

Agriculture: a growing investment

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In spite of its central importance to society, agriculture is a sector that has long been misunderstood or ignored by investors, but this may be set to change.

"It is amazing how much agriculture has been overlooked," says Bruce Kahn, director and senior investment analyst at DB Climate Change Advisors, part of Deutsche Asset Management. "There is not a lot of understanding of the complexities and the local and regional differences in agriculture."

Ruud Nijs, head of corporate social responsibility at Rabobank, the Dutch bank which started as a co-operative offering finance to farmers, adds: "When people think about agriculture, they think about commodities. Commodities is a market that is fairly well understood and many people think that is where the opportunity lies to invest in agriculture, and really it is not."

One reason is that for a long time in the developed world at least, food prices have been relatively stable and the ability of the system to feed the population has been taken for granted.

Food productivity is a function of its inputs, Mr Kahn asserts, and many people have also taken for granted the availability of the key inputs for food production; land, water and fertiliser.

However, a number of factors have combined to bring into question the ability of the global agricultural sector to feed the world. World population is projected to rise to 9bn by 2050, and large swathes of that population are set to become wealthier and to demand more meat and dairy products, which require a huge amount of water and produce huge amounts of methane.

Meanwhile, the availability of fresh water and land is set to decline. The amount of arable land available per person is set to fall from 0.38 hectares per person to 0.15ha per person, says Rob Wylie, director of WHEB Ventures, which has several agriculture-related investments.

Climate change will have a big impact on the incidence of crop diseases, soil erosion and rainfall patterns. Up to 40 per cent of arable land will be affected by drought as the climate warms, says Mr Wylie.

There is now competition for land from biofuels to contend with, too. Arable farming, while less damaging than meat production, also plays an important part in increasing emissions through deforestation and the use of fossil fuel-based fertilisers and pesticides.

According to Trucost, the use of traditional pesticides to produce rice results in emissions of 18.38kg of CO2 for every kg of rice.

Finally, many commentators predict that oil prices will head back towards the record levels of 2008, when a barrel of oil hit \$147 and the price of many foods rose as a consequence.

In future, says Mr Kahn, "we believe prices will go up, there is no getting around it". The need for the agricultural sector to address such serious issues creates opportunities, "from the seed to the supermarket", says Mr Wylie. Many of these are linked by the need to do more with less and to eliminate waste in the supply chain. At the most basic level, this starts with the development of more robust, higher-yielding seeds that are more resistant to disease, pests or drought. Despite continued controversy over their use, there are likely to be more genetically modified (GM) crops. In a sign that Europe, the region most resistant to GM, may be coming around to the idea, the European Commission recently approved a GM potato for cultivation in Europe – only the second organism it has approved.

With 70 per cent of all the world's fresh water consumption being used for agriculture and more than 200bn tonnes of fertiliser used a year – causing about 2 per cent of CO2 emissions and creating land and water pollution – there is great potential to reduce the amount of water and fertiliser used in cultivation through more precise agricultural practices, and a number of companies have emerged in these areas.

These include water efficiency companies such as Aquaspy, which offers "intelligent water control" to enable farmers to cut water consumption. Israel has carved out a niche as the global leader in drip irrigation technology, with companies such as Netafim and Queengil leading the way.

The Carbon War Room, a non-governmental organisation founded by Sir Richard Branson and other entrepreneurs, has identified a low-carbon fertiliser that it thinks could save 1 gigatonne of CO2 emissions every year: a product called biochar, a carbon-sequestering fertiliser.

The process takes agricultural residues ranging from chicken manure to sugar cane leftovers and, using a process called pyrolysis, turns them into biochar.

As well as removing carbon from the atmosphere, it also increases the water absorbency of soil, which prevents flooding and increases the amount of nutrients available to plants, says Peter Boyd, director of operations.

The need to cut emissions and mounting consumer concern over pesticides has created a niche that Exosect, a UK-based company, has moved into with products that can control insects without pesticide.

Deutsche Bank says that combining the food and potential fuel needs of 9bn people will require a 50 per cent increase in productivity – a challenge “that provides very large investment opportunities across the agribusiness complex”.

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