

Agribusiness, The Natural Monopoly:

Death, Environmental Devastation, and Economic Failure

The patent of food and seeds to grow food has led large agribusiness to a natural monopoly. This natural monopoly's barrier to entry is ever increasing because of the need for a constant increase in input to yield the same output or increase output. This business of food, led by large multinational agribusiness is a recipe for death, environmental devastation and economic failure. This cycle of destruction is hidden and entangled deeply into the United States economy and foreign policy. If we are to overcome the possible devastation of this natural monopoly on food a new model for regional based decentralized food production and consumption will be required. In order to get a focused view of the agribusiness market, we will first take a global view on one food item, corn.

Corn is the base substance in thousands upon thousands of food products we consume. It is in our gas as ethanol, building supplies as paint or timber, most processed food as high fructose corn syrup, and even in the medications we consume. As Michael Pollan author of many renowned books on food and agriculture, writes "Corn is what feeds the steer that becomes steak, the chicken, the pig, the turkey, the lamb, the catfish, the salmon, in eggs, cheese, yogurt...Modified corn starch glues things together...Since the 1980s virtually all the sodas and most of the fruit drinks sold have been sweetened with corn syrup. Read the ingredients on any processed food and corn is what you will find. Corn makes up modified starch, glucose syrup, maltodextrin, crystalline fructose, ascorbic acid, for lecithin and dextrose, lactic acid and lysine, for maltose and HFCS, for MSG and polyols, for the caramel color and xanthan gum.(p18-19)."

Forty years ago corn was not that popular. The very face of agriculture changed with the technological revolutions in farming of the nineteen seventies. The technology was developed to produce seeds which were high yielding, incapable of reproduction, and pesticide resistant. These new genetically modified seeds combined with tractors and crop dusting pesticides dramatically increased the yield of corn. Pollan spends some time with a corn farmer whose yield is now ten times that of the farmer's father (36-37). Prior to the seventies agricultural revolution farmers had collected seed from previous crops or other farmers, pesticides were rarely used as they would kill the crops. The developers of the new seeds, pesticides and fertilizers found themselves with a unique market advantage. The advantage was that of having the property rights to seeds and pesticides which are a requirement to sustain such high yields. A natural monopoly arises where the largest supplier in an industry (in this case the agribusinesses), often the first supplier in a market, has an overwhelming cost advantage (they have the only seeds and pesticides via patents so they control the cost) over other actual and potential competitors.

As the seed technology has become a larger business few companies have arose as leaders. As Vandana Shiva, founder of the Research Foundation for Science, Technology and Ecology, writes "Today ten corporations control 32 percent of the commercial seed market, valued at \$23 billion, and 100% of the market for genetically engineered or transgenic, seeds. These corporations also control the global agrochemical and pesticide market. Just five corporations control the global trade in grain (Stolen Harvest p9)." Monsanto is a leader in corn production, owning through mergers and acquisitions the patent for the most commonly used high yield corn strains, pesticides (notably Round Up ready), and even the patent for the creation of genetically modified sterile seeds (Stolen Harvest pp80-81).

Corn began to grow at such high yields a surplus was massed and farmers could not sell what they were producing. At this time the United States government stepped in to stabilize the price of the corn with a subsidy. Farmers were encouraged to produce more corn and were guaranteed that the corn would sell. The technology got innovative and we found a way to feed everything corn. At the same time as this increase in yield new technology inputs arose for farmers namely; the genetically modified seeds, pesticides, nitrogen rich fertilizers, and tractor crop dusting equipment. With an increase in corn production the price also has gone down. In order to make a living farmers are having to produce more. As Michael Pollan notes "Farmers facing lower prices have only one option if they want to maintain their standard of living, pay their bills, and service their debt, and that is to produce more(53)." So the farmers end up buying more pesticide and high yield seeds. On the Naylor's farm in Iowa Pollan observes that corn was being sold for a dollar less than what it cost the farmers (61).

Beyond what it cost the farmers the increase in use of pesticides and fertilizers there are hidden costs to the environment and our health. Water plus pesticides creates runoff. The run off pesticides flow through the ground into the natural environment and the water stream. Not only will we consume the pesticides in the corn but it ends up directly in the water supply. There have been no long term research studies on pesticides in the United States. We are not even aware of the impact of long term exposure to these pesticides. The companies who are making this food stuff are not exactly humanitarians. In *Stolen Harvest* Vandana Shiva notes that Monsanto developed Agent Orange(81). Pollan notes that the first fertilizer was created to dispose of bomb waste left over from wars (41). The impact of the pesticides on our health and environment is hidden. The corporations are just too big, they fund the research in our universities, and the advertising on our televisions, and computers and they don't want to pay for the damage.

In countries outside the United States where the agribusiness has less of a hold we can hear a little about the damage. Let's take India where as National Public Radio reporter Daniel Zwerdling reports "The United States sent money and technical support, including advisers from one of America's most prestigious agriculture universities. India's government showered Punjab with low-cost chemicals and seeds — and they paid the farmers, in effect, to use them by guaranteeing minimum prices for Green Revolution crops(India's Farming Revolution Heading for Collapse)." This introduction to agribusiness destroyed the natural foods that were a hallmark of India's culture. As Vanda Shiva writes "One crop exported from a single country by one or two corporations replaced hundreds of foods and food producers, destroying biological and cultural diversity and political democracy(Stolen Harvest p11)." Then there is the sickness that the pesticides brought. In another article we learn from Daniel Zwerdling "People say they never used to see so many cancer patients in this farm region(the Punjab in India where the United States introduced agribusiness in the 1970's). Cancer was considered an urban disease, suffered by people who lived in cities choked with industry and pollution. But research by one of the most respected medical institutes in India recently found that farming villages using large amounts of pesticides have significantly higher rates of cancer than villages that use less of the chemicals(In Punjab Crowding the Cancer Train)."

Most of the corn we produce is inedible so as we noted before it goes into other products. The chemical filled sterile corn is used to feed our meat. These animals were not designed to eat corn and they become ill or sick as a result. Then the animals are fed with antibiotics to keep them alive long enough so that the top dollar can be fetched. As Michael Pollan writes "The unnaturally rich diet of corn that undermines a steer's health fattens his flesh in a way that undermines the health of the humans who will eat it. The antibiotics these animals consume with

their corn at this very moment are selecting, in their gut and wherever else in the environment they end up, for new strains of resistant bacteria that will someday infect us and withstand the drugs we depend on to treat that infection (81).” The animals are also reared in a way which models the corn production high yield. Meat is produced on factory farms where as many cows, chickens, pigs, turkeys as possible are crammed into a tight area. Jonathan Safran Foer, author and researcher, notes in *Eating Animals*, that there are four major slaughterhouses in the United States who do 80% of the killing. If one of those slaughterhouses gets a bacteria or pathogen outbreak 20% of our meat supply could become infected. In 1918 The Spanish flu was a pandemic that was spread first in food(*Eating Animals* 126). Jonathan Safran Foer notes in that AIDS took twenty-four years to kill 24 million people the Spanish flu killed as many in twenty-four weeks(*Eating Animals* 124). Such concentrated levels of food production with antibiotics leaves us vulnerable to sickness of a pandemic level and could possibly kill a significant portion of the population.

Concentrating all of the animals on the factory farms has a devastating environmental impact as Foer notes “Shit usually found in the shit of factory farmed hogs: ammonia, methane, hydrogen sulfide, carbon monoxide, cyanide, phosphorus, nitrates and heavy metals. In addition, there was more than 100 microbial pathogens that can make humans sick, including, salmonella, cryptosporidium, streptococci and giardia.(thus children raised on the ground of a typical hog factory farm have asthma rates exceeding 50%)(175).”All of those chemicals and the antibiotics flow from the feces of the animals into the environment. Many modern concerns for food contamination stem from this factory farm system. As Foer writes “Scientific studies and government records suggest that virtually all (upwards of 95% of) chickens become infected with E Coli (an indicator of fecal contamination) in factory farms and between 39 and 75 percent

of chickens in retail stores are still infected (131.” The dangers are paramount and you might think that in a democracy a place like the United States the people are being protected by the governmental organization such as the USDA but in fact the USDA does no bacteria or pathogen testing whatsoever. The United States and the USDA stand to increase the profits of the agribusinesses.

In fact as Vandana Shiva writes “In March 1998, the USDA and the Delta and Pine Land Company announced the joint development and patent on a new agricultural technology benignly called “Control of plant Gene Expression.” The USDA receives 5 percent profit from the sales of these seeds (82)” As Michael Pollan writes in the Omnivores dilemma “the closer you look the more you find the federal government lending a hand- a patent, a monopoly, a tax break (p41).”

The bottom line of the profit of a monoculture cannot last for long. As Michael Pollan also writes “When you add together the natural gas in the fertilizer to the fossil fuels it takes to make the pesticides, drive the tractors, and harvest, dry and transport the corn, you find that every bushel of industrial corn requires the equivalent of between a quarter and a third gallon of oil to grow it-or around fifty gallons of oil per acre of corn(p45).” As Vandana Shiva writes “A study comparing traditional polycultures with industrial monocultures shows that a polyculture system can produce 100 units of food from 5 units of input, whereas an industrial system requires 300 units of input to produce the same 100 units(Stolen Harvest p13).” If we continue to use the products of agribusiness we will increase our level of suffering from their byproducts of death, sickness, and environmental devastation. The heart of the issue is the industrial model of food production. Smaller producers in local areas using proven technology such as nature will yield a better outcome for humanity.

Bibliography

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