



SOIL NOT OIL



Soil Association

Soil not oil

Putting organic farming back
at the heart of international
development

“Fossil fuel reliance may prove to be the Achilles heel of the modern food system. Oil supply fluctuations and disruptions could send food prices soaring overnight. Competition and conflict could quickly escalate. De-coupling the food system from the oil industry is key to improving food security.”

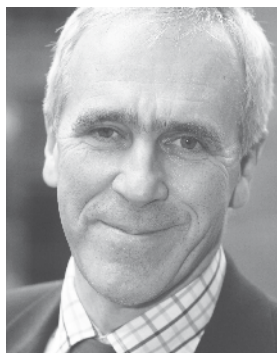
Earth Policy Institute

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Changing the frame of the debate

Patrick Holden



With humankind and the planet facing the converging threats of climate change, natural resource depletion and ecosystem collapse, ensuring that global agricultural systems can feed our burgeoning population, are sustainable and can both endure and help mitigate these threats could not be more vital.

The common wisdom among governments, international development institutions, big business and ‘expert’ advisers is that organic agriculture – which has underpinned the growth of human civilisation for thousands of years – is a ‘side issue’ and that we must employ the methods of industry and technology if we are to feed a world of 9 billion people projected for 2050.

Industrial agriculture has a high carbon footprint and is often not well suited to delivering the balanced diet and food security needs of local communities. It also depletes soil carbon, further exacerbating both climate and food security impacts.

Organic agriculture uses no artificial fertilisers, naturally increases soil carbon and, in its ideal form, produces mixed crops that are consumed locally, resulting in a significantly lower carbon footprint as well as increasing food security. It is also much more efficient in using and conserving water, which is becoming a critical issue worldwide.

Faced with growing evidence of the human and ecological health benefits of organic agriculture, supporters of

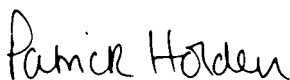
industrial agri-business are falling back on the flawed, but so far ascendant, argument that organic farming cannot feed the world. It is, they say, a niche product, fine for a rich Western elite but incapable of dealing with the real problems of hunger and starvation.

Their argument does not stack up. Studies of crop yields suggest that conversion to organic would significantly increase developing country yields. In fact, a growing number of agricultural experts believe that a large scale shift to organic farming would not only increase the world's food supply, but might be the only way to eradicate hunger and protect the planet.

Industrial agriculture is not only unsuitable because of its negative impacts on food security, climate, soil, water, wildlife, animal welfare and human health. Diminishing oil supplies and rapidly increasing demand will push artificial fertilisers far beyond the economic reach of the majority of farmers and the costs of internationally transporting food will become increasingly prohibitive.

We are rushing headlong towards a post-oil age and yet the engine of global industrial agriculture motors on regardless, as if cheap, limitless oil will be around forever. Opinions differ on when the oil will run out, but run out it will, and sooner than most of us may wish to contemplate. If we do not change our whole approach to food and farming, the effects may be catastrophic.

The Soil Association is working to build a global coalition of like-minded organisations whose combined voice may finally change the frame of the international debate and bring organic agriculture back to the heart of sustainable development. I do hope that after reading the following essay and case studies you will join this coalition and make your voice heard in this critical debate.

A handwritten signature in black ink, reading "Pamick Holden". The script is fluid and cursive, with the first name "Pamick" and last name "Holden" clearly distinguishable.

Director, Soil Association

Soil not oil

Vandana Shiva



I want to share my thoughts with you about how to get oil out of our food. I don't think it ever had any place in our food. Something went very wrong when industrialised agriculture introduced oil into an activity that could be done better without it. Oil is everywhere in farming – chemical fertilisers and pesticides, intense mechanisation, unnecessary packaging, global distribution – and so, increasingly, we are eating oil.

Take production – we use 10 times more calories in the production of food than we get out as food. And for every kilogram of food travelling around the world, it is emitting 10 kilograms of carbon dioxide. So we are wasting a 10-fold amount in production and then generating another 10-fold amount of carbon dioxide in distribution, most of it totally avoidable.

Globally, of course, this has contributed to the crisis that is at the forefront of all our minds – climate change. Well, perhaps not all our minds. In the South, the costs of industrial agriculture take on more brutal and immediate dimensions than changes in the climate, serious though they may be. This is partly because most of the people in the South are still farmers, something we often forget.

More than 650 million people in India are linked directly to the land. So when global industrialised agriculture is literally imposed on us – and it is imposed through instruments we are all familiar with: World Bank structural adjustment, WTO rules on agriculture and trade liberalisation – it starts

to do something to our society that even I could not have imagined when I started.

One thing that has taken us totally by surprise is the epidemic of farmer suicides. Indian peasants have been so resilient. I've been in villages after dreadful natural disasters – floods, droughts, hurricanes. The farmers suffer terribly, struggling against their losses, but they rebuild their huts, they get back to the fields with some borrowed seeds and they start over.

But the new global industrialised agriculture is doing something different, because it's not like the natural disaster that you know will not be there permanently. The first step in this global industrialised agriculture is dependency on what I call non-renewable seeds which, like the non-renewable fossil fuels with which they are grown, can be used once and no more.

When non-renewable seeds have to be bought each year, guarded by the intellectual property rights of the international monopolies, there's a much higher cost so it is vital the seeds produce greater yields. But the seeds aren't tested in or adapted to different climate zones. Often they don't perform well or fail altogether and by this time it is too late for most farmers – they are stuck in debt with no way to pay.

The people giving them the credit are the same agents that sell them the inappropriate seeds. The farmers are caught in a downward spiral of dependency and for many there are only two ways out: sell out to the agri-businesses and leave the land for the city slums, or become one of the tragic suicide statistics which, by 1997, had claimed the lives of nearly 50,000 farmers.

So the fossil fuel economy, the globalised economy, is not just ruining the world's climate. Before it ruins our atmosphere, it will lead, is already leading, to falling nutrition levels and failing health, rising food insecurity and dependence, social and cultural dislocation and, ultimately, the tragic and unnecessary death of hundreds of thousands of farmers.

Individuals and organisations across the world, particularly those working in the daily reality of rural life, have known for years that the arguments that agrochemicals and fossil fuels and intense mechanisation and large-scale farms are the only way to feed our rapidly growing populations are totally false. And for years we have attempted to turn the industrial tide and to promote organic, sustainable alternatives.

We need to be fully alive and fully aware that there are options available outside of oil. Oil is limiting and limited and there are alternatives, based on human energy, human ingenuity and appropriate technology. But if we are to get human energy, ingenuity and appropriate technology back into the equation, there is one thing that we must do.

We have to stop thinking and talking of work, physical work on the land, as degrading. We must celebrate, promote and support human scale farming and proclaim that a peasant working on the land is not an extinct species who should disappear tomorrow; that the solution to our ills is not, as so many have said, that the farmer must escape from the soil.

Soil is not our prison, it is our liberator. The soil is our meaning, and disengaging from the oil economy in a post-peak oil world means re-engaging with the soil and all of its life. All of its life including the ability of the soil to renew itself, the ability of the soil to provide for the needs we have, the ability of the soil to give us back the meaning of being human.

Taken from Vandana Shiva's keynote speech at the Soil Association One Planet Agriculture Conference, 2007

Case study

Project Tigray, Ethiopia

“Present-day farming fails to feed the world for the irreducibly simple reason that it is not designed to feed people. It is designed to generate the greatest possible amount of cash in the shortest possible time. To do this, modern agribusiness does precisely the opposite of what biology, and common sense, suggest are necessary.”

Colin Tudge

Ethiopia is turning away from high-input, intensive agriculture to develop farming systems based on traditional and organic methods.

Successive Ethiopian governments established national programmes to maximise cash crops for export, basing production targets on optimistic yields from heavy inputs of fertiliser and pesticides.

However, much of Ethiopia's fertile land is in the highlands whose small, dispersed, sloping fields don't lend themselves well to routine applications of agrochemicals. With 81% of Ethiopians living on less than \$1 a day, few farmers can afford costly off-farm inputs, even with government credit schemes and subsidised prices for fertilisers.

When the world market for maize, the main crop targeted for increased production, collapsed, Ethiopia's hopes for additional export earnings crashed with it. The legacy of a food production policy based on inappropriate technologies and expensive inputs to grow cash crops for unstable world markets has been to leave Ethiopia with the largest stockpile of redundant pesticides in Africa.

In 2005, Dr Tewolde Berhan Gebre Egziabher, Director-General of Ethiopia's Environmental Protection Authority, declared that “Organic farming is the way forward for Ethiopia”. In 1996, he initiated Project Tigray to demonstrate that food security would be better served by working at a local level, building on farmers'

traditional knowledge, using their ‘free’ labour and locally available resources.

Addressing a recent Soil Association meeting in London, Dr Tewolde emphasised the value of the farmers’ own knowledge and labour:

“All over the world, in poor countries as well as in so-called developed countries, small-scale family farmers are forced to leave the countryside because they can’t access land, seeds, water or credit and because they can’t sell their products in the markets at fair prices.”

Via Campesina

“The shift away from strategies focused around agrochemical inputs is not something that I or anyone in the Government can claim to have introduced; we are just responding to and adding to the reality on the ground. It is the farmers themselves and their methods which have ensured that the chemicals distributed and stockpiled around the country have remained in the stores. Through Project Tigray we’ve also promoted the use of compost – a technology new to most of our farmers.”

The results have been impressive, with yields doubling or more. Following the use of compost, yields of the common Faba bean increased five-fold from 500 kg/ha to 2,500 kg/ha. Spreading the message to all Ethiopia’s 40 million-plus small farmers will take many years, but the practical evidence of Project Tigray’s increased yields has convinced the Government to abandon agrochemical reliant agriculture and reorient national food and farming policy towards organic farming.

There is no other economic sector beyond agriculture capable of absorbing Ethiopia’s 40 million farmers and their families. Whilst having significant export crops of coffee and cotton, Ethiopia cannot earn enough foreign money at stable prices to feed its population. Harnessing the skills and experience of the millions of people already living on the land and using their labour to develop a more sustainable form of agriculture based on locally available inputs is therefore the best, indeed only, option for achieving greater food security.

Taken from *Organic Works*, Soil Association, 2006

Case study

Toledo Cacao Growers Association, Belize

“The most recent quick-fix, genetic engineering, is being championed not as a means of increasing homeostasis and yields in stable agricultural systems but as a means of producing crops that will grow in degenerating agricultural ecosystems.”

Dr Tewolde Berhan

The Toledo Cacao Growers Association (TCGA) was formed in 1986 to secure higher prices, improve living conditions and help farmers increase the quality of their cocoa. TCGA cocoa is grown organically under a canopy of shade trees including valuable timbers of mahogany, cedar and teak. Farmers use sustainable methods such as composting and grow a diversity of other food crops among their cocoa.

These ecological methods have helped the community and the natural environment in many ways. Organic production keeps the river water pesticide-free. The preserved shade canopy makes the area a good carbon sink and supports a wide variety of natural species, including at least 187 kinds of bird. Crop diversity helps the cocoa resist disease. Most importantly, it provides farmers with their own food as well as an income source.

Until the early 1990s, the co-operative's farmers earned enough from their cocoa to buy clothes, basic necessities and a variety of foods. They also worked hard to increase the size of their cocoa stocks because they expected prices to stay at good levels. However, the price of cocoa suddenly halved between 1992 and 1993, falling below the cost of production.

Many farmers left their crops unharvested and some even left their farms to seek other work because they worried that the low prices would continue. Cayetano Ico, chairman of the TCGA, explained: “The price we could get for our cocoa was so low it was not worth harvesting. Many of us

“Between one and five million cases of pesticide poisoning are reported each year around the world. 99% of pesticide-related deaths, which average 20,000 a year, are in developing countries.”

UN Food and Agriculture
Organisation

abandoned our trees. Some farmers went off in search of work on plantations. It was a very difficult time for us.” A chocolate company from the UK called Green & Black’s offered a long-term contract for a stable supply of quality cocoa. They agreed to buy all the cocoa TCGA could produce at an above-market price. The cocoa was used to create Maya Gold Chocolate, which was introduced in 1994, bearing both the Soil Association and Fairtrade marks.

For many families, the organic and fair trade premiums have meant the difference between being able to send children to school and having to keep them at home to work. In the Toledo region school can be quite expensive. Parents have to pay for uniforms, books and food and children in the secondary grades must take a long bus ride to school.

Anastasia, a mother of seven children, said: “The oldest is already in high school. We hope that all the children will go to school because of the money we receive from growing cacao. Currently we have two to three acres and are planting more.”

According to Cayetano Ico, TCGA objectives for the next years are “to improve the quality of cocoa to satisfy market demands and to promote production of organic cocoa among our members, to promote education and awareness concerning the eco-system and to diversify production.”

Taken from Fair Trade Global Exchange web site, 2007

One Planet Agriculture

“In the developing world, 20% of irrigated farmland has been damaged by water-logging or salinity. In the 1980s alone an estimated 100 million hectares of irrigated land were abandoned.”

UN Food and Agriculture
Organisation

People and the planet are facing the converging threats of climate change, natural resource depletion and ecosystem collapse. If we cannot find models of sustainable development that will enable us to live within the Earth’s natural carrying capacity, human civilisation faces potential catastrophe.

Industrial agriculture, which is supplanting the traditional forms of agriculture that have sustained human civilisation for thousands of years, is a major contributor to the threats that confront us:

Climate change – Climate change is the greatest threat facing the world today. Agriculture is a major contributor to climate change but is also one of the most vulnerable human activities to the changes that have already begun.

Peak oil – Intensive, industrial agriculture is totally dependent on oil, for fuels, fertilisers and other agrochemicals. But the world’s oil supplies will soon be running down, leaving farmers and our food supply vulnerable to volatile and rising oil prices.

Water – Industrial agriculture consumes huge amounts of water. Water scarcity is increasing rapidly due to population growth, industrialisation and urbanisation, while climate change is leading to more unpredictable rainfall, including droughts and floods.

Soils – Current agricultural practices are leading to a massive loss of topsoil from wind and water erosion as well

as to a rapid build up of salt. In many areas this is causing irreversible damage to agricultural land and slowly but surely reducing our capacity to grow food.

Biodiversity – The importance of biodiversity to the health of people and the planet is widely understood. Slash and burn agriculture is leading to wholesale loss of rainforest throughout the tropics. Industrial agriculture further destroys ecological integrity.

Food security – The world produces more than enough food to provide everyone with an adequate diet and projections suggest it could continue to do so in the years ahead without the need for industrial agriculture. Yet there are more than 800 million people hungry in the world today.

Human health – We have managed to turn our food into one of the greatest threats to our health, with a global epidemic of obesity, heart disease and diabetes due to unbalanced diets and processed foods. Agricultural pesticides are found in our food and in the wider environment.

Rural livelihoods and rural communities – Increasing urbanisation in the South is leading to a growth in slums, rising fossil fuel use, increased pollution and greater risk of disease and social instability. Meanwhile, rural communities and their diverse cultures are threatened with destruction.

Land rights – Many thousands of small farmers are forced from the land every year by economic and trade liberalisation policies that favour large commercial interests and by legal frameworks that do not recognise traditional land rights.

Conflict – There is clear potential for future competition between people, regions and states over diminishing or disrupted oil, water, land and food supplies with the resulting displacement of communities and likely mass migration further inflaming conflict.

“No region will be spared from the impact of this (water) crisis which touches every facet of life, from the health of children to the ability of nations to secure food for their citizens.”

UNESCO

Corporate control and future options – Increasing corporate ownership and control is leading the food and agriculture system in an unsustainable direction. Farmers are tied into a cycle of increasing corporate dependency based on costly external inputs and debt.

International trade rules and agricultural subsidies – Trade rules and related policies take insufficient account of future threats to food security and rural livelihoods. They fail to support or, in many instances, work against the establishment of a sustainable farming and food future.

The Soil Association believes that in order to tackle these challenges and to achieve the UN Millennium Development Goals of environmental sustainability and the eradication of extreme poverty and hunger, food and farming systems which put local needs first and which follow organic and sustainable agriculture principles are key.

While international trade in food has a part to play in achieving both global and developing country food security, growing crops for export should not be at the expense of countries encouraging and enabling farmers to produce food to meet the needs of their own populations.

At all levels, economic goals need to be tied to sound environmental principles and to a vision of human development that takes into account the social, cultural and spiritual needs of society. Reconnection between humanity and the natural world is central to this vision.





Soil Association

South Plaza
Marlborough Street
Bristol BS1 3NX

T 0117 314 5000

F 0117 314 5001

www.soilassociation.org

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