Review paper
10.7251/AGRENG1703061P
UDC: 631.147(54)

FOUR NEW STRATEGIES TO GROW THE ORGANIC AGRICULTURE SECTOR

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ABSTRACT

This paper presents four new strategies for growing the organic agriculture sector. Globally there are 51 million hectares of certified organic agriculture land and a further 39 million hectares of wild culture land. For the past two decades organic agriculture has been growing at 11.9% per annum, thereby doubling the size of the sector every six years. Nevertheless, despite ten decades of advocacy for organics, only 1.1% of the world's agricultural land is certified organic. From the outset, the strategy has been to advance the sector 'one farm at a time'. This strategy has left the organics sector well short of the vision of the pioneers of organics who saw organic farming as a universal solution and a practice suited for all farmers and all agriculture. Successful exemplars of marketing strategies of converting 'one consumer at a time' remain elusive. Recent years have seen the development of new strategies for growth of the organics sector. The strategy of 'one crop at a time' has proved successful for the Dominican Republic which now produces 55% of the world's certified organic bananas. The strategy of 'one state at a time' has seen the state of Sikkim (in India) declare itself as the first Indian organic state. Meanwhile, other Indian states are working towards all-organic status, including Mizoram, Goa, Rajasthan and Meghalaya. The strategy of 'one island at a time' has seen the Pacific islands of Cicia (in Fiji) and Abaiang (in Kiribati) commit to 100% organic farming. The strategy of 'one country at a time' sees Bhutan with the stated goal of being the world's first organic nation. These new strategies rely for success on the tripartite cooperation of government, community and commerce. In the meantime, as these new strategies play out, only 11 countries report that 10% or more of their agriculture land is organic, while 111 countries report that less than 1% of their land is certified organic, which reveals great potential for new growth strategies.

Keywords: *India, Sikkim, Bhutan, Fiji, Kiribati.*

INTRODUCTION

The vision of the pioneers of organic agriculture was a global vision, not a niche vision. The Haber-Bosch process revolutionised warfare and then agriculture. The demonstration by Fritz Haber and Carl Bosch, in 1909, of a process for capturing

nitrogen from the air, unleashed the availability of cheap and unlimited explosives and the massive and unprecedented destruction of the Great War (Charles, 2005; Paull, 2009a; Smil, 2001). After WW1, this massive industrial output of nitrogenous material was quickly repurposed from military explosives to synthetic agricultural fertilizer.

When Rudolf Steiner railed against synthetic fertilisers at his Agriculture Course in 1924 it was the first rallying cry against the upcoming domination of food production by the chemical industry. Steiner called for a differentiated agriculture, one not dependant on synthetic chemicals (Paull, 2011; Steiner, 1924). It was an international project right from the outset. At Steiner's Agriculture Course of 1924 there were delegates from six countries: Germany; Poland; Austria; Switzerland; France; and Sweden (Paull, 2011). Steiner initially differentiated his agriculture as 'Anthroposophic farming'. This evolved into 'biodynamic farming' with the publication of Ehrenfried Pfeiffer's book *Bio-Dynamic Farming and Gardening* which was published in five languages: English, German, Dutch, French, and Italian. Following the first biodynamic farming conference in Britain (in 1939) and soon after that the outbreak of WW2, the concepts were quickly evolved by Lord Northbourne into 'organic farming' and presented in his 1940 book *Look to the Land* (Northbourne, 1940; Paull, 2014b; Pfeiffer, 1938).

The vision of organic agriculture was never of a niche agriculture but rather of an agriculture for all. This paper presents some new strategies for growing the sector.

MATERIALS AND METHODS

Global statistics have been published annually by the Swiss Research Institute of Organic Agriculture (FiBL), in association with various associates, beginning in the year 2000 through to 2017 (Willer & Lernoud, 2017; Willer & Yussefi, 2000). The present paper draws on the organic hectares and organic producers statistics from the FiBL reports. These statistics underestimate the extent of the organics project since they do not account for non-certified organic production (for which statistics are not available). The identification of new strategies reported here for the uptake of organics draws on the analysis of a variety of accounts including research papers, reports, and media accounts.

RESULTS AND DISCUSSION

Over the past two decades the reported area devoted to organic agriculture has been growing year on year by 11.9% which is to say it is doubling every six years (with 7.5 m ha of certified organic agriculture reported in 2000 and 50.9 m ha reported in 2017) (Willer & Lernoud, 2017; Willer & Yussefi, 2000) (ultimatecalculators.com) (Fig. 1). Nevertheless, organic agriculture now accounts for just 1.1% of global agricultural hectares. One hundred and seventy nine countries currently report organic agriculture statistics. However the "big five" (Australia, Argentina, USA, Spain, and China) account for 62% of the total while the remaining 174 countries account for 38% of the global total (Fig.2).

Figure 1. Certified organic agriculture hectares have grown at nearly 12% per annum for the past two decades but currently account for only 1.1% of world agriculture (Source: (Paull, 2017a).

One farm at a time

One-farm-at-a-time has been the 'classic' method of the uptake of organic agriculture since the time of Rudolf Steiner. The Experimental Circle was the original organic agriculture research entity. It was geographically diffuse, with members throughout continental Europe, as well as Britain, Australia, New Zealand and USA. In their application to join, each member of the Experimental Circle agreed to put Steiner's ideas to the test and they nominated their test site, usually a farm. In Australia, for example, Ernesto Genoni nominated Dalmore Farm in Victoria (in 1928), and Ileen Macpherson nominated Demeter Farm at Dandenong (in 1936), an outer suburb of Melbourne (Paull, 2014a, 2017).

Organics advocates have followed an uptake strategy of one-farm-at-a-time since those early days. These pioneers of organics clearly had in mind an agriculture for all. There is no mention of a niche agriculture in the works of the early advocates of organics. And yet, after nine decades of advocacy what we have is a niche agriculture accounting for 1.1% of global agriculture and too close to oblivion for comfort. Even with a buffer of non-certified organic farming of unknown size, it is 'too niche' for complacency and is a cause for impatience.

Recently, alternative strategies for growing the organics sector have emerged which are less ad hoc and more strategic; four such strategies are described in this paper.

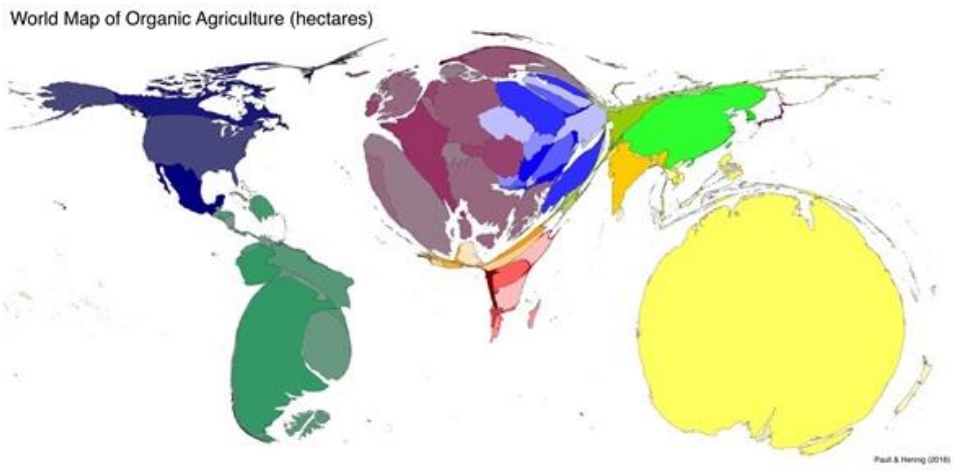

Figure 2. World map of organic agriculture: a cartogram with countries sized according to their reported organic agriculture hectares (Source: Paull & Hennig, 2016).

One-state-at-a-time

In 2003 the Indian state of Sikkim, in the foothills of the Himalayas, began the journey to 100% organic agriculture and this goal was achieved in 2016. It is the first Indian state to achieve such a goal and now other states of India are seeking to emulate this achievement.

In January 2016 India's Prime Minister, Narendra Modi, declared Sikkim as "India's first organic farming state" (Chief Minister's Office, 2016, p.23) He stated that: "Sikkim has become an example for the country. They have remained resolutely focused on their organic farming mission ever since the mission was declared in 2003 … I salute the entire farming fraternity of Sikkim who … didn't take their eye off the goal … They moved on resolutely, ignoring skepticism … Sikkim has been an example. This organic air should not be contained just within Sikkim but it has to spread all over India" (Narendra Modi in Chief Minister's Office, 2016, pp.629-30)

In 2003 the Chief Minister of Sikkim, Pawan Chamling, declared the "goal of making Sikkim entirely organic" (Chief Minister's Office, 2016, p.23). It was an ambitious objective for a "Total Organic State" and was to be backed up with policy interventions. An action plan "Going for Organic Farming in Sikkim" was prepared. Four points of the action plan were "(1) promotion of on-farm production of organic manures; (2) capacity building; (3) establishment of bio-fertilizer production units; and (4) establishment of soil testing laboratories" (Chief Minister's Office, 2016, p.392).

The Sikkim State Organic Board (SSOB) was established to oversee the implementation of the plan. A State Organic Committee … The implementation began with one hundred villages which were declared as "bio villages" and farmers were trained in organic practices. The success of the inaugural bio villages was a

proof of concept for Sikkim villages and attracted other farmers. By October 2009 there were 396 bio villages. Under the Sikkim Organic Mission of 2010 farmers were provided with seeds, manure and training. In 2014 the Sikkim Agricultural, Horticultural Input and Livestock Feed Regulatory Act banned the use of synthetic fertilisers and pesticides. By 31 December 2015, 75,000 hectares of agricultural land were certified organic (Chief Minister's Office, 2016, p.23). Nahendra Modi declared: "Sikkim has paved its way into history and has set an example for the entire world that nature needs care and protection" (Chief Minister's Office, 2016, p.387)

One farmer Dhanpati Sapkota, explained the conversion experience: "Since 2003, crop yield was too low for two or three years than they used to while using chemical fertilizers. Gradually as we started using cow dung and vermicompost, micro-organisms multiplied and today our vegetables and crop yield is double than we used to while using chemicals" (Chief Minister's Office, 2016, p.386). "The youth of Sikkim have embraced organic farming as a fashionable profession" (Chief Minister's Office, 2016, p.382).

Sikkim is a success story in its conversion to organic bringing its vision progressively to fruition over a period of thirteen years (2003-2016). Six organic certifiers are involved in this project which has included farmer group certification (SOM, 2014). Sikkim now produces 6.5% of the organic production of India (80,000 tonnes of 1.24 million tonnes) (TOI, 2017b). Six products have been targeted for export: cardamom, ginger, turmeric, buckwheat, tea and cymbidium orchids (Chief Minister's Office, 2016). There are now prospects for organic tourism.

Multiple states of India have expressed aspirations of replicating Sikkim' success including: Goa, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Mizoram, Rajasthan, Tamil Nadu, Uttar Pradesh, and Uttarakhand (Chief Minister's Office, 2016; Mizoram Department of Agriculture, 2016; NDTV, 2016; TOI, 2003, 2014, 2015a, 2015b, 2016, 2017a).

India has 1.18 million hectares of certified organic agriculture (ranking 9th in the world), 585,200 organic producers (ranking 1st in the world) and 0.7% of its agriculture land is organic (ranking 81st in the world). The Sikkim roadmap to organics offers a path to grow these statistics in India and elsewhere.

One-country-at-a-time

Bhutan has the aspiration to be the world's first organic country. "Bhutan could become the first country in the world to become 'organic' by 2020, which could have a huge promotion value for Bhutanese products" (DoA, 2006, p.17). The Constitution of the Himalayan country of Bhutan enshrines happiness as a national value (Royal Government of Bhutan, 2008). The King of Bhutan, Jigme Singye Wangchuck declared in 1972 the novel guiding maxim for Bhutan: "Gross National Happiness is more important than Gross National Product" (IIEP, 2015).

Organic farming offers employment opportunities. "Organic farming is labour intensive but also has the potential to generate higher labour income than conventional farming. The introduction of organic farming could stall urban

migration by giving better paid work opportunities on the land and in rural enterprises" (DoA, 2006, p.17). Food security and biodiversity can be enhanced. "The Organic farming system has the potential to increase household food security and income while conserving biodiversity on farms" (DoA, 2006, p.17).

At the 2013 Delhi Sustainable Development Summit, Bhutan's Minister for Agriculture and Forestry, Dr Pema Gyamtsho, confirmed the aspirations for his country to be the world's first country to go 100% organic. Gyamtsho stated that: "Ours is a mountainous terrain. When we use chemicals they don't stay where we use them, they impact the water and plants. We say that we need to consider all the environment. Most of our farm practices are traditional farming, so we are largely organic anyway". He added that "we are Buddhists, too, and we believe in living in harmony with nature. Animals have the right to live, we like to to see plants happy and insects happy" (Paull, 2013a).

Attention has been paid to the language of organics. "Rangshin Sanam … is suggested as the Dzongkha term. The words 'certified organic' should be reserved for products with formal certification mainly for export" (DoA, 2006, p.31).

The National Framework for Organic Farming document recognises that there can be some resistance to the transformation to organics and that this may be especially from the agrotocracy. "The biggest challenge in conversion will be the conversion of the mind sets of the research and extension staff who have been trained according to traditional agrochemical based education … organic farming can be promoted and adapted to Bhutan and incorporated into Bhutanese agriculture as a way of life" (DoA, 2006, p.41).

A past prime minister of Bhutan, Jigmi Thinley, writes that: "Since agriculture is the foundation of all civilizations, I believe organic agriculture, as the only way of growing sustainable food, must constitute a primary thrust in any new development paradigm" (Thinley, 2014).

Thinley states that the country "must remain mindful of the reality that the ultimate well-being, happiness and the very survival of the human race together with all other sentient beings will depend on organic agriculture. The Royal Government of Bhutan on its part, will relentlessly promote and continue with its endeavour to realize the dreams we share - of bringing about a global movement to transit to organic agriculture so that crops and the earth on which they grow will become genuinely sustainable. And so that agriculture will contribute not to the degradation but rather to the resuscitation and revitalization of nature" (Thinley, 2014).

When the National Framework for Organic Farming in Bhutan was published (DoA, 2006), Bhutan did not appear in the list of countries reporting organic agriculture (Willer & Yussefi, 2006). Currently there are 6,950 ha certified organic hectares in Bhutan (Willer & Lernoud, 2017). This is an impressive rate of growth from a very modest base, nevertheless this accounts for just 1.3% of Bhutan's agriculture area.

Whether Bhutan can deliver on its bold ambition to be 100% organic and whether it can transmute its rhetoric to reality remains to be seen. The rate of growth of Bhutan's organic sector is impressive yet the actual achievement is modest, unless

there is some cryptic-cache of unreported uncertified organic hectares. In the meantime Bhutan might learn the lessons from its neighbour, the Indian state of Sikkim, which has, in a comparable timeframe, achieved what Bhutan aspires to achieve.

One-crop-at-a-time

The Dominican Republic produces 55% of the world's organic bananas (FAO, 2017). In 2015 more than 240,000 tonnes of organic bananas were exported by the Dominican Republic with almost all (95%) the organic banana exports shipped to the European Union (FAO, 2017). The annual world production of bananas is 125.6 million tonnes (Calberto, Staver, & Siles, 2015) so the Dominican Republic is a minor player on the world stage of banana production accounting for less than 1% of global banana production. The Dominican Republic has a reported 163,936 hectares of certified organic hectares which is 7.0% of its total agricultural land (Willer & Lernoud, 2017). There has been a concerted effort to convert banana production to organic and this has been supported by the Banana Accompanying Measures (BAM) program with funding from the European Union (ICAD, 2017).

The Dominican Republic experience is that the focus on the conversion of a particular crop to organic provides the opportunity to dominate the world market. It offers benefits for farmers by providing market opportunities by creating critical mass for certification, export, product aggregation, and knowledge sharing and cooperation. The Dominican Republic is a successful exemplar of this one-crop-at-a-time strategy for conversion to organic.

One-island-at-a-time

At least two Pacific islands have declared their intention to transition 100% to organic. The communities of the Fijian island of Cicia (3400 ha) and of the Kiribati island of Abaiang (1750 ha) have committed to organic production (AgLaw Centre & Mobium Group, 2017). These islands rely predominantly on subsistence farming. Agricultural products including coconut, banana, breadfruit, and papaya may offer organic export opportunities as fresh or processed products.

Australia is the world's largest island and with 22.69 million organic hectares accounts for 45% of the global total (Willer & Lernoud, 2017). However there continues to be little or no institutional or policy support for organics in Australia and no government or national vision for an Organic Australia (Paull, 2013b). For the immediate future we can foresee that the past and current experience of conversion one-farm-at-a-time based on individual decisions will continue into the future. The island state of Tasmania would appear to be a logical magnet for conversion to organic but currently just 4003 hectares of agriculture land is certified organic despite organics advocacy dating from 1946 (AgLaw Centre & Mobium Group, 2017; Paull, 2009b, 2010). The Falkland Islands (Malvinas) has exhibited an uneven commitment to organics. In 2009 no organic agricultural land was reported (Willer & Kilcher, 2009). In the following year, 414,474 ha were reported (accounting for 36.9% of the total agriculture) (Willer & Kilcher, 2010). This remained little changed for the following six years until most recently, in 2017 a dip to 139,041 ha was reported (12.5%) (Willer & Lernoud, 2017).

CONCLUSION

The message from Pawan Chamling in Sikkim is: "Let us work together to recreate a world that is Totally Organic" (Chief Minister's Office, 2016, p.636). As a mission statement it carries the authority of someone who has actually done it for his own state of Sikkim, India. While some satisfaction can be drawn from the global annual growth rate of 11.9% compounding over the past two decades, this must be tempered with disappointment that certified organic agriculture still only accounts for 1.1% of global agriculture hectares. The four new strategies for growth described herein, suggest that it is time to explore the unit of conversion to organics. The beginning of the supply chain is the farm and the end is the consumer. Conversion to organic has traditionally focussed on these two end points, that is converting the farm (the push factor) or converting the consumer (the pull factor). Alternative units of include the country, the state, the island, and the crop. The Indian state of Sikkim is the standout success story with the whole state now organic. This success of one-state-at-a-time conversion may, in time, be replicated in, some or all other Indian states. However there is nothing uniquely Indian in the Sikkim experience. Sikkim has created a roadmap that has lessons for not just other states of India but for other states around the globe. There is some political risk for a political party advocating this path so it needs some political courage as well as vision as we witness in Sikkim. The Caribbean country of the Dominican Republic has demonstrated how a minnow in the sphere of banana production can be a giant in the realm of organic banana production. With 55% of the global production of organic bananas, the Dominican Republic is a success story as an exemplar of the organics strategy of one-crop-at-a-time. Its experience can yield valuable lessons for others to pursue a one-crop-at-a-time strategy for conversion to organic. The country of Bhutan is pioneering a one-country-at-a-time strategy. Bhutan is strong on rhetoric and it remains to be seen if it can carry this rhetoric through to reification, and in what time frame. Similar sentiments apply to the Pacific islands of Cicia and Abaiang - will they have the will, the perseverance, and the wherewithal to carry their organic vision through to reality?

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