



SEARCH



This edition of WA includes a paper by Powlson and colleagues that looks in depth at the use of Nitrogenous fertiliser in China.

Its conclusions are of immediate relevance to improving both the efficiency of Chinese agriculture and its impact on the environment. The paper also illustrates some general problems that apply to agricultural policy in China and in Europe.

Subsidies and the creation of a dependent clientele. Fertiliser subsidies seem a good way to encourage its use, especially where for farmers it is a new technology.

However they can lead to a situation where agriculture comes to depend on continued support, even if fertiliser applications are excessive. Not only farmers but also fertiliser manufacturers, distributors and advisors become clients of the support system. A reduction or withdrawal of subsidies then generates social and political problems. Jobs may be lost and incomes fall, since markets will not reward current rates of us.

Employment in most agricultural communities is dispersed making it difficult, especially in remote areas, to find alternative work within reach of the homes of displaced farmers and farm workers. Support initially given to encourage output, as

with the CAP, becomes difficult to remove because of its social and political consequences.

New technologies demand structural adjustment. Innovative technology lowers costs of production for an industry but businesses that cannot use it efficiently become uncompetitive.

Traditional farming is labour intensive and in most places a family enterprise. New technology usually replaces labour by capital. It also increases the scale and geographic range of markets.

Small, independent, scattered holdings cannot reduce labour costs or deliver the volume of product large marketing organisations seek to buy.

This study shows how in China the use of contractors to deliver and apply fertiliser has been used to counteract some of the limitations of small-scale farming. However, viability of such farm businesses depends on employment off the farm. Where this is not possible technological development needed to make a nation's agriculture more productive may impoverish remote, small farms.

Where farming becomes only a subsidiary source of income husbandry standards are unlikely to be maintained. Structural adjustment through farm enlargement depends greatly on the ownership of the land and prevailing systems of tenancy. For family farms it is often a painful process. At a national level it lags behind the pattern needed to obtain maximum economic benefit from current technology

Policies relating to technological development have to be assessed in terms of social costs and benefits. Innovation will be profitable for the farmer if additional costs are less than returns. Such calculations determine the decision to invest, but usually ignore costs or benefits that do not figure in the farm's financial accounts. Farmers, themselves, are often influenced by such non-market costs.

They may want to find work for a family member. They may value a particular landscape feature or simply enjoy being farmers. For society as a whole such non-market costs and benefits have been increasingly recognised. Environmentalists have deplored the impact of some modern farming practices on biodiversity, wildlife, water quality and the landscape. Pressure groups have made it clear that these are real costs although they do not figure in management accounts. There are other types of social costs.

The costs per unit of providing services such as education and health rise, as people have to move to find employment. The informal support given to the elderly within traditional communities may disappear as families are separated.

Conceptually the principal justification for policy intervention is to make social costs and returns

influence the decisions of farmers and consumers.

In practice this is difficult. Recognition of non-market costs and returns often depends on the existence of articulate pressure groups rather than on the impact of policies on the whole community. Powerful and well-informed pressure groups command a hearing when national policies are debated. Organisations such as RSPB*, RSPCA** and CPRE*** have widespread support and claim attention for the interests they represent. Local activists may be regarded as NIMBYs, and carry little weight on national policies. Some social costs and benefits such as the loss of village schools and shops, or the state of rural roads attract much less organised campaigns.

Even when costs and benefits are identified there is seldom an objective or agreed means to measure them. The outcome is that policy tends to reflect the concerns of organisations that can claim to speak for a large number of members.

Such membership is largely urban or sub-urban. There is less interest in farming as a business and more on the countryside as an amenity.

Traditional literature and visual attractiveness in television programs take precedence over present farm business reality. Such concerns have stimulated policies to prevent hunting with dogs, to give ramblers rights of access and to impose restrictions on the use of GM technology. It is argued that such policies are justified because the non-market benefit to the community is larger than the costs, financial and non-market, they impose on the industry.

The debate on such issues, and in general the uptake of new technology, may depend less on scientific analysis or economic benefit than on the political clout of interested parties.

* Royal Society for the Protection of Birds

** Royal Society for the Prevention of Cruelty to Animals

*** Campaign to Protect Rural England.

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 [Professor Sir John Marsh](#)

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