

Big farms or small farms: how to respond to the food crisis?

Debates on the scale of farming are back on the agenda. In a number of recent articles, Professor Paul Collier, author of 'The Bottom Billion: Why the Poorest Countries are Failing and What Can be Done About It', made the case (see Position 1 below) for encouraging large-scale commercial farming as way to get African farming moving. Favouring small farmers, he argues, is romantic but unhelpful.

During 2008 there have been many reports of private companies in the North and state corporations in the South reacting to the opportunity and threat of higher food prices by planning to acquire land in Africa, South-east Asia, Brazil and Central Asia to produce food. The most startling of these announcements is that of the Daewoo Corporation of the Republic of Korea that revealed that it was acquiring the rights to farm no less than 1.3 million hectares of Madagascar, a position from which the company and the government have now backed away from following a storm of local and international protest.

In many cases the reports suggest that the aim is to farm the land on a large scale, rather than to contract production through existing family smallholdings. It is now more than three years since IFPRI, Imperial College, and ODI organised a workshop at Wye for specialists to debate the issues surrounding small farms. It looks to be time to revisit those arguments in the light of higher food prices,

the arguments being made for large-scale farming and apparent intent of capital-rich investors.

In May 2009, the Future Agricultures Consortium welcomed a range of opinions in regard to this debate; this report by FAC member Steve Wiggins summarises the contributions and themes emerging from the discussions.

Contributions to this debate and this report are posted electronically on the Future Agricultures' web site: www.future-agricultures.org



PHOTO: David Hughes

The debate was triggered by Paul Collier's essay in Foreign Affairs of Nov/Dec 2008 that argued that small farmers in Africa were ill suited to the challenges of contemporary agricultural development, lacking scale, know-how and access to supply chains:

'...reluctant peasants are right: their mode of production is ill suited to modern agricultural production, in which scale is helpful. In modern agriculture, technology is fast-evolving, investment is lumpy, the private provision of transportation infrastructure is necessary to counter the lack of its public provision, consumer food fashions are fast-changing and best met by integrated marketing chains, and regulatory standards are rising toward the holy grail of the traceability of produce back to its source....'

'Large organizations are better suited to cope with investment, marketing chains, and regulation.'

Given these realities longstanding preferences of donors and governments in Africa for small farms and reluctance to countenance large-scale farming were a disservice to the continent. A gradual move to large-scale farming should be accepted:

‘...Commercial agriculture is not perfect. Global agribusiness is probably overly concentrated, and a sudden switch to an unregulated land market would probably have ugly consequences. But allowing commercial organizations to replace peasant agriculture gradually would raise global food supply in the medium term.’

In response, a short paper from Wiggins pointed out that the record shows cases of smallholder success in Africa, both at district levels and for countries. Eight countries in Africa had faster agricultural growth from the early 1990s to the mid-2000s than Brazil, the country whose large commercial farms were commended as an example by Professor Collier. The history of attempts to accelerate agricultural development through large-scale farming in Africa, on the other hand, have often failed.

Promoting large-scale farms in Africa, furthermore, carries risks: most obviously of poor losing their land, but also of large farmers with political influence seeking rents and privileges from government. Commercialising agriculture in Africa is desirable, but this does not necessarily mean having large farms:

‘This is not to deny that large-scale private investors seeking to produce more in Africa should be welcomed. Their capital, their expertise can be put to good use, to the advantage of both the companies and many African (small) farmers as well. But let’s get the economies of scale where they are needed: in the supply chains, in processing, transport and marketing —where lumpy investments and sophisticated know-how count. But let’s leave the farming to the local experts, the family farmers, who have all the incentives to work hard and carefully.’

Derek Byerlee and Alain de Janvry responded to Paul Collier with a letter to Foreign Affairs, published in the March/April 2009 edition, making the following points:

- Small farmers can be efficient and innovative, as seen in the Asian green revolution but also in Africa as well when given the chance;
- When small farms increase production and productivity the rural poor gain. China showed how rapid agric growth could deliver food and less poverty. Brazil, with its large farms, delivered only the former; and,
- Food security is as much about incomes and access as much as food supply: agricultural development through smallholders can do much to the raise the incomes of the poor and their access to food.

In the subsequent contributions submitted to this debate, five main lines of argument have been put forward, concerning:

- concepts of scale;
- the efficiency of small farms and economies of scale in agriculture;
- small farmers, natural resources and ecology;
- the prospects for small farmers within the wider processes of development; and
- policy matters.

Scale in farming

Scale is not so much about actual land size, as the size compared to economic potential. The area necessary to provide a living income for a farm household varies by enterprise and land potential.

‘25 years ago I was in Australia and found interesting statistics for Australian conditions of course. To gain an income from farming equal to average national income a beef farmer in the North needed 100 km² of land or 1000 head of beef cattle. A sugar cane farmer needed 50 ha and a farmer growing green pepper 1 ha.’ Wolfgang Beyer

Scale might be better expressed in terms of the area that can be operated by the household with only occasional resort to hired labour. Depending

on access to capital and the possibility of using machinery, a family farm can range in size from under a hectare to thousands of hectares. Most farms in the world operate at the scale of the household unit.

The efficiency of small farms

Small farms have advantages in managing labour: household labour is self-supervising in effort and diligence. That tends to lead to more intensive use of labour and consequently higher output per hectare on smaller farms than larger ones.

‘Studies have shown that, the world over, on average the smaller the farms are, the more productive they are in overall calories per acre. We are not talking about the yields of large scale monocultures, but of a diversity of crops and animals raised in given areas.’ Stephen Bartlett

That said there is nothing inevitable about this: the advantages of smaller units apply when capital is expensive and labour is cheap (Hazell). With time circumstances can change:

‘With economic growth and development, labour becomes more expensive and labour input declines relative to (cheaper) capital. Input and output market and financial transactions become much more important, and supply chains become more complex. As a result economic growth and increasing commercialisation of agriculture tip the balance of productive efficiency and effectiveness from small to large farms.’ Andrew Dorward

Moreover, small farms face diseconomies of scale when dealing with the outside world: accessing credit and inputs, getting technical assistance and information on markets, and in selling produce. Consequently some commercial farming is better carried out at large-scale:

‘In a recent review of commercial agriculture in Africa for the World Bank, we found that large-scale production had outperformed small-holder systems in export horticulture,

sugar and flue-cured tobacco, but that smallholder production systems had outperformed large-scale in cotton and cashew, with strong performance under both forms in tea.'
Colin Poulton

A rather different perspective on efficiency came from Wagstaff who reports on experience of large-scale farming in Africa where it is the visibility, formality and wealth of large farms that force them to incur higher costs in compliance with rules while forming targets for bribes and theft:

A commercial farm has to pay taxes, pay acceptable wages, buy insurance, provide social services to workers (the 'social contract' in much of Africa is that the employer is expected to provide the social services that the state cannot provide), service bank loans, tax and insure tractors, provide water for surrounding villages, maintain the feeder roads, and keep government officials and village chiefs happy. As one of the few formal employers in the area a commercial farmer can expect to be 'visited' by every official in the district on a regular basis: labour officers wanting to check contracts, tax inspectors going through the books for every month, health inspectors counting latrines, building inspectors re-checking building plans, forest officers disputing the ownership of the trees on your land. When you are making a loss labour laws make it almost impossible to reduce staff costs – have these authors ever tried dismissing anyone in Africa? Keeping all the officials happy is an endless job, which consumes both time and money.

Mechanisation is another headache. Traffic police set up ambushes for your tractors at critical times in the farming year; tractor drivers siphon-off fuel and plough for their friends and neighbours using your fuel. Equipment spares are hard to find – if you have to spend weeks going round different towns hunting for spares that's the profits from the maize harvest finished. To keep everything under some kind of control you need to employ extra, essentially unproductive, staff, to run the checks

and balances: security guards, clerks, storekeepers, stock-checkers, etc. '
Paul Wagstaff

Natural resources and ecology

Small farmers may be better conservers of resources than large farms.

'Small farmers can also make better stewards of natural resources, conserving biodiversity and safeguarding the future sustainability of agricultural production.' Peter Rosset

But this is not inevitable and depends much on circumstances. As Gefu points out, in some cases there is evidence of land degradation, erosion, siltation, deforestation excessive grazing and desertification.

Small farmers and development strategy

When countries are poor and agrarian, with people effectively trapped on the land, focusing on small farm development can reduce poverty, provide jobs, and constitute a safety net for those with few other assets than their access to land. Indeed, for some one of the roles of small farm development is to prevent premature migration (Hazell) from country to city:

'... displacing small farmers in developing countries would create a kind of social, political and economic chaos ...' Shahid Zia

But this applies at an historical conjuncture and is not meant to be a permanent state of affairs. As more food is produced at lower cost, it becomes easier for other sectors to grow and create jobs off the land. When that happens on a large scale, then the more marginal amongst the small farmers can exit farming allowing eventual consolidation and the creation of larger farms. This is a paradox of early development: the need for agricultural development to allow people to move out of agriculture.

'Development strategy must ... promote food staple productivity with lower staple food prices so that the incomes of poor subsistence / food buying producers (50% of African farmers) are raised both through greater agricultural productivity and through lower food prices. Higher real incomes will then drive demand for non-staple goods and services (horticultural products, livestock products, petty trading, a range of rural services, etc) while higher land and labour productivity together with more stable and lower food prices also allow a supply response and movement of land and labour out of low productivity staple production. ...

We need an evolution out of small scale agriculture, the old paradox of investing in it so that we can get out of it.' Andrew Dorward

Policy matters

Several contributors argued that if small farms have not done well, it is not so much their scale as the lack of public investment and provision of services. For Moyo lack of public investment is at the heart of the matter: policies of structural adjustment and liberalisation have prevented states from supporting small farms adequately:

'While it is true that much small farming uses low productivity technology, this does not reflect so much the choice or ignorance of peasants, but rather a response to a debilitating world economic context. Deflation of economies under structural adjustment policies, particularly restrictions on public spending have undermined economic growth in general, and small farming in particular. Farmers have not been given the necessary support.' Sam Moyo

What kind of policy is needed to promote small farm development? Technology is one element, but it needs to be appropriate, and that will mean innovations for rainfed areas (Devendra).

'... small farmers have shown time and again a capacity to rapidly evolve technologies and systems; in this their greater number and their closer interactions with their land, crops, animals and each other, relative to large farmers, are key advantages. This extends to achieving scale economies - where these are attractive - through cooperation. In a context of rapid change, small farmers' capacity to evolve is critical. However, it is far more often ignored or suppressed than supported and fed.' Michael Loevinsohn

Loevinsohn supports this with an account of intensifying the cultivation of valley bottoms in Rwanda with irrigated rice. The case is notable for including innovations not just in agronomy — cultivars of rice suitable for upland and cool conditions, but also in co-operation to build and operate water control structures. Started in the 1980s, this survived the turmoil of the early 1990s and apparently still functions more than twenty years later.

To counter the difficulties that small farmers in dealing with the outside world, co-operation is needed. Keijzer ventured the case of the Office du Niger, Mali as one where large-scale investments have been combined with well-trained and organised farmers — even if the history of the Office during colonial times was marked by injustice in the early years (Keenan), and the zone only realised its potential after reforms to irrigation operation, devaluation of the franc CFA, and liberalisation of rice milling and trading.

While more than one respondent spelled out the range of elements needed to support smallholder development, Mrema argues strongly for setting commercial production at the heart of the strategy with farmers organised in groups, looking to sell in higher value markets through improved supply chains. Financial systems to provide credits and revolving loans are important part of this scheme.

Conclusions

This debate confirms some of the conventional wisdom about small farms. In the early stages of economic and agricultural development, the small scale of farms is no obstacle to growth or conservation or resources. Small farmers do innovate, they invest and they conserve — given the right conditions. There are, moreover, reasons to expect smallholder development to be especially effective in reducing poverty; and indeed, for many of the rural poor farming may be a key safety net.

Yet it would stretch this wisdom to imagine that the same applies when economies grow; when meeting the demand for agricultural output requires achieving standards, quantities, timeliness and certification; and when labour costs rise and the relative cost of capital and machinery falls. With development it may be expected that increasing numbers of small farm households gain ever larger shares of their incomes from off-farm activities including migration, while a minority of small farms intensify and commercialise their production, and quite probably begin to rent in the fields of their neighbours.

In the long run, then, Paul Collier will probably be right that the future will see larger scale units in developing world agriculture. But whether policy-makers should seek to accelerate the process of land concentration is another matter. Few would disagree that agriculture, above all in Africa, would benefit from greater investment and know-how. Whether that is done by offering large-scale farmers land concessions, or whether it is through forms of contract farming and co-operation that link large firms in the supply chain to small farm suppliers, is a key question. In part this is a question of how best to address those market failures of information that leave small farms at a disadvantage when commercialising; but in equal or larger part it is also a social and political question about rights and entitlements, and the kind of rural society that people would like.

Steve Wiggins
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