

# Convergence or Divide in the Movement for Sustainable and Just Agriculture

Miguel A. Altieri

**Abstract** ‘Greening’ the green revolution will not be sufficient to reduce hunger and poverty and conserve biodiversity. The increasing cost of oil and fertilizers, and the deterioration of the climate and global ecology are key factors that undermine the capacity of humankind to feed itself. This phenomena became evident when the ‘perfect storm’ occurred in 2008 with the alarming rise in the cost of food that sent an additional 75 million people to the world’s line of hungry people. Disregarding the above issues the ruling international agricultural class continues asserting that food production will have to be increased by 70% by the year 2050. The threat to global food insecurity is the direct result of the industrial model of agriculture characterized by large-scale monocultures tailored for the export markets. We need an alternative agricultural development paradigm, one that encourages more ecologically, biodiverse, sustainable and socially just forms of agriculture.

Strategies are needed which lead to the revitalization of small and medium sized farms, and point the way towards the reshaping of the entire agricultural policy and food system in ways that are economically viable to farmers and consumers. Proposed ‘sustainable intensification’ is ideologically buttressed by intellectual projects to reframe and redefine agroecology by stripping it of its political and social content and promote the wrong notion that agroecological methods can co-exist alongside the aggressive expansion of transgenic crops and agrofuels. Many environmental and advocacy groups privilege those with access to capital and perpetuate an ‘agriculture of the poor for the rich’. The technological determinism that the organic agriculture movement emphasizes via development and dissemination of low-input or appropriate technologies is not only naïve but dangerous, as it assumes these technologies in themselves have the capability of initiating beneficial social changes.

---

M.A. Altieri (✉)

Department of Environmental Science, Policy, & Management, University of California  
Berkeley, 130 Mulford Hall #3114, Berkeley, CA 94720, USA  
e-mail: agroeco3@berkeley.edu

A more radical transformation of agriculture is needed, one guided by the notion that ecological change in agriculture cannot be promoted without comparable changes in the social, political, cultural and economic arenas that determine agriculture. In the end the new crisis is just a new face of the old rural crisis derived from the almost total control of the food system by transnational capital aided by neoliberal programs implemented by many governments. It is imperative to realize that out-of-control trade liberalization is the key mechanism driving farmers off their land and the principal obstacle to local economic development and food sovereignty. It is also crucial to understand that a key enemy of farmers is low prices. Moving towards a more socially just, economically viable, and environmentally sound agriculture will be the result of the coordinated action of social movements in the rural sector in alliance with civil society organizations that are committed to supporting the goals of farmer's movements.

## 1 Introduction

High levels of hunger, inequity in the distribution of income, land, water, seeds and other resources, in addition to ecological degradation, are persistent and increasing problems at the global level. There is no doubt that the increasing cost of oil and fertilizers, and the deterioration of the climate such as frequent and severe droughts, hurricanes and floods; and the global ecology are key factors that undermine the capacity of humankind to feed itself. It is also clear that as huge tracts of land are taken out of food production to produce biofuels and more people in China and India shift to a meat-based diet from a vegetarian diet, the access to food by the poor proves increasingly more difficult. This phenomena became evident when the 'perfect storm' occurred in 2007–2008 with the alarming rise in the cost of food that sent an additional 75 million people to the world's line of hungry people, especially in Sub-Saharan Africa and Asia. Oddly, there had been no drought – the usual cause of hunger – in those regions during that period and there was plenty of food in the markets. 'For no obvious reason the price of staple foods such as maize and rice nearly doubled in a few months. There were food riots in more than 20 countries and governments had to ban food exports and subsidize staples heavily' (Holt-Gimenez and Patel 2009; Rosset 2011; Photo 1).

The same year – 2008 – that hunger expanded, cereal yields reached unprecedented levels, and the merchants of grain, e.g., Cargill and ADM, and corporate agricultural input and seed providers like Monsanto reaped enormous profits. A huge part of the problem is linked to the deregulation of international commodity markets, the privatization and elimination of grain markets in some countries, and recently the entry of speculative capital into the commodities market. The same banks, hedge funds and financiers whose speculation on the global money markets caused the sub-prime mortgage crisis are thought to be causing food prices to inflate. Between January 2006 and February 2008, financial investments pushed the prices of many food crops to higher values than those crops would have normally reached



**Photo 1** Sharing the world food. Kouign amann, a special pastry from Brittany, France (Copyright: Brigitte Cauvin, Inra, 2011)

(Kaufman 2010). Contracts to buy and sell foods such as cocoa, fruit juices, sugar, staples, meat and coffee have been turned into ‘derivatives’ that can be bought and sold among traders who have nothing to do with agriculture.

Food prices continue to rise beyond 2008 levels. They are now rising by up to 10% a year, and some predict that it is possible that they can increase by at least 40% in the next decade (Rosset 2009). Each time food prices increase, a significant number of family and peasant farmers are expelled from the market due to the low price that they receive for their products, and in part due to the high cost of inputs, principally fertilizers. Meanwhile the cost of food for consumers increases independently from what the price of wheat, corn or rice may be in the global commodity markets. In this way the deregulated market, privatization and free market treaties negatively affect both small farmers and consumers (Rosset 2011). The situation is aggravated by the systematic elimination of national production capacity by the promotion of agroexports and biofuels, partly stimulated by government subsidies. Another complicating factor is the land grabbing led by governments such as the Gulf States and China and wealthy investors who buy or lease land on an immense scale for intensive agriculture for offshore food and biofuel production. Moreover productivity implications from extreme climatic events can be very profound for large scale farmers relying on genetically homogeneous monocultures inherently vulnerable to climate variability.

Disregarding the above issues, the “ruling international agricultural class”, i.e. World Bank, CGIAR, FAO and agricultural corporations, with the notable

exception of the reports issued by IAASTD (2009) and the UN Rapporteur for the Right to Food (de Schutter 2010), continue asserting that food production will have to be increased by 70% by the year 2050, and that production increases will only be possible by harnessing the power of biotechnology and that liberalized, global trade in grains is essential to food security.

## 2 A New Paradigm

Most people involved in the sustainable agriculture movement agrees that the threat to global food insecurity is the direct result of the industrial model of agriculture characterized by large-scale monocultures tailored for the export markets, increasingly dominated by transgenic crops, and agrofuels, which degrade ecosystems further undermining nature's capacity to supply food, fiber and energy for people. The tragedy of industrial agriculture is that a growing human population depends on the ecological services provided by nature, e.g., climate balance, pollination, biological control, soil fertility, which external input dependent monocultures increasingly push beyond the tipping point (Perfecto et al. 2009).

There is no doubt that we need an alternative agricultural development paradigm, one that encourages more ecologically, biodiverse, sustainable and socially just forms of agriculture. Strategies are needed which lead to the revitalization of small and medium sized farms, and point the way towards the reshaping of the entire agricultural policy and food system in ways that are economically viable to farmers and consumers. Throughout the world there are hundreds of movements that are pursuing a change toward ecologically sensitive and socially just farming systems from a variety of perspectives. Some emphasize the production of food that is safe for the consumer, in a way that is environmentally friendly and prioritizes animal welfare and the conservation of wild biodiversity. Others promote alternative marketing strategies, responsible land stewardship and others the empowerment of peasant communities. Although one may argue that most of these groups advocating a shift towards sustainable agriculture share the same goals, there are huge and at times insurmountable differences not only in objectives but in ideological perceptions on the root causes of the unsustainability and inequities of the agrarian structure and more importantly on the strategies on how to change such structure.

## 3 A Diversity of Contrasting Approaches

Given the popularity of agroecology several academic and environmental groups promote some technical aspects of agroecology. For example, some organic farmers and university researchers advance the notion that a marriage between agroecology, organic farming and biotechnology is necessary to close the yield gap while reducing agriculture's environmental footprint (Roland and Adamchak 2009; Foley 2011).

They propose adjusting the ecological inefficiencies of industrial agriculture through “sustainable intensification,” e.g., by increasing efficiency of water and fertilizer use, and confronting climate change by deploying “climate-smart” genetic varieties. These superficial technical adjustments are ideologically buttressed by intellectual projects to reframe and redefine agroecology by stripping it of its political and social content (Tomich et al. 2011) and promote the wrong notion that agroecological methods can co-exist – alongside the aggressive expansion of transgenic crops and agrofuels.

Many environmental and advocacy groups expect that their goals will be met solely by promoting a set of ecologically benign technological innovations, i.e. organic farming, or by exploiting market niches available in the globalized economy. Thus, perhaps inadvertently, by working within the windows of the dominant macroeconomic system, these groups privilege those with access to capital and perpetuate an “agriculture of the poor for the rich”. The “cibo pulito, giusto e buono” that Slow Food promotes and the Fair Trade coffee, bananas, and other products are mainly enjoyed by the opulent in the North. Even the food movement in the USA and Europe that support sustainable agriculture via eating fresh food produced on local family farms, has left out from their radar the people of color and from low-income neighborhoods who live in food deserts and that therefore have been systematically deprived of access to such healthy and so-called sustainable food.

The “technological determinism” that the organic agriculture movement emphasizes via development and dissemination of low-input or appropriate technologies is not only naïve but dangerous, as it assumes these technologies in themselves have the capability of initiating beneficial social changes. The organic farming school that emphasizes input substitution, i.e. a toxic chemical substituted by a biological insecticide, creating farmer dependence on external inputs, but leaving the monoculture structure untouched, epitomizes those groups that have a relatively benign view of capitalist agriculture. They ignore the fact that organic products are increasingly traded as international commodities for the consumption of the rich, and that their production and distribution is slowly being taken over by the same multinational corporations that dominate conventional agriculture (Rosset and Altieri 1997). Ignoring the complex issues surrounding commercial and agroexport oriented organic agriculture is undermining the original agrarian vision of organic farming which envisioned a renaissance of a diversified and small scale agriculture in order to strengthen local production – consumption circles. This narrow acceptance of the present structure of agriculture as a given condition restricts the real possibility of implementing alternatives that challenge such a structure. Merely introducing alternative agricultural technologies will do little to change the underlying forces that led to monoculture production, farm size expansion, and mechanization in the first place.

Given their interest in conserving biodiversity in the rural landscapes, many sustainable agriculture enthusiasts embrace the Ecoagriculture movement which argues that wildlife preservation can be accomplished mainly through agricultural intensification, especially in the biodiversity hotspots of the developing world where most of the poor concentrate and have little choice but to exploit wild habitats for survival. Ecoagriculture promoters claim that the best way to reduce the impact of agricultural

modernization on ecosystem integrity is to intensify production with emerging technologies, i.e. transgenic crops and plantation agriculture, in order to increase yields per hectare, and in this way spare natural forests and other wildlife habitats from further agricultural expansion. For the ecoagriculturists it makes no difference if the best results to preserve birds or other animals, are derived from large latifundia surrounded by hedgerows or a group of small farms surrounded by a matrix natural vegetation. The end goal is wildlife preservation, as long as it is achieved at a “reasonable” environmental and social cost. True, exclusive attention to increasing yields for meeting food needs can exert a very high toll on the environment, but a sole focus on preserving nature condemns millions to hunger and poverty (Altieri 2004).

In their attempt to obtain better prices for small farmers and thus reduce poverty, Fairtrade leads a worldwide movement for ethical consumption with commodities that include coffee, cocoa, tea, bananas, and sugar. Fairtrade experienced rapid market expansion when large corporations and brands including Costco, Sam’s Club, Seattle’s Best, Dunkin Donuts, Starbucks, and McDonalds began offering Fairtrade Certified coffee. These companies were certified with the Fairtrade seal regardless of their dismal labor or environmental records. In 2005 the Fairtrade market ballooned to \$500 million, the fastest growing segment of the specialty coffee market. To reach such amounts, the Fair Trade focuses on exports and contributes little to local food security, at times creating social stratification in rural communities as relatively few families benefit from the good prices. Fair Trade companies have not joined other social movements demanding structural change – like getting agriculture out of the WTO, abolishing NAFTA and other regional free trade agreements, not support rural social movements and government policies for local, and sustainable food production.

## **4 A More Progressive and Transformational Agenda**

A more radical transformation of agriculture is needed, one guided by the notion that ecological change in agriculture cannot be promoted without comparable changes in the social, political, cultural and economic arenas that determine agriculture. In the end the new crisis is just a new face of the old rural crisis derived from the almost total control of the food system by transnational capital aided by neoliberal programs implemented by many governments (Rosset 2009).

The organized peasant and indigenous based agrarian movements, i.e. the Via Campesina, consider that only by changing the export-led, free-trade based, industrial agriculture model of large farms can the downward spiral of poverty, low wages, rural-urban migration, hunger and environmental degradation be halted. These movements embrace the concept of food sovereignty which constitutes an alternative to the current mainstream thinking on food production. The concept behind food sovereignty contrasts the neo-liberal approach that believes that international trade will solve the world’s food problem. Instead, it focuses on local

autonomy, local markets and community action for access and control of land, water, agrobiodiversity, etc., which are of central importance for communities to be able to produce food locally. The concept of food sovereignty implies a shift in the role of subsidies which results in northern food surpluses being dumped in poorer countries, towards a system of land reform so that peasant and family farmers have access to land and support vibrant rural economies. This requires policies that prioritize national-regional-local food security above the production of exports and dependence on imports. It also requires a shift away from hi-tech, intensive monoculture agriculture dependent on high levels of pesticide use, and transgenic crops, and instead the promotion of agroecology (Altieri and Toledo 2011).

It is imperative to realize that out-of-control trade liberalization is the key mechanism driving farmers off their land and the principal obstacle to local economic development and food sovereignty. It is also crucial to understand that a key enemy of farmers is low prices. And farm gate prices continue to drop even while consumer prices rise. This is because the main force dictating low prices to farmers is the same one that dictates high prices to consumers: the monopoly control that corporations like Cargill, Archer Daniels Midland, Dreyfuss, Bunge, Nestlé, and others exert over the food system. That means that breaking up these monopolies by enforcing antitrust laws nationally and globally is a key step toward ensuring that farmers can earn a living on the land and consumers can have access to affordable, nutritious and healthy food.

There is no doubt that an alliance between farmers and consumers is of strategic importance. Consumers need to realize that their quality of life is intractably associated with the type of agriculture practiced in the urban green belts, not only because of the quality of the food produced, but also because agriculture is multifunctional producing a series of environmental services such as water quality and biodiversity conservation. But this multifunctionality can only emerge if agricultural landscapes are dotted by small, diversified farms which as studies show they can produce from 2 to 10 times more per unit area than do larger, corporate farmers. In the USA the top quarter sustainable agriculture farmers, which are mostly small-medium size, exhibit higher yields than conventional farmers, as well as a much lower negative impact on the environment. Small farms are ‘multi-functional’ – more productive, more efficient, and contribute more to economic development than do large farms. Communities surrounded by populous small farms have healthier economies than do communities surrounded by depopulated large, monoculture, mechanized farms. Small farmers also take better care of natural resources, including reducing soil erosion and conserving biodiversity. Thus it should be obvious to city dwellers that eating is both an ecological and political act; that buying food at local farmers markets will support a very different model of agriculture if buying food in a supermarket.

Moving towards a more socially just, economically viable, and environmentally sound agriculture will be the result of the coordinated action of social movements in the rural sector in alliance with civil society organizations that are committed to supporting the goals of the farmers movements. Concerted action is needed so that multinational companies and government officials feel the impact of environmental, farm labor, animal rights and consumer lobbies, pressuring them to ensure that all countries retain the right to achieve food sovereignty by developing their own

domestic farm and food policies, which respond to the true needs of their farmers and all consumers, especially the poor.

Evidence emerging from dozens of studies is conclusive: new approaches and technologies spearheaded by farmers, local governments, and NGOs around the world are already making a sufficient contribution to food security at the household, national, and regional levels. A variety of agroecological and participatory approaches in many countries show very positive outcomes even under adverse conditions. Potentials include: raising cereal yields from 50% to 200%, increasing stability of production through diversification and soil/water management, improving diets and income with appropriate support and spread of these approaches, and contributing to national food security and to exports. Importantly, the agroecological process requires participation and enhancement of the farmer's ecological literacy about their farms and resources, laying the foundation for empowerment and continuous innovation by rural communities.

Whether the potential and spread of these thousands of local agroecological innovations is realized depends on investments, policies, and attitude changes on the part of researchers and policymakers. Major changes must be made in institutions, research and development, and policies to make sure that agroecological alternatives are adopted, made equitably and broadly accessible, and multiplied so that their full benefit for sustainable food security can be realized. Existing subsidies and policy incentives for conventional chemical approaches must be dismantled. Corporate control over the food system must also be challenged. Governments and international public organizations must encourage and support effective partnerships between NGOs, local universities, and farmer organizations in order to assist and empower poor farmers to achieve food security, income generation, and natural resource conservation (Van der Ploeg 2009).

Equitable market opportunities must also be developed, emphasizing local commercialization and distribution schemes, fair prices and other mechanisms that link farmers and consumers more directly and in more solidarious ways. The ultimate challenge is to increase investment and research in agroecology and scale up projects that have already proven successful to thousands of other farmers. This will generate a meaningful impact on the income, food security, and environmental well being of all the population, especially small farmers who have been adversely impacted by conventional modern agricultural policy and technology.

## 5 Conclusion

In summary, "Greening" the green revolution will not be sufficient to reduce hunger and poverty and conserve biodiversity. If the root causes of hunger, poverty and inequity are not confronted head-on, tensions between socially equitable development and ecologically sound conservation are bound to accentuate. Organic farming systems that do not challenge the monocultural nature of plantations and rely on external inputs as well as foreign and expensive certification seals, or fair-trade systems destined only for agro-export, offer very little to small farmers that become

dependent on external inputs and foreign and volatile markets. By keeping farmers dependent on an input substitution approach, fine-tuning of input use does little to move farmers towards the productive redesign of agroecosystems which would move them away from dependence on external inputs. Niche markets for the rich in the North, in addition to exhibiting the same problems of any agro-export scheme which does not prioritize food sovereignty perpetuate dependence and hunger.

There is a general belief that the alternative agriculture movement is an homogeneous block and that stands united in its challenge against industrial agriculture. Despite differences, if the majority converge with peasant movements under the banner of food sovereignty, the counter-movement opposing the corporate food regime will be strengthened. On the other hand if the majority align themselves with either neoliberal or reformist projects of the corporate food regime, the results will be disastrous for the peasantry and poor consumers. However, a critical debate and dialogue is essential to move forward with the alternative agriculture movement, especially if the goal is to promote a truly alternative agricultural path. Only a strong counter-movement can open possibilities for transformation of the current unjust food system.

## References

- Altieri MA (2004) Agroecology versus ecoagriculture: balancing food production and biodiversity conservation in the midst of social inequity. CEESP occasional papers, Issue 3, 29 p
- Altieri MA, Toledo VM (2011) The agroecological revolution in Latin America: rescuing nature, ensuring food sovereignty and empowering peasants. *J Peasant Stud* 38:587–812. doi:10.1080/03066150.2011.582947
- de Schutter O (2010) Report submitted by the Special Rapporteur on the right to food. UN General Assembly. Human Rights Council sixteenth session, Agenda item 3 A/HRC/16/49
- Foley JA (2011) Can we feed the world, sustain the planet? *Sci Am* 305:60–65
- Holt-Gimenez E, Patel R (2009) Food rebellions: the real story of the world food crisis and what we can do about it. Fahamu Books and Grassroots International, Oxford
- IAASTD (International Assessment of Agricultural Knowledge, Science and Technology for Development) (2009) Agriculture at a crossroads. In: International assessment of agricultural knowledge, science and technology for development Global Report. Island Press, Washington, DC
- Kaufman F (2010) The food bubble: how Wall Street starved millions and got away with it. *Harper's Magazine*, July:27–34
- Perfecto I, Vandermeer J, Wright A (2009) Nature's matrix: linking agriculture, conservation and food sovereignty. Earthscan, London, 272p
- Roland PC, Adamchak RW (2009) Tomorrow's table: organic farming, genetics and the future of food. Oxford University Press, Oxford
- Rosset PM (2009) Food sovereignty in Latin America: confronting the new crisis. *NACLA report on the Americas*, May–June:16–21
- Rosset PM (2011) Preventing hunger: change economic policy. *Nature* 479:472–473
- Rosset PM, Altieri MA (1997) Agroecology versus input substitution: a fundamental contradiction of sustainable agriculture. *Soc Nat Resour* 10:283–295
- Tomich T, Brodt S, Ferris F, Galt R, Horwath W, Kebreab E, Leveau J et al (2011) Agroecology: a review from a global-change perspective. *Annu Rev Environ Resour* 36(15):1–30
- Van der Ploeg JD (2009) The new peasantries: new struggles for autonomy and sustainability in an era of empire and globalization. Earthscan, London, 356 p