



Calculating the Social

Standards and the Reconfiguration of Governing

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10

Adapting Standards: The Case of Environmental Management Systems in Australia

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10.1 Introduction

Private standards and certification schemes provide an increasingly significant site of study for scholars interested in the restructuring of the agri-food sector. In the last ten years there has been a burgeoning literature on standards and certification schemes, focusing particularly on organic (Guthman, 2004), fair trade (Renard, 2005) and retailer-led schemes (Campbell et al., 2006; Hatanaka et al., 2005). The rise of private standards schemes has tended to be conceptualized as part of a broader global shift from public to private forms of governance as large international supermarket chains in particular, and to a lesser extent actors such as civil society organizations and social activists, exert increasing control over agri-food supply chains (Burch and Lawrence, 2007; Fulponi, 2006; Henson and Reardon, 2005) including the production practices of processors and producer-farmers (Hendrickson and James, 2005). This relates to the more general influence of what Cashore (2002, p. 504) terms 'Non-State Market-Driven' forms of governance that 'derive their policy-making authority not from the state, but from the manipulation of global markets and attention to customer preferences'.

While this literature is significant in drawing attention to the shifting power relations within agri-food supply chains from producers and processors to supermarkets, it gives little attention to how standards are implemented and adapted, and the role of state agencies, sub-state or regional authorities and producers in this process. Drawing upon insights from the literature on governmentality, this chapter examines the different ways in which a private standards scheme – environmental management systems (EMS), based on the international standard ISO14001 – has been implemented at a national, regional and industry level in Australian

agriculture. We argue that the application of EMS has depended on alliances between a diverse range of agencies and actors – both public and private. Moreover, making EMS work at an industry and regional level has involved the *adaptation* of this standards scheme so that it accords with sectoral and local priorities rather than striving to meet the full requirements of the international ISO14001 standard. Prior to elaborating our argument, it is necessary to explore briefly the merits and limitations of the existing literature on agri-food standards, and the ways in which a governmentality perspective might assist in addressing existing gaps in knowledge.

10.2 (Re)conceptualizing agri-food standards

Political economy underpins much of the existing literature on private agri-food standards and certification systems. From this perspective the rise of private standards on a global scale is associated with three inter-related trends. First, the creation of the World Trade Organization (WTO) has enabled greater global regulation of trade (Peine and McMichael, 2005) and encouraged a free trade agenda as the assumed basis for worldwide economic prosperity. Trade liberalization has also resulted in the further concentration of agri-food industries already under way at a global scale (Morgan et al., 2006). Busch and Bain (2004) argue that the WTO has made possible a number of significant changes in agri-food governance. These include introducing 'a new set of international institutions and organisations to regulate trade'; making 'several existing but voluntary standards *de facto* mandatory'; and opening 'the door for greater private regulation of the agri-food sector through standards, contracts, and agreements' (Busch and Bain, 2004, p. 322).

Second, a combination of trends in the agri-food system – intensification of agriculture, extension of supply chains, increasing distance between farmers and consumers and a series of food scares (Freidberg, 2004) – have resulted in a loss of trust by consumers in the food supply system. In order to overcome consumer mistrust, new systems to manage supply have developed 'through new sets of intermediaries (such as certification bodies, dealers, transport firms, distributors) that place stricter control on the particular quality of the product' (Morgan et al., 2006, p. 67). Increasingly, emphasis is placed on the 'qualities' of food – rather than just the mass production of undifferentiated commodities. As many voluntary standards become *de facto* mandatory, supermarkets are emerging as key gatekeepers (Lawrence and Burch, 2007), using private standards to compensate for inadequate public standards, to differentiate the

'qualities' of their products from competitors and to reduce costs and risks along supply chains (Fulponi, 2006; Hatanaka et al., 2005; Henson and Reardon, 2005; Konefal et al., 2007).

Finally, the use of independent, or third-party, certifiers has become an important means for verifying standards in both conventional and alternative (e.g., organic and fair trade) agri-food sectors. Third-party certification (TPC) has benefits for some producers,¹ for example providing a means for specialty producers to win the trust of consumers outside their immediate locality (Renting et al., 2003). However, the scale and cost of changes required to conform to standards may, as Hatanaka et al. (2005, p. 361) note, 'result in some suppliers being squeezed out of business or forced into alternative, less profitable markets'. TPC has been identified as an increasingly important mechanism through which supermarkets consolidate their power, enabling retailers to exercise control over all parts of the supply chain (Campbell et al., 2006; Hatanaka et al., 2005; Konefal et al., 2007).

A political economy approach is of clear analytical significance in drawing attention to the increasing power of large retailers – particularly supermarkets – in regulating agri-food supply chains, and the structural changes at a global level that make this possible. In addition, it is useful in showing that standards and TPC are not simply objective and value-neutral mechanisms of governing. They are used and enforced, predominantly by supermarkets, 'as strategic business tools ... to gain access to new markets, to coordinate their operations, to provide quality and safety assurance to their consumers, to complement their brands, or to define niche products and markets' (Hatanaka et al., 2005, p. 356). The strategic use of standards contributes to a shift in power up the supply chain to retailers: those producers and food manufacturers or processors who do not have the resources to conform to standards are left without access to potentially lucrative markets. While we believe that political economy represents a powerful theoretical lens for the critical analysis of private standards and certification, it is limited in identifying the specific ways in which standards are implemented and adapted in practice. In general, the emergence of private standards and certification is examined as part of a linear historical narrative in which there is a wholesale shift of power from state agencies to global regulatory bodies (such as the WTO) and transnational retailers. The structural capacity of these actors to impose *standardized* practices throughout agri-food supply chains is assumed to drive the shift from public to private forms of governance. We have two problems with this reasoning.

First, the displacement of one form of governing by another neglects the often complex ways in which programmes are implemented and rendered workable in practice (see Higgins, 2004; O'Malley, 1996). What is particularly overlooked is the ongoing significance of state agencies in making private standards, and other market-oriented forms of governing, workable. As Buller and Morris (2004, p. 1079) argue, there exists a 'critical interplay and interrelationship of public policy and market forces in the setting of sustainability objectives. The market cannot act alone or in isolation.' While public agencies are acknowledged in the agri-food standards literature as playing an ongoing role, little detail is given beyond claims that state capacities have been 'reorganized' to accord with the free trade ambitions of transnational retailers and global governance agencies. We argue that it is important not to lose sight of how standards are made workable in the process of their implementation, and the often complex reasons for their adoption.

Second, the standardization of technique (via standards and auditing) is treated as an unproblematic starting point in examining the impacts of standards on various actors in supply chains. Specific fractions of capital, such as retailers, are conceptualized as the main locus of power within modern agri-food production chains. Due to their structural power as creators and enforcers of standards, retailers are assumed to exercise increasing influence down the supply chain, with the practices of downstream actors harmonized and brought into line through standards and auditing technologies. Many existing explanations of agri-food standards are arguably based on such a conceptualization of restructuring in which predominantly retailer-led private standards have the necessary momentum – through TPC – to transform food production by shifting power from producers to retailers. The producers who are responsible for implementing these standards in practice are viewed as having little or no capacity to alter or adapt them. Such views, according to Barry (2001, p. 75), are flawed since 'a standard or regulation does not have any natural force or intrinsic momentum. It requires agents who are prepared to *make* it into a reality' (emphasis in original). With specific reference to the agri-food sector, Campbell and Le Heron (2007, p. 135) argue that standards, as forms of governance, must 'be seen as varied, emerging in particular conditions, malleable in their functionality, [and] accessible to use by different actors in differing ways'. On this basis, it is important to focus on how standards are *made* to work, and the diverse processes and actors through which this occurs.

In order to examine the problems involved in achieving standardization, we draw upon an analytics of governmentality. This approach

has been used previously in agri-food studies² and it is not our intention to provide another outline in this chapter. We are interested here primarily in one aspect of a governmentality perspective – technologies of governing – and its merits in addressing the limitations of political economy approaches.

According to Rose (1999, p. 52), technologies of governing are mechanisms ‘imbued with aspirations for the shaping of conduct in the hope of producing certain desired effects and averting certain undesired events’. In this respect, standards are undoubtedly technological, given that their design and deployment are aimed squarely at shaping the conduct of a diverse range of actors so that they adopt a more uniform and desired set of practices. Technologies include those:

... humble and mundane mechanisms by which authorities seek to instantiate government: techniques of notation, computation and calculation; procedures of examination and assessment; the invention of devices such as surveys and presentational forms such as tables; the standardization of systems for training and the inculcation of habits; the inauguration of professional specialisms and vocabularies; building designs and architectural forms – the list is heterogeneous and in principle unlimited.

(Rose and Miller, 1992, p. 183)

While scholars from a political economy perspective might view these mechanisms as *enabling* specific social groups to exercise power over others, and reflecting a broader historical logic, such as the logic of capital, this risks overlooking the often complex ways in which particular technologies are assembled so that they are capable of regulating human conduct. As Rose (1999, p. 52) argues, technologies ‘are never simply a realisation of a programme, strategy or intention: whilst the will to govern traverses them, they are not simply realisations of any simple will’.

Technologies – such as standards – represent a means for shaping human conduct by linking calculations in one location with action at another (Miller and Rose, 1990). However, the process of shaping human practices is fraught with difficulty. Drawing upon the work of Bruno Latour, Miller and Rose (1990, p. 11) note that attempts to govern action ‘at a distance’ rarely achieve the outcomes envisaged by authorities. This does not mean simply that the reality of governing constantly fails to meet some ideal regulatory state. Rather the failing nature of rule is a constitutive aspect of governing and the struggle to overcome problems and imperfections may, in fact, enable programmes ‘to be

rendered both workable and durable' (Higgins, 2004, p. 472). In this respect, technologies can work in multiple and adaptable ways which do not necessarily accord with the objectives of any one group of actors. Equally, the harmonization of technologies and human action is a contingent achievement that needs to be investigated.

The notion of technologies of governing has been applied as part of a broader governmentality approach to study such issues as the construction of a national farming sector in Britain (Murdoch and Ward, 1997), the emergence of the entrepreneurial farmer in Australian agricultural policy (Higgins, 2002), and discourses of best practice in farming (Lockie, 1998). However, apart from some work by Larner and Le Heron (2004) on benchmarking in New Zealand agriculture, the technological aspects of governmentality have not thus far been applied in a systematic way to private agri-food standards. In the remainder of the chapter we respond to this lacuna by exploring how EMS standards for agriculture have been assembled, and adapted, at a national and regional level in Australia.

10.3 EMS as a technology of governing

Australian agriculture was first exposed on a broad scale to EMS in 2002 when the Natural Resource Management Ministerial Council, a group of State and Federal Ministers responsible for agriculture and natural resources, released the *National Framework for EMS in Agriculture* (NRMMC, 2002). Based on the ISO14001 standard, EMS was aimed at providing farmers with a voluntary, flexible, and internationally compatible and credible tool for meeting 'current and future challenges, whether imposed by government regulation, by consumer market preferences, or by communities concerned about their local environment' (NRMMC, 2002, p. 7). Given the strong export-oriented focus of Australian agriculture, as well as the serious environmental problems associated with existing productivist approaches to farming, EMS at face value provides a useful means to sustain natural resources *and* assure access to particular markets. This accords closely with Australia's neoliberal position on trade in the WTO, and its opposition to farm subsidies in the United States and European Union (Dibden and Cocklin, 2009; Dibden et al., 2009). It also helps explain why EMS was chosen over other possible agri-environmental standards systems – such as those associated with organic agriculture. No other standards or certification scheme meets the diverse demands of integrating environmental, food quality, trade and farm management issues.

EMS is a process-based standard which details 'the processes that a firm, or other organisation, may choose to follow for the purposes of

managing environmental impacts' (Mech and Young, 2001, p. 8). Thus, EMS is based on a 'plan-do-act-review' process of continuous environmental improvement. There are no baseline requirements for best practice apart from adherence to relevant environmental legislation, although EMS can be used, for example, as a way of building on existing industry codes of practice or improving natural resource management practices at a catchment/regional level. Consequently, the actual content of an EMS is largely dependent on the goals and priorities of individual land managers. This begs the inevitable question as to why landholders might be interested in adopting an EMS.

The EMS Framework (NRMCC, 2002, pp. 7–12) argues that there are three main drivers for EMS adoption by farmers:

- Consumer demand for safe, ethically produced and environmentally friendly food. This is argued to contribute to increased scrutiny of farming practices and the need for formal verification that food is produced in a safe and sustainable manner. EMS provides this verification, hence ensuring access to markets where demand for 'green' food is strong.
- Retailer requirements for third-party certification covering food quality and safety, in response to growing consumer concern. The linking of EMS to the international standard ISO14001 enables farmers to be prepared for the auditing practices associated with TPC.
- Government environmental regulations and community concern over the health of natural resources. As the Australian Federal and State governments impose increasingly stringent regulations, and local communities exercise greater scrutiny over the impacts of farming, landholders will be forced to demonstrate sound ecological practices to ensure ongoing access to particular resources. Having an EMS is viewed as a way of documenting management practices, demonstrating a 'duty of care', and showing formally farmers' adherence to environmental regulations.

In order to test the applicability of EMS to Australian agriculture, the Federal government created three programmes: the National EMS Pilot Programme which funded 16 projects at both regional and industry levels (2003–6) at a total cost of AUS\$8.7 million; Pathways to Industry EMS which assisted industries to develop and implement an EMS (AUS\$11.9 million); and the EMS Incentives Programme, which encouraged adoption by individual farmers through grants of AUS\$3,000. Following arguments common in the existing literature on agri-food

standards, these schemes might be interpreted as an attempt by the state to impose standardized means for farmers to align their practices with the requirements of transnational capital. However, given the flexibility of EMS as a process standard, as well as current lack of demand in both national and international markets for food produced using ISO14001, this standard has in practice been used to deal with a number of different issues, such as linking with regional natural resource management targets, providing for future staged integration with other systems/codes of practice and laying the foundations for prospective upgrading to ISO14001 certification. Thus, while state agencies may wish to encourage the adoption of certified EMS as a mechanism for integrating farmers' agri-environmental practices with the logic of 'the market', in practice this technology of governing has been harnessed to a diversity of purposes and made to 'work' in a variety of ways. In the following section of the paper we examine an industry-based case study, in which EMS was adapted in the course of its implementation. The case study uses qualitative methods drawing upon interviews with two dairy industry representatives, collected as part of a broader study by the authors on market instruments for environmental management in Australian dairying, as well as material from rural newspapers, government and dairy industry reports, websites, newsletters and 'grey literature'.

10.4 Adapting EMS – the Australian dairy industry

The implementation of EMS through the National Pilot Programme showed that this technology of governing could be potentially reworked to conform to a range of regional, industry and farmer goals. In the case of the Australian dairy industry, EMS provided a potential means to ameliorate adverse environmental impacts and associated reputational problems arising from intensive dairy farming. These problems had been anticipated in 2000 in the lead up to the deregulation of the dairy industry, which removed price supports for dairy farming, resulting in more intensive production (Dibden and Cocklin, 2005). The experience of New Zealand, which had adopted neoliberal, free trade policies even earlier than Australia, was instructive: severe environmental problems had become increasingly apparent since deregulation of the dairy industry in the mid-1980s (Jay, 2007).

Despite the relatively low priority given to environmental practices compared to food safety (Fulponi, 2006; Morris, 2000), and the lack of evidence of demand by retailers (Morgan et al., 2006), both government agencies and the dairy industry in Australia have recognized for some time that they may eventually be called to account for the adverse

impacts of intensive dairy farming. While dairying in Australia has thus far escaped the 'dirty dairy' tag applied by fishing and environmental groups in New Zealand (Jay, 2007), there is nonetheless an awareness that the 'clean and green' image of Australian food production must be supported by improved natural resource management (Chang and Kristiansen, 2004; Lawrence, 2005). These concerns arose at a dairy industry level in the lead-up to deregulation in 2000, which was predicted – accurately – to result in a growth in the scale and intensity of production accompanied by increased use of inputs, notably water, feed and fertilizers, and problems dealing with expanded effluent discharges into waterways. To deal with these issues, a project (Dairying for Tomorrow) was funded under the National Landcare Programme and later through Federal government grants to promote EMS to the farmer-suppliers of milk processors (Dibden and Cocklin, 2005). The way that EMS has been adopted and modified by Dairying for Tomorrow and processors provides an interesting study in how EMS has been adapted to meet industry needs. Our focus is on the Gippsland region of south-eastern Victoria, where EMS-type initiatives have been most fully developed.

Soon after deregulation in 2000, a 'Dairy Self-Assessment Tool' (DairySAT) was developed at the instigation of a Gippsland dairy farmer. At that time, the image of dairy farming had been tarnished by a toxic algal bloom outbreak, largely attributed to pollution from dairy farm effluent, in the scenic and environmentally important Gippsland Lakes. This inspired the idea of finding a means to demonstrate farmers' environmental credentials. According to the farmer who originally developed DairySAT,

though most people in agriculture do the right thing, not many people know that, or not many people are aware of that. You only hear of the bad examples that are highlighted in the press or taken to court or whatever.

(Interview, 2007)

At the same time, a project initiated by a group of Gippsland beef producers (Higgins et al., 2008) suggested a way for dairy farmers to demonstrate environmentally responsible behaviour through third-party EMS certification consistent with ISO14001. However, the farmer who developed DairySAT also saw the problems experienced by the Gippsland group in the early stages of developing a beef EMS.

I saw farmers' wives crying because it was so stressful on the day of audits, and ... look, work was pulled apart and so on and these were people that were very good record keepers and very, very good

environmental managers and I thought, wow, if they're having trouble with it, I can certainly see that the dairy farming community will totally dig their heels in. ... I didn't want to see us going down that path in the dairy industry because I thought it would be a disaster. ... So it was more or less, let's think up a programme that every farmer ... can read through at their leisure or their timing and benchmark themselves against what is an accepted standard.

(Interview, 2007)

This idea was taken to the regional dairy extension organization (GippsDairy), gained support from other catchment and state government agencies in Gippsland and was developed together with a group of farmers who 'rated the project as an opportunity to be proactive, rather than being subjected to a "big stick" over environmental issues' (DfT, 2003, no page numbers). The outcome was a simple self assessment tool for dairy farmers to use on farm. The fact that DairySAT is a farmer-initiated idea has been widely used to promote the tool to dairy farmers, dairy industry organizations and government bodies. After initial development by GippsDairy and the Victorian Department of Primary Industries,³ and 'road testing' by 74 Gippsland dairy farmers, DairySAT was endorsed by Dairying for Tomorrow (DfT) 'as the single national platform for the dairy industry to address environmental issues', and Federal government funding was received for an 'EMS Pilot Dairy Project committed to using DairySAT as the first point in developing its EMS' (Neilson, 2003, no page numbers).

Federal funding for DfT enabled DairySAT to be tested and promoted at a regional level through a network of Natural Resource Management (NRM) coordinators appointed in each of eight dairying regions of Australia. In Gippsland, DairySAT was largely promoted through environmentally oriented land care groups⁴ or Environmental Best Management Practice training programmes. It thus sat squarely within the area of government attempts to build NRM partnerships between farm and rural groups and government agencies, including quasi-government regional NRM or catchment bodies. Increasingly, the projects and underlying philosophy of DfT actively encourage collaborative partnerships between the dairy industry and catchment managers to set on farm targets for change that will contribute to healthy catchments and communities. For example, according to a dairy regional project officer, a recent DfT programme in Gippsland – *Targets for Change* – has explicitly sought to address 'high priority hot spots' identified by West Gippsland Catchment Management Authority (Interview, 2008).

From the early days of development of DairySAT it was accepted that few farmers were likely to adopt this tool without the offer of incentives. The original group of farmers who helped to pilot DairySAT were enticed by 'a very nice carrot ... that if they helped review the DairySAT and went through it, then they'd get a whole farm nutrient plan done' (Interview, 2008). Similarly the role of DfT regional co-ordinators included providing 'assistance in obtaining incentives and grants' (Interview, 2008). In general, DairySAT has been incorporated within projects to encourage sustainable farming combining environmental improvements with production benefits. The major emphasis has been on appropriate use and disposal of fertilizers and effluent rather than improvements with less obvious production links, such as tree planting or biodiversity conservation. However, DairySAT projects have endeavoured to show that most environmental best management practices have productivity gains linked to them, such as improved milk production where trees provide shade and shelter, or fencing off watercourses which protects water quality and prevents injury to cows from falling down stream banks.

DairySAT consists of a kit which can be used in training courses and also worked through by farmers in their own time. In this way, it is a technological means by which farmers can self-monitor and thereby govern their agri-environmental conduct in a 'responsible' way (Rose, 1999). It not only provides checklists for farmers to assess their own environmental performance, but also brings together useful information about legislative requirements and sources of advice and support. Nevertheless, despite the encouragement offered to farmers, DairySAT has to date only been adopted by approximately 20 per cent of Australian dairy farmers. It has increasingly been recognized that adoption by dairy farmers is unlikely to progress far without backing from the dairy companies, which are potentially in a strong position to influence their suppliers. A new DairySAT manager appointed with Federal funding in 2006 is required to spend 50 per cent of her time promoting the instrument to dairy companies. However, the response by most dairy companies has been decidedly lukewarm. There is reluctance on the part of these companies to impose burdens on already financially stressed and increasingly footloose farmers. Farmers have shown a preparedness to leave the industry or change processors if hard pressed. At the time of deregulation, the increased cost of meeting new hygiene standards, combined with lower prices, resulted in a steep reduction in dairy farmer numbers and eventually also in competition between processors to attract farmer-suppliers (Dibden and Cocklin, 2007). More recently, Warrnambool

Cheese and Butter Company lost a third of its milk supply within a matter of days when payments to suppliers were reduced abruptly (Smith, 2009).

In addition to the difficulty in ensuring adoption, DairySAT has been criticized for its inability to provide accurate measures of environmental performance. In theory, information provided by farmers about their own environmental actions can be used to establish the extent to which land managers are meeting resource condition targets set by quasi-governmental regional catchment authorities. But in practice, the subjective nature of DairySAT self-assessments makes this difficult to achieve. As the farmer who originally developed DairySAT notes, 'the DairySAT has a check list within it or a programme to follow and if you don't come up to scratch, it's purely up to your conscience to decide if you wish to do something about it' (Interview, 2007). There has been a reluctance to adopt ISO14001 within the dairy industry both because there is currently no clear market benefit to be gained and because dairy farmers are perceived to be too stressed as a result of problems ranging from severe drought to low prices on global markets. Since DairySAT records are not audited, there is no third-party ensuring that standards are maintained. However, even an EMS with a full third-party audit 'has some serious shortcomings', particularly the fact that 'ISO14001 is a process-based standard which does not guarantee environmental performance outcomes' (Gunningham, 2007, p. 304).

Apart from some interest by small dairy companies supplying niche markets, only one major processor has made a serious commitment to introducing auditable environmental standards. Murray Goulburn Co-operative (MGC), which processes over a third of Australia's milk supply, is a major exporter of dairy products and hence particularly attuned to present and future demands from overseas consumers for 'environmental sustainability in its business from "cow to customer"' (MGC, 2008, p. 3). As the only remaining major dairy co-operative, MGC is obliged to compete with other processing companies for a dwindling pool of suppliers by providing needed services and anticipating regulatory changes which may affect the viability of the co-operative and its members. In 2007 (and again in 2008), MGC obtained a Federal government grant⁵ to 'pilot supply-chain driven engagement of dairy farmers in improved environmental performance and reporting via milk company field officers and supplier intranet', bringing 'together dairy processor/supplier relationship, service providers and catchment planners to evaluate the effectiveness of this approach for wider application across the Australian dairy industry' (NLP, 2007). DairySAT would

be incorporated into the existing intranet information management system (MGF@RM), which currently integrates milk production and financial information.

The incorporation of DairySAT into a web-based reporting system marks a significant movement beyond self-assessment towards a potentially auditable system. Indeed, West Gippsland Catchment Management Authority, which worked closely with MGC in establishing information relevant to catchment health to be reported by farmers, was described as 'acting as the auditing authority' for the pilot project (MGC, n.d., p. 2). The initial motivation for the MGF@RM enhancement appears to have been the desire to pre-empt possible future environmental regulation and meet anticipated customer requirements. However, increasingly MGC has become concerned to find a way to link MGF@RM to emissions trading as part of a broader approach of shielding dairying (and farmers) from anticipated risks. The very real threat posed by emissions trading was expressed in Murray Goulburn's response to the federal government's proposed emissions trading scheme. An MGC executive claimed that the increased cost of the energy used in dairy processing meant that, even without a charge for emissions from farms, dairy farmers supplying the co-operative would lose an estimated AUS\$5–\$10,000 a year. These losses would be exacerbated by the 'major trade imbalances arising from the scheme', and the different emissions trading rules in other countries, creating an 'unlevel playing field' for Australian producers (Cawood, 2009, pp. 1–2). As the executive observed,

Because most of the products MGC produces are freely imported from other countries, or exported into other hotly-contested markets, passing on emissions cost to consumers would be business suicide. ... All we can do is reduce the price we pay our farmers.

(Cawood, 2009, pp. 1–2)

In an effort to forestall these adverse impacts, MGC has recently obtained funding⁶ to update MGF@RM to incorporate a range of tools to measure nutrient loss, nitrogen utilization, energy use and the effects of greenhouse gas abatement strategies. The system will be set up in such a way that farmers can feed in information from third-party vendors, such as energy bills, automatically upload data relating to emissions into the accounting tools and transmit these data to MGC. The project aims to enable farmers to account for emissions with minimal disruption to their farm businesses. At the same time, one-on-one support will be provided to assist farmers to implement best management

practices which reduce and mitigate emissions without (ideally) losing productivity.

10.5 Conclusions

This chapter contributes to the literature on agri-food standards in two key ways. First, it illustrates how standards may be adapted in the course of their implementation. Drawing upon a governmentality approach, which conceptualizes standards as 'technologies of governing', we demonstrate that standards indeed *aim* to align the practices of different actors in particular ways. However, in practice, the process of making standards work involves a range of agencies. This may contribute to the original aims of standards schemes being compromised from the outset, yet also make these schemes workable for those involved in their implementation. For instance, EMS in the Australian dairy industry has been partially adopted, and adapted, through a hybrid mix of public and private initiatives, which intermingle Federal, state and industry funding, with support from agricultural commodity organizations, agri-food processors, regional governance bodies and farmers. In recognition that insufficient market demand exists for a fully certified EMS, DairySAT was developed as a way to assist farmers with managing risk, and as a tool for helping to demonstrate farmers' environmental credentials. Thus, our research supports Rose's (1999, p. 52) argument that technologies of governing are 'imbued with *aspirations* for the shaping of conduct in the *hope* of producing certain desired effects and averting certain undesired events' (emphasis added). They are not mechanisms which are able to guarantee particular outcomes. This contrasts with political economy analyses which typically view standards as a pre-constituted technical means by which powerful actors are able to standardize and harmonize the practices of those downstream within food supply chains.

Second, we show that private standards are not necessarily driven always by the interests of retailers, or other seemingly powerful actors. As Rose and Miller (1992, p. 184) note, "'power" is the *outcome* of the affiliation of persons, spaces, communications and inscriptions into a durable form' (our emphasis). Hence, it is important to examine how technologies, such as standards, are constituted as objects of knowledge, and who has the capacity to exert 'agency' or 'power'. While EMS is promoted by the Federal government as a way of meeting consumer, community and retailer requirements for 'clean and green' food, the introduction of EMS in the Australian dairy industry has been farmer-initiated. The main

rationale was to take a proactive approach to environmental issues and thereby avert more onerous intervention by governments. However, in order to meet the needs of farmers already stressed by falling commodity prices and drought, EMS was adapted through collaboration between public and private agencies as an environmental self-assessment tool (DairySAT). It is noteworthy that dairy processing companies have in general shown little interest in DairySAT and other technologies of environmental assurance. This contrasts with the strong focus by these companies on food safety and quality standards, which are essential for dairy companies to remain in business. The predominant focus on food safety and quality in the dairy industry, as well as the lack of market benefits from pursuing non-organic environmental standards, has arguably hampered widespread adoption of DairySAT, and interest in EMS more broadly.

At farm level, Morris (2000, p. 444) argues that positive environmental improvements beyond those normally expected of farmers are only likely to be achieved 'if farmers are *directly rewarded*' for them and if payment is 'targeted on specified environmental outcomes'. In terms of processing companies, research on EMS indicates 'that enterprises are only likely to commit substantial resources to such systems, rather than making tokenistic efforts to comply, where they perceive a strong economic self-interest in doing so, and most commonly they do not' (Gunningham, 2007, p. 304). This suggests two possible ways forward for adoption of EMS or other private environmental standards in Australia: *either* governments must contribute sufficient resources to overcome this reluctance *or* enterprises must be subjected to strong public or private regulatory requirements, with substantial penalties for non-compliance. However, at present, there is only limited pressure for demonstrating responsible environmental performance from overseas markets, governments and consumers. Instead, it is the proposed creation of a national market for emissions trading that appears to be driving a shift towards auditable environmental standards.

Notes

1. See for instance the case study of the New Zealand kiwifruit industry in Campbell et al. (2006).
2. For a useful outline of the agri-food literature drawing upon a governmentality approach, see Higgins (2002) and Lockie and Higgins (2007).
3. Support was also received from the Victorian Environment Protection Agency, which is responsible for regulating pollution from dairy farms – and prosecuting farmers where necessary.

4. Land care groups are a key vehicle of natural resource management in Australia and have been embraced by governments, farmer organizations and conservation groups 'as offering a model for effective community action to manage land degradation and assist the move to more sustainable resource use' (Curtis and De Lacy, 1996, p. 120). These groups are voluntary, receive limited government funding, are open to any member of the local community and tend to operate at a catchment or regional scale. Activities pursued by land care groups include the identification of resource management priorities, development of action strategies, conducting of field days and farm walks and a range of educational and promotional work (Curtis and De Lacy, 1996, p. 121).
5. A National Landcare Program (NLP) Natural Resource Innovation Grant of \$123,000 was awarded for 2006/07, and a Caring for our Country-Landcare Sustainable Practices Grant of \$98,000 for 2008/09.
6. MGC was awarded a FarmReady Industry Grant of \$150,000 in May 2009 for 'Tools for Dairying Change – The implementation of an on-farm climate change adaptation and greenhouse gas emissions mitigation support model for Australian Dairy Farms'.

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