Agroecology Works !

Mere change of the holders of power does not in itself usher in an egalitarian, humanized, dignified society. The new power holders become another oppressive elite, because the institutions and processes, and the technologies and systems have not undergone radical restructuring.

This is an essential lesson in Structural Transformation!

Is such transformation possible?

Peter Rosset tells us it has been done, and done on a large scale. If we have not been told about it, it is because the dominant media cannot recognize it, and those who do, cannot allow it to come to light. Because Cuba has done it.

What is possible , and actually happening, is not a mere going back to the past. The author suggests that some forgotten discarded elements like land reforms and redistribution are amalgamated with newer insights and practices relating to ecological issues, and need to be based on traditional contexts such as local production.

Toward an Agroecological Alternative for the Peasantry Peter M. Rosset ☞
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Toward an Agroecological Alternative for the Peasantry

by Peter M. Rosset

Sustainable Agriculture: an Adequate Response to the Crisis?

The crisis of agriculture has both ecological and socioeconomic dimensions, which are interrelated and derive from the historic conditions of U.S. agriculture and the penetration of capital, serving both to deepen the crisis and inhibit fundamental change. Any alternative paradigm that is to offer any hope of pulling agriculture out of crisis must address ecological, social and economic forces. To focus exclusively on ameliorating environmental impacts, for example, without addressing either the grim social reality that farmers face or the economic forces that perpetuate the crisis, is doomed to fail. This is precisely the concern that I raise with regard to sustainable agriculture. [Certainly an exclusive focus of the socioeconomic dimension is little better, as with, for example, the expropriation of plantations by socialist governments, without changing the technological basis of production, has inevitably led to crises almost identical to those of capitalist agriculture.]

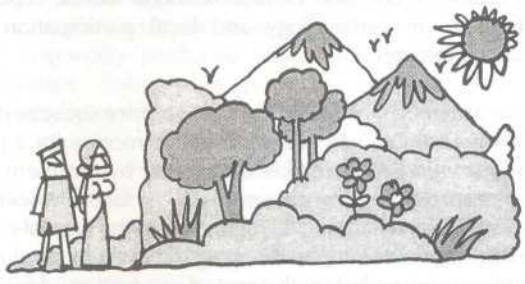
Current Practice is Alarming

In this context, I find the prevalence of input substitution in alternative or 'sustainable' agriculture to be alarming. Essentially, the capital-intensive, monoculture-based system of conventional agriculture is left intact. All changes are relatively minor. A toxic pesticide is removed and a biological product is substituted. Instead of, or in addition to urea, manure or expensive commercial compost is trucked in. While these changes may suggest a more environmentally benign direction, they leave in place the key forces that are driving the agricultural crisis: extensive monoculture, excessive use of machinery, input control by agribusiness dependence on fossil fuels, and very high capital requirements. This approach neither addresses the debt trap that farmers are caught in because of high costs of machinery and inputs, nor the ecological basis of declining yields - the reduction of functional biodiversity of agroecosystems.

Clearly the agrichemical industry knows which way the wind is blowing. Though actual figures are a closely guarded trade secret, it is widely believed that more than half of all research and development spending in the pesticide industry now goes toward biologicals.

Towards An Agroecological Approach

Agroecology has emerged as the discipline that provides the basic ecological principles for how to study, design and manage alternative agroecosystems that address not just environmental/ecological aspects of the crisis of modern agriculture, but the economic, social, and cultural ones as well (Altieri, 1995). Agroecology goes beyond a one-dimensional view of agroecosystems - their genetics, agronomy, edaphology, etc. - to embrace an understanding of ecological and social levels of co-evolution, structure and function. Instead of focusing on one particular component of the agroecosystem, agroecology emphasizes the interrelatedness of all agroecosystem components and the complex dynamics of ecological processes. Current tendencies in agroecology encourage us to tap into the knowledge and skills of farmers, and identify the potential for assembling biodiversity to create beneficial synergisms that provide the ability to remain at or return to a relatively stable state.



A closer look at ethnoscience (the knowledge system of an ethnic group that has originated locally and naturally) has revealed that local people's knowledge about the environment, vegetation, animals, and soils can be very detailed (Altieri, 1995). Peasant knowledge about ecosystems usually results in multidimensional, productive land-use strategies, which generate, within certain ecological and technical limits, the food self-sufficiency of communities in particular regions. By understanding ecological features of traditional agriculture - such as the ability to bear risk, production efficiencies of symbiotic crop mixtures, recycling of materials, reliance on local resources and germplasm, exploitation of the full range of micro-environments, etc.- it is possible to obtain important information that may be used for developing appropriate agricultural strategies tailored to the needs, preferences and resource base of specific farmer groups and regional agroecosystems.

An Alternative Paradigm

Any alternative paradigm will be doomed to failure if it addresses only one dimension of the crisis of modern agriculture - as in the cases of input substitution in big farm agriculture in the West, or large state farms in socialist countries. In that context I feel that the following are the absolutely essential pillars upon which to construct a paradigm that truly offers a way out of the crisis:

Agroecological technology: As I have argued in this essay, only a truly agroecological approach offers the possibility of reversing the pervasive decline of the ability of soils and agroecosystems to support future production, while reducing the vulnerability of farming to pest, climatic and price shocks, and cutting the all-important costs of production by substituting ecosystem functions for external inputs (Altieri, 1995; Pretty, 1995). This means eliminating hidden biases and subsidies for external-input technology from the entire apparatus of education, research, extension, credit and communications media, replacing it with an emphasis on agroecology and local participation in the generation of technologies.

Fair Prices for Farmers: The other half of the cost/price squeeze in which the world's farmers are caught is the price they receive for what they produce. With a world food market dominated by Northern trading cartels and transnational corporations, farmers face artificially low prices and consumers pay artificially high ones. In the case of countries in the South this translates into the dumping of Northern surpluses into local economies at prices below the cost of production, driving local farmers out of business and into the cities, even as local food processing and distribution facilities are concentrated in ever fewer hands and city dwellers pay more for their food. To break the cycle of destruction of rural economies by a global food system out of control, we must begin by insulating farmers from the monster. That means a retreat from extreme trade liberalization, with a step toward [at least] selective protection for [at least] domestic food production in each country as a matter of national security (Rosset, 1997; Rosset et al., 1994)

Redistribution of Land: In order to break the cycle of growing inequity and poverty as a product of growing land concentration, and to provide the conditions for the fruitful employment of agroecological technology, we must place land reform squarely back onto the agenda from which it was displaced during the late 1980s and early 90s. As the example of

Kerala state in India demonstrates, land reform can provide the basis for equitable development (Franke and Chasin, 1994), and as the Landless Workers Movement (MST) in Brazil and the Zapatistas in Chiapas are showing us, land reform is possible in the nineties, even if it must be directed 'from below' (Langevin, forthcoming; Rosset, 1994). Sobhan has made a lucidly argued case for a renewed emphasis on agrarian reform as the basis for social transformation. One might also add that the evidence shows the enormous potential for productivity increases to be gained as a result of reducing average farm size. When technocrats argue for enormous investments in bioengineered crop varieties, to take an example, they speak of hoped-for yield increases of the order of 10%, 15%, or in the most extreme cases 100% (Tribe, 1994). Yet we can respond by pointing to the often 500% or even 900% greater total productivity per unit area of small farms compared to large farms !

Greater Emphasis on Local Production: People should not have to depend on the vagaries of prices in the world economy, long distance transportation and super-power 'goodwill' for their next meal. Locally and regionally produced food offers greater security, as well as synergistic linkages to promote local economic development. Furthermore such production is more ecologically sound, as the energy spent on international transport is wasteful and environmentally unsustainable. Policies should be redirected to favor local production, including in urban areas. By promoting urban farming, cities and their surrounding areas can be made virtually self-sufficient in perishable foods, be beautified and have greater employment opportunities. Despite negative government policies in most countries, cities already produce nearly one seventh of the world's food (UNDP. 1996). Only Cuba gives a hint of what the figure might be if government policies were to actually favor urban farmers.

Cuba: Evidence that the Alternative Paradigm Can Work

Recent changes in Cuba, since the collapse of trade with the former socialist bloc, provide evidence that the alternative approach proposed herein can work. Before 1989 Cuba was a model of a conventional industrial farm economy. Cuban agriculture was based on enormous production units, using vast quantities of imported chemicals and machinery to basically produce export crops, while over half of the island's food was imported (Rosset and Benjamin, 1994). Although the government's commitment to equity, as well as favorable terms of trade offered by Eastern Europe, meant that Cubans ate

well, the underlying vulnerability of this style of farming was exposed when the collapse of the socialist bloc was added to the already existing and soon to be tightened U.S. trade embargo. Cuba was plunged into the worst food crisis in its history, with consumption of calories and protein dropping by perhaps as much as 30%. Nevertheless today, in 1997, Cubans are eating almost as well as they did before 1989, yet comparatively little food and agrochemicals are being imported (Rosset, 1997). What happened?

Faced with the impossibility of importing either food or agrochemical inputs, Cuba turned inward to create a more self-reliant agriculture based on higher prices for farmers, locally produced, environmentally friendly inputs, smaller production units, and urban agriculture.

The combination of a trade embargo, food shortages and a change in government policy to open farmers' markets, meant that farmers began to receive much better prices for their products. Given this incentive to produce, they did so, even in the absence of Green Revolution-style inputs. They were given a huge boost by the re-orientation of government education, research and extension toward alternative methods, as well as the re-discovery of traditional farming techniques. As small farms responded by increasing production, while the large-scale state farms stagnated and faced plunging yields, the government initiated the newest phase of revolutionary land reform, parceling out the state farms to their former employees as smaller scale production units (Rosset, 1997). Finally the government mobilized support for a growing urban agriculture movement which has transformed Cuba cities and urban diets in just 2-3 years.

The Cuban experience tells us that we can feed a nation's population with a small farm model based on alternative technology, and in so doing we can become more self-reliant in food production. Farmers must receive higher prices, and when they do, they will produce, with or without Green

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From Industrial Dependance to Self-reliance

The compulsions of globalism are presented as irreversible. Nothing makes the apostles of an industrialism without end more angry than respect for the past: even the suggestion that it has anything to teach us is castigated as nostalgia, impossible, backward-looking, a romantic hankering after a vanished and mythic world. Anyone who speaks of salvaging even a portion of the wisdom of the past is accused of being a "Luddite", an impediment to progress.

Cuba strips bare the whole paradigm of development into which the vast majority of the world has now been compelled. Only when the earth has been stripped of much of its wealth, the forests, earth, soil and water used up, polluted or poisoned, does it become clear that money cannot restore the spoiled biosphere, and that wealth has a deeper meaning than mere currency.

With the disintegration of the Soviet Union, Cuba was denied the access to pesticides, fertiliser and tractor fuel on which it had depended. This, together with the continuing trade embargo by the USA, ought to have ensured the collapse of the regime. That it didn't is a tribute to the ingenuity and creativity of people who have lived for almost half a century in a state of siege. In place of industrialised agriculture, Cuba has developed a low-input sustainable system.

Cuba shows that human resourcefulness is one of the earth's great treasures; when these are allied to a sustainable agriculture, the wounds to the planet may, perhaps, yet be healed. Sixty per cent of the vegetables consumed in Cuba today are organically grown in city gardens. In the countryside organic sugar, coffee and orange farms have been established; but the real triumph has been Cuba's ability to mobilise popular support for turning unused city land into small vegetable plots. There are now more than 60,000 huertos, or gardens, growing food in Havana alone. People have drawn on their memories of childhood in the countryside to revive old skills and enthusiasms, and the people of Cuba, despite their poverty, now enjoy one of the healthiest diets in the world.

This is why the survival of Cuba is an important lesson to the world. The transition to self-reliance has been peaceable, without fanfare. It has taken place despite the silence of the media, and the switching off of the engines of global publicity. But there it is. It has happened.

Cuba, supple and ingenious, tells another story; and shows that loss of industrial dependency doesn't have to mean chaos and ruin. Cuba, not for the first time, and certainly despite many past mistakes and blemishes, is good news.

Jeremy Seabrook, A Short History Of The Future, New Vistas, The Statesman, April 20, 2003 [C.ELDOC1071160]

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Revolution inputs. If these expensive and noxious inputs are unnecessary, then we can dispense with them. The policy lessons from Cuba that we can apply elsewhere, even under dramatically different systems and circumstances, are exactly those outlined above in the section on an alternative paradigm: agroecology, fair prices, land reform, and local production including urban agriculture. Thus, I firmly believe, Cuba is a lighthouse that illuminates the path out of crisis.

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