	**Freedom From**
Neoliberal Autonomy	Individualism	Produce according to the market Compete with other farmers 'on a level playing field'	State control Regulation Reliance on others
Actual Autonomy	Collectivism	Organise one's own work Work with others to realise collective interests	Dependencies and inequalities caused by the structures of neoliberal accumulation Neoliberal ideology (to a point)

Neoliberal Natures on the Farm: Farmer Autonomy and Cooperation in Comparative Perspective

Highlights

1. Explores the relationship between farmer autonomy and environmental outcomes

2. Compares agricultural cooperatives and cooperation in UK, New Zealand, Switzerland and Brazil

3. If autonomy is to remain a tool for negotiating alternatives then those employing it must first and foremost continue the struggle to prevent the monopolisation if its meaning.

4. A focus on actual autonomy, via the peasant principle and territorial cooperatives, creates an opening in theoretical and political dialogue to bridge concerns about farmers, livelihood, and environmental outcomes