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Poisoned Food, Poisoned Agriculture: Getting off the Chemical Treadmill

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A peer-reviewed study published last year in the British Journal of Nutrition, a leading international journal of nutritional science, showed that organic crops and crop-based foods are between 18 to 69 percent higher in a number of key antioxidants such as polyphenolics than conventionally-grown crops. Numerous studies have linked antioxidants to a reduced risk of chronic diseases, including cardiovascular and neurodegenerative diseases and certain cancers. The research team concluded that a switch to eating organic fruit, vegetable and cereals – and food made from them – would provide additional antioxidants equivalent to eating between one and two extra portions of fruit and vegetables a day.

Moreover, significantly lower levels of a range of toxic heavy metals were found in organic crops. For instance, cadmium is one of only three metal contaminants, along with lead and mercury, for which the European Commission has set maximum permitted contamination levels in food. It was found to be almost 50 percent lower in organic crops. Nitrogen concentrations were also found to be significantly lower in organic crops. Concentrations of total nitrogen were 10 percent, nitrate 30 percent and nitrite 87 percent lower in organic compared to conventional crops. The study also found that pesticide residues were four times more likely to be found in conventional crops than organic ones.

The research was the biggest of its kind ever undertaken. The international team of experts led by Newcastle University in the UK analysed 343 studies into the compositional differences between organic and conventional crops.

The findings contradict those of a 2009 UK Food Standards Agency (FSA) commissioned study which found there were no substantial differences or significant nutritional benefits from organic food. The FSA commissioned study based its conclusions on only 46 publications covering crops, meat and dairy, while the Newcastle University-led meta-analysis is based on data from 343 peer-reviewed publications on composition difference between organic and conventional crops.

There has been for a long time serious concerns about the health impacts of eating food that has been contaminated with petro-chemical pesticides and fertilisers. Over the past 60 years, agriculture has changed more than it did during the previous 12,000. And much of that change has come about due to the so-called ‘green revolution’, which has entailed soaking crops with petrochemicals. Coinciding with these changes has been the onset and proliferation of numerous diseases and allergies.

The global agritech/agribusiness sector is in effect poisoning our food and the environment with its pesticides, herbicides, GMOs and various other chemical inputs. Journalist Arthur Nelson has written that as many as 31 pesticides could have been banned in the EU

because of potential health risks, if a blocked EU paper on hormone-mimicking chemicals had been acted upon.

Christina Sarich recently reported that there are currently 34,000 pesticides registered for use in the US. She states that drinking water it is often contaminated by pesticides and more babies are being born with preventable birth defects due to pesticide exposure. Chemicals are so prevalently used that they show up in breast milk of mothers.

Illnesses are on the rise too, including asthma, autism and learning disabilities, birth defects and reproductive dysfunction, diabetes, Parkinson's and Alzheimer's diseases and several types of cancer. Sarich says that their connection to pesticide exposure becomes more evident with every new study conducted.

Important pollinating insects have been decimated by chemical herbicides and pesticides, which are also stripping the soil of nutrients. As a result, for example, there has been a 41.1 to 100 percent decrease in vitamin A in 6 foods: apple, banana, broccoli, onion, potato and tomato. Both onion and potato saw a 100 percent loss of vitamin A between 1951 and 1999.

In Punjab, India, pesticides have turned the state into a 'cancer epicentre', and Indian soils are being depleted as a result of the application of 'green revolution' ideology and chemical inputs. India is losing 5,334 million tonnes of soil every year due to soil erosion because of the indiscreet and excessive use of fertilisers, insecticides and pesticides. The Indian Council of Agricultural Research reports that soil is become deficient in nutrients and fertility.

We can carry on down the route of chemical-intensive, poisonous agriculture, with our health and the environment continuing to be sacrificed on the altar of corporate profit. Or we can shift to organic farming and investment in and reaffirmation of indigenous models of agriculture as advocated by the International Assessment of Agricultural Knowledge Science and Technology (IAASTD) report.

In this respect, botanist Stuart Newton's states:

> "The answers to Indian agricultural productivity is not that of embracing the international, monopolistic, corporate-conglomerate promotion of chemically-dependent GM crops… India has to restore and nurture her depleted, abused soils and not harm them any further, with dubious chemical overload, which are endangering human and animal health." (p24).

Newton provides insight into the importance of soils and their mineral compositions and links their depletion to the 'green revolution'. In turn, these depleted soils cannot help but lead to mass malnourishment. This is quite revealing given that proponents of the 'green revolution' claim it helped reduced malnutrition. Newton favours a system of agroecology, a sound understanding of soil and the eradication of poisonous chemical inputs.

Over the past few years, there have been numerous high level reports from the UN and development agencies putting forward similar arguments and proposals in favour of small farmers and agroecology, but this has not been translated into real action on the ground where peasant farmers increasingly face marginalisation and oppression.

According to Vandana Shiva, for instance, the plundering of Indian agriculture by foreign corporations is resulting in a forced removal of farmers from the land and the destruction of traditional communities on a scale of which has not been witnessed anywhere before throughout history. On a global level, not least because peasant/smallholder farming is more productive than industrial farming and because it feeds most of the world, this is undermining the world's ability for feeding itself. It is also leaving to denutrification: not only in terms of specific items containing less nutrients than before, as described above, but because people are being forced to rely on a narrower range of foodstuffs and crops as monocropping replaces a biodiverse system of agriculture.

The increasingly globalised industrial food system is failing to feed the world but is also responsible for some of the planet's most pressing political, social and environmental crises – not least hunger and poverty. This system – not forgetting the capitalism that underpins it – and the corporations and institutions (IMF, World Bank, WTO) that fuel it must be confronted, as must the wholly inappropriate and unsustainable urban-centric model of 'development' being forced through at the behest of these corporations in places like India.

Organic farmer and activist Bhaskar Save describes how this urban-centric model has served to uproot indigenous agriculture in India with devastating effect:

> "The actual reason for pushing the 'Green Revolution' was the much narrower goal of increasing marketable surplus of a few relatively less perishable cereals to fuel the urban-industrial expansion favoured by the government. The new, parasitical way of farming... benefited only the industrialists, traders and the powers-that-be. The farmers' costs rose massively and margins dipped. Combined with the eroding natural fertility of their land, they were left with little in their hands, if not mounting debts and dead soils... Self-reliant farming – with minimal or zero external inputs – was the way we actually farmed, very successfully, in the past. Barring periods of war and excessive colonial oppression, our farmers were largely self-sufficient, and even produced surpluses, though generally smaller quantities of many more items. These, particularly perishables, were tougher to supply urban markets. And so the nation's farmers were steered to grow chemically cultivated monocultures of a few cash-crops like wheat, rice, or sugar, rather than their traditional polycultures that needed no purchased inputs."

Even if proponents of the 'green revolution' choose to live in a fool's paradise by ignoring the ecologically and environmentally unsustainable nature of the system they promote and merely mouth platitudes about organic being less productive, they might like to look at the results Bhaskar Save achieved on his farm. They might also like to consider this analysis which questions the apparent successes claimed by advocates of the 'green revolution'. And they should certainly consider this report based on a 30-year study which concluded that organic yields match conventional yields and outperform conventional in years of drought. That report also showed that organic agriculture builds rather than deplete soil organic matter, making it a more sustainable system.

But why let science get in the way of propaganda? These proponents have already paved the way for extending the the corporate control of agriculture and the 'green revolution' with their GMOs and further chemical inputs – all underpinned of course by endless deceptions and neoliberal ideology wrapped up as fake concern for the poor.

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