Teaching for sustainability: The role of (benefit) corporations

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Abstract

This article explores the role that corporations can play in the creation or failure of a sustainable society. A review of the concept of sustainability in the Australian Curriculum: Geography is made and then linked to a comparison of the legal framework guiding business activities of traditional corporations and those of B Corporations, which are guided by their own separate legislation. Business activities of a particular B Corporation in Australia, and other profit-oriented businesses in the same sector of the economy, are then compared in terms of four earth functions listed in the Australian Curriculum to determine if one is more sustainable than the other. This comparison concludes that the B Corporation is more sustainable than a traditional profit-oriented corporation in several respects, though it is not sustainable absolutely. The example explored is linked to curriculum outcomes and suggestions are made as to how teachers might apply this content and analysis when teaching for sustainability in their own classes.

Introduction

In a world of specialisation perhaps no concept is more deserving of an interdisciplinary approach than sustainability. Since Adam Smith's ode to the division of labour, most famously depicted in his description of pin production in the opening passage of his *Wealth of Nations* (Smith, 1776/1999) almost two and a half centuries ago, occupational specialisation and the knowledge which it requires has continued apace. Today this can be most easily seen in one's progress through primary and high schools, onto university, and finally into the workplace (Dyball, Davila, & König, 2016). However, as Diamond (2005) has described in careful comparative detail, the failure or sustainability of societies throughout the world has always depended critically on how they respond to the environmental challenges they face, which are as differentiated as the societies are themselves. Thus, in today's globalised, information-laden and highly specialised society, the challenges to sustainability require knowledge and a broad understanding from many different disciplines. The study of geography is particularly well suited to this task since, as the opening line of the Rationale of the Australian Curriculum: Geography states:

> In a world of increasing global integration and international mobility, it is critical to the wellbeing and sustainability of the environment and society that young Australians develop a holistic understanding of the world. This requires deep knowledge and understanding of why the world is the way it is and the interconnections between people, places and environments over place and time. (ACARA, 2016)

Thus in teaching for sustainability in and of a highly specialised and interconnected world, we ought to be careful not to view it exclusively through the narrow lens of our own occupation but be prepared to venture into other fields in order to come to the interdisciplinary understanding that sustainability requires. While it is not possible to cover all the nuances associated with the creation of a sustainable society, this article will focus on the important economic role that corporations can play in the sustainability, or failure, of modern society and how this can be integrated into the teaching of geography in schools.

Sustainability in the Geography Syllabus

More than any other subject, the interdisciplinary approach needed when teaching for sustainability is probably most apposite to geography, which encompasses both physical and human domains, and the Australian Curriculum: Geography makes ample reference to interconnections throughout. Maude (2014) has argued that although the concept of sustainability sometimes includes social, economic, political and cultural sustainability, the curriculum intends it to be primarily concerned with the environment (p. 19). Indeed, the curriculum defines sustainability as "the capacity of the environment to continue to support our lives and the lives of other living creatures into the future" (ACARA, 2016). It elaborates on this definition by stating that "[p]rogress towards environmental sustainability depends on the maintenance or restoration of the

environmental functions that sustain all life and human wellbeing (economic and social)." The curriculum states further that an

> understanding of the causes of unsustainability requires a study of the environmental processes producing the degradation of an environmental function; the human actions that have initiated these processes; and the attitudinal, demographic, social, economic and political causes of these human actions.

A few points should be made here. First, although the ultimate goal of sustainability is indeed concerned with the environment, humans are positioned as key agents whose actions are compromising it. Second, the actions detracting from, and similarly contributing to, sustainability are manifold and require an interdisciplinary approach as suggested in the introduction. Finally, one of the causes of those human actions is economic, which contributes both to human wellbeing and to the degradation of environmental functions. This tension of economic contributions to modern society can provide a starting point for a class discussion about the merits and shortcomings of each position. In order to refine the discussion Maude (2014) suggests we draw on certain principles associated with earth's four functions. These are defined as follows in the Glossary of the Australian Curriculum: Geography:

- The earth's source function – the production of raw materials from the natural resources of soil, water, forests, minerals and marine life;
- The earth's sink function – safe absorption (through breakdown, recycling or storage) of wastes and pollution produced by production and human life;
- The earth's service function – provision of environmental or ecosystem services that support life without requiring human action, for example, climatic stability, biodiversity, ecosystem integrity and protection from ultraviolet radiation;
- The earth's spiritual function – intrinsic recreational, psychological, aesthetic and spiritual value of environments.

Most of the principles Maude (2014) goes on to describe are associated with the first three functions which, he argues, require some understanding of their related sciences (pp. 21–22). Moreover, Maude's argument continues, many government decisions are based on those sciences, rather than on ideology (p. 23). We will return to these earth functions below, but for now however, according to the most recent *Australia state of the environment: drivers*
"[g] lobally, the human-caused drivers of change to the environment are demographic, economic, socio-political, scientific, technological, cultural and religious" which are similar to those identified in the curriculum and certainly require interdisciplinary treatment. However, "[in] Australia, the key drivers of environmental change are population and economic activity" (Jackson, 2017, p. iv). So, if the primary causes of environmental change in Australia are demographic and economic, which are intimately related (Harvey, 2011, p. 144), rather than political, scientific or otherwise, it seems essential that teaching for sustainability focuses on these causes. To that end, viewing the earth's functions listed above through the lens of economic geography should help us to move toward a pedagogy for sustainability best suited to Australia.

What is Driving the Drivers?

Choosing one particular aspect of economic activity will be somewhat arbitrary, but this section will provide an argument for focusing on the role that transnational corporations play in the modern economy as they are "the most significant units of economic activity world wide" (Martin and Steele, 2010, p. 12). A recent Global Justice Now (2016) report ranks the revenue of the largest corporations in the world amongst that of national governments and concludes that globally, total corporate revenue is roughly the same as total government revenue. Moreover, the total revenue of the ten largest corporations is on par with that of the bottom 180 governments, with Walmart being richer than Australia, Shell being richer than Mexico, and Exxon Mobil, Volkswagen, and Toyota each being richer than India. This vast wealth gives corporations tremendous power over economic activity and investment decisions. National governments have to consider the myriad interests of their entire citizenry in deciding how to spend their revenue, while corporations not only have the legal right to focus their decisions on turning a financial profit, but the legal duty to do so in the interests of their shareholders (Gleeson-White, 2014, pp. 114–115, 280–281). The latter is a far smaller group with much narrower interests. This makes corporations highly adept at making financial profits using an array of techniques including, externalisation (considered below), regulatory arbitrage, which is the practice of taking advantage of legal loopholes by playing off the regulations of one jurisdiction against another's, and transfer pricing, in which remote subsidiaries of a parent multinational receive profits in order to shift their tax burdens. Although the effects of such corporate activity sometimes have disastrous consequences for people and the environment, such activity is quite

rational when viewed within a corporation's legal framework.

To give just one example of how corporate profit seeking is degrading the environment and thus detracting from sustainability, consider the common practice of externalisation. An externality is a cost which does not show up on a business's accounting ledger. The cost is *externalised* and paid for by someone else, whether governments, individuals, or the environment. For instance, the health care costs associated with the air pollution caused by a factory are an externality – the owners of the factory producing that air pollution do not have to pay these costs, which are instead picked up by the health care system of a government or private insurer. A comprehensive report commissioned by The Economics of Ecosystems and Biodiversity, entitled *Natural capital at risk: the top 100 externalities of business*, concluded that the primary industries analysed therein had environment-related externalities totalling US$7.3 trillion (Trucost, 2013). These externalised costs were associated with greenhouse gas emissions (38%), water use (25%), land use (24%), air pollution (7%), land and water pollution (5%), and waste (1%). US$7.3 trillion in externalised environmental costs is great for the profit margins of the businesses which produced them, though much less so for the environment which has to pay for them.

Integrating Sustainability into Business Education

Some studies supported by the Australian Research Institute in Education for Sustainability have attempted to integrate sustainability into the business world. One such study investigated the drivers and barriers to integrating sustainability into the accounting profession. While the study's literature review concluded that one of the key drivers to integration is government policy (Martin & Steele, 2010, p. 4), the study itself focused on university accounting programs and left the responsibility for the inclusion of sustainability up to student demand and the expected concomitant supply by universities (pp. 4, 6), rather than government regulation. However, such student demand was apparently lacking with students wanting a traditional focus on core accounting skills like financial reporting. Not surprisingly, little progress was made toward the goal of the study.

Similar conclusions were drawn by Thomas and Benn (2009) in a project looking at how sustainability can be included in teaching and learning offered by business schools, which included an action research project initiated by students in partnership with a participating corporation. Although the business schools made several changes in their teaching programs toward sustainability, the corporate responses related to the students' action research projects were far more conservative: "a few projects found that businesses achieved incremental changes" toward sustainable issues, "corporate employees were . . . engaged in critical reflection on the interconnected nature of some facets of sustainability", and "some businesses indicated that they may implement some of the suggestions made by students in their project recommendations" (p. 39). The authors summarised that "the market-based operational realities of the business schools would make it unlikely that a specialist MBA that placed sustainability on par [with] or above other business concerns would be launched" (p. 9) and more to the point, that future research should focus on how to make more permanent institutional change (p. 77).

These types of *free-market* approaches then would seem unlikely to achieve the sustainability goals desired. Instead, the absence of legislation to reform the duty of corporate directors to seek financial profits is a bit like leaving it up to a footballer to avoid scoring goals. Unless the rules of the game are changed, even if some accounting or business students want sustainability included in their course of studies and universities deliver them, the laws associated with corporate behaviour remain the same: corporate directors are bound to seek financial profits on behalf of their shareholders within the existing legislative framework above all other considerations.

B Lab and B Corporations

The corporate world's lack of such non-financial evaluation spawned the creation of an organisation called B Lab in 2006 (Gleeson-White, 2014, p. 243) in order to reconstruct the legal architecture of corporations by requiring them to conduct business which values the environment and people, in addition to financial profit. Organisations which meet B Lab's standards are called *B Corporations*, where the 'B' stands for benefit. Globally, there are currently more than two thousand certified B Corporations, in more than 50 countries, and across 130 industries (bcorporation.com.au). For B Lab to officially certify a B Corporation, prospective organisations need to take what is called the B Impact Assessment and earn a score of at least 80 out of 200. The assessment is tailored to the type of business seeking certification, but includes questions grouped into broad categories such as governance (of the organisation), community (or social considerations) and, most importantly for our purposes, environment. At present, B Corporation certification is entirely voluntary – there is nothing to compel a traditional

corporation to become certified by converting to the new accounting standards. Also, critics have raised concerns such as why, if B Corporations are supposed to benefit the public, they are certified by a private, unelected third party (Andre, 2012, p. 148), and whether many registered B Corporations are properly maintaining their standards (Allard, 2017). While these and other concerns are legitimate, there is no question that the B Corporation model is a step in the right direction in terms of valuing the environment and, by extension, achieving sustainability.

Sustainability in the Geography Syllabus with A Focus on Corporate Behaviour

The Australian Curriculum: Geography contains the following outcomes which bear on the issues raised in this article and, as will be described, the application given below (ACARA, 2016):

- *Analyse primary sources and secondary sources to identify values and perspectives on people, actions, events, issues and phenomena, past and present (ACHASSI157);*
- *Reflect on their learning to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic and social considerations, and predict the expected outcomes of their proposal (ACHGS054* and *ACHGS062);*
- *Environmental, economic and technological factors that influence crop yields in Australia and across the world (ACHGK062);*
- *Challenges to food production, including land and water degradation, shortage of fresh water, competing land uses, and climate change, for Australia and other areas of the world (ACHGK063);*
- *Human-induced environmental changes that challenge sustainability (ACHGK070);*
- *The application of environmental economic and social criteria in evaluating management responses to the change (ACHGK075);*
- *Reflect on and evaluate findings of an inquiry to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic, political and social considerations; and explain the predicted outcomes and consequences of their proposal (ACHGS071* and *ACHGS080).*

To address these outcomes we can choose an example of economic activity in Australia and compare the behaviour of a B Corporation to that of a traditional corporation or other business motivated primarily by profit. We can then analyse the behaviours according to the earth functions listed above to see if one comes closer to being sustainable. What follows is not a blueprint for sustainability, but an exploratory analysis of corporate behaviour and its effects on the environment with implications for sustainability.

The information in the next two paragraphs relies on interviews with Bill Avery, who is the head agronomist at Murray River Organics. Murray River Organics is an Australian-based B Corporation and the leading global supplier of certified organic vine fruit including grapes, currants and sultanas (murrayriverorganics.com.au). Interviews were authorised by the managing director and conducted over the phone during which notes were taken and questions asked for clarification. A copy of this part of the article was later sent to Avery for member checking. Avery has over thirty years' experience working on both conventional and organic farms and has been the head agronomist at Murray River since 2014. A key part of his expertise comes from his study of soil chemistry and soil biology. He has been consulted widely both in Australia and internationally on how to reduce reliance on industrial-manufactured fertilisers. The basic question asked of Avery is *what are the differences between the agricultural practices of Murray River and other conventional farms?*

According to Avery, there are many differences between Murray River's agricultural practices and those of conventional growers who have neither B Corporation status nor organic certification. One of these differences relates to the use of fungicides, pesticides, and herbicides – collectively termed *biocides*. Conventional farms spray fungicides systemically, whereas Murray River uses them only to target new growth. As for pesticides, conventional growers use a suite of agrochemicals including prothiofos and methomyl, which are contact sprays, and indoxacarb and clothianidin, which are systemic. Murray River on the other hand uses only naturally-occurring, plant-derived products, such as pyrethrin, which comes from the chrysanthemum flower. Finally, in terms of herbicides, conventional farms use glyphosate and paraquat, amongst others, whereas Murray River uses instead mechanical methods for physically removing weeds.

As for the nutrition program of Murray River's orchards, when compared to those of conventional growers the differences are also substantial. According to Avery, conventional growers use fertilisers derived from chemical salts – nitrates, phosphates, and sulphates amongst many others. Avery states that in general about 45% to 60% of most chemical salt fertilisers are lost, either to the atmosphere due to volatilisation

(which is most common for nitrogen) or gravity, as the salts are in aqueous solution and seep down below the plants' root zone. Moreover, Avery believes that chemical salt fertilisers taken up by plants cause them to, as he describes, choke. The reasons for this are complex, but essentially, in nature a plant lives in a symbiotic relationship with a whole ecology of soil microbes which provide naturally occurring water-soluble minerals. A plant will exchange a sugar with a particular microbe when it needs the specific nutrient that that microbe has, resulting in natural nutrient cycling within the host plant's root zone. Because that microbiological ecology is wiped out by heavy biocide use on a conventional farm, those plants must get their nutrients en masse while they are hydrating from the chemical salts applied in a pre-determined ratio by the farmer, which is insensitive to the plants' particular needs at a particular time. This leads to a surfeit of some nutrients which can then become toxic to the plant. It also limits the effectiveness of the chemical salt fertilisers, which causes farmers to apply higher and higher amounts in their attempts to improve their yields, and eventually just to maintain them once the soil is overstocked with the residues of previous applications. Avery believes that the chemical fertilisers sold to farmers, by what he calls *sale agronomists*, are set in ratios as high as possible to maximise their sales, but just low enough to avoid an economic cost barrier in order to keep their farming customers using these products. Murray River's nutritional program, on the other hand, uses naturally occurring products, including leonardite as a source of carbon, which is a brown coal extract, and fish hydrolysate as the main nutrient source. Avery argues that, because the nutrients on Murray River come from a natural source, it is much easier for the plants to absorb them when needed, just as it is easier for humans to absorb certain nutrients from food than from elemental sources. Given these differences between Murray River, as a certified B Corporation, and other traditional profit-based agribusinesses, is the B Corporation more sustainable? These can be analysed according to the four functions listed above.

Source Function

Both the B Corporation and conventional farms use inputs derived from nature. While tracing the supply pathway for all inputs is tricky, the inputs for the B Corporation appear to be less dependent on industrial manufacturing, not only in the case of the array of the chemical herbicides, pesticides, and fungicides used on conventional farms, but also for some of the nutrients. For instance, plants' primary nutrient is nitrogen, which has no replacement, and on conventional farms it is usually provided as a nitrate fertiliser. The predominant source of this fertiliser is the Haber-Bosch process, which fixes nitrogen from the air into biologically useful forms and which is heavily dependent on fossil fuels. By some accounts, this industrial chemical process consumes up to 5% of the world's annual natural gas production and about 2% of the world's annual energy production (Ritter, 2008). Phosphate fertilisers on the other hand are mined, but their supply is limited and has no replacement, which has led to the *peak phosphorus* scenario, akin to peak oil (see for example Cordell, Rosemarin, Schroder, and Smit, 2011). The phosphorus cycle has been greatly accelerated by human agriculture, which is moving vast amounts of phosphates to ocean bottoms and other places where they cannot be easily recovered (Cordell et al., 2011, p. 750). As such, sustaining the use of industrial-scale phosphate fertilisers requires phosphorus to be recycled during each stage of its usage in crop production and consumption. While phosphorus recycling has begun to appear in some major cities (ostara.com), much more phosphorus makes its way into rivers, marine systems, landfills, and other non-arable land (Cordell et al., 2011, p. 750). Given these and other imperatives of industrial processes which are essential for conventional farming, from a source function perspective it would appear that the B Corporation, which is less dependent on these processes, is probably more sustainable. Both business models depend at some level on fossil fuels however (the B Corporation on lignite, or brown coal), neither of which can be sustained in the long term.

Sink Function

The World Health Organization (n.d.) lists hazardous pesticides as one of the ten chemicals of major public health concern. Whether the environment can break down the toxins sprayed on a farm at a sustainable rate probably warrants careful investigation for each herbicide, fungicide, and pesticide, but should also account for their aggregated effects, the unsustainability of which might escape individual analysis (see for example Carson, 1962, p. 25[1]). No doubt, this would be complex and escape generalisations. Excesses of chemical salts should also be investigated for their toxicity and the processing times to break them down. Because the B Corporation uses far less chemical biocides and industrial manufactured fertilisers than conventional farms, and in some categories none at all, their business model seems more likely to be sustainable from the perspective of the earth's sink function.

1 This is the page number of the PDF listed in the References. The document itself has no page numbers.

Service Function

Sustainability of several service functions differs sharply between the B Corporation and a conventional farm. For one, the integrity of the soil ecology on the B Corporation is undoubtedly greater than that on a conventional farm due to the heavy use of biocides on the latter and their minimal to absent use on the former. Biocides, by definition, kill life, which is a key component of any ecosystem. This also has direct implications for biodiversity, which is certainly declining (Convention on Biological Diversity, 2010). However, perhaps one of the biggest risks to biodiversity loss and ecosystem integrity, from the perspective of both humans and other living organisms, is the decline in bee population, termed colony collapse disorder (CCD), since bees provide another crucial service function for ecosystem integrity – namely pollination. Although grapes are not pollinated by bees, about 65% of all flowering plants are pollinated by insects, the most important of which are bees (Campbell et al., 2010, p. 816). The exact causes of CCD are still debated but one of the leading explanations is that it is due to the use of a class of pesticides known as neonicotinoids, which is the most widely used class of insecticides in the world (van der Sluijs et al., 2013). Clothianidin used on conventional farms mentioned above has also been implicated (Johnson, 2010). Given these differences between the B Corporation and conventional farms, the B Corporation is almost certainly more sustainable than a conventional farm from the perspective of service functions.

Spiritual Function

This function is the most subjective of the four types listed and so it is the most difficult to argue that one or another type of business model, and the activities which flow from it, are sustainable. For instance, from an aesthetic perspective some might view the long straight rows of fruit – which both the B Corporation and conventional farms employ – as beautiful due to the ease of maintenance and ability to harvest. Others may, however, prefer a more polycultural design, which is common in permaculture, for its more natural aesthetic appeal.

Given this brief analysis of the business activities of a B Corporation and a conventional farm, it seems reasonable to conclude that the B Corporation is more sustainable. However, the source of carbon for its activities needs to be reformed to recycle carbon or retrieve it from a renewable source, such as compost. Teachers interested in investigating the aspect of economic geography considered in this article can either research an existing B Corporation or take the B Impact Assessment online for a hypothetical company that the students can create vis-à-vis a traditional corporation whose activities are found to be compromising some of the earth's functions listed in the curriculum. After the students have made an in-depth comparison of the activities of the two types of corporations, a teacher could lead a discussion in which the activities of each type of business are analysed and compared for their potential to contribute to sustainability, similar to what has been done in this article. If students believe they have found shortcomings in the B Corporation model, they can give feedback for each such determining question on the B Impact Assessment, which is reviewed and updated every two years and is partially based on such feedback. How B Corporations continue to evolve, especially alongside their traditional financially-focused counterparts, can provide an opportunity for geography students to contribute to the impact that corporations, and the economy more generally, have on the sustainability of modern society.

Conclusion

As human-induced pressures on the environment mount, businesses which value the environment and attempt to account for the functions it provides will become increasingly important for the creation of a sustainable society. It seems likely that the traditional model of a corporation, which focuses narrowly on creating financial profits, will need to be replaced with something like the B Corporation model which values the environment and people in addition to profits. This is not to say that the current B Corporation model is flawless and will invariably foster business activities that are sustainable, but it certainly appears to be moving in that direction. The complexity of the task of achieving sustainability is enormous. However, teachers who take their students on the sort of exploration made in this article can achieve some of the changes needed from the perspective of economic geography.

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