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The Agro-industrial Food Chain: Global Warming, Food Crisis and Transgenic Corn

Like a serpent biting its own tail, the industrial food system—arguably the main cause of global climate change—was shaken by an incredibly poor harvest in the Summer of 2012, after an intense drought in the United States. Although harvesting was possible in some regions, many crops were unusable because the lack of water meant plants were unable to process synthetic fertilizers and thus became toxic and inedible. In the case of corn, food shortages were exacerbated because 40 percent of the corn produced in the United States is destined for ethanol production, feeding cars instead of people. Overall, the US is one of the largest corn, soy, and wheat exporters in the world, and 80 percent of global distribution of cereals is in the hands of four multinationals that monopolize supply in order to maximize profit. In Mexico, low production in 2012 contributed to an increase in food prices on the global market. The price of poultry, pork, and beef also increased because more than 40 percent

of cereal production in the world is used for the factory farming of confined animals. This is another of the absurdities of the agroindustry; it would be much more efficient to use cereals for human consumption, consume less meat, reduce the scale of animal farming, and feed animals through foraging. The confined industrial breeding of animals is the source of both food shortages and price increases, as well as epidemics such as avian and swine flu; these factors often exacerbate one another, as we have seen in Mexico, where a recent avian flu outbreak led to a spike in the cost of eggs. These are just a few symptoms of the transnational corporate food industry, which is also characterized by a lack of biodiversity, the heavy use of pesticides and synthetic fertilizers, and a dependency on fossil fuels.

Thus the two most significant planetary crises, the food crisis and the climate crisis, have the agro-industrial food production system as their main cause: from seeds and agriculture to livestock production and supermarkets, industry forms a chain that oppresses people and exploits countries—with Monsanto pulling firmly from one end and Walmart from the other.

The role that the industrial food chain plays in causing climate chaos is fundamental, but this reality is very different from the “facts” that corporate propaganda bombards us with. Most official studies, from the Stern Report in the UK to the Intergovernmental Panel on Climate Change (IPCC), place industrial agriculture, with its monocultural plantations and synthetic inputs (pesticides, fertilizers, hybrid or transgenic seeds) as the cause of between 11–15 percent of greenhouse gas emissions (GHG), third or fourth on the list of factors causing climate change.

This, however, does not account for the entire problem, as the agro-industrial food system is directly tied to important percentages of other primary causes of climate change, such as transportation, energy production, and deforestation. As the non-profit organization GRAIN has demonstrated, summing up these different factors, the agro-industrial food

system is responsible for the aforementioned 11–15 percent of total greenhouse gas emissions from agriculture; another 15–18 percent from deforestation; 15–20 percent from the transportation, processing, packaging, refrigeration, and supermarket sales of food; and 3–4 percent more from rotting food that ends up in dumpsters. This means that it is responsible for between 44 and 57 percent of the total emissions that cause climate change.¹ Other studies that track the emissions of intensive confined animal breeding—unaccounted for separately in the aforementioned data—increase this percentage to an even higher level. Moreover, industrial agriculture uses up (and pollutes with pesticides) up to 70 percent of global drinking water. Much of the remaining is used by five global beverage corporations—Danone, Nestle, Unilever, Anheuser-Busch, and Coca-Cola—who have privatized enough water to satisfy the daily domestic requirements for every person on the planet.

Paradoxically, the agro-industrial food industry does not feed the majority: 70 percent of the world's population is fed by independent farmers and peasants, indigenous peoples, artisan fishers, and urban community orchards.² But the 20 or so transnationals in charge of the agro-industrial food system (from Monsanto to Walmart, passing through Cargill, ADM, Nestle and a few others) control seeds, livestock genetics, pesticides, the distribution and storage of grains, food and beverage processing and distribution, as well as supermarkets. They are responsible for the crisis, yet they have shielded themselves against its effects by shifting financial losses to small producers, consumers, and public coffers. For them, climate chaos and food shortages do not produce losses but profits, as it is the case in their ongoing sale of seeds, pesticides, and fertilizers, or in the case of corporations that store cereals, hoarding them and speculating on their commodity futures, or products in supermarkets, where prices rise much more drastically than at the beginning of the supply chain. Scandalously, those who

suffer the most from the rise of food prices are the poor, especially the urban poor, who spend on average 60 percent of their income in order to eat.

In Mexico, the case of maize is illustrative of the problem. After the harvest of 2012, farmers in the north of the country had 2 million tons of unsold maize, yet 1.5 tons of transgenic maize were imported from the US. At the same time Mexico sold 150 thousand tons of maize to El Salvador, and the same amount to Venezuela. Shortly before that, Mexico had bought half a million tons from South Africa. Such wide-ranging transportation of food across the planet is not only unnecessary and devastating for national production, but it is also absurd considering climate change. Bruno Ferrari García de Alba, the Mexican Minister of the Economy (2006–2012) who worked for Monsanto before becoming a government official, washed his hands of the situation, stating that the decisions were made by private companies, not the government.

As researcher Ana de Ita from the CECCAM (Centro de Estudios para el Campo Mexicano or Center for Studies of Mexican Rural Areas) explains, what makes this possible is the liberalization of national farming production, which preceded the ratification of NAFTA, when the parastatal company CONASUPO (Compañía Nacional de Subsistencias Populares or National Company for Popular Subsistence) was dismantled. Its role had been to balance the national commerce of maize, and its disappearance implied that the domestic market would be given to transnational companies like Cargill, ADM, Corn Products International, along with industrial poultry and tortilla processing companies. These companies buy from whoever offers the lowest price, or for other reasons, such as buying only from farmers who have signed production contracts with the US.

These companies—and their former officials who also enjoy posts in the government, like Ferrari García de Alba—argue that corn must be imported or produced transgenically because national production is not enough. Mexico, however, has produced about 22

million tons annually in recent years, while human consumption in the country is only about 11 million tons. Industrial derivatives use an extra four million tons, leaving 7 million. But corporations import an additional 8–9 million tons because 16 million tons are used for the mass industrial rearing of poultry and pigs—an industry heavily dominated by large corporations.

If rearing were decentralized and animals fed using a diversity of means, nationally produced maize would be more than enough. Additionally, this would reduce the risk of epidemics and eliminate transgenic corn, creating many more rural jobs. Importing maize to Mexico is completely unnecessary for Mexico's population; it is simply a function of transnational companies wanting to increase their profits, an activity promoted and subsidized by the government. If public policies instead protected the diversity of agricultural and livestock production, small-scale farmers, local producers, and national seeds and breeds, food security and climatic risks would be diminished. We would have enough food—at accessible prices and of much better quality.

An extremely concerning consequence of the dismantling of the national production of maize in Mexico is that companies want to replace local varieties with transgenic corn, which would have a devastating economic, environmental, and cultural impact. Mexico is the origin of maize, one of the three main food crops worldwide. If transgenic corn were to be allowed in Mexico, the global genetic repository of maize would be irrevocably impoverished. It would be an historic crime against global food security, as well as against the rights of the indigenous communities and peasants who produce the crop.

In March 2011, the Network for the Defense of Maize (comprised of over 1,000 indigenous communities and peasants, along with civil organizations from across Mexico), assembled to denounce the transgenic contamination of maize. The assembly reaffirmed its rejection of the planting of transgenic maize, and called attention to the latest abuse of power

the government had authorized Monsanto at “pilot” trial plot of transgenic corn in the State of Tamaulipas. It would be planted only in a quarter of a hectare, which proved how prudent the government was, according to the SAGARPA (Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación, or Ministry of Agriculture, Livestock, Rural Development, Fishing and Foods. On the contrary, the opposite turned out to be the case, as so-called pilot trials exist merely to disguise the pre-determined slippery slope eventually allowing multinationals to plant transgenic corn at a commercial scale and thus pollute Mexico with impunity. The stages to be reached in order to gain approval to make plantations of transgenic corn at a commercial scale imply a first “experimental phase,” followed by a “pilot phase” in which, harvested corn can be sold. Once this phase is completed, large-scale commercial production would be allowed. According to the Mexican Biosafety Law, between each phase, an evaluation must be carried out to decide whether the planting of a new crop is allowed to continue or not. But these evaluations are carried by the same corporations that apply for transgenic maize plantations, and neither the criteria used for these evaluations nor the results from the trials are publicly disclosed by the government. In other words, there is no real biosafety protocol in place that can prevent transgenic corn from contaminating the country. Other so-called “experimental” and “pilot” trial phases are mere formalities which lead directly to commercial, large-scale planting. Furthermore, even if companies were legally obliged to apply biosafety rules, farmers would necessarily apply them in the field, as industrial farmers would see them only as extra expenses. Indeed, After this first “pilot” planting, dozens of others were approved. In late 2012, Monsanto, DuPont, and Dow Agrosiences applied for the commercial plantation of transgenic maize in Mexico in millions of hectares. Thanks to strong widespread national and international protests, the approval of commercial scale transgenic maize production has not been approved, but

intense pressure from companies continues.³

What is at stake in Mexico is the heritage of millions of peasants and members of indigenous communities who have helped the whole of humankind, and the genetic diversity of the food industry in Mexico. It appears that subsequent governments have regarded these as picturesque facts addressed only to tourists. To protect native corn necessarily implies recognition and respect, on its own terms, of the integral rights of indigenous and peasant peoples. In order to avoid transgenic contamination of the original locus of maize production, a good start would be the immediate ban of transgenic crops throughout the country.

Currently, many alternatives exist to the agro-industrial food system; exiting the agro-industrial chain implies supporting and strengthening peasant food networks, the culturally diverse and decentralized production of crop (without pesticides), and their consumption in local markets. Only in this way can we begin to reconstruct Mexican soil—the destruction of which hinders carbon absorption and exacerbates global climate change—and seriously work towards improving life on this planet.

Notes

This article was sourced from the following:

Silvia Ribeiro, "Comida que calienta," *La Jornada*, 8 September 2012;

Silvia Ribeiro, "Comer o no comer," *La Jornada*, 25 August 2, 2012;

Silvia Ribeiro, "Maíz transgénico: Leyes para prevenir la justicia," *La Jornada*, 26 March 2, 2011.

1

See: GRAIN, "GRAIN, Food and Climate Change: The Forgotten Link," GRAIN, 2011. <http://www.grain.org/article/entries/4357-food-and-climate-change-the-forgotten-link>.

2

See: ETC Group, "Who will Feed Us? The Industrial Food Chain or the Peasant Food Web?" September 2013., <http://www.etcgroup.org/content/poster-who-will-feed-us-industrial-food-chain-or-peasant-food-webs>.

3

See: ETC Group, "Growing Maize Disaster," News Release, 12 December 2012; <http://www.etcgroup.org/content/growing-maize-disaster>.