



Framing GM crops as a food security solution

Jacqui Dibden^{a,*}, David Gibbs^b, Chris Cocklin^c

^a School of Geography & Environmental Science, Building 11, Wellington Road, Monash University, VIC 3800, Australia

^b Department of Geography, University of Hull, HU6 7RX, United Kingdom

^c Chancellor, James Cook University, QLD 4811, Australia

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The spectre of a food security crisis has raised important questions about future directions for agriculture and given fresh impetus to a long-standing debate about the potential contribution of agricultural biotechnology to food security. This paper considers the discursive foundations for promotion of agricultural biotechnology, arguing that notions of progress and 'science-based' risk assessment act as 'anti-political' strategies to remove consideration of genetically modified organisms (GMOs) from the cut and thrust of politics, while the concept of 'food security' reconstitutes agricultural biotechnology as a moral imperative. We argue that a debate ostensibly focussed on developing countries in fact largely arises from discordant views about the future of farming and rural areas in the developed countries where these arguments are taking place. These debates are examined through a comparative study of the UK and Australia. Whereas acceptance of GM crops and foods at government and industry level has not led to commercial adoption in the UK due to consumer resistance and the influence of EU regulations, Australian governments at federal and state level have increasingly embraced GM crops, potentially locking Australia into a food and farming trajectory based on agricultural biotechnology.

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1. Introduction

Food security has recently re-emerged as an issue globally, following a decline in food stocks and associated sharp rises in food prices in 2007/08. While this crisis appears to have passed for the present, awareness remains of the potential fragility of global food provisioning under the combined pressures of population growth, increasing demand from more affluent population sectors and climate change, which threaten to reduce food production and disrupt supply chains. This understanding of food *insufficiency* as an impending problem is perceived differently both between developed and developing countries, and also between those developed countries predominantly dependent on imported foods, such as the United Kingdom (UK), compared with those that are food exporters. Thus, for a food exporting country such as Australia, the impact of the food crisis was mainly positive (higher export prices for Australian producers), while the high proportion of food produced domestically cushioned Australian consumers from major price escalation. Even so, for the first time for many decades, food security came to public attention as an emerging problem for

Australia. For European countries such as the UK, the debate has not only been about ensuring domestic food security, given reliance on imports for many foodstuffs, but also about the prospective contribution of the UK – particularly British biotechnology research – to global food security (see, e.g., *Royal Society, 2009; Tait and Barker, 2011*).

The spectre of a food security crisis raises important questions about future directions for agriculture and has given fresh impetus to a long-standing debate about the potential contribution of agricultural biotechnology to food security. Proponents of genetically modified organisms (GMOs) – particularly GM crops – argue that the technology can make a vital contribution to increasing agricultural production, improving livelihoods, and enhancing food quality in the developing world. In contrast, critics believe agricultural biotechnology undermines food security.

The remainder of this paper is structured as follows. In the next section, we consider the discursive foundations for the embrace of agricultural biotechnology. Whereas notions of progress and 'science-based' risk assessment act as 'anti-political' strategies to remove GMOs from the cut and thrust of politics, the concept of 'food security' reconstitutes agricultural biotechnology as a moral imperative. We then outline the arguments and counter-arguments concerning the role of biotechnology in relation to global food production and security in developing countries. Feeding into this conflict are disagreements about the use of science and

* Corresponding author. Tel.: +61 3 9905 2162, +0429 864 684 (Mobile); fax: +61 3 9905 2948.

E-mail addresses: Jacqui.Dibden@monash.edu, jacqui.dibden@arts.monash.edu, [au \(J. Dibden\)](mailto:au (J. Dibden)@monash.edu).

probabilistic assessments to approve risks which have societal and moral implications, and the perceived dominance in policy-making of business and technological solutions over considerations of social welfare. In Section 3, we argue that a debate ostensibly focussed on *developing* countries, in fact, largely arises from discordant views about the future of farming and rural areas in *developed* countries. These divergent views are represented as alternative paradigms, contrasting high-input, high technology farming, in which transgenic technology plays a vital role, with an agro-ecological approach which views this technology as both unnecessary and risky.

This establishes the theoretical context for an exploration (in Section 4) of how biotechnology governance plays out within the specific national contexts of Australia and the UK, and raises questions about the feasibility of maintaining alternative paradigms in these two countries. While the outcome is still uncertain in the UK, we argue that the permissive regulatory environment and strong government support for GM crops risk locking Australian agriculture into a food and farming trajectory dominated by agricultural biotechnology interests.

These two countries have been selected as case studies because they share similar systems of neoliberal governance and regulation, but have adopted different paths towards adoption of agricultural biotechnology. This combination of similarity and difference provides insights into the mixed influences which contribute to national policy formation. Differences between the two countries arising from their geographic locations and different historical paths, and the importance of agriculture in their economies, will be considered in detail below. Precedents for undertaking a cross-national analysis of this kind are provided by the comparative studies by Wright (1993) and Jasanoff (2005)¹ of the UK and the United States in relation to adoption and regulation of genetic engineering.

This paper draws on research undertaken by the authors since 1999 on regulation of agricultural biotechnology in Australia and the UK (Cocklin et al., 2008; Gibbs et al., 2008), on the influence of global 'harmonisation' initiatives (Dibden et al., 2011) and, since early 2010, on food security and the part it plays as a discursive concept in GM debates. This research has consisted primarily of an examination of documentary evidence (such as government reports and websites; media releases, newsletters, reports and websites of anti-GM groups; public enquiries and news items).² In addition to investigating Australian and UK policies and debates, primary and secondary sources on EU policies and regulations were also examined in order to tackle what Jasanoff (2005, p. 39) describes as "a central methodological problem confronting a comparative analysis" of one nation state (in this case, Australia) with an EU member-state, namely, "what to do about the role of the European Union."

In examining the policies and actions of government and corporate players, we pay heed to Roff's (2008, p. 1424) contention that work centred on the "strategies used to legitimise or oppose biotechnology's advance" has tended to focus "largely on dominant discursive justifications and has not yet grappled with the multiple ways in which the present regime is contested and stabilized." In our account of the mobilisation of food security discourses in relation to contested agricultural futures in the UK and Australia, we consider the means by which agricultural biotechnology has been introduced and entrenched or resisted. In particular, we are

interested in the struggles over the on-going rollout of permissive regulations expediting the commercialisation of GM products and legitimised partly by the supposed necessity to 'feed the world'.

2. Constructions of agricultural biotechnology

Underlying much of the support for agricultural biotechnology is its identification with the notion of 'progress' – that is, with "universal, a historical claims that genomic technology and transgenic crops represent 'progress for humanity'" (Bridge et al., 2003, p. 165). Following Latour, Bingham (2008) argues that the notion of progress involves a "politics of time" – indeed, "time passes as if it were really abolishing the past behind it" (Latour, 1993, p. 68). Thus, from the modernist viewpoint, progress has only one alternative, 'craving' or yearning for the past or what Latour (1993) calls 'decadence'. Such hegemonic constructions of progress cancel out the possibility of alternative trajectories, whether from the past or the future. The concept can therefore, Bingham (2008) suggests, be described as 'anti-political'. This term, coined by Barry (2001), refers to practices of framing political activity in ways which may be seen as "suppressing potential spaces of contestation" and "placing limits on the possibilities for debate and confrontation" (Barry, 2002, p. 270). Practices of this kind are viewed by Swyngehouw (2010, p. 214) as a feature of recent decades, which have been marked by:

... deepening processes of de-politicization characterised by the increasing evacuation of the proper political dimension from the public terrain as technocratic management and consensual policy-making has sutured the spaces of democratic politics. ... This post-political frame is structured around the perceived inevitability of capitalism and a market economy as the basic organizational structure of the social and economic order, for which there is no alternative.

For states and regions, progress is equated with technological innovation and economic competitiveness. For agriculture, progress has been equated with technologically sophisticated solutions to pressures to produce more food and fibre: these solutions were represented initially, in relation to developing countries, by the so-called 'Green Revolution', but more recently by a biotechnology-driven 'Gene Revolution' (Thompson and Scoones, 2009). This new approach is primarily funded by private capital and underpinned by notions of scientific advancement and competitive advantage. As McAfee (2003, p. 215) comments, in debates about the supposed benefits of agricultural biotechnology, "the ideas of market-based management and scientific progress are so entrenched that it is difficult to muster the discursive resources to challenge them". In Australia, these notions have resulted in the belief that Australia will be 'left behind' by competitors adopting this new technology unless it moves quickly to facilitate the development and commercialisation of GM crops (Dibden et al., 2011).

The narrative of progress also underpins the optimistic approach to agricultural biotechnology expressed in the risk assessment procedures adopted by the United States and subsequently promoted through the WTO – a model followed by the Australian government. In order to meet WTO requirements, risk assessment must be 'science-based' and confined purely to a consideration of risks to human, animal or environmental health. As Donaldson (2008, p. 1557) argues: "Talking of a situation in terms of risk is a way of shifting it away from the political – away from open debate – and towards the technical, calculative practices of risk management ... So risk politics has an 'anti-political' dimension" (see also Barry, 2002).

¹ Jasanoff's comparative study of science policy cultures also includes Germany.

² More in-depth research, including extensive interviews with key informants, has been undertaken in Australia. This has provided insights into the Australian situation but is not drawn on directly for this paper.

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