

THE COLLEGE FOR REAL FARMING AND FOOD CULTURE

A complete re-think of agriculture and all that goes with it

IV.2.1: WHY AGRICULTURE NEEDS NEW ECONOMICS

By THOMAS LINES

The neoclassical economic thinking that now dominates the world grew up with the factories of the industrial revolution and, says Thomas Lines, it is not suited to the very different needs of agriculture

*Thomas Lines has studied the commodities trade for nearly 40 years, as a business journalist, consultant and university lecturer. He specialises in the functioning of markets and prices, and his book, **Making Poverty: A History**, investigates the links between the global food trade and rural poverty. He has also led agricultural reform projects in the former Soviet Union. Tom is now teaching at Goldsmiths, University of London.*

The modern discipline of Economics began with the Industrial Revolution and gradually developed alongside the growth of manufacturing and modern industries. The early pioneers had occupations such as professor of philosophy (Adam Smith), stockbroker (David Ricardo), and administrator of the East India Company (John Stuart Mill). While the international trade in corn and foodstuffs was one of their concerns, agriculture itself was not (with the partial exception of J.S. Mill).

Smith's great contribution lay in his emphases on specialisation in labour and production, and competitive trade in both domestic and international markets, as ways to reduce costs and increase output and incomes. His successors enlarged on this, and 240 years after his main work was published these ideas remain central to mainstream economic theory.

The main concern of economics in almost all its varieties is with the increase in wealth, income, capital or profits, either for society as a whole or some section of it. This is seen in the titles of two books by 'classical' economists which have come to define poles of eco-

conomic thought: Smith's *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776) and Karl Marx's *Capital: A Critique of Political Economy*, one century later. Both agree that profits arise from employing labour to transform raw materials into more valuable products for sale, and that the central economic issue lies in the incidence of prosperity – but with very different social emphases.

Following Smith, the dominant 'neo-classical' strand of modern economics emphasises the processes of trade and exchange on private markets. Its adherents say their theory is 'scientific' and 'value-free', but it is based on a narrow concept of human rationality and the elementary ideas contain many value-laden terms such as 'perfect market'. The theory builds on these to put a privilege on monetary exchanges between individual agents among the various ways of organising economic activity.

During the 20th century, the central concepts of the market and the search for prosperity came together in a single statistical construct, Gross Domestic Product (GDP). This measures the total value of all that is produced, expended or received as income in a country in the course of one year, and has become the main yardstick by which economic activity is measured. The unit of measurement is money, and nothing is considered unless it is exchanged in monetary transactions.

Beyond the world of atomistic market exchanges, two other, collective forms of organisation are overlooked in most variants of economic theory. They can be grouped along two axes:

- **Vertical** organisation: hierarchical administrative structures, of which the state and the company are prime examples in the modern world;
- **Horizontal** organisation, in which decisions are reached jointly by all people together: examples include mutual and co-operative societies, and the provision of services by the state under democratic rule.

What is agriculture?

It is customary, at least in English-speaking countries, to see all agricultural production and food consumption through the lens of market values. However, through history most of the world's agriculture has been carried out on other terms, and neither money nor markets are essential for it. The basis of agriculture is the manipulation by human beings of the organic processes of plant and animal growth. Directly (in the case of plants) or indirectly (in the case of animals), six elements are necessary for this:

- Seeds (or livestock)
- Soil
- Air

- Sunshine
- Water
- Human labour.

All of these exist on the farm and are things of nature. Other items can help the process along, but none are essential to it. The farmer can acquire them off the farm to help nature take its course. Here are seven of them:

- Different types of seed
- Different types of livestock
- Labour provided by other people or households
- Machinery
- Fuel for machinery
- Non-organic fertilisers
- Pesticides.

Since these are acquired off the farm, they are called *external inputs*. They are usually bought for money and many of them are produced commercially by industrial processes.

Where agriculture and economics meet

Economists analyse what is bought and sold, but not what nature provides or natural processes generate. Things that are taken directly from nature, without any payment, are given the name of 'free goods'. Meanwhile the consequences of an economic activity for anyone or anything not directly involved in its transactions are called 'externalities'. Both of these features sit uneasily with conventional economic analysis, because they fall outside the realm of commercial exchange and neither has any monetary value. **Mainstream economics and agriculture have different foundations, and those involved in either activity need to be aware of this.** In a world dominated by money and markets there is of course a large overlap, but their essentials are not the same. On the farm, economics sits most easily with the sale of outputs, the farmer's monetary income and the acquisition of external inputs – but *not* with the natural basis of production.

For several millennia farmers have relied on the methods of nature to fertilise their crops, protect them from disease and feed their animals, and usually on their own households' unpaid labour to get the work done. The techniques, as well as the crops and animals involved, have varied hugely from place to place around the world. But in some places the process was subsumed to market transactions – most strongly and consistently, in England since the 16th century.

Then, about the middle of the 20th century, something with the curious name of *conventional*

agriculture came into being. This new type of farming is commercial and external inputs – many of them manufactured – are regarded as normal, if not basic to the process. It is also sometimes called *industrial* agriculture, because it fits the wider economic model of industrial transformation for commercial gain, combining purchased inputs to produce more valuable products for sale. Its advocates rely on orthodox economic theory to recommend a reliance on universal global markets for agricultural products, as well as for inputs and everything else associated with the 'business'. This is in the name of productive efficiency, which is thought to arise necessarily from open markets and is large scale in both production and trade. Agriculture based on the age-old principles is now called *agro-ecology* – agriculture that works with the grain of ecology.

Planet Earth joins in

According to one definition, the primary concern of economics is with the efficient allocation of scarce resources. And yet the usual focus is on sustained increases in production, wealth and incomes. This stands at odds with living on a single, finite planet, in which the scarce 'resources' available for economic purposes cannot be stretched indefinitely. As we become more conscious of the limits on those resources – the need to live within them and not to ruin those that remain – their efficient allocation is of critical importance, along with their protection and preservation. We must give priority to forms of production that work with nature rather than wasting, polluting and exploiting it. But the mindset formed by economic theory is extraordinarily difficult to adapt to these needs – which maybe explains why those economists who try to grapple with them have made only limited progress.

We need an economics that is more conservative, not in the political sense but that of conserving the *planet* that we live on. Nature has ways of conserving itself, and farmers who rely on agro-ecology have learnt how to conserve it too. In natural organisms an important element is the cell, which can hold weaknesses and ailments in one place and even be allowed to die without necessarily threatening the rest of the organism. A similar function in the wider ecology is served by the huge number of species and sub-species that have evolved and exhibit different degrees of protection one from another.

This is not the case in an economy based on universal markets, in which a market phenomenon occurring in one place is quickly transmitted to others. After the surge in food prices of 2007–8, a drought that affected wheat production in Australia led four years later to the overthrow of North African governments, in an identifiable chain of events. Without global markets, that chain would not have developed. Global agricultural markets also tend to be dominated by no more than three or four staple foods (rice, maize, wheat and soya) and encourage a steady reduction in the numbers of crop varieties and breeds of livestock used around the world. This loss of diversity greatly adds to vulnerability in both the ecology and

the economy.

A responsive form of economics would build cellular structures in the economy too, with smaller, more local or national markets and a return to diversity in staple foods, plant varieties and livestock breeds, as well as production methods and processes. Truly scientific economic analysis would assess all these factors on their merits, with natural forces understood as the basis of production, not an ‘externality’. Both economic and ecological sustainability require this change in approach.

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