



THE RISE *and Predictable* FALL
of GLOBALIZED
INDUSTRIAL AGRICULTURE



A REPORT FROM
THE INTERNATIONAL FORUM
ON GLOBALIZATION



by Debbie Barker



The International Forum on Globalization (IFG) is a research and educational institution comprised of leading scholars, economists, researchers, and activists from around the globe.

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Introduction

WHO OWNS FOOD?



AN EPIC PLANETARY STRUGGLE is now underway that will ultimately have more to do with the future well being of human beings on the planet than will the far noisier wars over oil, or terrorism, or political ideology. That is the battle over who will ultimately control the cultivation, production and distribution of the world's food. This issue is surely among the most important for the ultimate survival of human communities, along with the crisis of the availability of fresh water on the planet.

The question is this: Should the cycle of food production remain in the hands of small, independent farmers who are intimately engaged with the ecology of the land, familiar with the soil, local climate, local microorganisms, water resources, wild creatures, and local cultures? Throughout human history, farmers living close to the land and to their communities have fed the world and, with a few exceptions, maintained an abiding allegiance to local and regional needs. Even today, regional farming continues to feed a majority of the population.

Or, should food production and distribution be centrally controlled by giant, globe-spanning business enterprises? They advertise that they can more efficiently “feed a hungry world,” but have no direct relationships to local lands or communities. They operate according to a hierarchy of values that places institutional profits above all other concerns. Their program is to convert millions of acres that once grew a great diversity of locally developed food crops into vast monocultures, fed by pesticides and chemical fertilizers, and requiring oil-guzzling machinery, commercial seeds, *et. al.* Food is then transported across continents and oceans, often destined for luxury markets within already well-fed countries.

These giant corporate interests like to argue that their production methods and distribution systems are the only way to successfully grow food for the world. That has been their continuing advertising theme, hawked through billions of dollars in persuasive television and print commercials year after year. And over

the past several decades, they have succeeded in shifting a high percentage of food production toward large industrialized globalized systems, run by ever larger, and ever fewer giant corporations, as we will see in this report.

The recent sharp shift in direction, however, has not been based on good performance. As far as successfully feeding the world, the reality is that nearly 900 million people go hungry each day, according to recent estimates of the United Nations Food and Development Agency (FAO). Forty million people die of hunger each year.¹ Yet there is more than enough food to feed the planet. According to the FAO, current food production can supply 2,720 kilocalories (kcal) per person per day. Hunger is caused primarily from unequal distribution of food and lack of access to land to grow food.

The “agricultural revolution” of recent decades has more to do with corporations’ ability to control bureaucracies and governments that determine who shall grow and distribute food, who benefits from the operating rules and who profits by them. Often the current model of “free trade” is typified by two ships passing in the night with like items being shipped across the sea—one with wheat from India going to the U.S., the other vessel containing wheat from the U.S. being shipped to India. This vast trade in food commodities, with prices controlled by large corporations, has resulted in unprecedented profits for agribusinesses and severe loss of livelihoods and incomes for farmers in both the North and the South.

Despite the inherent problems of industrial food production, which we will discuss in greater detail shortly, these corporations continue to profit, grow and consolidate, *mainly because they have been able to control the rules of the system*. The corporations at the hub of the industrial food system enjoy extremely intimate relations with governments and bureaucracies. Beyond intimate, one could call their relations co-dependent. Obviously, local communities of small farmers certainly do not enjoy the kind of familial access to the halls of power that is routinely the case with giant global corporations, which are the leading campaign donors for client governments, and also the leading beneficiaries of government *largesse*.

As will be discussed in this document, corporations have literally written the rules and components by which food production increasingly takes place: the rules of investment and credit; the standards and rules of food safety; the rules of trade between countries; the rules of ownership and patenting; *et. al.* These mega-corporations have lobbied for, and succeeded in, constructing a vast international bureaucratic infrastructure, an architecture of global bureaucracies that is inherently in service to the industrial agricultural model, as invented by themselves.

This is especially the case with the rules of the World Trade Organization (WTO), and dozens of agreements and bureaucracies that operate within it. These will be the central focus of this document.



This report will attempt to do several things. First, to briefly review the current state of play in the global production of food, its distribution, and some of the main social and ecological effects of this model of production. Second, it will explain some of the components of the current architecture of the system, the WTO agreements, and their common practices, and reveal how they inherently bring about inequity, social and cultural breakdown, and environmental harm on a massive scale. (Promoting a system that ships tons of food across thousands of miles every day, using huge amounts of oil will pollute the

seas; there is no way around this.) Third, the report will also offer some specific proposals to help achieve food and fiber systems that ensure food security and self-reliance, maintain the integrity of livelihoods, local cultures and communities, and that preserve natural resources.

Some of these proposals discuss how to alter or reform current agreements and institutions; however, this report addresses the growing *countertrend* that has lately emerged in direct reaction to the clear failures, inherent problems, and growing dangers of an industrial agriculture model that has not nearly lived up to its advertising. Many of the groups that form this countertrend would rather see the entire model dismantled.

One of the most important aspects of the countertrend is the emergence of new alliances among developing countries. In the negotiations that created the WTO, these nations were offered a take-it-or-leave-it agreement; however, these countries have now banded together to declare that they will not take it any longer and that they will no longer go along with the current system until the rules change to reflect a true level playing field. Promoters of economic globalization assured developing countries that they would gain access to wealthy country markets in a *quid pro quo* of open markets. The theory was that increased exports would enable poorer countries to gain foreign exchange for development goals and to help relieve debt. As will be discussed later in this report, this theory has failed to deliver on its promises. (Some believe the theory itself is flawed.) Instead, rules were skewed toward favoring large producers in industrial countries.

The various alliances formed among developing countries have led to repeated failures at WTO ministerials. Beginning with the Seattle Ministerial in 1999, WTO negotiations collapsed due to disagreement over agriculture rules. At the 2003 Ministerial in Cancun, Mexico, important coalitions such as the Group of 77, and the unity of cotton-growing African nations, resulted in another failed meeting. The December 2005 Hong Kong Ministerial ended with no progress, and finally, in June 2006, WTO Director General Pascal Lamy suspended WTO negotiations completely due to the complete breakdown over agriculture issues. As a result, the legitimacy of the WTO is under serious scrutiny.

Also very important has been the enormous burst of activity among the thousands of groups that do not seek any engagement with national or international rules. They have given up on the system, actually, and are instead heading out onto the land, to recover direct control, installing sustainable, small-scale farming practices that traditionally served them very well, and are trying to build communities *from the inside out*, as it were, rather than the top down. This report surveys these impressive activities.

A New Urgency for Change

At the same time as these reforms and countertrend activities are gaining ground, there are new factors rapidly coming into play that are already dramatically impacting food systems—climate change and the foreseeable end to cheap oil, including “peak oil” assessments.

Recently, there has been much speculation about the causes of higher oil prices, and continuing discussion about the likelihood of whether or not prices will continue to rise. Commentary has focused on the war in Iraq and accompanying geopolitical instability in the Middle East; increasing dependence on Russia; governments in Latin American nationalizing their oil industries; and supply chain bottle necks such as refining capacity.

However, the geological constraints on future energy supply, known as peak oil—the point at which oil production stops rising and begins an inevitable long-term decline—have received much less attention. As noted in *Fuelling A Food Crisis: The Impact of Peak Oil on Food Security*:

While the majority of constraints on access to oil could potentially be overcome through political or economic means, the geological reality of ever dwindling fossil-fuel supplies is non-negotiable.

While it has taken 145 years to consume half of the 2-2.5 trillion barrels of conventional oil supplies generally regarded as the total available, it is likely that, given the huge increases of demand from China and India in particular, the other half will be largely consumed within the next 40 years.

Some 98 percent of global crude oil comes from 45 nations, over half of which may already have peaked in oil production, including seven of the 11 OPEC nations. Major oil field discoveries fell to zero for the first time in 2003, while the excess capacity held by OPEC nations has dwindled, from an average of 30 percent to about 1 percent of global demand today. World oil and gas production is declining at an average of 4-6 percent a year, while demand is growing at 2-3 percent a year.²

Ironically, the present system of industrial agriculture is a major contributor to these problems. Agriculture is responsible for an estimated one-third of emissions that contribute to global warming and climate change. It is generally agreed that about 25 percent of the main greenhouse gas—carbon dioxide—is produced by agricultural pesticides and chemicals, and via deforestation and the burning of biomass. Most of the methane in the atmosphere comes from domestic ruminants, forest fires, wetland rice cultivation and waste products, while conventional tillage and fertilizer use account for 70 percent of the nitrous oxides.³

This set of conditions is rapidly destroying our shared heritage called the “commons”—that is, the planet’s natural resources necessary to grow food. And, although the revenge of nature itself may eventually force the end of the current global industrial agriculture model, the cost will most certainly be the destruction of millions of livelihoods and lives, scarce food supplies, and devastation to the planet’s natural systems. Given the potential for such catastrophe, it is critical to quickly restore and enhance food and fiber systems that are more regionally based, and that respect societies, cultures, and nature.

Part One

COMMODIFICATION OF SURVIVAL



TOUCHING THE SOIL

GROWING FOOD ONCE EXPRESSED a “personal” relationship between human beings, wildlife and the earth. Successful farming was based on generations of accumulated knowledge about *place*: climate, land, water, soil and the organisms within it; mixing and rotating crops, seed saving, breeding, and recycling organic matter. Growing food was an *intimate* process; it involved farmer, land, and community, with the goal of sustaining that life-giving exchange *in perpetuity*. At the heart of the matter: a deep love of the land.

Over the past several centuries, most food has primarily been grown locally for local community and family consumption. Until very recently, developing countries grew 90 percent of the food they consumed domestically and for small local markets.¹ Over the centuries, local farmers developed seeds and used them collectively as a community to re-plant for the next harvest. They invented a variety of cultivation methods, crops, and pest management systems that were unique to local ecosystems and cultures. Communities freely shared all local “commons”—water, labor, seeds, traditional knowledge and innovation—that were vital to food cultivation and the survival of stable communities. Natural resources were carefully nurtured to maintain an important balance between regional fish, fowl, and other wild creatures, and the needs of the community.

As one United Nations Environment Program (UNEP) report observed: “In India, peasants grow over forty different crops on localities that have been cultivated for more than two thousand years without a drop in yields, yet have remained free of pests.”² The report also attested to the benefits of agro-ecological approaches over millennia, citing practices of indigenous populations that are “based on ecological knowledge and understanding” and are “highly efficient and productive and inherently sustainable.”

Cultures have successfully adapted to difficult environments with innovative techniques for irrigation, drainage, soil fertility, frost control, and disease management. In Central America, for example, ingenious raised-bed systems known variously as *chiampas*, *waru waru*, or *tablones* have withstood truly terrible geological conditions and have successfully fed populations without ecological damage. Similarly, highly evolved, locally appropriate systems are found in Africa, the Andes region, South Asia, and many other places. All of these successful adaptations resulted from farmers' intimate relations with the land, weather conditions, and unique local conditions. In this way, people fed themselves for millennia.

Local, decentralized food production still provides millions of livelihoods around the world and provides fresh, nutritious food direct from the land to the table without the stresses and expenses of long distance shipping. India's wheat economy is a good example of this. Millions of Indian farmers grow over 6 billion tons of wheat per year. Leading food rights advocate Dr. Vandana Shiva explains the process in the IFG book *Views From the South: A chain of traders (artis)*, bring wheat directly from the farm to the local shops. Most people buy fresh wheat from the local corner store (*kirana*) and then take it to the local mill operators (*chakki wallas*). It is estimated that over 2 million small neighborhood mills produce fresh flour. Additionally, flour is produced by women working in households. Shiva observes: "Less than 1 percent of flour carries a brand name because Indian consumers trust their own supervision of quality at the local mill better than a brand name attached to stale, packaged flour."

Small-scale, local food economies have successfully sustained millions of people for many centuries with little capital investment and infrastructure. Rather than technology and investment capital, people and natural resources ("natural capital") are at the center of this system. Additionally, these centuries-old knowledge systems begat amazing food diversity. Traditional cultures enjoyed beautiful varieties of rice, potatoes, beans, corn, and other foods. Indeed, cultures were created and defined by the diversity of their foods. Annual festivals and seasonal celebrations of planting and harvesting helped ensure that the culture was imbued with nature-based practices over the centuries.

RADICAL SHIFT TO CORPORATE CONTROL

During the last century, a radical new approach to agriculture emerged. Instead of local farmers growing food locally for their own communities, a new highly centralized, global system of *industrialized* agriculture rapidly began replacing the local, decentralized small-scale food systems connected to traditional cultures, climates, geography, ecosystems, and other endemic factors. This model now represents the dominant paradigm for industrial, northern countries. Beginning with the Green Revolution, many developing countries began to adopt industrial agriculture practices as well. This industrial regime of the last few decades is characterized by excessive focus on the import and export of food, and is promoted and enforced by international institutions and agreements such as the World Bank, the International Monetary Fund (IMF), the World Trade Organization (WTO) and other regional and bilateral trade and investment agreements. Unlike the agreements of other international bureaucracies, such as those of the United Nations, the WTO's agreements are legally binding and have strong enforcement capability. Thus, they have become the most important vehicles for implementing economic and also social policies across the world. Though the rules and policies of recent global agreements and institutions are negotiated between governments, they are largely crafted by large agribusiness corporations—the primary beneficiaries.

Box One

WHO OWNS THE FOOD: FARM AND FOOD CORPORATE CONCENTRATION

In recent years, with the help of bureaucracies such as the WTO, the world has rapidly shifted from community based small-scale agriculture to a system where a handful of corporations control all parts of the food cycle, from seeds, to production, to distribution. This has far reaching implications for food security everywhere on earth, as it makes food vulnerable to the whim of market manipulations. Big global corporations like to say they are here to “feed a hungry world,” but the decisions of corporate boards and executives have much more to do with feeding the corporate bottom line. Here are some stunning figures that offer a good picture of the degree of corporate concentration at every stage of the production cycle:

- ❖ As of 2005, the top 10 commercial seed companies—the first link in the food chain—controlled more than 50 percent of the world’s commercial seed sales. This is an increase of 17 percent in only two years. (*See Table A.*)
- ❖ As of 2000, five grain trading companies controlled 75 percent of the world’s cereal commodity market, and its prices.
- ❖ In the vegetable seed market, one corporation dominates: Monsanto. It controls 31 percent of bean seed sales, 38 percent of cucumber seed sales, 34 percent of hot pepper sales, 29 percent of sweet pepper sales, 23 percent of tomato seed sales, and 25 percent of onion seeds. (*See Table B.*)
- ❖ As of 2004, Monsanto also accounted for 88 percent of the total land acreage producing genetically modified (GM) seeds: 91 percent of GM soybean lands; 97 percent of GM maize lands; 63.5 percent of GM cotton lands; and 59 percent of canola.
- ❖ The top 10 biotech companies control 75 percent of world biotech crop sales; this is an increase of 50 percent in two years.
- ❖ The top ten pesticide manufacturers control 84 percent of the pesticide market.
- ❖ Among grocery retailers, one company, Wal-Mart, is four times the size of its nearest competitor in terms of food sales, and bigger than the combined sales of the next four leading retailers. (*See Table C.*)
- ❖ Among agrochemical companies, the top ten control 80 percent of global sales.
- ❖ Among pesticides manufacturers, the top six companies account for 70 percent of the global market.

(Most figures are supplied by Rural Advancement Foundation International, Canada and the ETC group, Canada.)

All of this leaves small producers and farmers caught in a terrible trap, as both their inputs for farm production and their outlets for distribution are controlled by an ever-smaller number of giant corporations, which also control commodity price markets.

So, whether it’s ownership of seeds, or the inputs for industrial agriculture production, or retailing, a very small number of companies dominate. Global food supply is dangerously vulnerable when a handful of corporations own food inputs and determine food distribution.

TABLE A. WORLD'S TOP 10 SEED COMPANIES

COMPANY	2004 SEED SALES (US MILLIONS)
1. Monsanto (U.S.) + Seminis (acquired by Monsanto 3/05)	\$ 2,803
2. Dupont/Pioneer (U.S.)	\$ 2,600
3. Syngenta (Switzerland)	\$ 1,239
4. Groupe Limagrain (France)	\$ 1,044
5. KWS AG (Germany)	\$ 622
6. Land O' Lakes (U.S.)	\$ 538
7. Sakata (Japan)	\$ 416
8. Bayer Crop Science (Germany)	\$ 387
9. Taikii (Japan)	\$ 366
10. DLF-Trifolium (Denmark)	\$ 320

Source: ETC group - Communiqué, September/October 2005; Issue #90

TABLE B.
MONSANTO CORPORATION:
GLOBAL VEGETABLE
SEED MARKET SHARE

Corn/Maize	41%
Soybeans	25%
Beans	31%
Cucumbers	38%
Hot Pepper	34%
Sweet Pepper	29%
Tomato	23%
Onions	25%

Source: ETC group - Communiqué, September/October 2005; Issue #90

TABLE C. TOP 10 GLOBAL FOOD RETAILERS

COMPANY	2002 SALES (US MILLIONS)
1. Wal-Mart (U.S.)	\$ 246,525
2. Carrefour (France)	\$ 64,979
3. Royal Ahold (Netherlands)	\$ 59,455
4. Kroger (U.S.)	\$ 51,759
5. Metro AG (Germany)	\$ 48,714
6. Tesco (UK)	\$ 40,387
7. Costco (U.S.)	\$ 38,762
8. Albertson's (U.S.)	\$ 35,916
9. Safeway (U.S.)	\$ 34,799
10. Ito-Yokado (Japan)	\$ 27,606

Source: ETC Group, based on data provided by IGD

A salient feature of these agreements is that food is treated as a commodity rather than as crucial for the survival of all humans. Given that food is a basic necessity of life, unlike other commodities such as tires or computers, many governments and civil society movements believe that such policies are grievously misguided. As Lori Wallach of Public Citizen puts it, “Food—like water—is not an optional product that consumers may choose to purchase: food is the basis of life. People without food die, while people without cars or tires walk and people without tin ore use local materials.”³ As such, many believe that governments have an obligation to ensure food as a basic human right. The result of this shift has been a loss of livelihoods for millions of farmers, and the depression of rural communities; an increase in hunger in many parts of the globe; compromised nutrition and safety of food; increased environmental destruction; and the control of food production and distribution by an ever-smaller number of giant global agribusinesses. (*See Box 1.*) These are some of the outcomes of this shift:

- ❖ Local self-reliant food systems that had provided food and livelihoods for millions, and a secure food supply, are rapidly being replaced by corporate control—often foreign corporations—over farm inputs, energy, crop commodity prices, food production, and marketing. These corporations value profits and export trade over the needs of local communities for food and sustainable products.
- ❖ Industrial agriculture eliminates diverse food production for local needs, replacing it with large scale monocultural production of one or two crops appropriate for export markets; thus, diminishing natural biodiversity—of micro organisms, plants, insects, and animals, and diminishing local food supply as well.
- ❖ Heavy use of industrial agricultural processes, including pesticides, chemical fertilizers and fossil fuel-based machinery are rapidly destroying the vitality of the soil, polluting and over-using scarce fresh water, polluting the air, and harming wildlife and humans.
- ❖ The corporate introduction of genetically modified organisms (GMOs) and plants further destroys biodiversity and brings unknown, potentially catastrophic dangers via new forms of biopollution.
- ❖ The export driven model of globalized agriculture requires a huge increase in transport infrastructures—roads, ports, airports, energy grids—often constructed at the expense of nature and in defiance of global energy shortages.
- ❖ Massive shipments of agricultural commodities across great distances requires additional fossil fuel usage, refrigeration, packaging, etc. and fosters *mobility* of exotic plant and animal species, and the spread of pests, viruses, bacteria, and disease.
- ❖ Control over and access to the most essential elements of life—the commons—are being stripped away from local communities and given over to corporations (often via World Bank privatization schemes).
- ❖ Traditional knowledge of seeds, plants, and cultivation are being expropriated for profit, and patented by large corporations—a process known as “biopiracy.”
- ❖ Agriculture accounts for approximately 25 percent of carbon dioxide emissions; and 70 percent of nitrous oxide emissions.⁴

GLOBAL MACRO EFFECTS

The expansion of the industrial agriculture model affects everyone, whether they live in cities, suburban America, or the countryside in the global South or North. To illustrate, we offer examples below on how globalized industrial agriculture relates to two of the most pressing issues of our time: immigration and global warming.

The Roots of Migration

The issue of immigration has dozens of countries in serious turmoil. The U.S. is no exception. Here, the raging debate about immigration is largely the result of globalized industrial agriculture, and trade agreements that embrace this model.

Between 1990 and 2005, the number of migrants from Mexico and Central America living in the U.S. without authorization spiked from 2 million to an estimated 6.2 million. Many of these migrants could be called “NAFTA refugees.” The North American Free Trade Agreement (NAFTA), which went into effect in 1994, lifted barriers to “free” agricultural trade between North and South, with dire consequences.

As part of the condition for joining NAFTA, Mexico was required to drastically change its Constitution and abandon the traditional *ejido* system of communal land and resource ownership. This is the system created after the Mexican Revolution of the early 20th century that made traditional farming in Mexico productive and viable. Mexico was also forced to dismantle a system that had provided a guaranteed floor price for corn for Mexican farmers, which had sustained over 3 million corn producers. As a result of NAFTA, Mexican farmers suddenly found themselves competing with an influx of cheap agricultural commodities produced by large-scale, heavily subsidized U.S. producers. Corn imports from the North grew 17-fold between 1993 and 2001 and accounted for 25 percent of Mexican corn consumption. This compared to a pre-NAFTA figure of 2 percent.⁵ Within a year of NAFTA’s passage, Mexican production of corn and other basic grains fell by 50 percent, and millions of peasant farmers lost a significant source of their incomes.⁶

Facing dire poverty in the Mexican countryside, millions of farmers migrated off their lands and made the wrenching decision to leave behind families and communities and head northward. Once in the United States, these migrants often found jobs in the fields, performing backbreaking work for poor pay and without basic rights. Thousands of others toil in industrial food processing plants, where conditions today resemble those depicted in *The Jungle* by Upton Sinclair at the end of the 19th century.

Despite NAFTA’s record, the U.S. Congress approved a similar agreement with Central America in 2005 that is expected to have similar devastating effects on small farmers in those countries. Many of them will also likely attempt to seek economic opportunities in the United States. Similar stories could be told throughout the developing world; farmers everywhere are vulnerable to import competition, not only because of free trade agreements but also due to World Bank- and IMF-promoted cuts to all types of supports for small-scale agriculture, as this report will discuss.

Climate Change/Peak Oil—Fatal Threats to Globalized Agriculture

Another threat from globalized industrial agriculture is the role it plays in the rapid advancement of climate change on the earth. In dozens of ways, from destruction of carbon-absorbing forests, to the massive over-use of fossil fuels for production and for transportation (upon which the entire model depends), climate change is directly furthered. One-eighth of the world oil supply is now used for transportation with a very high percentage of that being used for long distance shipment of food across oceans or continents. It has been widely quoted that the average plate of food on an American dinner table today has traveled more than 1,500 miles from source to plate. According to Edward Goldsmith, Europe’s leading ecological

thinker, and publisher of *The Ecologist*, industrial agriculture bears overall responsibility for about 25 percent of the world's carbon dioxide emissions, 60 percent of methane gas emissions, and 70-80 percent of nitrous oxide—all of them major greenhouse gasses contributing to climate change.⁷ Many climate scientists already predict hundreds more storms on the scale of Katrina or worse, and a rise in sea levels that could inundate thousands of miles of coastal farmlands in both North and South.

Ironically, there is also a reverse kind of threat to the food supply within a global industrial agriculture system, in that we are now approaching an unprecedented shortage of oil and natural gas on the Earth, called “peak oil” by many scientists and even corporations and governments. When that shortage fully kicks-in—and some say it is doing so now—the entire global industrial agriculture system could be threatened with collapse, as it will not be able to maintain long distance shipping in the face of increasingly high energy costs. This could play havoc with food delivery globally and itself bring on a reversal of current trends. Here's a brief review of some of the climate related impacts from industrial agriculture:

In the last few decades, climate-stabilizing tropical rainforests have been cut down at an alarming rate, mainly for conversion to industrialized export-crop production, or for cattle grazing. Millions of tons of nitrous oxide emissions are the result. Nitrogen fertilizers, a staple of industrial agriculture, are another major source of nitrous oxide, contributing as much as 10 percent of total annual nitrous oxide emissions.⁸ Methane emissions are also dramatically increasing because of flood-irrigated, nitrogen-dosed rice fields and the substantial increase in industrially raised livestock—in particular, cattle.

Carbon dioxide emissions are largely caused by the loss of soil carbon to the atmosphere. Modern industrial agriculture massively contributes to this by practices such as drainage of wetlands, deep plowing that exposes the soil to the elements, use of heavy machinery that compacts the soil, use of fertilizers and pesticides that destroy soil structure, overgrazing leading to desertification, and the practice of growing monocrops on a large scale.

Modern irrigation is especially energy intensive. Farmer-saved seeds that have been developed and selected over millennia to succeed in specific local climates and geological configurations have longer roots that can dig deep into the soil to find sources of moisture that the short-rooted industrial commercial high yielding seeds cannot utilize. For example, in industrial corn production, it is sometimes necessary to pump out water from a depth of more than thirty meters. Such pumped irrigation requires more than three times as much fossil fuel energy as rain-fed corn cultivation. Commercial high yielding hybrid seed varieties, and genetically modified seeds, require much more water than traditional crops, just as they require more chemicals than non-commercial seeds. This increases dependence on perennially irrigated crops at a time when the planet's fresh water supply is diminishing.

Most modern industrial agriculture production is for export markets—this translates into massive increases in the use of increasingly scarce fossil fuels for transport, and increased production and disposal, packaging, and long distance refrigeration. All of this, however, could be undermined by the realities of “peak oil” which could spell the beginning of the end of the dominance of the industrial agriculture model. This possibility, combined with the model's more apparent failures, makes it even more crucial that alternatives to the industrial agriculture model be studied and implemented. This will be discussed later in Part Three.

Part Two

WTO AND THE ARCHITECTURE OF CONTROL



ANYONE WHO HAS FOLLOWED the high drama displayed in the last several major ministerial summits of the WTO knows that agriculture has been at the center of controversy. For many years, disagreements within this sector have had trade officials butting heads while massive numbers of small farmers and civil society movements from dozens of countries have protested outside negotiating rooms, usually peacefully, but sometimes via spectacular acts such as the suicide of a South Korean farmer, during the Cancun Ministerial, to protest the unlivable conditions forced by WTO rules.

The protests have also entered inside the WTO as the poorest countries have banded together and agreed to not go along again with global trade deals that do not serve their interest. This has created a serious threat to the continued viability of the WTO itself.



It is hard to imagine that, until recently, agriculture was only a minor part of international trade rules.

The WTO, established at the Uruguay Round negotiations in 1995, greatly expanded the traditional scope and power over agriculture. The predecessor to the WTO, the General Agreement on Tariffs and Trade (GATT), had a very narrow mandate: to set quotas and tariffs for agriculture products. Other matters remained under the purview of national governments. Though not without flaws, the GATT system allowed countries more flexibility to protect domestic markets from predatory “dumping” of subsidized items from foreign countries, and price gouging by a handful of corporate commodity traders. The creation of the WTO changed all that.

The WTO's expanded power over agriculture limits the authority of member governments to set appropriate national farm and food policies that protect their own farmers, consumers, and natural resources. The net result has been a loss of livelihoods and income for farmers in the South and the North; environmental devastation from industrial practices and increased food transport; and lower food safety standards.

There are several WTO agreements that directly affect food production, food security, and safety as well as determine who benefits and who loses from the global system. These include:

The Agreement on Agriculture (AoA); the Agreement on the Application of Sanitary and Phytosanitary Standards (SPS); and the Agreement on Trade Related Intellectual Property Rights (TRIPs).

Other WTO agreements have indirect effects on agriculture, such as the Agreement on Technical Barriers to Trade (TBT), the Agreement on Trade Related Investment Measures (TRIMs); and WTO basic principles: "Most Favored Nation" and "National Treatment." Each of these agreements will be discussed in the following sections.

I. THE AGREEMENT ON AGRICULTURE (AOA)

The preamble of the Agreement on Agriculture (AoA) states that the agreement's intent is to establish a more pure *market-based* agriculture. According to Martin Khor of the Third World Network, "The WTO has stamped a new paradigm for national economic and social policies worldwide, and a new framework of international economic relations."

The AoA focuses on these four areas:

- ❖ *Market access*: Countries are required to open national and local economies to foreign commodities, and to import a certain minimum level of agricultural products (referred to as "minimum access" rules).
- ❖ *Reduced "trade barriers"*: Countries are required to convert import quotas (or "non-tariff" controls) into tariffs (taxes), which must then be reduced and/or eliminated over time.
- ❖ *Domestic supports*: Countries are required to diminish production subsidies and other supports that national governments traditionally extended to domestic farmers.
- ❖ *Export competition*: Countries are required to bind their level of export subsidies to WTO rules, and then reduce subsidies over time.

While AoA rules have adversely affected small-scale farmers in both the North and the South, those in developing countries are experiencing an especially severe loss of livelihoods for farmers and rapid demise of rural communities. Along with this there is increasing food insecurity and hunger in many regions of the globe. In effect, AoA rules have forced developing countries into reliance on an export-growth agriculture strategy. As a result, developing country farmers find they must export internationally, at suppressed world prices, the very crops that otherwise would be consumed at home. AoA policies have resulted in reduced food security because it shifts production away from food for local needs to production of export crops.

AoA rules have become the flash points for several major conflicts in WTO agriculture talks—on subsidies, commodity dumping, and market access, as follows:

Subsidizing the Powerful

The battle over agricultural subsidies and their relationship to “commodity dumping” has become the Achilles Heel of the WTO since its inception. For many decades in industrial countries, subsidies and farm price supports have been used as a way of nurturing farm livelihoods, rural communities, and local culture. The AoA was supposed to bring a *reduction* of agricultural subsidies in the North to “level the playing field” and this was expected to improve the ability of southern countries to export their agricultural products to the North. However, the agreement actually allows northern countries to maintain most of the high subsidies that existed prior to the WTO. In contrast, developing countries, which had little or no domestic or export subsidies in the first place, were now *barred* by the AoA from having them or creating any new ones. Additionally, central seed banks, supply management systems, emergency food stock programs, quota systems, and other tools that developing countries historically used to shelter domestic producers and consumers, are being further dismantled via WTO rules. (In the decade prior to the creation of the WTO, structural adjustment policies of the World Bank and the IMF had already jump-started this process.)

How did the North manage to maintain their subsidy structure and protect some of the large commodity producers? One trick was to selectively choose its base year from which the percentage of required cuts in domestic supports would be calculated in WTO negotiations. The U.S. presented 1986-88 as its base year, a period when support levels were unusually high. Thus, when WTO-sanctioned subsidy reductions were implemented, the U.S., in effect, had actually not made huge cumulative cutbacks. In fact, since the WTO, the U.S., as well as the European Union have *increased* the level of many subsidies. The U.S. level of “reductions” of tariffs, export subsidies, and other supports actually allowed for increases in many subsidies and tariffs. For example, under these WTO guidelines, the U.S. raised several tariffs between 1992 and 1996—from 5.7 percent to 8.5 percent for agriculture and livestock production, from 6.6 percent to 10 percent for food products, and from 14.6 to 104.4 percent for tobacco products.

Another scheme was to manipulate the notoriously complex system of domestic supports (subsidies) laid out in the WTO agriculture agreement. In this system domestic supports are assigned to “boxes”—amber, green, and blue. Domestic policies are classified to these boxes as follows:

- ❖ Amber Box—policies that have a substantial impact on the patterns and flow of trade and are subject to WTO specified reductions. These include domestic support programs that distort production and trade because benefits are linked to the production or prices of specific commodities. The total value of these programs must be kept below specified ceilings, based on a country’s “total aggregate measurement of support,” or AMS. The AMS calculates all domestic support policies that are considered to have a significant effect on the volume of production.
- ❖ Green Box—policies that do not have a major effect on production and trade; thus, they are exempt from required reductions to which programs in the Amber Box are subject. These include two categories of support: 1) investments in public goods such as agricultural research and rural infrastructure, and 2) “decoupled” direct payments that purportedly have no link to current production or price of any specific commodity.

- ❖ **Blue Box**— policies that link government payments specifically to production-limiting programs. Subsidies and payments in this category can be increased without limit, so long as payments are linked to production-limiting programs, such as land set-asides.

(Source: *World Trade Organization*)

A point of great controversy is the semantic scheme used by the U.S. and the EU that enables them to maintain most of their direct income payments (also known as “deficiency payments”). The U.S. and the EU claim that such payments are “decoupled” from production, and thus, are not trade distorting. As such, many direct payment plans are assigned to the Green and Blue boxes, which are exempt from required reductions.

However, many developing country governments contend that most of these payments are hardly decoupled from production because, without them, agriculture would scarcely remain profitable in most industrialized countries. For example, one-fifth to one-third of U.S. farm incomes are derived from deficiency payments. Perhaps even more telling is that more than 40 percent of the total value of production in OECD countries is accounted for by different forms of producer subsidies.¹ (The OECD—Organization for Economic Co-operation and Development—is comprised of the top 30 developed countries.) Since the WTO came into effect, agricultural subsidies in OECD countries have increased—from \$182 billion in 1995 to \$280 billion in 1997, with the major share of this figure accounted for by the EU and the U.S. Additionally, many *export subsidies*, payments that primarily go to commercial and corporate interests, also remain largely intact in industrialized countries.

In sum, U.S. and EU farmers receiving income via government payments are better insulated from commodity price fluctuations than farmers in the South, who must survive on their actual production because most developing country governments cannot afford direct payment or export subsidy systems. This leaves developing country farmers vulnerable to artificially low commodity prices that enable “dumping” (discussed further below).

The WTO’s agriculture agreement does offer some concessions to southern countries and does include some “special and differentiated treatment” provisions for some of the poorest countries. However, many of these concessions benefit mainly large cash-crop exporters and processors (large corporate entities) such as Malaysian palm-oil plantations, big cocoa and coffee planters in Africa and Asia, and big sugar interests in the Caribbean. The vast majority of independent, small farmers growing corn, rice, and other food crops are not benefiting from these rules.

Defenders of the AoA subsidy system argue that developing countries have also been allowed to maintain export subsidies; however, very few developing countries have export subsidies to maintain. *Export subsidies* are primarily given to a handful of northern country farmers and agribusiness. (As discussed later in this document, farm subsidies in the U.S., for example, primarily benefit large industrial farms). Even IMF loans to developing countries have been used for export subsidies to northern corporations. As former U.S. secretary of agriculture, Dan Glickman stated, “The main reason we have not lost more exports to Asia is because the USDA (U.S. Department of Agriculture) extended \$2.1 billion in export credit guarantees. Without IMF actions another \$2 billion in agricultural exports would have been at great risk in the short term and far larger amounts in the long term.”²

AoA advocates also point out that developing countries are allowed to replace import controls and quotas with tariffs; however, as trade lawyer Steven Shrybman points out in *A Citizen's Guide to the WTO*, unstable monetary values and sudden currency fluctuations can easily make such tariffs meaningless. Shrybman explains: "Tariffs represent a much less precise or reliable way to balance local production with imports, and that balance can be easily disturbed by economic factors that poor countries can rarely foresee, let alone influence."



This report recognizes that it is perfectly legitimate, and may be imperative, for governments to lend support to domestic farmers and farm economies; however, distortions such as discussed above are not fair, equitable, and completely miss the mark of creating a "level playing field," a claim that the WTO continually embraces. A continuing principle of the WTO rules should be that no country has the right to "dump" commodities that are subsidized into the global market.

"Dumping" on the Poor

Related to subsidies is the issue *dumping*, i.e., the practice of selling a product at a price below the actual cost of production. According to the Institute for Agriculture and Trade Policy (IATP), U.S. grain companies that dominate the global market are engaged in widespread dumping. In 2003, wheat was exported at 28 percent below its cost of production, soybeans were dumped at 10 percent below cost, corn was dumped at 10 percent below cost, cotton was dumped at 47 percent and rice at 26 percent below cost.³ This practice has devastated many developing countries' economies.

Two main factors contribute to dumping: 1) Large-scale farms and agribusiness have been allowed to maintain, and even increase, subsidies for many export crops; and, concurrently, 2) WTO rules require developing countries to open their markets to imports, yet have stripped away traditional mechanisms such as quantitative import restrictions that could help safeguard against dumping.

As a result, the practice of dumping on poor developing countries continues to destroy self-reliant food economies and farmer livelihoods. For example: Haitian and Honduran rice farmers lost their farm incomes when those countries were forced to reduce their tariffs, according to the rules of the WTO and the IMF. They were suddenly faced with an influx of subsidized U.S. rice. Jamaican dairy farmers cannot compete with cheap subsidized milk powder from Europe. And subsidized cotton from the U.S. has also wiped out the cotton market in many African countries, particularly Mali, Benin, and Burkina Faso, which have lost twice as much from the drop in cotton prices as they receive in U.S. foreign aid. (*See Box Two*)

Technically, the WTO prohibits dumping and gives countries the right to impose special anti-dumping duties against offending countries. However, the rules require that countries must prove that they have been harmed by dumping, which is a complicated, challenging and expensive process, particularly for smaller countries. Few small countries can afford to challenge powerful economic players like the United States.

The dumping problem also stems from the built-in bias of most global rules toward giant agriculture corporations. These corporations have been able to concentrate their domination over many of the world's

agricultural commodities and control global prices and supply. A handful of companies now trade virtually all the world's corn, cotton, wheat, and soybeans, with trade in coffee, sugar, and other tropical specialty crops also highly concentrated. For example, in 2002, the largest six grain-handling companies controlled three-quarters of the world's cereal commodity market.⁴ Similar oligarchic conditions exist in both farm supplies (seeds, chemicals) and in food processing and distribution. (*See Box One.*) This leaves small farmers in both rich and poor countries subject to the whims of corporations, commodity brokers, and the market, and generally unable to get fair prices for their products. The ultimate control over farm livelihoods is now the domain of a handful of corporations.

Box Two

U.S. COTTON SUBSIDIES HARM AFRICAN COUNTRIES

As noted earlier in this report, subsidized agriculture in the developed world is one of the greatest obstacles to economic growth in the developing world. Such subsidies encourage overproduction and flood markets with surplus crops that are sold below the cost of production, depressing world prices. Countries with unsubsidized goods are essentially shut out of world markets, devastating their local economies. (Additionally, farm subsidies lead to environmental harm in rich and poor nations alike.)

Although world cotton prices have fallen in half since the mid-1990s, cotton production in the U.S. (of which California represents over a quarter of production) grew 42 percent. Due to subsidies, American cotton farmers receive up to 73 percent more than the world market price for their crop. To compensate for falling prices, U.S. cotton subsidies have doubled since 1992, and in 2001-2002 America's 25,000 cotton farmers received a \$230 subsidy for every acre of cotton planted—a total of \$3.9 billion.

American cotton subsidies cost sub-Saharan Africa \$302 million in 2001-2002 alone, according to Oxfam International. Specifically, West Africa's Burkina Faso lost 1 percent of its GDP, and export earnings declined 12 percent due to competition from subsidized U.S. cotton. In Burkina Faso, 85 percent of the population (more than two million people) depends on cotton production and over half the population lives in poverty. Even though the cost to produce a pound of cotton is one-third the cost in the United States, farmers there cannot compete in world markets against American cotton. There are similar problems in other countries that also rely heavily on cotton.

The International Cotton Advisory Committee (ICAC) estimates that ending U.S. cotton subsidies would raise world prices by 26 percent, or 11 cents per pound. The results for African countries dependent on cotton exports would be substantial: Burkina Faso would gain \$28 million in export revenues; and it's estimated that Benin would gain \$33 million in export revenues. This increase in income would substantially reduce the dependence on foreign aid and improve the lives of millions of people.

(Primary source: National Center for Policy Analysis.)

In sum, the rules of AoA are strongly biased in favor of the rich countries and giant agribusiness interests, which are effectively allowed to subsidize export commodities that are then dumped in poorer countries. Meanwhile, developing countries have been stripped of their few mechanisms, such as quantitative restrictions, to safeguard their food base and rural livelihoods.

Finally, subsidies that enable dumping also contribute to the steady erosion of independent and small-scale producers in the North. Such subsidies contribute to declining prices paid to farmers, making farmers even more dependent on subsidies. The increasing need to earn income off-farm, and declining net farm incomes indicate failed policies that facilitate the sale of commodities at less than the cost of production prices.

The Mirage of Market Access

Many southern countries were originally persuaded to join the WTO and to open their markets to foreign imports because of the promise that northern countries would do likewise, in a fair exchange. The promise of market access was tantalizing because many developing economies are focused on agricultural production. However, southern countries have actually opened markets more deeply and in more sectors than countries in the North, which have maintained barriers to key export products from developing countries. Combined with the technological advantages and greater wealth and subsidies already enjoyed by northern agricultural producers, this has led to even greater imbalance in the system. Subsidized northern imports have destroyed rural communities and self-sufficient livelihoods throughout the South. Many people now working for poverty wages as Nike subcontractors are refugees from formerly self-sufficient farming regions and communities.

Some developing country governments, along with many global civil society groups, argue that southern countries *must* have market access, as promised, to level the playing field. But others believe that the entire export model is doomed because it moves production away from basic self-sufficient traditional farming, making all farmers vulnerable to the whims of the global marketplace which is increasingly controlled by mammoth corporations. Many believe that food security is best achieved by growing diverse crops locally for local consumption, instead of relying on food imports.

These divergent viewpoints have led to a partial rift among civil society movements, depending upon whether one feels the situation is now so desperate that market access can provide the only quick fix, or whether one takes a longer view toward a paradigm of community self-sufficiency. Still, most activists who advocate for agricultural self-sufficiency acknowledge that in the short term, many southern nations remain dependent on agricultural exports to the North. Hence, they recognize that transition strategies are needed to help nations that often feel trapped in colonial trade patterns to shift toward greater food security and self-sufficiency. One proposed short-term solution would be to grant immediate market access for key crops important to short-term economic needs in the South. The question remains as to whether export-oriented growth in agriculture actually does benefit farm economies among developing countries. Some indicators seem to indicate otherwise, and that the “market access theory” could be wrong. Consider the following:

Developing Country Indicators

- ❖ An estimated 43 percent of the rural population of Thailand continues to live below the poverty line even though agricultural exports grew an astounding 65 percent between 1985 and 1995.
- ❖ In Bolivia, by 1990, following half a decade of the most spectacular agricultural export growth in its history, 95 percent of the rural population earned less than a dollar a day.⁵
- ❖ It is estimated that over 350,000 rice and corn farmer livelihoods in developing countries are being destroyed due to a conversion of acreage devoted to cut flowers for export to western markets.⁶
- ❖ In Brazil, during the 1970s, agricultural exports, particularly soybeans, enjoyed a huge boost. Yet, hunger spread from one-third of the population in the 1960s to two-thirds by the early 1980s. In the '90s, when Brazil became the world's third largest agricultural exporter, the per capita production of rice, a basic staple of the Brazilian diet, fell by 18 percent. (Rice growing land was converted to soybean production, largely exported to Japan and Europe for livestock feed.)⁷
- ❖ The Chinese government estimates that 10 million farmers will be displaced by China's implementation of WTO agriculture rules. (Another 200 million Chinese peasant farmers are estimated to also lose livelihoods as a result of other implementations of trade liberalization and agriculture industrialization.)⁸
- ❖ Kenya was self sufficient in food until the 1980s; it now *imports* 80 percent of its food, while, preposterously, 80 percent of its *exports* are also agricultural.⁹
- ❖ In Nigeria, Ethiopia, Sudan, Kenya, Tanzania and Zaire, which account for 60 percent of the population of sub-Saharan Africa, there has been a 33 percent decline in cereal output per capita and 20 percent decline in overall food per capita in less than a decade. At the same time, all these countries saw rising agricultural exports per capita along with declining food output, and food consumption per capita.¹⁰
- ❖ India spent 1.37 billion rupees as foreign exchange for promoting floriculture exports, while a mere 0.32 billion rupees were earned. Export earnings from floriculture are only sufficient for India to buy one-fourth the food it could have grown.¹¹

Such figures call into question whether "market access" or economic liberalization are panaceas for long-term development goals of the global South.

Undermining Farmers' Protections

Supply Management Boards/Price Support Systems

The WTO, NAFTA, and other agreements, along with structural adjustment policies (SAPs), have essentially gutted, and in some cases outlawed, many pricing and supply mechanisms that enabled farmers to receive a decent price for their commodities.

Supply management boards provide a mechanism for farmers to sell to marketing boards which negotiate a collective price with domestic and foreign buyers. Supply is also regulated by these boards. Without such mechanisms, farmers must independently negotiate commodity prices with large food processing and distribution companies, so their bargaining power is insignificant.

Stable prices and predictable demand are essential to the viability of small-scale agricultural producers. In the last two decades, commodity prices have wildly fluctuated at historic levels¹² (this trend correlates to implementation of WTO rules and market domination by fewer corporations). Unpredictable commodity prices, market speculation, and steadily increasing costs have overwhelmed the capacity of millions of farmers, in both the North and the South.

Consider the plight of Mexican corn growers. Less than two years after NAFTA went into effect, Mexican domestic corn prices fell by 48 percent because a flood of cheap, subsidized U.S. corn entered the country.¹³ Before NAFTA, government agencies set stable prices for Mexico's corn farmers. However, NAFTA outlawed such price regulations. Without such price supports, thousands of farmers have been forced to sell their lands. (As noted earlier in this report, the increased migration of Mexican farmers to the U.S. correlates to the crash in Mexican corn prices.)

Small-scale farmers in the North are also experiencing hardships that could be eased by more robust supply management and price support mechanisms. From the 1930s through most of the 20th century, U.S. agricultural policies included measures that required agribusinesses to pay farmers a minimum price for their major commodities. However, over the last two decades there has been a dramatic shift toward a reliance on the "free market" ideology that U.S. farmers would become rich through increased exports.

However, this theory has not borne out. For example, from 1980 to 2000, world prices for 18 major export commodities fell by 25 percent in real terms.¹⁴ These lower prices have made northern farmers even more dependent on government payments or subsidies to help ease this instability. Yet even with payments, the majority of U.S. farmers don't receive enough money to cover farm expenses and often must resort to working off the farm for more income. Given that nearly 90 percent of total farm family household income in 2003¹⁵ came from off-farm sources (i.e., work outside of the farm), it is no wonder that farm closures and bankruptcies have dramatically increased in the last two decades of free market ideology and trade agreements.

Other programs such as domestic seed banks, emergency food supply systems, and low-interest loan programs for small farmers have also been dismantled by trade agreements or SAPs.

International Commodity Agreements (ICAs)

In the 1970s and 1980s, the United Nations Committee on Trade and Development (UNCTAD) negotiated agreements aimed at providing a more stable export environment for commodity producers by maintaining prices agreed to by both the producer and consumer countries. The agreements focused on "cash" crops such as coffee, cocoa, and other items primarily grown by poorer countries. The coffee agreement was one of the most effective, as it succeeded in stabilizing prices and persistently raised them by 24-30 percent over what would otherwise have been market clearing levels.¹⁶ These International Commodity Agreements (ICAs) were important tools that consistently helped maintain stable commodity prices. While not all ICAs were successful, many developing country governments and civil society groups believe that these agreements provided some stable pricing for commodities, which allowed regions to better plan long-term social and economic development.

Several factors led to the collapse of the ICAs. As part of the structural adjustment programs of the 1970s and 1980s, World Bank and IMF activity pressured developing countries to switch to export-oriented agricultural production, further ensconcing the colonial legacy of dependency on large-scale production of specialty commodities of interest to colonizers. This undermined the original intent of the ICA and diminished UNCTAD's role. A second factor was that IMF loan conditions required countries to remove their state marketing boards. The experience of these boards varied, but many performed ancillary services such as supplying seeds, pest control services, agricultural extension, provision of rural roads, schools, etc. Nothing was put in place to replicate these services and deleterious effects are felt even today. (Countries such as Cameroon, Cote d'Ivoire, and Nigeria that dismantled their marketing boards have suffered greater price volatilities than in Ghana, where some state marketing mechanisms remain.)

These ill-advised policies led to an oversupply of very cheap imports and an overall decline in prices. As prices for low earning cash crops dropped, the terms of trade for developing countries fell dramatically. For example, between 1980 and 1992, the terms of trade for commodities in relation to manufactured goods (of richer countries) fell by 52 percent.¹⁷ This means the sale of an average unit of a commodity could only buy half as much in 1992 as it could in 1980. So, developing countries had to produce twice as much just to stay even.

Lack of political and monetary support from, mainly, the U.S. and Europe is another major factor in the collapse of the ICAs. The U.S., for example, refused to contribute to UNCTAD's fund to assist ICA programs and implementation because they decided that these commodity agreements clashed with their new free-market philosophy. As a result, by the end of the 1980s, the agreements had largely fallen apart and most commodities have since suffered a general decline in their price levels due to an over supply.

During the Uruguay Round negotiations (to formulate the WTO), the U.S. spearheaded the effort to incorporate (some would say dismantle) the UNCTAD commodity division into UNCTAD's trade division, which more closely follows "free trade" orthodoxy. Many believe this move was the final nail in the coffin of ICAs, and implementation of the WTO's agriculture agreement further entrenched the historical advantage of developed nations.

In addition, as developing countries have no tradition of payment or subsidy systems for their farmers, falling commodity prices automatically result in increasing poverty and hunger. To make matters worse, countries in the South are more dependent upon commodity prices for "cash" crops, a legacy of colonial occupation. Declines in prices for those crops has been especially steep over the last two decades: cotton (47 percent), coffee (64 percent), rice (61 percent), cocoa (71 percent) and sugar (77 percent) with grave consequences to small farmers.¹⁸

III. AGREEMENT ON TRADE RELATED INTELLECTUAL PROPERTY RIGHTS (TRIPS)

From its birth in 1995, the WTO introduced many new areas into the global trading system, vastly expanding its scope. An adage among WTO observers is that a new area or issue can be brought under WTO jurisdiction by simply prefacing it with the term “Trade Related.” Intellectual property rights is one of those areas.

Prior to the WTO, all patenting and intellectual property rules were under the purview of national governments. Most developing countries favored a *sui generis* community-based patent system which often exempted agriculture, medicine, and other essential products and processes from control by national patent laws. Such policies aimed to acknowledge generations-old traditional local knowledge and ensure that basic necessities of life remained available to all, as a “commons,” in the public domain. Thus, *sui generis* systems promoted local seed saving, seed research, and seed exchange. (Some systems allowed small-scale sales of seeds.)

TRIPs, however, allows seeds, plants, and other life forms (e.g., “micro-organisms”) to be patented by global corporations located far outside the community or nation. Through the WTO, *sui generis* systems are being undermined and abandoned, and countries are forced to convert to a western-style system of intellectual property rights, which means that nothing is exempt from patent laws, unless explicitly exempted in TRIPs.

The basic framework for the TRIPs system was conceived and shaped by the Intellectual Property Committee (IPC) of the United States, and by industry associations of Japan and Europe. The IPC coalition represented thirteen major U.S. corporations including Bristol Myers, Dupont, General Electric, General Motors, Hewlett Packard, IBM, Johnson and Johnson, Merck, Monsanto, Pfizer, Rockwell and Warner. This body provided the major impetus for internationalizing intellectual property rights within the WTO. The control of local community innovation, once considered an inherent right of communities, has now become a statutory right of corporations.

The most dangerous element of TRIPs is that it effectively enables large foreign corporations to obtain patent control of local production and distribution of seeds, plants, and life forms. (This is important also for the marketing of genetically modified seeds.) As a result, seeds, plants, and other materials are being taken out of the local commons and placed within corporate control. Farmers must pay to use what was formerly a commonly held resource, shared freely in the community. Additionally, a handful of corporations are now able to “own” much of the knowledge and material developed by local farmers over centuries that was formerly in the public domain.

Of particular concern to many is the effect that TRIPs has upon seed ownership. As Dr. Vandana Shiva writes in a report issued by the Tuscany regional government: “Seed is the first link in the food chain. It is the embodiment of life’s continuity and renewability; of life’s biological and cultural diversity. Seed, for the farmer, is not merely a source of future plants/food; it is the storage place of culture, of history. Seed is the ultimate symbol of food security.”¹⁹

Box Three

WHO OWNS TRADITIONAL KNOWLEDGE? DEBATE IN
THE CONVENTION ON BIOLOGICAL DIVERSITY (CBD)

In addition to the TRIPs agreement, a second international venue is now influencing the global rules over intellectual property rights, and corporate patenting of agricultural plants—the United Nations Convention on Biological Diversity (CBD).

Third World farming communities and indigenous peoples have been strongly making their case within CBD that traditional community-based *sui generis* ownership of local plants, developed over centuries by the innovations of local farmers, must be legally affirmed. But, the WTO's TRIPs agreement strongly supports the opposite position: the *subordination* of traditional local ownership rights, and the confirmation of the patenting rights to absentee global agribusinesses.

Corporations counter the arguments of traditional farming communities within CBD, by taking a shocking position: Suddenly the corporations are saying that all biodiversity should be “freely accessible” to anyone. It should be considered a “common heritage for all mankind.” Resources should not be “locked-up” by traditional and indigenous farming communities that developed and nurtured them.

Such a stance has an altruistic ring until one realizes that it's coming from the same corporations that, once they have their hands on these “freely available common resources,” immediately move to *separate* them from the commons. They instantly patent, privatize, and monopolize these common resources—they lock them up, literally—and reserve all financial benefits to themselves. It would be hard to conceive of a more cynical stance.

Today, millions of Third World farmers who have developed and shared useful seeds over centuries continue to openly share them with each other via their traditional community ownership systems, in true recognition and celebration of the values and practices of the commons. These small farmers say that the patent rules of the TRIPs agreement simply legitimize the theft and expropriation of indigenous knowledge of plants and seeds, and are inherently unjust. For corporations to argue they are in favor of sharing is fraudulent and immoral.

Communities also argue that continued useful development of such plants cannot continue unless the communities that have nurtured them are permitted to sustain their own lands in a traditional manner.

The negotiations within the CBD have been ongoing for nearly a decade, but so far have only reached a “compromise.” Rather than sustaining traditional community and/or indigenous rights to common resources, or, on the other hand, granting outright corporate proposals to keep biological resources “open” to their exploitation (and, under TRIPs) final ownership, the CBD now leans to a third option, “national sovereign control.” This means that ownership of such plant innovations, and the commons from which they emerged, should be housed in national governments, which, however, can lease them or sell them to anyone they choose. Given the power of global corporations to control governments, the outcome of this CBD position is perhaps little different from that of TRIPs. It

still allows global corporations and their sponsors in wealthy industrial countries to raid the biodiversity of the Third World and of traditional peoples, albeit with a few more legal steps involved, and perhaps payment of (small) fees.

As we go to press on this document, the matter is not finally settled in CBD, and fierce struggles continue. One important group of outside participants in the debate, the International Society of Ethnobiology, in its Code of Ethics, has put its membership's view of the matter this way:

“The Principle of Inalienability recognizes the inalienable rights of traditional societies, local communities and indigenous peoples in relation to their traditional territories, and the natural resources within them, and associated traditional knowledge. These rights are collective in nature but can include individual rights. It shall be for indigenous peoples, traditional societies and local communities to determine for themselves the nature and scope of their respective resource rights regimes.”

By expanding the patenting rights of corporations, located primarily in the North, TRIPs fosters what has come to be called “biocolonialism” and “biopiracy.” Since the WTO went into effect, patents on traditional seeds and plant varieties have rapidly increased. A collaborative study by the Rural Advancement Foundation International (RAFI) and Heritage Seed Curators Australia found nearly 150 cases of research institutions and businesses applying for patents or licenses for naturally occurring plant varieties, many of which have been farmed for generations.²⁰

From 1991-1993 (before the WTO existed), an average of eight patents a year were awarded on corn and soybeans. By 1999-2001, 281 patents were being awarded each year for these two crops.²¹ Under TRIPs, the patent holder is given all rights to the seeds and can charge farmers for the right to use a seed that his own community may have originally developed. Similar biopiracy trends continue as many traditional, indigenous seeds and crops, such as basmati rice, neem, pepper, harar, bahera, amla, mustard, ginger, castor, jaramla, amaltas, and new karela and jamun from India have all been patented with the aid of TRIPs.

Seed patenting has also negatively affected many farmers in the North. Seed and chemical company Monsanto requires farmers in the U.S. to sign a technology agreement before it will sell its seed. This agreement prohibits a farmer from saving seed, ensuring Monsanto's continued dominance of the market (while also further eliminating seed diversity). This agreement also gives Monsanto access to farmers' private property and personal records (including conducting property investigations); specifies what rights a farmer does and does not have in planting, harvesting, and selling genetically modified seed; and in general, binds the farmer to Monsanto's oversight for many years. The Monsanto agreements are all pervasive, and in effect indenture farmers to this multimillion dollar company.

In the last few years Monsanto has filed 90 lawsuits against American farmers. With an annual budget of \$10 million and a staff of 75 solely devoted to investigating and prosecuting farmers, the farmers have, not surprisingly, come out the losers.²² (For a comprehensive report on Monsanto's consolidation, patents, and law suits, see *Monsanto Vs. U.S. Farmers*, a report by the Center for Food Safety.)

III. THE AGREEMENT ON THE APPLICATION SANITARY AND PHYTOSANITARY STANDARDS (SPS)

The SPS sets criteria for use of food additives, contaminants, toxins, veterinary drug and pesticide residues or other disease-causing organisms in food or beverages. It also sets parameters on member countries' domestic policies regarding livestock and fisheries. The primary goal of the SPS is to facilitate trade by eliminating differences in food, animal, and plant regulations from country to country. The agreement requires member nations to "harmonize" their food safety standards with an international standards agency, the Codex Alimentarius.

Ironically, while describing themselves as working for food safety, the SPS Agreement and Codex permit even higher levels of pesticide residues (including DDT) in food than many domestic food safety and public health laws permit. Member nations also cannot enact or enforce any health, food, or environmental standards *higher* than those set by the SPS Agreement and the Codex. Any domestic food safety and public health standards higher than those in the SPS and Codex can be challenged under WTO courts as being "unfair trade barriers." Thus, food and public safety policies are set to the lowest common denominator, and there is a global trend of *downward* harmonization.

These homogenized global standards are exquisitely attuned to the primary goal of benefiting global corporate producers. The SPS and Codex have enforced food processing standards that work directly against local and artisanal food producers while favoring the global food giants. For example, they require irradiation of certain products, pasteurization, and standardized shrink-wrapping of local cheese products, sold in even small local markets. All of those standards may be appropriate for large producers, but not small.

Such rules tremendously increase costs for small producers and also negatively affect taste and quality. In fact, the advent of the WTO and other trade agreements has rapidly increased the international flow of both food and foodborne illnesses. The World Health Organization (WHO) has identified increased trade of food as a growing cause of illness worldwide.²³ In reality, the greatest threats to food safety and public health do not come from small food producers but from industrial farms and distributors whose practices have accelerated the incidence of salmonella, *e. coli* infection, *listeria*, and other bacteria in foods, as well as Mad Cow disease, hoof-and-mouth disease, and others. Industrial processes make it impossible for food producers to observe food quality closely, whereas small and artisanal food producers can more easily stop disease outbreaks.

An example of how the SPS Agreement is biased toward industrial agriculture can be found in the application of Article 2.2, which states that WTO members can set policies "only to the extent necessary to protect human, animal or plant life or health...based on scientific principles...and not maintained without sufficient scientific evidence...."²⁴ The SPS provision was invoked by the U.S. in its successful WTO court case challenging EU bans on certain pesticides.

This clause effectively eviscerates a long-standing safety standard known as the Precautionary Principle. The Precautionary Principle states that in cases where there is scientific uncertainty, governments have an *obligation* to take action to avoid harm to public health or safety, or to the environment, by seeking out

less harmful alternatives. This approach was used, for example, in the case of the morning sickness drug thalidomide. U.S. law followed the precautionary approach and, as a result, averted a disastrous epidemic of birth defects. In countries that legalized the drug, it's estimated that over 10,000 cases were directly related to the use of thalidomide. Under the WTO regime, the U.S. government now appears to be abandoning the precautionary system.

IV. OTHER RELEVANT WTO RULES AND AGREEMENTS

WTO Articles I and III: “Most Favored Nation” (MFN) and “National Treatment” (NT)

Both of these articles of the WTO charter have similar intentions. Article I, the WTO's Most Favored Nation (MFN) rule, requires that all member governments treat goods imported from one WTO member nation “no less favorably” than goods imported from any other member nation. This effectively makes it impossible for governments to restrict imports from countries on moral or ethical grounds, such as horrendous human rights or labor standards, or environmental records, or that are dealing in illicit trade of some commodities, or engaging in warfare, etc. Under this Article it would have been impossible to boycott South African goods during the apartheid regime.

Article I also requires WTO member nations to treat “like” products from a WTO member as favorably as it does from any other member. This rule *directly contradicts* rules developed in many other international treaties, most notably United Nation's multinational environmental agreements (MEAs). These agreements allow a country to reject goods from another country if the goods do not meet standards of the applicable MEA—e.g., Convention on Biological Diversity, Convention on Trade in Endangered Species, Montreal Protocol on Substances That Deplete the Ozone Layer, and others.

The MFN rule also prohibits a country from setting up special trading relationships to favor development of poorer nations. This issue arose in the “Banana Wars” case between the United States and the EU. Under its Lome Treaty, the EU set aside a portion of its market for banana exports from its former Caribbean and African colonies in order to help these countries toward development and economic goals. The United States charged that this was discriminatory against Latin American banana producers and the WTO agreed. In 1998, when the EU refused to change the policy, the United States threatened to place 100 percent tariffs on some EU imports. Eventually, the EU backed down, in a devastating blow to small Caribbean nations dependent on banana exports. Since U.S. jobs were not at stake (no bananas are grown in the United States for export), there were strong suspicions that Chiquita, a U.S. company with extensive banana plantations in Latin America, had simply purchased the government's support. Chiquita CEO Carl Lindner and his associates had given \$5 million to U.S. political campaigns between 1991 and 1998.²⁵

As for Article III, National Treatment, it requires governments to treat all imported goods “no less favorably” than locally produced “like products.” Free trade advocates claim this article prevents “discrimination,” which is a lofty-sounding ideal, but that is definitely not the intent. The real purpose of Article III is to prevent any government from favoring or protecting its own local industries, or farmers or cultures that might otherwise be overwhelmed by globe-spanning corporations bringing vast amounts of cheap imports that make local or indigenous economies non-viable. Foreign businesses and banks may

buy-up local producers or local banks and literally take over the economy of smaller, weaker nations. These rules also prevent countries from protecting jobs or local natural resources from accelerated exploitation, or local communities from being absorbed in the global economic juggernaut as many agricultural communities already have been.

Under National Treatment a country cannot “discriminate” against a product that might have been produced in a manner that caused environmental harm. The implications of this rule were clear in the case brought by Mexico against a U.S. law which excluded tuna caught by domestic or foreign fishers who used nets that trapped and killed dolphins. A GATT panel determined that a country could not discriminate against a product based on how it was produced or harvested. According to Lori Wallach of Public Citizen: “In making this interpretation, this and later trade panels threatened the long list of environmental laws in countries around the world that focused on *how* seafood is harvested or *how* paper is manufactured.”

As a result of the case, the Clinton administration, as well as the administration of George Bush, Sr., weakened a portion of the U.S. Marine Mammal Protection Act to comply with the ruling, thus allowing dolphins to be slaughtered for tuna being sold in the United States.

The combination of Article I and Article III directly affects farmers by endangering small local producers of all kinds. We have given the example of Mayan corn farmers of Mexico being nearly wiped-out by cheap, industrial subsidized U.S. corn exports. There are literally hundreds of such cases among farmers, forest peoples and fisherpeople around the world. Similar effects may be found among indigenous peoples whose lands are exploited by foreign corporations for minerals or wildlife or genetic resources. Under Articles I and III, there is little legal resistance possible.

The Agreement on Technical Barriers to Trade (TBT)

The Agreement on Technical Barriers to Trade (TBT), in addition to the SPS, greatly affects food and public health standards as it effectively views environmental, public health and food safety standards to be technical barriers to trade. Its provisions are detailed and complex, but the TBT essentially establishes an international regime for “harmonizing” environmental standards, effectively creating a ceiling, but no floor, for environmental or safety regulations. This means that if a nation sets any standards above those in any agreements in the WTO, it is vulnerable to international trade dispute actions. The TBT was one of the agreements invoked in the WTO case ruling against the EU’s ban on beef injected with hormones. As a result of this ruling, the U.S. has imposed severe trade sanctions on key export products from the EU, in retaliation for the EU’s refusal to accept hormone-injected beef.

Agreement on Trade Related Investment Measures (TRIMs)

The Agreement on Trade Related Investment Measures (TRIMs) constrains governments from imposing certain entry and operating conditions on foreign corporations. This has helped to enable huge agribusiness conglomerates to greatly expand control over commodity pricing, seed production and distribution, and other areas.

V. SUMMARY OF CONSEQUENCES FOR FARMERS IN THE NORTH

U.S. Farm Policy: Mimicking the WTO

A visit to Mount Vernon or Monticello, homes of George Washington and Thomas Jefferson respectively, demonstrates that America's Founding Fathers were avid farmers, one might even say agrarian idealists. America, with its cotton, tobacco, and golden fields of grain was founded with deep agrarian roots. However, within the last century, the country has evolved from a mainly agrarian society to a highly industrialized, urbanized and suburbanized, and technology-driven society. In 1900, farmers comprised over 40 percent of the U.S. workforce; today farmers represent less than 2 percent of the population.²⁶

Current U.S. farm policy can be traced back to the emergency response to economic hardships in the 1930s—the Great Depression and the Dust Bowl. President Franklin D. Roosevelt's New Deal conceived of support programs that were aimed to help the majority of farmers. During that period most small farms grew wheat, cotton, and a small number of other “program commodities.” Little did Roosevelt know that these supports would lead to unintended consequences that now only benefit a small minority of farms.

Today, only 9 percent of farm operations receive 51 percent of federal agriculture payments (some say this USDA figure is low if one considers other subsidies/indirect payments).²⁷ In contrast, rural residency farms, which comprise 67 percent of all farms in America, produce a small share of national output and receive only 17 percent of federal payments.²⁸

Rapid farm concentration, linked to the ascendancy of industrial and mechanized farming, is one of the primary reasons that the payments are going to a minority of farmers in the U.S. By 2003, the largest 9 percent of farms generated 73 percent of all U.S. farm output.²⁹ Many farmers cannot afford investments and maintenance of expensive industrial farm inputs such as commercial seeds and pesticides; large fossil-fuel driven machinery; and other such materials.

Accelerated concentration is also associated with de-regulatory policies of the 1970s, which has led to the trend of vertical and horizontal integration of agribusinesses—such that a handful of corporations own the seeds and the chemicals, purchase farm commodities, process food, transport food, sell to grocery stores and own the grocery stores. This further forces farmers to be dependent on the dictates of large corporations.

Although there have been modifications to the original U.S. farm subsidy and payment system, it is essentially still embedded in the old program commodities model. Farmers growing vegetables, fruits, nuts; experimenting with new crops; using organic practices; more fully integrating wildlife habitat and other ecological practices into their farming habits are not, for the most part, supported by federal government policies.

While there are several reasons that this outmoded model still exists, the primary driver of domestic policy is international trade policy formed by the U.S. government and agribusiness companies.

As the largest food producer and exporter, the U.S. government and its agribusiness sector sets the agricultural agenda for the globe. Several of the largest agribusiness companies in the world are U.S.-based—Archer Daniel Midlands (ADM), Monsanto, Cargill, and others. These corporations set trade agreement agendas and increasingly control world trade and food supply in major commodities such as corn, wheat, soy, cotton, and other products. During the last few decades, U.S. government farm policy, namely, the 1996 Freedom to Farm Act and the 2002 Farm Bill, have largely fallen in step with the interests of these giant corporations to create a system of global competition.

U.S. farm policies encourage and support the ascendancy of a globalized export-oriented model. Policies have effectively eliminated minimum price supports for farmers, leaving them vulnerable to the “free market” system dominated by a handful of agribusinesses. This results in excessive production: farmers must grow as much as possible and send every bushel to market no matter how disastrously low farm prices go.

International trade agreements and bureaucracies amplify such problems. NAFTA and other “free trade” agreements become the vehicles that radiate low prices across the globe and set up a North-South competition. This leads to global overproduction causing prices to plummet even further—a scenario that is good for the ADMs of the world, but bad for farmers who are forced into a battle of survival to grow food more cheaply. Such competition drives down incomes and removes incentives for conservation of natural resources.

Some sobering figures demonstrate the severity of the farming crisis in the North:

- ❖ Although U.S. farm subsidies have soared to more than \$20 billion per year, up from the average of \$9 billion per year in the early 1990s (pre-WTO), less than 20 percent of U.S. farmers receive 86 percent of the total dollars of U.S. subsidies.³⁰
- ❖ Two-thirds of farms receive no government payments at all.³¹
- ❖ Net income for U.S. farmers in 2001 was 36 percent lower than in 1989.³²
- ❖ The U.S. lost over 38,000 small farms between 1995-2000.³³
- ❖ Over 73 percent of U.S. farms share only 6.8 percent of the market value of agriculture products.³⁴
- ❖ 7.2 percent of farms, including giant feedlots, receive 72.1 percent of the market value of products sold.³⁵
- ❖ Since 1984, the real price of food has remained constant, while the price farmers receive has fallen by 38 percent.³⁶
- ❖ In 1999, farmers received 21 cents on the dollar from food products, as compared to 10 years ago, when they received 32 cents.³⁷

Meanwhile, the profits of giant global agribusinesses have soared. During the first 7 years of NAFTA, Archer Daniels Midland’s (ADM) profits grew from \$110 million to \$301 million. Cargill's net earnings from 1998 to 2002 jumped from \$468 million to \$827 million. ADM and Cargill are two of the main agribusinesses that control corn trade.³⁸

A New Way Forward?

The U.S. 2007 Farm Bill provided an opportunity to make a fundamental shift in domestic agriculture policy, which would also set the terms for world food policies. However, the proposal outlines a five-year plan that is “market oriented,” according to U.S. Secretary of Agriculture Mike Johanns. He further reiterated that essentially the “same structure” has been maintained. This signifies continued big outlays for large producers and agribusiness.

The proposal calls for an overall reduction of \$10 billion in government expenditure, but it anticipates an additional \$5.5 billion increase in direct payments to farmers.

Fundamentally, these policies still highly favor a system that makes U.S. farmers dependent on subsidies, and thus, encourages overproduction in the face of uncertain, declining prices. In turn, this sustains the ability of large commodity traders to pit farmers around the world against each other in a race to produce the cheapest commodities. This will further the demise of farmers and wreak continued havoc on ecosystems, both in the U.S. and abroad.

The plan aims to insulate the U.S. against WTO challenges that have been brought against the U.S. in recent years, and intends to demonstrate that the U.S. is willing to make concessions to other countries in order to re-open WTO negotiations. However, developing country governments and organizations have noted that, once again, the U.S. has manipulated the terms in ways that still allow many trade distorting mechanisms to continue. For example, astoundingly, U.S. payments to cotton growers could increase by some 65 percent in the first year of the bill. As noted earlier in this report (see Box Two), subsidized U.S. cotton dumped in the world market is causing hunger and famine particularly in sub-Saharan African countries.

The farm proposal does increase funding for “specialty crops”—fruits and vegetables, and provides some funding for conservation. But, fundamentally, the bill continues to ensconce the current global industrial agriculture paradigm. Many U.S. farm organizations representing small, independent farmers have expressed disappointment that the cycle remains—farmer dependency on government payments instead of providing support to ensure that actual market prices reflect the cost of production.

European Union and Canadian Farmers Also Adversely Affected

Loss of farmer livelihoods and income, and declining rural economies is also prevalent in the EU and Canada. In 2002 the EU Common Agriculture Policy (CAP) comprised roughly \$50 billion, almost half of the EU budget. As in the U.S., only around 20 percent of EU farmers receive subsidies. Many of the EU “accession” countries are concerned about maintaining their agriculture base. Poland, for example, has 2.5 million small farmers. Following current EU policies, which discriminate in favor of large farms, many more farmers may be forced off their lands to make way for larger, more “viable” units.

Similar to the figures regarding the U.S. agriculture scene, these statistics demonstrate that the majority of Canadian and EU farmers are also not benefiting from international trade policies:

- ❖ The U.K. lost 60,000 farmers and farm workers between 1998-2001 and farm income declined an astounding 71 percent between 1995-2001.³⁹
- ❖ A recent survey of United Kingdom (UK) farming districts found that the average farmer is earning only £3.60 per hour, below the UK minimum wage.⁴⁰
- ❖ In Canada, farm debt nearly doubled since the 1989 Canada-U.S. Free Trade Agreement. Between 1996-2001, Canada lost 11 percent of its farms.⁴¹
- ❖ The volume of Canadian exports doubled during 1989-1999. However, dropping commodity prices meant that farmers' net income declined 19 percent.⁴²

In summary, the trend is clear: the majority of farmer incomes in the North are significantly declining, yet profit margins for large corporations are increasing at record rates.

Box Four

THE CALIFORNIA EXPERIENCE — EFFECTS OF GLOBAL TRADE AGREEMENTS

Some of the harms experienced by many farmers in the North by WTO, NAFTA, and other trade agreements can be illustrated by the experience of California. If California were a nation, it would be the fifth largest economy in the world. It has led the nation in agricultural production for more than 50 years, with agricultural exports of \$8.2 billion in 2004, representing 17 percent of the U.S. total.⁴³

California farmers and ranchers produce more than half of the nation's fruits, nuts and vegetables. The majority of California food crops remain in the U.S.—over three-quarters. The remaining 26 percent are exported. However, because of international trade and investment agreements, along with U.S. domestic policies that collude with these rules, many agriculture sectors have been hard hit due to an influx of cheaper foreign imports. The following illustrates some of the effects:

- ❖ According to a 2001 report from the California Farm Bureau: “Prices for many of the state’s 250-plus commodities have collapsed due to foreign imports, including raisins and other dried fruit, olives, garlic, honey, apples, apricots, peaches, oranges, pears and tomatoes.”
- ❖ Two-thirds of the avocado export market has been lost since the mid 1990s, while avocado imports from south of the border have increased by 300 percent.⁴⁴
- ❖ California’s cotton and rice growers are seeing crops prices drop as much as 30 percent compared to the mid-1990s.⁴⁵
- ❖ California was formerly the nation’s flower capitol, but recent imports from Colombia and other Latin American countries have depressed prices to California’s fresh flower growers and caused many to go out of business.
- ❖ Over the last seven years (since 2000), California has lost 10,500 farms. Many of these were small farms that were bought out by large farm operations (USDA).

WHAT HAPPENED?

During the last decade, international and bilateral trade agreements such as NAFTA, the WTO and other instruments of the globalized “free trade” system have opened up borders to products from around the globe. At the same time, global trade rules have eliminated any nation’s right to enact quota and tariff mechanisms that could help protect and sustain domestic farm economies and natural resources. California’s experience is little different from that of other countries and regions—farmers are now forced to compete with imports that cost lower than locally produced goods. Many farmers and rural communities are experiencing severe economic hardships.

“I tell people that under the best conditions, the worst farmers make money. Under the worst conditions, even the best farmers lose money; that’s what we’re seeing now,” says George Leavitt, a farm adviser with the University of California extension office in Madeira County.

The “worst conditions” in a global economy mean that California growers must compete with commodities grown in countries where land, labor, energy, and water are often far cheaper than in California, as well as the rest of the United States. And it is only expected to get worse. China’s recent entry into the WTO will most certainly affect California agriculture in a major way. According to an internal Farm Bureau memorandum: “With its large number of farms, ample resources and central planning, China is a continued threat as a major exporter of agricultural products at levels that could be harmful to the U.S. and California specifically.”

That threat is already being felt. For example, despite transportation costs and a nearly 400 percent tariff, fresh Chinese garlic is being sold in California at prices considerably lower than the local cost of growing garlic. Almost overnight, California garlic growers faced a dramatic drop in income.

Even some of California’s current top export crops could be threatened. Although table grapes remain in the top ten of California exports, China is beginning to send table grapes abroad and is expected to gain a significant market share over the next several years. Additionally, increased exports from Chile and Mexico (an increase of over 100,000 tons over the last few years) have already triggered lower prices and some California growers are already feeling the effects.

CALIFORNIA EXPORTS

Trade liberalization has expanded some markets for California farmers, however, as is the case in the rest of the U.S., most benefits have gone to large commercial farms. The 5,000 largest farms (those with over \$1 million in sales) account for 75 percent of sales of agricultural products. About 11 percent of farms in California have annual sales of more than \$500,000, while about 44 percent receive less than \$10,000 in income.⁴⁶

Almonds, wine, table grapes, cotton, dairy products, and fresh and processed citrus represent over 50 percent of exports, with the remaining 50 percent made up by dozens of other items commodities. Many of these commodities are not subsidized under U.S. farm bill criteria, which is why California receives only 4 percent of federal direct payments (2004).⁴⁷

However, the majority of these payments go to large industrial operations—diary operators, cotton farmers, and recently sugar beet farmers. (Other types of assistance—loan and conservation programs, for example, are available for some other farmers; however, these support systems are minimal compared to the state’s agriculture output.) Water usage is an indirect subsidy extended to most California farmers, but again, most benefits go to a small number of huge farms. For example, 10 percent of farms in California’s Central Valley Project receive two-thirds of the water.⁴⁸

While inequities of subsidy and support systems within California clearly need to be addressed, the egregious harm caused to African cotton producing countries requires even more urgent attention. (See Box Two: U.S. Cotton Subsidies Harming African Countries)

KEEPING IT LOCAL—GLOBALIZATION’S IMPACT ON CALIFORNIA’S ORGANIC COTTON

California remains the leading state in certified organic cropland, with over 220,000 acres, mostly for fruit and vegetable production. There are over 1,738 certified organic operators in California (as of 2002). Although one of the fastest growing segments in California, as well as U.S., agriculture,

overall adoption level is still low—only about 0.5 percent of all U.S. cropland and 0.5 percent of all U.S. pasture was certified organic in 2005.⁴⁹

In order for organic food systems to thrive and continue to grow, it is critical to reform U.S. economic and farm bill policies. It is also vital to understand how current international trade rules thwart the goal of reducing food and fibre miles, and further squelches small-scale and “local first” principles that maintain the integrity of organic models.

California’s organic cotton industry serves as a good example of why it is so critical to understand global-to-local links before any systemic change favoring local systems of food production can occur. Before NAFTA and the WTO, many California cotton farmers joined a movement to grow organic. By 1994, over 17,000 acres of traditional cotton grown with heavy use of toxic pesticides were converted to organic cotton. This represented almost one-quarter of all U.S. cotton production. But a few short years after NAFTA and the WTO were enacted, only 130 acres remained of organic cotton production—today, the figure is at 80 acres. (See Part Three, page 51, for update on related alternative cotton crops/projects.)⁵⁰

Why? To increase their margins, U.S. manufacturing companies chose to purchase organic cotton grown abroad at a lower price than they would have to pay U.S. growers. Pre-WTO, the U.S. restricted the quantity of imported cotton (organic as well as non-organic) and enacted import tariffs at levels that assured that U.S. cotton farmers would remain viable. These mechanisms are now WTO-illegal.

Turkey, Pakistan, and other countries produce organic cotton at a fraction of the price of California cotton because of much lower labor, land, and water costs. Free trade proponents might call this a “comparative advantage”; however, some “advantages” are questionable. For example, in some instances, water is cheaper in these countries only because of public-private loan schemes, and IMF and World Bank loans that effectively subsidize the diversion of water resources toward crop production. This water diversion itself brings many environmental harms and can also result in tragic social and cultural upheavals.

For example, a massive water diversion project in Turkey—the Southeastern Anatolia Project, or GAP—is so rife with political and environmental controversy that even the World Bank refused to fund this project, which includes the world’s fifth largest dam—Ataturk Dam. The project is projected to irrigate 1.7 million hectares (4.2 million acres) of land. GAP supporters boast that, though the project is still not finished, Turkish cotton production has already tripled in the last decade, making Turkey one of the world’s top cotton growing nations.

The World Bank declined to fund this project for two reasons. First, the GAP allows Turkey to control water flow into Syria and Iraq. This has obvious political implications and has ignited virulent disputes between the countries, as well as fired up historical ethnic hostilities between Kurds and Turks. Second, the areas designated to yet be flooded will displace hundreds of thousands of Kurds and Armenians from ancient cities and historical homelands. Additionally, the region where the tragic Armenian Genocide took place is among those slated to be put under water.

This is only one example to illustrate that while the principle of encouraging and supporting organic agriculture worldwide is important, it is critical to look at the big picture when charting out alternatives to industrial agriculture policies and systems.

ALTERNATIVE POLICIES FOR CALIFORNIA

Currently there are significant efforts by some government leaders and civil society movements to de-industrialize California's agriculture system and move it toward an ecologically healthy model that is also economically robust. A key challenge is to find ways to ensure decent incomes for California farmers that will not cause economic harm to farmers and rural communities abroad, especially in poor, developing countries. As noted earlier in this report, there are legitimate reasons why domestic or regional governments should encourage and support a vital agricultural base. However, rich countries should not be allowed to subsidize export crops at levels that enable dumping.

The case of California organic cotton demonstrates why it is essential that domestic and international policies apply the principle of *subsidiarity*. That is, policies should favor local production for local consumption over long-distance production and transport of goods. The subsidiarity principle encourages environmental stewardship and environmental health for the entire planet. It also can help build local cultural and social relationships, instead of potentially heightening social conflicts abroad.



GENETICALLY MODIFIED (GM) FOODS AND CROPS

International agreements such as the WTO's Trade Related Intellectual Property Rights (TRIPs) agreement make it much easier for GM technology to rapidly advance around the globe. GM crops are the ultimate tool of a corporate-led industrial agriculture system. Under a GM dominated agriculture system a handful of corporations own genes, seeds, and seed chemicals, further enslaving farmers and, in effect, controlling the world's food supply.

GM crops pose significant economic risks to California's farmers and food industries. Once planted in open fields, GE crops may contaminate the environment through pollen drift, seed mix-ups, and inadvertent transfer of seeds by humans, animals and extreme weather events. Contamination of California's crops with GM content may lead to domestic and foreign market rejection of California agricultural products. Additionally, California's organic sector, the largest in the U.S. could be threatened by GM pollution. As such, farmers, food handlers and processors, and other food companies may face serious economic losses.

There are at least 750,000 acres of GM crops in California, representing 2 percent of the state's agricultural area. Corn and cotton represent 98 percent of all commercial GM crops grown in the state. California is fourth in the nation in numbers of GM crop field trial permits and notifications. Crops most commonly used in GE field trials in the state include tomato, corn, cotton, rice, alfalfa, and grape.

Despite the prevalence of GM crops, state regulatory agencies do not monitor these crops or consider their impacts on the state's unique environment and agricultural economy. Currently, only pharmaceutical and industrial crops require field trial permits, and the environmental assessment is now entirely voluntary. Hence, in California the vast majority—82 percent—of GM crop field trials are grown under the notification process, and thus do not require any environmental assessment. In the absence of adequate state legislation and regulation, counties have initiated their own local bans on the planting of GM crops, although, such bans would most likely be ruled to be illegal by the WTO if challenged.

(Source for GM section: Center for Food Safety)

*Box Five*RISKS AND MYTHS OF GENETICALLY
MODIFIED ORGANISMS (GMOs)

The genetic modification (GM) of plants and animals is looming as one of the greatest and most intractable environmental challenges of the 21st Century. Already, this novel technology has invaded our grocery stores and our kitchen pantries by fundamentally altering some of our most important staple food crops.

By being able to take the genetic material from one organism and insert it into the permanent genetic code of another, biotechnologists have engineered numerous novel creations, such as potatoes with bacteria genes, “super” pigs with human growth genes, fish with cattle growth genes, tomatoes with flounder genes, and thousands of other plants, animals and insects. At an alarming rate, these creations are now being patented and released into the environment. Currently, up to 40 percent of U.S. corn is GM as is 80 percent of soybeans. It has been estimated that upwards of 60 percent of processed foods on supermarket shelves—from soda to soup, crackers to condiments—contain genetically engineered ingredients.

A number of studies over the past decade have revealed that GM foods can pose serious risks to humans, domesticated animals, wildlife and the environment. Human health effects can include higher risks of toxicity, allergenicity, antibiotic resistance, immune-suppression and cancer. As for environmental impacts, the use of genetic engineering in agriculture will lead to uncontrolled biological pollution, threatening numerous microbial, plant and animal species with extinction, and the potential contamination of all non-genetically modified life forms with novel and possibly hazardous genetic material. Despite these long-term and wide-ranging risks, and considering that the U.S. has the most capacity of any country in the world to regulate GMOs, the U.S. government requires no mandatory safety testing or labeling of GM food. Additionally, there is not one single law in the U.S. that addresses the biological pollution risks of GMOs. (*Source: Center for Food Safety*)

Further, claims that GM seeds can help feed a hungry world have not borne out. GM crops do not increase overall crop yields. A two-year study by University of Nebraska researchers showed that growing GM soybeans actually resulted in lower productivity than that achieved with conventional soybeans. This has been confirmed by more than 8,200 field trials conducted by Dr. Charles Benbrook, the former director of the Board on Agriculture at the National Academy of Sciences. Similar results have been found for GM cotton and corn. Far from being an answer to world hunger, GM seeds could be a major contributor to starvation. There are currently more than a dozen patents on GM “terminator” seeds, that is, seeds that are engineered to produce a sterile seed after a single growing season. This ensures that the world’s farmers cannot save seed and instead will have to buy from corporations every season. With more than half the world’s farmers relying on saved seeds, most in developing countries, sterility genes escaping from GM crops and contaminating non-GM crops, unintentionally sterilizing them, could result in massive starvations.

WTO AND OTHER INTERNATIONAL AGREEMENTS USED TO PROMOTE
GENETICALLY MODIFIED (GM) PRODUCTS

WTO rules force broader market access for GMOs. Three WTO agreements affect a government's ability to place restrictions and bans on GM products—the Agreement on Sanitary and Phytosanitary Measures (SPS); the Agreement on Technical Barriers to Trade (TBT); and the Agreement on Trade Related Intellectual Property Rights (TRIPs). The first two agreements place heavy burdens on governments wanting to have food, health, or environmental standards that are higher than WTO standards. These agreements force countries to prove that higher standards will not discriminate against products that are “substantially equivalent,” (the U.S. claims that GM products are substantially equivalent to non-GM products) and that policies must be the “least trade restrictive.” By claiming that GM products are substantially equivalent to non-GM foods, the U.S. and other major exporters of GMOs have argued that the labeling of GM products is an “unfair” barrier to trade. TRIPs provides corporations the ability to more easily patent genetic materials, often found in the South and indigenous communities, that can be used to produce GM seeds and products.

The majority of countries are calling for a precautionary approach and some restrictions on GMOs. However, the U.S. continues to thwart restrictions on GM in the WTO and other international arenas such as the Biosafety Protocol. (See Box Three)

GMO LABELING AND RESTRICTIONS—WTO ILLEGAL

In September 2006, the WTO ruled that European Union (EU) measures for approval and marketing of GM products were unfair trade barriers and thus, WTO-illegal. The case was brought to the WTO by leading GM producer countries—the U.S., Argentina, and Canada. In its ruling the WTO's dispute settlement body found that the EU suspension of the approval of all GM products between 1999 and 2003 in order to investigate public health and safety concerns, caused on “undue delay” and therefore was a barrier to trade. It also ruled that national bans applied on a number of GM products by six EU member states—Austria, Belgium, France, Germany, Italy and Luxembourg—were in violation of WTO rules.

Many fear that this ruling will serve as a warning to countries that currently have some restrictions or bans on GM products (over half the world's population live in countries that require pre-market approval of GM organisms). However, the decision could also serve as an alarm to the millions of people around the world concerned with the threats posed by GM products and help to build stronger global movements in protest of WTO policies. The vast majority of Europeans remain strongly opposed to GM foods. In the U.S., many food safety and environmental groups are working for stronger U.S. standards, labeling laws, as well as outright bans on GM products. In the developing world, South Korea was once the number-two buyer of U.S. corn but now buys GM-free corn elsewhere. China now looks to Brazil for GM-free soy.

(Sources: The WTO, and Public Citizen's Global Trade Watch)

Part Three

COUNTERTRENDS—RESISTANCE,
RENEWAL, AND ALTERNATIVES

*Reversing Course: The Global Movement Toward
Regenerating Local Agriculture*



THE CURRENT GLOBAL INDUSTRIAL PARADIGM, specifically the WTO agenda, is a failed model. It is rapidly moving family farms and rural communities toward extinction, and the planet toward ecological disaster. As discussed earlier in this report, many argue that this model has also failed to address hunger and inequity, and in fact may be a root cause of these problems. As Dr. Vandana Shiva observes, “The same industrial food system that is causing obesity and health issues in the North is responsible for hunger and malnutrition in the South.”

These effects must be reversed, and there is now a very impressive global movement to do just that. As the additional threats of climate change and peak oil become ever more apparent, the time to operationalize viable alternative models is now.

Even now, millions of people around the world are already mobilizing to reverse the globalization of industrial agriculture. South Korean farmers have become particularly famous for their dramatic protests at WTO meetings. At the most recent WTO Ministerial in Hong Kong in December 2005, hundreds of farmers dove into the frigid waters of the city’s harbor in a symbolic effort to swim to the convention center where trade negotiators were determining the fates of small farmers around the world. In India, millions of farmers have been protesting for years about corporate biopiracy of their biodiversity and their seeds, and the eventual commercial patenting of indigenous varieties.

The growing resistance movement also includes tens of thousands of farmers in Japan, the Philippines, Bolivia, Germany, France, and most significantly, the growing international movement of landless peasants throughout the global South who are demanding a meaningful land reform process. Evo Morales, a farmer and indigenous leader, was elected as president of Bolivia in 2005. Bolivia is South America's poorest country with a majority indigenous population. President Morales began his term in office by immediately taking actions to implement long overdue land reform.

In Brazil, the landless peasant movement (Landless Workers Movement, or MST) has won actual title to over fifteen million acres of farmland that are able to serve 250,000 families. The Brazilian government has recognized that legalizing MST land occupations—especially when lands were formerly idle—is far less costly (even including compensatory payments to prior landowners) than to have millions of people in abject poverty, without food, without work, edging toward violence, terrorism, and public health disasters, and filling overcrowded cities even further.

Western industrial nations are also seeing small farmers and artisanal producers increasingly sacrificed to production and distribution rules and standards that favor large, monocultural, industrial producers while inhibiting the options of small farmers. In the United States, the National Family Farm Coalition, the Rural Coalition, and many other groups have worked with the Via Campesina, an international movement of small farmers, to promote policies that favor small-scale diversified farming and healthier food. French farmer José Bové, famous for dismantling a McDonald's under construction in France, has become an international leader of protests against unfair agricultural rules and policies.

The demands of these civil society groups go far beyond minor tinkering with the WTO and other agreements. Rather, the goal is to promote alternative approaches at the international, national, and local levels that would reverse many of the current global rules related to agriculture. In a recent report on *Alternatives to Globalization*, the IFG framed the discussion around seven central convictions:

- ❖ Governments should have the authority to apply rules that emphasize support for local production, local self-reliance, and real food security. This authority should supersede that of the WTO. This means applying the principle of *subsidiarity*: whenever production can be achieved by local farmers, using local resources for local consumption, all rules and benefits should favor that option, thus shortening the distance between production and consumption. We are not suggesting that there should be no trade in food products, but that trade should primarily be with foods that cannot be produced locally.
- ❖ The bias of international bureaucracies such as the World Bank, IMF, and WTO toward large-scale, export-oriented monocultural production must be reversed. Rules should invigorate small farms and indigenous agricultural practices that protect local biodiversity and innovation devoted to sustainable use for local populations.
- ❖ Access to land and water for self-reliant food growing is a fundamental human right; it cannot be denied to communities or nations by global trade regimes or in the interests of international trade processes; it must be stopped.
- ❖ Loss of small holders' farmlands to highly concentrated large corporations is a primary cause of poverty and hunger in the world, as well as of environmental devastation.

- ❖ Wherever people are still living and working on their traditional lands, incentives and policies should help them remain in place, working with their families and communities, as a first priority, before entering the global market. Where communities have been deprived of their lands, *distributive land reform* is crucial.
- ❖ Solutions must serve to shorten “food miles”—the distance between where food is grown and where food is consumed.
- ❖ The ultimate sustainable agriculture solution is transition away from large industrial-based agriculture models toward smaller-scale, diverse, and organic farming.

In sum, most international trade rules now favor export production and the global corporations that dominate and benefit from such a system. Agriculture should not be considered an economic sector like any other. Agriculture fulfills essential functions for the stability and security of nations: to preserve the cultural richness and multi-ethnicity of societies, to preserve biodiversity, to generate employment and sustainability, to maintain the population of rural areas, to ensure basic food security and to contribute to economic, social and political stability. For these reasons, national governments should have unmitigated authority to apply restrictions on agricultural trade that are designed to support domestic social and environmental goals. This change must come as part of a much larger package of fundamental reforms in three main categories:

1) *Those related specifically to the WTO.* Many now question the legitimacy of the WTO; some argue that agriculture rules should not be part of this institution, and instead should be governed by international commodity agreements and/or bodies under the purview of the United Nations. Some believe that it is critical to reform WTO agriculture rules (as well as World Bank and IMF policies) because, for the moment, this is the existing global governance system. The alternatives outlined below incorporate both views: Ultimately, agriculture rules may be best governed via another institution(s); however, in the short term, it is critical to push for immediate reforms within the WTO.

2) *Reforms* at the national and global levels.

3) *People’s alternative initiatives.* Fortunately, millions of people around the world are not waiting for changes at the institutional levels but are taking action to promote alternative agricultural models right now, on their own.

I . T E N K E Y W T O R E F O R M S

1) *Allow Quantitative Restrictions (QRs):* Because richer nations have not done much to reduce the level of subsidies they provide to their agricultural sectors, all countries should be allowed to respond to subsidy distortions by applying quantitative restrictions on imports, as they see fit to serve their local needs. As part of the market access commitments of the Uruguay Round of GATT (Article XI), along with rules in the AoA, countries were forced to *remove all bans*, or quantitative restrictions, on imports and exports. Developing countries had traditionally used import restrictions to protect their domestic food production and producers against a flood of artificially low-priced imports; now this mechanism has been stripped away. Many WTO reformers believe that bringing back quantitative restrictions is the only secure mech-

anism to start building food sovereignty and food democracy, and to protect the livelihoods of our rural communities.

2) *Allow Selected Tariffs and Quotas:* New rules must permit the judicious use of selected trade tariffs, as well as import quotas, to regulate imports of food that can also be produced locally. For developing countries, this is called “Special and Differentiated Treatment” (SDT). SDTs recognize the reality that some countries, because of colonialism or past exploitation, need additional help to reach a level playing field—they cannot survive some rules that wealthier countries can. SDT mechanisms that facilitate developing countries to meet their food security, rural development, and livelihood needs should be enacted. SDTs can further help offset *dumping* below actual cost of subsidized commodities from rich countries. And they can help guard against fluctuating commodity prices.

3) *Agreement on Agriculture (AoA) Exemptions:* Martin Khor of the Third World Network advocates that food produced for *domestic* consumption, as well as products of small farmers in developing countries, should be exempted from AoA’s disciplines on import liberalization (market access), domestic support, and subsidies. Similar concessions could be made to small producers in industrial countries that grow crops exclusively for domestic markets.

4) *Eliminate Minimum Access Requirements:* The WTO “minimum access rule” by which each member nation must accept imports of up to 5 percent of the volume of domestic production in each commodity and food (based on 1986-88 quota levels) should be eliminated. This rule directs domestic agriculture policies toward an import/export model, instead of encouraging policies that favor local production for local consumption. For example, a country like South Korea, which is self-sufficient in its staple food—rice—should not be forced to open its market to subsidized U.S. rice exports. Such policies destroy the livelihoods of Korean farmers and their communities and at the same time, render American farmers vulnerable to the volatility of the global pricing system. In both Korea and the United States, the bias should invariably be to strengthen local production for local consumption and to reduce long-distance food shipments.

5) *Allow Export Bans:* Countries must also be allowed to impose export bans that protect natural resources. For example, it is currently WTO-illegal for member nations to ban the export of unprocessed logs. Nations have sometimes banned export of raw logs so as to discourage rampant logging. Because of the WTO rules, it is often now more profitable for governments and landholders to log forests and convert the land into industrial agriculture crops, or cattle grazing. Existing export ban rules in the WTO also conflict with specific bans on trade in endangered species or hazardous waste, and potentially undermine international environmental treaties such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora; Convention on Biological Diversity and others.

6) *Reform the Most Favored Nation (MFN) and National Treatment (NT) Principles:* As discussed in Part Two, these principles, within WTO agreements, prohibit countries from setting environmental standards or more fully developing land set-aside programs, and other tools that can be critical to preserving natural resources and socio-economic values.

Countries should be encouraged to apply trade controls that increase local employment with decent wages, enhance environmental protection, ensure adequate competition and consumer protection, and otherwise improve the quality of life in communities and regions.

States, provinces, and regions should be urged to give favorable treatment to domestic industries and services. Requirements to treat foreign goods and services as favorably as domestic producers should be removed from WTO rules.

7) Reform the Agreement on Trade Related International Property Rights (TRIPs): Many governments, NGOs, and others recommend that intellectual property rights be taken entirely out of the WTO, and that the historical practice of national governments determining their own intellectual property rights systems (*sui generis*) be restored. However, as long as the WTO exists some amendments must be made to existing articles, as follows:

Article 27.5.3(b) of TRIPs:

This article deals with the patenting of life forms and the intellectual property protection of plant varieties. While it allows countries to exclude from patentability plants and animals, and essential biological processes for the production of plants and animals, the WTO rule now makes it compulsory for countries to permit the patenting of microorganisms and microbiological and nonbiological processes.

The problems with Article 27.5.3(b) are the following: 1) It does not make scientific sense to distinguish between microorganisms (which must be patented) and plants and animals (which may be excluded) because all are life forms and should not be allowed to be patented; 2) It does not make scientific sense to mandate the patenting of microbiological processes because they are also natural processes.; and 3) There is ambiguity about the *sui generis* system option for plant varieties.

To correct these problems, the Article should be amended to clarify that: 1) No life forms of any kind can be patented; 2) No natural processes for producing plants and animals can be patented; and 3) A *sui generis* system can include national laws that recognize and protect traditional knowledge of indigenous and local communities.

Article 27.1 Agreement on Patentable Subject Matter:

This Article effectively enables large foreign corporations to obtain control of production and distribution of seeds. It states that patents may be given for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step, and are capable of industrial application.

Article 27.1 should be changed to allow countries to elect to *not* patent food and medicine, and to limit the time scope of a patent or process (most often applicable to medicines).

The Article also should explicitly and unambiguously acknowledge generations-old knowledge of farmers and indigenous peoples as “innovation.” The current lack of definition allows corporations to make slight modifications to a seed, for example, and then patent materials that have been cultivated for centuries by communities.

Benefit Sharing Clause:

Global patenting rights should not override the rights of indigenous communities to genetic and biological resources that are held in common. Some governments and NGOs advocate that for products, patent holders should be able to claim fees to cover the cost of legitimate development, plus a reasonable level of

profit, but such patenting rights must have a limited time frame and fully reimburse the parties whose knowledge contributed to the patented entity—also referred to as “benefit sharing.”

8) Reform the Trade Related Agreement on the Application of Sanitary and Phytosanitary Standards (SPS) and the Agreement on Technical Barriers to Trade (TBT): As mentioned earlier, the WTO’s Agreement on the Application of Sanitary and Phytosanitary Standards (SPS) and the Codex Alimentarius enforce food processing standards that work directly against local and artisanal food producers while favoring the global food giants. Additionally, the SPS constrains member nations from setting food and public health standards that are higher than SPS criteria.

Communities and nation states should be allowed to set public health and safety standards at levels *higher* than existing SPS and Codex rules, and the present harmonization requirements of the TBT agreement. No such efforts to raise national standards above those of SPS and Codex may be challenged by WTO member nations. Countries should also be allowed and encouraged to apply the Precautionary Principle as the basis for regulatory controls affecting trade, when the risks warrant action, even in the face of scientific uncertainty about the extent and nature of potential impacts.

All international environmental, safety, and social standards should be considered as effectively creating a floor for governing the conditions of trade between WTO members. Any country with higher standards or regulations should experience *positive discrimination* in terms of trade. Poorer countries for which such standards are at present too expensive should receive financial aid to help them improve their standards. Once they have set a future date for such improvements, they should be afforded positive discrimination in trade terms. In other words, the rules of trade should demonstrate support for efforts to protect safety standards and the environment.

9) Allow Supply Management Boards/Price Support Systems: WTO rules—in tandem with domestic farm policies, other trade agreements, and SAPs—have reduced and eliminated many supply control and price support systems that ensured farmers made reasonable profits while discouraging oversupply. Such supports should be restored so that farmers are paid prices at full economic cost of production, plus profit.

Programs that permit and encourage low-interest loans to small farmers, maintenance of domestic seed banks, and emergency food supply systems should be allowed and encouraged.

10) Eliminate Direct Export Subsidies and Dumping: WTO rules allow rich countries to continue subsidizing export commodities (while at the same time IMF and World Bank programs have pressured poor nations to eliminate payments or other assistance programs to small farmers). For example, the U.S. Overseas Private Investment Corporation, supported by U.S. taxpayers, provides vital insurance to U.S. companies investing overseas. Even loans from the IMF to Third World countries have been channeled into export subsidies for U.S. agribusinesses. Such subsidies help multinational corporations dominate smaller local businesses both domestically and abroad and should be eliminated. Subsidies that contribute to export dumping, a major grievance of poor countries, should be eliminated. No country should have the right to sell commodities below the price of production on the world market. (For specific policy recommendations for U.S. domestic policy as well as the WTO, see www.tradeobservatory.org, *U.S. Dumping on World Agriculture Markets*.)

II. OTHER REFORMS AT THE NATIONAL AND INTERNATIONAL LEVEL

Apply “Fair Trade Mile” Standards

For all trade in foods that cannot be produced in every region—such as traditional specialty “cash” crops such as coffee, tea, bananas, mangos, etc.—the principles of Fair Trade Miles should be honored. A Fair Trade Miles agreement would set up a guaranteed quantity of goods from specified exporting countries and a guaranteed price range. This will allow exporting nations to have secure levels of earnings and eliminate multinational corporations’ ability to play off one producing country against another, adversely affecting farmer incomes.

Re-instate Global Commodity Agreements

As noted earlier, many developing countries are facing steep and in some cases catastrophic declines in the prices of agricultural commodities that make up a large portion of their exports. From 1980 to 2000, world prices for 18 major export commodities fell by 25 percent in real terms. The decline was especially steep for cotton (47 percent), coffee (64 percent), rice (61 percent), cocoa (71 percent) and sugar (77 percent).

The United Nations Committee on Trade and Development (UNCTAD) should again be given full authority to negotiate agreements aimed at providing a more stable export environment for commodity producers by maintaining price bands agreed to by the producer and consumer countries. WTO rules should clearly articulate and acknowledge UNCTAD’s authority in this realm.

Introduce International Commodity Related Environmental Agreements (ICREAs)

Another alternative solution can be found in ICREAs, which were developed in the early 1990s—the brainchild of a Dutch economist Henk Kox of the Free University of Amsterdam. The aim of ICREAs is to help commodity exporting countries to implement more sustainable production methods. They do this through financial support for environmentally improved production methods, or by providing a price premium for more sustainably produced commodities.

(Note: Unfortunately, since ICREAs were proposed in the early 1990s, little progress on implementation has been made. A 1995 proposal by UNCTAD that countries start preparing ICREAs was effectively squashed by the EU [which asked that more research to be done]. The U.S. sided with the EU citing that ICREAs would interfere with international commodity markets. However, the initiative had broad support from the developing world [especially Asian countries].)

Initiate Anti-Trust Action Against the Agribusiness Giants

While corporate concentration is occurring in nearly every sector, it is extreme in the food sector, from the seed producers to the grocers. (See Box 1.) Globally, the top 10 firms control:

- ❖ more than 50 percent of the total seed market;

- ❖ more than 75 percent of the GMO market; and
- ❖ 80 percent of the agrochemical market.

In the United States, three to four firms control:

- ❖ more than 80 percent of the country's beef packing, corn trading, and soybean crushing market;
- ❖ more than 60 percent of grain facilities, flour mills, and soybean trading; and
- ❖ more than 50 percent of broiler chickens and pork packing.

With so few companies controlling so much of the food industry, consumers stand to lose. Giant firms can also put the squeeze on vulnerable suppliers, putting downward pressure on environmental and working conditions. Particularly since the administration of President Ronald Reagan gutted the U.S. anti-trust division in the 1980s, regulations and enforcement to deal with corporate concentration are woefully lacking.

A number of measures have been proposed that would contribute to reducing market concentration by strengthening national and international anti-trust (or “competition”) law and enforcement. In 2003, Tanzania, Uganda, and Kenya requested that the WTO examine steps to deal with anti-competitive behavior of large foreign firms and to improve the bargaining position of small producers *vis-à-vis* these firms. However, many civil society organizations and developing countries argued that these matters should be dealt with by the United Nations or another independent body, fearing that the WTO agenda is more likely to be driven by transnational corporations' desire for improved market access than by a concern for developing countries or small producers. As a result, the request to review international anti-trust law was dropped from the WTO agenda in 2004.

According to Duncan Green of Oxfam U.K., national competition law could address some of these issues, but only if it shifts from its current focus on consumer welfare and retail prices (i.e. monopoly/oligopoly) to producers and farmgate prices (monopsony/oligopsony). He points to the example of the Brazilian anti-trust agency blocking Nestle's acquisition of Garoto, a local chocolate manufacturer, on grounds of concern over Nestle's 58 percent market share.

Democratize Access to Land via Redistributive Land Reform

Shortly after taking office in 2006, Bolivian President Evo Morales gave nearly 19,000 square miles of land to indigenous peasant communities under a program of agrarian reform. This land was owned by the government. Morales has also pledged to parcel out unused *privately* owned land to meet his goal of redistributing one-fifth of Bolivia's total land area over the next five years.

More countries with extremely unequal land distribution should be encouraged to take such bold action. History shows that the redistribution of land to landless and land-poor rural families is a highly effective way to improve rural welfare. Dozens of successful land reform programs were carried out after World War II. According to a report by the Oakland-based think tank Food First, “When a significant portion of quality land was distributed to a majority of the rural poor, with policies favorable to successful family farming, and when the power of rural elites was broken, there have been measurable poverty

*Box Six***PSEUDO LAND REFORM: WORLD BANK PRIVATIZATION**

Serious land reform has been so successful that even the World Bank has grudgingly accepted the principle that it can help offset the grossly inequitable ownership of reproductive resources in many countries. The Bank has begun to include “land” reform among its requirements in some policy packages when dealing with Third World countries. But, “what the bank calls *land reform* is essentially *privatization* and ‘*market-led*’ mechanisms of redistribution,” according to the agriculture think tank, Food First. “These reforms are a far cry from what Via Campesina, Food First, and others are calling for. But at least the Bank is making it legitimate again to call for land reform and to struggle over its definition.”

When communal lands are privatized, as has happened among Mexico’s formerly communal *ejidos*, and as current World Bank policies promote, systems of individual land titling, registries, and land market schemes can result in mass sell-offs of small holders’ plots. This increases landlessness, land ownership concentration, and migration to urban areas. Even when lands are not sold off under these schemes, the privatization of small holdings negatively affects the sense of community management and the construction of community-style agricultural systems like terracing and small-scale irrigation. The traditional community approaches bend to a new individual profit motive that undermines collective activity and community welfare.

As for “market-led redistribution”—the current favorite of the World Bank—it is fraught with risks, as landowners often choose to sell only the most marginal plots (steep slopes, dense rainforests, desert margins, and so on) often at exorbitant prices. Trying to farm these kinds of lands can often lead to ecologically unsustainable practices to attempt to eke out some productivity. Also, loans offered to purchasers under World Bank financing schemes may leave poor farmers with high debts on marginal lands, thus leading to deeper poverty and land degradation, as with many of the failed reforms of earlier decades. In addition, World Bank loan packages often require a commitment to pesticide and chemical production, and to the use of nontraditional export crops.

All of these policies have been prescriptions for failure, as was the case with market-led reforms in Brazil, which the World Bank is still trying to duplicate in the Philippines and elsewhere.

Many activist groups oppose that kind of pseudo “land reform” and are fighting for a truly *redistributive* land reform that has worked very well where it has been fully supported by government policies, as described in elsewhere in this section.

reduction and improvement of human welfare. The economic success of Japan, South Korea, Taiwan, and China has partly resulted from such reforms... Our research shows that small farmers are more productive and more efficient, and contribute more to broad-based regional development than do the larger corporate farmers. Given secure tenure, small farmers can also be much better stewards of natural resources, protecting long-term productivity of their soils and conserving functional biodiversity.”

It must be done properly, however. The following are several crucial ingredients that *must* apply if land reform is to be successful:

- ❖ Government grants of land must be debt-free.
- ❖ Women must have full rights of title and use.
- ❖ Only good quality land should be used (past failures have often resulted when lands were of poor quality).
- ❖ There must be a highly supportive policy environment—reasonable credit terms and good infrastructures for sound local environmental technologies.
- ❖ There must be easy access to markets.
- ❖ The power of rural elites must be broken so they can no longer block and distort policies, subsidies, and profits in their favor.
- ❖ Reforms must apply to the majority of the rural poor so they have sufficient strength in numbers to be politically effective.
- ❖ Most important, a new farm economy should be the centerpiece of a country’s entire economic development model. When land reform is viewed as welfare, failure is inevitable.

Recently, even institutions, such as the World Bank, have begun to admit the benefits of land reform, but tend to avoid redistributive models and are therefore courting failure. (*See also Box 4.*)

Organic and Beyond

In industrialized countries, the percentage of “organic” crops and foods are miniscule compared to the dominant industrial paradigm. Although one of the fastest growing segments in U.S., agriculture, overall adoption of organic farming is still extremely low—only about 0.5 percent of all U.S. cropland and 0.5 percent of all U.S. pasture was certified organic in 2005. Organic crops represent only around 3 percent of total EU agricultural area. After a terrific growth spurt beginning in 1993, organic growing seems to have reached a plateau in many EU countries.

The growth of organic has not gone unnoticed by giant agribusiness and other corporations. Many welcome major corporate investment in natural foods, believing that this is what it will take to substantially increase the market for organic products. However, the trend has worrisome aspects. Many small-scale operations have been bought out by large corporations with ties to the very multinational companies that heavily lobby to lower organic standards. For example, large corporations moving into the organics market relentlessly lobbied to lower the U.S. National Organic Standards so that some amounts of toxic sludge, irradiation, and other practices are now acceptable under the current rules. Increasing multinational corporate control of organic acreage and marketing seems to be compromising the integrity of organic.

The future of organic agriculture is in peril as long as domestic farm policies of developed nations remain entrenched in subsidizing primarily large-scale industrial agriculture. Government policies in the EU and the U.S. need to lend substantive support for organic farming, transitional systems to organic, and other less-industrialized systems of growing food. A system of “green payments” exists in some EU countries, which is one of the reasons that more organic acreage is farmed there than in the U.S. But such policies must be greatly enlarged to ensure that organic production remains viable and grows in industrialized countries.

In the rest of the world, most food is still grown organically as it has been for centuries. However, current global trade and investment rules force many developing country governments to craft domestic policies that favor industrial systems. These policies, promoted by the IMF, the World Bank, and numerous trade agreements, cause the rapid demise of diverse traditional food systems and result in the loss of livelihoods for millions of farmers in developing countries, and must end. The incentive and bias of these organizations and agreements must favor local, small-scale, and non industrialized farming practices.

Other Mechanisms

Hand in hand with restoring anti-trust laws, other mechanisms can be implemented. The following are recommended by the National Family Farm Coalition mostly concerned with meat and poultry products:

- ❖ Placing a moratorium on mergers and acquisitions in agribusiness, transportation, food processing, manufacturing and retail companies.
- ❖ Holding vertically integrated companies accountable for unfair and deceptive practices. Arbitration could be used to settle contract disputes only if both parties consent in writing after controversy arises.
- ❖ Providing the opportunity for contract growers to join together in a *de facto* Grower’s Union and be legally recognized to negotiate better collective contracts, and legally mandated fair agricultural contracts.
- ❖ Enacting a ban on meat packers’ ownership of livestock.
- ❖ Requiring that contracts for livestock be competitively offered in an open market.
- ❖ Requiring a fixed-base price for contracts.

III. PEOPLES' ALTERNATIVE INITIATIVES

In this section we provide snapshots of a dozen examples from within the tremendous global community of living, breathing alternative systems that people around the world are creating, right now, without awaiting approval of governments or rule changes. From Wisconsin to Kenya, from Bangladesh to Argentina, and from Indonesia to Italy, the communities listed here are only a small representative sample of countless others that are directly challenging the “inevitability” of economic globalization and industrialized agriculture. They are reclaiming their rights to land, healthy food, water, dignity, biodiversity, political autonomy, and a safe and sustainable environment. *(For further examples go to www.ifg.org)*

Fair Trade

Several hundred million dollars worth of trade is now handled outside corporate channels by firms that link small-scale, often worker-owned, producer groups in developing countries directly to consumers. This “fair trade” eliminates profiteering by distributors, middlemen, and wholesalers and often provides financing, marketing, and other skills training.

The goal is to pay producers a stable price, educate consumers, and demonstrate that socially and environmentally responsible products can also be profitable. The fair trade coffee system alone benefits over 350,000 farmers in 22 countries. More than 40,000 cocoa farmers are organized into cooperatives in eight different countries. The business generated by fair trade organizations in Europe and the United States now accounts for only about one-tenth of 1 percent of all global trade, but the market is growing rapidly.

One of the most innovative fair trade agricultural projects is Divine Chocolate. Launched in 1998, Divine is the first ever fair trade chocolate bar aimed at the mass market. A Ghanaian farmer co-op called Kuapa Kokoo has an ownership stake in the company that produces Divine, The Day Chocolate Company, a first in the fair trade world. This means that Kuapa Kokoo has a meaningful input into decisions about how Divine is produced and sold. Two representatives from Kuapa Kokoo are directors on the company's Board, and one out of four board meetings every year is held in Ghana. As shareholders, the farmers also receive a share of the profits from the sale of Divine. Kuapa Kokoo's objectives are to provide dignified livelihoods, increase women's participation in all co-op activities, and develop environmentally friendly cultivation of cocoa. It now has upwards of 45,000 members in approximately 1,200 village societies.

Fair trade rice is also taking off in Europe. For example, the Khaddar Farmers' Federation, which represents smallholder farmers in the foothills of the Himalayas in North India, is now exporting basmati rice to several European countries. The Federation includes 572 rice growers and is one of three farmers' groups in India to be certified by the Fair Trade Foundation, which gives them a guaranteed price per ton. Profits are invested in business, social, or environmental projects agreed to by a committee of elected representatives. Revenues from European sales since 2003 have allowed the Federation to make improvements to local schools, roads, and other infrastructure.

The Food From Family Farms Act

The National Family Farm Coalition (NFFC) represents family farm and rural groups in the U.S. whose members face the challenge of the deepening economic recession in rural communities. The NFFC works closely with international farm organizations to ensure that agriculture policies on both domestic and international fronts maintain farmer livelihoods and rural communities. NFFC promotes an alternative to the current U.S. Farm Bill—The Food From Family Farms Act. This Act would establish fair farm prices, create a food security reserve so that bountiful crops won't depress markets, conservation set-asides to avoid wasteful over-production, and provide loans to help farmers own their land and adopt sustainable farming practices. Most importantly, The Food From Family Farms Act includes goals of trade cooperation based on the principle of food sovereignty—the right of every nation to devise farm and food policy ensuring food security in keeping with its traditions and need for sound social and environmental goals. (For details visit www.nffc.net)

Urban Gardens

Urban gardens are one of the most original and revitalizing movements among urban dwellers. Making use of empty lots, small patches of private property, and public parks, urban gardens in dozens of countries in the world enable city dwellers to grow their own organic foods. Such projects are helpful in educating urban children about how food is grown. Many schools are initiating such gardens on their own property, teaching a survival skill that can bring confidence, self-reliance, and joy.

In Argentina, community gardens, initially created to help confront the effects of the late 2001 economic collapse, have developed into a government-run urban agriculture program. Some 7,000 people who were out of work before entering the program have joined forces to clear the land, plant, and harvest vegetables, and sell their produce in street markets. Many of them are also now involved in agricultural development projects aimed at supplying the market with organic produce, grown without chemical fertilizers or pesticides.

Implemented by the government of Rosario, a city of 1.3 million in eastern Argentina, the Urban Agriculture Program involves over 600 community gardens created on formerly vacant lots, on both public and private lands, as well as a distribution and sales network and projects designed to develop related industries.

In Cuba, urban gardens have played an increasingly important role because of the downturn in the country's economy since the loss of the Soviet market for its products, and since the tightening of the U.S. embargo. An Urban Agriculture Department oversees these efforts. By 1998 there were over 8,000 gardens in Havana, cultivated by over 30,000 people. The Ministry of Agriculture replaced its front lawn in Havana with a garden of lettuce, bananas, and beans, and many of the ministry's employees work in the garden. These urban gardens have reduced the burden on rural areas and led to a reduction in food transport and storage while increasing quality and variety of produce in cities.

Although Cuba may abandon some of these changes when the nation is not as isolated, its experience is nonetheless encouraging. It demonstrates the possibilities of enacting ecologically and socially sensitive agriculture on a national scale. With political will, governments can shift from a focus on global food to local food and implement policies that are good for people, communities, and the environment.

Beyond Organic—Biological Agriculture Systems in Cotton (BASIC)

Obstacles to totally organic adoption by farmers include high managerial costs and risks of shifting to a new way of farming, limited awareness of organic farming systems, lack of marketing and infrastructure, and inability to capture marketing economies. The U.S. has no domestic policies to address these issues, and so some innovative programs and strategies are being developed that either help bridge a transition to organic, or enable farmers to incorporate more ecological practice and still earn a living income.

Though not completely organic, the Sustainable Cotton Project's BASIC program (Biological Agriculture Systems in Cotton) offers California growers strategies utilizing bio-intensive and integrated pest management strategies designed to save money and reduce the need for pesticides, chemical fertilizers, and water. In 2002 the BASIC program demonstrated a 73 percent reduction in pesticide use over the Fresno County average. BASIC growers farm more than 20,000 acres of cotton in California's Central Valley.

Seed Saving and Biodiversity in Bangladesh and India

The Nayakrishi farmers' movement in Bangladesh is reviving traditional crops by saving, storing, and sharing seeds as the basis of household food security. In response to the harmful effects of industrial agriculture, farmers gathered together to implement alternative farming methods that are community based and organic. These methods mix traditional knowledge and wisdom with newer ideas and scientific innovations that are suitable for farmers as well as the environment. Approximately 65,000 families across Bangladesh follow a set of ten simple principles for Nayakrishi farming, all focusing on the use of locally available resources to enhance the efficiency of land, water, biodiversity, and energy, as well as the control over seeds in the farming community.

In addition to using chemical-free agricultural practices, the production of biodiversity is built into the Nayakrishi method of food production. As a fundamental principle, Nayakrishi farmers reject monoculture and base their practices on mixed cropping and crop rotation. In Nayakrishi villages, farmers derive more varieties of fish, together with a wide range of uncultivated crops, which either come as accompanying crops due to multiple cropping in the fields, or grow on the common land where no herbicides are used. Livestock and poultry also grow more rapidly, thereby enriching the food security of the people. Similarly, planting a variety of native trees is an integral part of the practice in Nayakrishi villages. The trees attract birds, butterflies, and other pollinators and predators.

In India, in response to growing threats to traditional farmers from economic globalization, Dr. Vandana Shiva's Research Foundation for Science, Technology, and Ecology initiated the Navdanya project. Navdanya, or nine seeds, represents a diverse ecological balance. Navdanya facilitates conservation and exchange of traditional seed varieties by local groups and communities through a national network of community seed banks and *in situ* (on-farm) conservation programs. Navdanya has pioneered community biodiversity registers to document the resources and knowledge of local, regional, and national communities. These registers help rejuvenate the ecological basis of agriculture, while asserting farmers' prior intellectual innovations to set limits on intellectual property rights monopolies.

In late 1996, Navdanya Foods was initiated, with the aim of bringing sustainably grown, chemical- and pesticide-free, healthy and nutritious, diverse organic food to the urban Indian consumer. Navdanya

Foods specializes in grains from indigenous crops threatened by extinction. The program bridges the gap between the small-scale farmers who want to continue practicing ecological and sustainable agriculture and urban consumers wanting to purchase nutritious and safe food for their families.

Currently, Navdanya is implementing Bija Yatra, a nationwide campaign aimed at creating debate and awareness of the erosion of genetic diversity, the devastating effects of the Green Revolution, the threats posed by the WTO-promoted intellectual property rights regime, and the links to diminishing food security in India. The Bija Yatra campaign protects farmers' rights to use and conserve their own seeds, strengthens local communities, and creates a real alternative to corporate globalization.

Farmers' Markets and Community Supported Agriculture

Thriving in many parts of the world, farmers' markets are now also being rediscovered and supported throughout industrial countries. These markets are ways of directly connecting consumers with local producers, often organic farmers, who can keep prices lower by avoiding distribution costs.

Another way of making these links is through Community Supported Agriculture (CSA). In a typical CSA farm model, local community members purchase a share in a local farm's operation at the start of each growing season and in return receive a fresh, nutritious box of produce directly from their grower on a weekly basis. In this arrangement, members agree to pay the costs of production regardless of the actual harvest. This allows the farmer and consumer to share many of the financial burdens typically borne by the farmer alone and for both to bypass the conventional industrial agriculture marketing and retail system.

CSAs range from small gardens with five to twenty members to large farms serving nearly a thousand families. CSAs create direct and personal relationships with the farmer—and often the land on which the food is grown—offering a positive alternative to systems where consumers have no choice but to purchase days- or weeks-old produce from the supermarket shelf. They also provide farmers with a viable economic alternative, allowing them a greater percentage of the food dollar (close to or at 100 percent) and a stable revenue stream.

CSAs emerged in the mid-1960s in Germany, Switzerland, and Japan in response to concerns about food security and urbanization. They appeared in the U.S. in the mid-1980s, and today there are as many as 3,000 CSAs in the U.S. In Japan, millions of people are part of the CSA system, which is a major source of the country's fresh produce.

Slow Food Movement: Italy

Founded in 1996 in Italy in response to the homogenous, unhealthy, and socially and environmentally destructive processes of industrial agriculture, the Slow Food Movement has generated renewed appreciation of local and regional food specialties and is reviving threatened agricultural varieties. In 1996, Slow Food launched the "Ark of Taste," a project that documents, catalogues, and safeguards small and quality agricultural diversity that is threatened, or potentially threatened, with extinction. Safeguarded products include plant species, varieties, and ecotypes, as well as well-adapted animal populations in a specific territory.

Local producers promote their products, preserve degraded land, and create employment through *presidias*, which set production regulations taking into consideration a product's cultural and historical aspects, biodiversity, environmental problems, and the needs of small-scale economies. Agronomic and live-stock practices are proposed that are not aggressive to the natural environment. In some cases, the production regulations are explicitly organic and prohibit synthetic fertilizers and pesticides. Examples include Saraceno grain from Valtellina, and the Zolfino bean from Pratomagno. Slow Food went international in Paris in 1998 and now the movement is found in forty-five countries and has over 80,000 members.

White Earth Land Recovery Project: U.S.A.

The WELRP was founded in 1989 by White Earth tribal member Winona La Duke. In 2004, WELRP received the prestigious International Slow Food Award at the Fourth International Slow Food Congress in Naples, Italy. The project was recognized for its work to preserve wild rice and biodiversity and to restore local food systems on the White Earth reservation in eastern Wisconsin. The project works to facilitate recovery of the original land base of the White Earth Indian reservation while preserving and restoring traditional practices of sound land stewardship, language fluency, and community development and strengthening their spiritual and cultural heritage.

The White Earth reservation, home to the Anishinaabeg people, is also home to one of the oldest wild rice pollens known today—pre-dating the Anishinaabeg people by a thousand years. According to the oral history of the Anishinaabeg, *manoomin*, or wild rice, was a gift given by the Creator and is a centerpiece of the nutrition and sustenance of the community. The project works to oppose the genetic modification and patenting of wild rice in White Earth but also around the world, working in collaboration with indigenous communities and other peoples' movements to ensure that native rights, natural harvesting, and food security are guaranteed for generations to come.

Rice Diversity in Indonesia

In response to the near-extinction of many local rice varieties, Pusspaindo, a biodiversity organization, launched a project in 1997 for the recovery of local rice varieties. The goal was to promote farmers' independence through the use of local varieties, local wisdom, and traditional production systems. Farmers each gave one kilogram of a local rice variety that was then planted, multiplied, and redistributed among other farmers. Pusspaindo promotes the production of rice using organic methods of pest control and has shown that local rice varieties can achieve higher yields than the new varieties. Yields of ten to fourteen tons per hectare have been achieved. The local rice has also been found to have excellent qualities: it has a better flavor, is more nutritious, can be grown continuously throughout the year, is easier to plant, and is more economical, especially if grown organically. Furthermore, some local varieties have medicinal properties helpful for common diseases.

Organic Farming and Nutrition in Belo Horizonte, Brazil

The municipal government of Belo Horizonte, Brazil, runs a world-renowned series of programs to reduce food insecurity in the city. First, food was declared a right of citizenship. To help guarantee this right, the city provides plots for local farmers to grow their own food using organic practices. The farmers are now able to provide for themselves while the city helps keep prices for locally grown food low for

others in the community. School lunches are made with these crops and the entire city is encouraged to purchase these products as part of a healthier, affordable diet. There is also the *Restaurante Popular*, a government-run cafeteria offering affordable meals to more than 5,000 people a day. The city offers farmers prime retail locations at cut-rate costs, with the agreement that the produce will be sold at half the retail price. Since the program began in 1993, infant mortality rates have dropped 41 percent in the city, compared to 7 percent for Brazil as a whole. All this costs the city less than 1 percent of its budget.

Backlash Against Genetically Modified Foods

Consumers have allied with environmentalists and small farmers to protest genetically modified (GM) foods on every continent, uprooting crops in Britain, staging grocery stores sit-ins in Brazil, and dumping symbolic bags of corn on the steps of South Africa's parliament. The global consumer backlash against GM foods has resulted in significant legislative action:

- ❖ At least 35 countries have imposed limits on genetically modified food.
- ❖ India, the world's second most populous country, has banned all GM seeds except for cotton.
- ❖ In the United States, governing bodies in at least seven cities and one county have either banned the growing or marketing of GM foods or called for federal labeling laws.

Consumer pressure also forced Monsanto, the largest GM seed producer, to announce in 2004 that it was abandoning (at least temporarily) plans to commercialize the world's first GM wheat variety. However, consumers face a fierce battle with biotech firms. In 2003, Monsanto and other GM seed producers succeeded in pushing the governments of the United States, Canada, and Australia to file a challenge under the WTO over the European Union's 1998 moratorium on GM imports. In a partial response to this threat, in 2004, the EU began weakening its position by approving the use of a variety of GM sweet corn. Ultimately, the WTO ruled that EU's requirement to label GM products was illegal. The EU will either have to rescind its labeling laws or face harsh trade sanctions.

Within the United States, the biotech lobby has successfully pushed state and local legislation, including at least 30 bills increasing the penalties for destroying GM crops.

Farmer-Owned Ethanol Cooperatives

In the 1980s Minnesota farmers demanded a greater share of the benefits of the ethanol industry. Instead of a partial gas tax credit, the legislature agreed to pay producers 20 cents per gallon, as long as the ethanol was produced inside the state, thereby spurring economic development. While there was no limit to the scale of the ethanol facility, only the first 15 million gallons received an incentive, which encouraged smaller farmer-owned biorefineries.

According to the Institute for Local Self-Reliance (ILSR), this policy allows farmers to escape their traditional role as simply raw material suppliers to an increasingly concentrated processing and manufacturing and retail sector. Farmer-owners receive, on average, about 50 cents a bushel in dividends per year, and more than \$1 per bushel in very profitable years. Farmer-owners can also use their ownership in an ethanol plant as a hedge against a drop in the price of their raw material. If the price of corn falls, so does the production cost of ethanol; all other things being equal, refinery profits and therefore dividends will rise.

The skyrocketing price of oil has created new opportunities for the expansion of ethanol and other biofuels. The challenge will be to ensure that farmers who produce these products get a fair share of the benefits. The ILSR also points out the danger of a trend towards building larger scale plants, which dramatically increases the energy costs of making the ethanol.

Brazil's Landless Workers Movement (MST)—Reclaiming Land for the Poor

Brazil's Landless Workers Movement (MST) emerged in reaction to the evictions, expropriations, and displacements in Brazil during the dictatorial period of 1979 to 1983. MST is made up of diverse landless peasant organizations demanding the right to live and grow their own food on unused lands. Through "occupations" of idle land, MST has settled more than a million people on fifteen million acres and forced agrarian reform to the top of the national political agenda. Brazil's government has formally recognized MST's rights to farm these lands. MST's 500 independent production cooperatives process, market, and distribute farm products while actively promoting organic farming methods. Their three credit unions have thousands of members.

Typical occupations consist of 1,000-3,000 families who turn idle land into productive farms. They sell their produce in the marketplaces of the local towns and buy their supplies from local merchants. Not surprisingly, those towns with nearby MST settlements are better off economically than other similar towns, and many mayors now actually petition the MST to carry out occupations near their towns. MST has succeeded in reducing malnutrition, joblessness, and poverty in its settlements while increasing literacy rates. The success story of MST in Brazil has been an inspiration to many similar movements in other countries.



The examples in this section represent a small but typical sample of the thousands of small farmers, citizen groups, and land-based peoples retaking control of their most basic needs, providing their own communities and families with access to fresh, healthy, nutritious local foods grown under conditions that they can understand and control, and in which they can have confidence. We could certainly fill a book with such examples. What is most important for our purposes here is that these are just the tip of an iceberg.

This burgeoning movement also finds expression as *internal* protests within bureaucracies such as the WTO that have been sustaining the opposite model; one that has been destroying the earth and communities of people who depend on it. With the poor *nations* of the world now aligned with poor *peoples* of the world, even within the wealthiest countries, there is an awakening on these matters that cannot be squelched.

In any case, as already discussed, industrialized agriculture challenges the inherent limits of nature and exacerbates a multitude of horrific global problems. Now, with the advent of climate change, and the growing shortage of cheap energy, it is only a question of time before true reform becomes inevitable, and we return much closer to the kinds of local systems that have been undermined or snuffed out. Meanwhile, we can all work toward changing and/or eliminating the most oppressive of the current bureaucratic rules, meant to sustain a system that will not survive for long.

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