

# Commercialisations in Agriculture

**Jennifer Leavy<sup>†</sup> and Colin Poulton<sup>#</sup>**  
September 2007

## Introduction

Accelerated growth in agriculture is seen by many as critical if the MDGs are to be met in Africa. Although there are debates about the future viability of small farms (Hazell et al. 2007), the official policies of many national governments and international development agencies accord a central role to the intensification and commercialisation of smallholder agriculture as a means of achieving poverty reduction. According to this thinking, smallholder agriculture is uniquely positioned to deliver broad-based growth in rural areas (where the vast majority of the world's poor still live). However, others fear that strategies for commercialising agriculture will not bring benefits to the majority of rural households, either directly or (in the view of some) at all. Instead, they fear that efforts to promote a more commercial agriculture will benefit primarily large-scale farms. At best, the top minority of smallholders will be able to benefit.

In this paper, therefore, we discuss what is meant by the commercialisation of agriculture, emphasising the different pathways that commercialisation can take. We also examine what needs to be done if agricultural commercialisation is to be inclusive, bringing benefits to a large proportion of rural households. The potential benefits of commercialisation and engaging in trade are well documented. These include stimulating rural growth, which poor people can gain from directly, for example through: improving employment opportunities (depending on the labour intensity of crops grown); increasing agricultural labour productivity; direct income benefits for employees and employers; expanding food supply and potentially improving nutritional status. Multiplier effects encompass increased demand for food and services in the local area (von Braun and Kennedy, 1994).<sup>1</sup>

But what does commercialisation mean? What does it mean to be commercialised? What kinds of commercialisation are good for the poor? Conversely, under what circumstances are poor people likely to be bypassed in favour of larger farmers and unable to take advantage of new opportunities? Governments have clear ideas of what they would like to achieve in creating and supporting a thriving agricultural sector, not least in the name of enabling agriculture-based economic growth. But do these programmes have the right focus in terms of poverty reduction? What informs them and what are the implications? Are appropriate mechanisms in place for effective implementation, including the right enabling environment and adequate and timely service delivery? What are the policy processes behind a successful pro-smallholder commercialisation policy?

This paper aims to engage in alternative perspectives of agricultural commercialisation to shift thinking and ways of framing the debates, arguing for a diverse range of commercialisations, locally specific trajectories, and differentiated engagement with domestic and export markets. The overarching question here is how to translate pro-smallholder commercialisations policy into practice. Growth–poverty reduction linkages for smallholder farmers through commercialised agriculture do not lie along just one or two channels. Indirect (or multiplier) effects are also key, especially those through labour markets.<sup>2</sup> Focusing on crops, the paper attempts to get

away from the idea that there is one, ideal commercial agriculture, following a linear path to some clearly defined end point.<sup>3</sup> Hence the plural: commercialisations. This also allows for concepts of commercial agriculture that go beyond simple distinctions often made, such as those between 'food' and 'cash' crops.

Drawing on existing literature, the paper sets out a framework for describing the different kinds of commercialisation that co-exist. It attempts also to give a sense of what might be emerging in relation to this framework, the diverse forms of commercialisation that respond to distinct livelihood needs and local contexts. This allows a time dimension, dynamics and future scenarios, and moves away from any presumption of a singular type of transition to a particular type of 'commercial' agriculture. This framework can be used to pose questions for empirical studies and to examine potential implications of different policy options, in terms of implementation as well as outcomes.

## What are commercialisations?

Policy discourses around agricultural commercialisations tend to separate producers into different types of farm (small farms, large farms) growing different types of crops (food crops, cash crops) with simple distinctions made between 'subsistence' and 'commercial' or 'export' agriculture. Lack of clarity about what commercialisation actually means may give rise to misconceptions, evoking certain fears that can obstruct the passage of policy into practice. Work by the Future Agricultures Consortium in Ethiopia has identified fears that commercialisation means, among other things:<sup>4</sup>

- A focus on non-food crops
- Squeezing out the smallholder farmer
- Expropriation of land, displacement
- Dispossession of peasants
- Increased food insecurity
- Capitalism
- Mechanisation, modernisation
- Capital intensity, rather than labour intensity

In other words, there is a fear that commercialisation essentially means promoting change that is in the interests of larger, more powerful players to the detriment of smallholder farmers.

## Defining commercialisation

### Production for market

Writings on commercialisation highlight a number of aspects of what it means to be commercialised. However, the lynchpin of most, if not all, definitions of agricultural commercialisation is the degree of participation in the (output) market, with the focus very much on cash incomes<sup>5</sup>. One dictionary definition gives a spatial dimension, describing commercial agriculture as "the growing of crops for sale outside the community" (Encyclopaedia, Colombia University Press). The first question is whether a farm or household sells any of its crop output. After this, some studies consider the degree of commercialisation in terms of amount of crops sales (volume, income). Thus, for example, Integrated Rural Development Program (IRDP) studies in Northern Province, Zambia

define commercialised farmers as those who sell more than 30 bags of maize per annum (Sugiyama, 1987; Kakeya and Sugiyama, 1987). However, a better approach is to consider the percentage of crop production marketed by a farm or household. Thus, Strasberg et al. (1999) suggest the following simple household crop commercialisation index (CCI):

$CCI = (\text{gross value of all crop sales} / \text{gross value of all crop production}) \times 100$ .

While there are computational difficulties, we note that there is no reason in principle why this should not be extended to include livestock (on both the numerator and denominator). However, we do not pursue this idea further here. A value of zero for the CCI signifies total subsistence, while a CCI value approaching 100 indicates higher degrees of commercialisation i.e. a greater percentage of crop production marketed. A big advantage of this approach is that commercialisation is treated as a continuum, thereby avoiding crude distinctions between “commercialised” and “non-commercialised” farms.

This simple index is open to criticism. One possible criticism is that it makes no meaningful distinction between a farmer who produces just one bag of maize and sells that one bag, and one growing fifty bags of maize who sells thirty of them. On the basis of the CCI, the first farmer, with a CCI of 100, would appear to be more commercialised than the second, who has a CCI of 60. There is some validity to this criticism, as this caricatured example shows. However, for reasons that will become clearer below, in practice there are few tiny farms that sell all of their output (at least, at lower levels of economic development) and similarly few large farms that do not sell most of theirs.

A related criticism concerns “distress” sales, i.e. crop sales by poor households straight after harvest because they are desperate for cash. Where it is food that is being sold, the household may then be forced to buy back the same (or indeed a greater) quantity of food later in the year when the price is much higher. In this case, the crop sale raises the CCI, but is in no way indicative of increasing household welfare. Survey evidence suggests that 10–15 per cent of southern and eastern African rural households are both net food deficit (over the course of a typical year) and, nevertheless, sell a proportion of their food output soon after harvest (Jayne et al. 2006, Poulton et al. 2006b). This shows that there is some substance to this criticism and that interpretation of any empirical results based on the CCI needs to take the phenomenon of “distress” sales into account.

What the CCI does, very effectively, is to bring subsistence food production to the centre of discussions about commercialisation. CCI falls below 100 to the extent that households devote their land, labour and capital resources to the production of food for own consumption, rather than to the production of crops (food or otherwise) for sale to the market. We discuss the reasons for the persistence of subsistence food production in more detail later in the paper. Even at this early stage, however, it is worth making the point that strategies for agricultural commercialisation should start by seeking to understand why households produce food for own consumption and then create the conditions that will

help them over time to devote less of their resources to this activity. This can be achieved either by increasing the efficiency of the markets from which they might buy food and/or by assisting them to grow their own food more efficiently if they wish to do so.

### **Additional dimensions to agricultural commercialisation**

While the degree of participation in the output market lies at the heart of most definitions of agricultural commercialisation, some literature does address other dimensions of commercialisation (see, for example, the discussion in von Braun and Kennedy (1994)). Here, we briefly note three additional dimensions.

First, there is the degree of participation in input markets. As farms become more commercial, they tend to rely less on own-produced inputs (e.g. manure, retained seed) and services from mixed farming systems (e.g. animal traction) and instead depend more on markets to supply their inputs (improved seed, inorganic fertiliser, crop protection chemicals) and services (mechanised equipment for ploughing, planting, weeding, harvesting etc – either hired/rented or purchased). Thus, on the input side we might define commercialisation as:

$ICI = \text{value of inputs acquired from market} / \text{agricultural production value}$

As is well illustrated by Pingali (1997), commercialisation on the input side is likely to be driven over time by rising opportunity costs of both labour and land. It is also likely to proceed in tandem with the degree of participation in output markets. We, therefore, do not consider this dimension further in this paper.

Second, it is observed that, as farms become more commercialised, they rely increasingly on hired labour, with family labour focusing more on supervisory and managerial tasks. This may be linked to the opening up of other opportunities for the family’s labour elsewhere in the economy. As farm production becomes increasingly business-oriented, rather than a matter of survival, some family members may choose to work in other occupations, with the remaining members hiring in workers to accomplish the necessary tasks. Alternatively, where commercialisation is associated with farm consolidation (see below), additional hired labour may be required to cope with an expanding cultivated area. Note, however, that where farm consolidation is driven by rising real wages elsewhere in the economy, this will also encourage mechanisation (Pingali 1997), such that the increase in total labour input into the farm is limited.

An interesting case of reliance on hired labour at an early stage of agricultural development is provided by the top smallholder cotton producers in Tanzania and Zimbabwe. These devote half to two-thirds of their land to cotton production and typically rely heavily on hired labour for most tasks related to cotton cultivation. Family labour thus has primarily a managerial role in cotton. However, family labour represents the dominant labour input into the household food production activities, which occupies most of the remaining land on the farm.

In this case, the total area of land cultivated is too great for the household alone to supply labour. At the same

time, attractive off-farm opportunities for family labour are limited, so family labour is still supplied on the farm. The distribution of this labour between crops reflects intra-household decision making and division of labour arrangements, but also again highlights the significance of subsistence food production within agricultural commercialisation processes.

So far we have considered labour hire as an indicator of commercialisation. However, another strand in the literature sees the form of labour used (family vs hired) as an important determinant of comparative advantage in crop production. We return to this in section 4. Third, some writing on commercialisation highlights the importance attached to the profit motive within the farm business as an indicator of commercialisation. Thus, Pingali and Rosegrant (1995: 171) state that:

Agricultural commercialization means more than the marketing of agricultural output, it means the product choice and input use decisions are based on the principles of profit maximisation. Commercial reorientation of agriculture occurs for the primary staple cereals as well as for the so-called high value cash crops. On the input side, commercialization implies that both traded and non-traded inputs are valued in terms of their market value."

This is a useful nuance within discussions on commercialisation. As will be discussed below, risk minimisation, rather than profit maximisation, is an important driver of subsistence production. The phenomenon of "distress" sales, discussed above, provides a good example of sale of crops that is not driven by a profit motive, but rather a short-term survival need. Decisions to supply labour off-farm can also have both "push" and "pull" motivations (see below).

### **Broader (household-level) concepts of commercialisation**

Looking beyond purely the agricultural activities of a household, von Braun and Kennedy (1994) propose a measure of integration into the cash economy (ICE), which they define as:

ICE = value of goods and services acquired through cash transactions/ total income

Alternatively, we might consider a household commercialisation index, where:

HCI = gross income from all market sources / total income

A livelihoods perspective reminds us that, even in rural Africa, many households obtain half or more of their income from non-farm sources (Reardon 1997, Ellis 2000)<sup>6</sup>. For policy makers, an important note of caution is that seeking to increase the market orientation of the agricultural production of households whose comparative advantage lies in non-farm employment may be a fruitless task.

Broadly speaking, the non-farm income of rural households may be derived from casual labour hire, wage employment, private business activity (self-employment) or remittances. There may be complementarities between such activities and agricultural production, for example where non-farm activities are conducted mainly in the dry season or where small land holdings are insufficient

to absorb all of the household's labour, but they may also compete (Reardon 1997). Can pursuit of these activities be considered as commercialisation? This question takes us beyond the scope of the current paper. However, we offer the following brief observations before returning to our main theme of agricultural commercialisation.

First, there are important ongoing debates as to whether rising off-farm income shares in rural Africa reflect pull (opportunity) or push (survival) factors (see, for example, Bryceson 1999, Ellis 2000, Dorward 2003). Whereas, for some households, dependence on non-farm employment may be as much about survival as about comparative advantage, there are other households (e.g. those with above-average educational attainment, but limited land holding) for whom non-farm employment makes more sense as an income-maximising strategy than producing agricultural products for market.

Second, we note that hiring out labour onto other farms rarely accounts for more than a small fraction of total off-farm income in a community or area (Reardon 1997, Otsuka and Yamano 2006). This is generally low return work. However, there can be exceptions. Maertens and Swinnen (2007) show that employment on large-scale export horticulture enterprises represents a "pull" opportunity for many rural households in the relevant part of Senegal. In the 1990s smallholder export horticulture developed in Senegal. However, in the latter part of that decade, the inclusion of smallholders within the supply chain was increasingly challenged by the private grades and standards introduced by importers in the major European markets. The industry reoriented itself towards estate production, while retaining a minority of its original smallholder outgrowers (the top producers). It has subsequently grown to the point where the total number of people employed by the industry (estate workers plus remaining outgrowers) far exceeds the total number of outgrowers contracted prior to the reorganisation. Maertens and Swinnen's (2007) analysis of household survey data divides the population of the export horticulture production zone into three categories: those who have remained as outgrowers, households with one or more member employed on the new export horticulture estates<sup>7</sup> and households with no direct connection to the industry. It shows that those who have remained as outgrowers are the best off. However, households with one or more member employed on the horticulture estates are significantly better off than households with no direct connection to the industry. Moreover, many of the households with one or more member employed on the horticulture estates would not qualify as outgrowers. While they have similar education levels to outgrowers, they have less land and fewer non-land assets. Because of the relatively inclusive nature of estate employment<sup>8</sup>, Maertens and Swinnen's (2007) simulations indicate that poverty levels in the area are lower under current arrangements than they would have been even had the contract farming form of organisation been able to continue.

When we consider the competitive strengths and weaknesses of different modes of agricultural organisation in section 4, we might note the following lesson from the Senegal horticulture example. The direct poverty reduction potential from a particular example



of “commercial” agriculture is a function of the rate at which the enterprise can grow, its labour intensity (and the type of labour employed) and the returns to labour achieved. In general, although labour intensity varies considerably by crop (with horticulture among the most intensive labour users), smallholder agriculture uses labour more intensively than large-scale estates. However, in the Senegal example, the competitive advantages of the estate mode of organisation outweighed the labour intensity advantage of smallholder production, enabling more poor households to obtain higher returns through wage employment on estates than they could through own production.

Even this, though, may only be part of the story – an essentially static comparison. Work on ethical trade and working conditions on commercial farms (see Smith et al., 2004; Tallontire et al., 2005; among others) emphasises quality of employment. It calls for a more sophisticated approach to poverty that recognises that enabling smallholders to stay and work in their communities could be more poverty-reducing than supporting large scale commercial farms in a fiercely competitive global market place (characterised by downward pressures on prices and increased concentration in markets over time) that offers only low paid, insecure work. Returning to the central theme of this paper, a key issue is whether smallholder households are forced off their land to make way for expanding estate production or whether sufficient land is available for them to co-exist with estate producers, hiring out some of their labour at the same time as pursuing their own (food and other) production activities.

Third, available evidence suggests that, in Africa, access to non-farm income is unequally distributed, with better-off households acquiring a higher share of their income from non-farm sources than poorer households (Reardon 1997). In absolute terms, the differences are even greater. The diversity of returns from different non-farm activities indicates the presence of barriers to entry into some activities, with education and access to capital the two most commonly cited ones.

Our discussion about employment on commercial farms notwithstanding, the evidence from reviews such as Reardon (1997) and Otsuka and Yamano (2006) is that it is ultimately growth in non-farm activities within an economy that drives major falls in poverty. At first sight, this appears to call into question the importance of agricultural intensification and commercialisation to growth processes in Africa. However, this is a premature conclusion. There is some debate as to whether, in a predominantly rural economy, agricultural commercialisation is required to create the initial conditions for growth in manufacturing and service sectors. Haggblade et al. (2007) argue that the causality can vary by specific case and context. However, even where growth in manufacturing and service sectors responds primarily to external (non-agricultural) demand, Otsuka and Yamano (2006) argue that agricultural intensification may be necessary to permit households to invest in the education necessary to obtain the available employment opportunities. Consistent with the emphasis in this report on food access as a constraint to commercialisation, they note

that food insecurity may also discourage investment in non-farm activities:

... according to the long-term panel studies in Asia, increased agricultural income, mostly generated from the Green Revolution, was a major source of funds to invest in children’s schooling in the early years, which later led to the choice of lucrative non-farm occupations by children. The last finding raises questions about the sources of investment in children’s schooling in Sub-Saharan Africa. In practice, many African farm households lack the financial resources to send their children beyond primary school. The Asian experience strongly suggests that it is the Green Revolution that must be realized to initiate the structural changes towards increasing investment in human capital and greater participation in non-farm activities in Sub-Saharan Africa. Indeed, without increasing crop income and improving food security in Sub-Saharan Africa, farmers will not be able to afford to send their children to schools and allocate more time to non-farm activities (Otsuka and Yamano 2006, p.30, emphasis added).

### Processes of commercialisation

For food production systems, Pingali and Rosegrant (1995) describe farmers’ level of market orientation using three classifications: “subsistence systems”, “semi-commercial systems” and “commercial systems” (Table 1). Each classification has different farmer objectives, sources of inputs, product mix and household income sources, echoing our discussion above of the multiple dimensions of commercialisation.

At first sight, this typology presents a rather linear trajectory that sees farmers, indeed agriculture sectors, progressing, over time, from subsistence through a state of semi-commercialisation to a commercial system with clearly defined characteristics along the four criteria – each one captured on a scale or hierarchy. The transition is described thus:

as economies grow, households shift away from traditional self-sufficiency goals and towards income and profit-oriented decision making, so farm output is accordingly more responsive to market trends. The returns to intensive subsistence production systems that require high levels of family labor generally decline relative to production for the market with predominant use of hired labor. The proportion of farm income in total household income declines as family members find more lucrative non-agricultural employment opportunities (Pingali and Rosegrant, 1995, p.172–173).

Table 1 is a simplification, but it neatly captures some important dynamics. One critique is that it focuses only on those who remain in agriculture, even if there is recognition that even these households will have other income sources beyond agriculture. Those who exit agriculture altogether – either because they specialise in non-farm activities or migrate out of rural areas or end up largely as providers of wage labour to remaining farms – may be a minority at early stages of rural development, but grow to become the majority as both agricultural

commercialisation and broader economic development proceed. Moreover, as shown by Otsuka and Yamano (2006), once growth in non-farm employment takes off, this can have a more dramatic impact on poverty reduction than even agricultural growth.

We might also observe that the path sketched out around Table 1 – developed principally in relation to Asia – applies largely to systems that start out as smallholder dominated. Bimodal systems (like those in Latin America and much of Southern and Eastern Africa) may have a quite different trajectory.

### Specialisation and diversification

Table 1 above associates the agricultural commercialisation process with a move from production of a very diverse product mix to a more specialised production enterprise. Production decisions are increasingly shaped by market forces in conformity with comparative advantage, rather than by a desire to spread risks in the context of highly imperfect markets.

However, once again, progress is unlikely to be linear. In particular, at the earliest stages of agricultural development, commercialisation may well be associated with diversification. There may be two reasons for this. The first is that diversification in market-oriented crop (and livestock) enterprises may be an important way to spread market-related risks, given both market imperfections and volatility and the lack of other mechanisms for either ensuring against such risks or smoothing consumption when they occur. Leavy (2007) on Zambia and Gabreselassie et al. (2007) on Ethiopia provide examples of households deliberately diversifying their market-oriented crop and livestock enterprises, rather than expanding a single enterprise, when they accumulate the resources to do so.

The second reason is that initial production of crops for market – especially non-food crops – represents diversification away from production of basic foods for home consumption. Heltberg (2001:3) observes that, '[s]mallholders produce market-destined crops in addition to the subsistence food crops they are growing anyway'.<sup>9</sup> In this case, the inconclusive nature of measuring commercialisation in terms of degree of specialisation can be illustrated using a Herfindahl index. If a farmer starts by allocating 90 per cent of land to maize and the remaining 10 per cent equally to ten minor crops, the Herfindahl index is 0.811. If the farmer then switches to allocating 45 per cent each to maize (cultivated more intensively) and cotton, and only grows five other minor crops on the remaining 10 per cent, the Herfindahl index drops to 0.41. According to Heltberg, the degree of diversification has increased. According to Pingali (Table 1), the farmer has moved from a "wide range" of crops (eleven) to being "moderately specialised" (seven), with almost half of cropped area now planted with the clear intention to produce for market. Both views of the same shift are defensible.

According to Heltberg (2001:3), the tendency to add cash crops to existing food production activities can be attributed to the 'urge for food self-sufficiency in environments of large transaction costs and high risks found in many sub-Saharan African (SSA) countries'. This contrasts with the belief of economic historians that 'gains from

specialisation are a key driving force in economic growth' (see North 1991; cited in Heltberg 2001). Heltberg concludes:

Commercialization and diversification are therefore associated, at least at initially low levels of commercialization. This implies that smallholder agricultural commercialization may not yield the expected gains from specialisation and economies of scale, and that it will not, in itself, be a prime engine of agricultural productivity growth. Nevertheless, commercialization is important as a livelihood strategy, source of cash income to farmers, and export revenue to the country, and worth promoting on those grounds (Heltberg 2001, p.3).

We agree strongly with the emphasis placed here on "food self-sufficiency in environments of large transaction costs and high risks" and that one should not expect specialisation to occur until food markets function much better than they do in most of Africa today. However, we caution against the conclusions drawn on the grounds of economies of scale. First, in section 4 we discuss the evidence on the competitive strengths and weaknesses of smallholder vs. commercial farms. There is very little evidence for economies of scale in agricultural production in low wage economies, although there may well be economies of scale in marketing and quality assurance (these are both information-related). Second, the expected gains from smallholder agricultural commercialisation may not come primarily from the realisation of economies of scale. Instead, they arise when households are freed from producing food for own consumption, often in agro-ecological conditions that are far from ideal, and feel able instead to produce crops in which they have a clearer comparative advantage. Thus, von Braun and Kennedy (1994:3-4) write that:

Subsistence production for home consumption is chosen by farmers because it is subjectively the best option, given all constraints. In a global sense, however, it is one of the largest enduring misallocations of human and natural resources, and, due to population pressure and natural resource constraints, it is becoming less and less viable.

## Making agricultural commercialisation as inclusive as possible

Several studies indicate factors that the authors consider important in distinguishing commercialised from non-commercialised growers and/or factors that affect 'farmers' decisions to become more integrated in the market' (von Braun, 1995:189). So-called "exogenous" determinants of commercialisation identified by these studies include: population change, availability of new technology, infrastructure, market creation, macro-economic and trade policies.

We do not have space to discuss all of these in detail. However, in this section we discuss certain critical conditions that need to be in place if efforts to promote agricultural commercialisation are to benefit a large proportion of smallholder agricultural producers.

**Table 1. Characteristics of food production systems with increasing commercialisation**

Level of Market Orientation	Farmer's Objective	Sources of inputs	Product mix	Household income sources
Subsistence systems	Food self-sufficiency	Household generated (non-traded)	Wide range	Predominantly agricultural
Semi-commercial systems	Surplus generation	Mix of traded and nontraded inputs	Moderately specialised	Agricultural and non-agricultural
Commercial systems	Profit maximisation	Predominantly traded inputs	Highly specialised	Predominantly non-agricultural

Source: Reproduced from Pingali and Rosegrant (1995)

### Market access

Given the centrality of participation in output markets in our definitions of commercialisation, market access is obviously crucial to commercialisation.<sup>10</sup> Market links bring broader benefits to poor people in rural areas, and there is plenty of evidence for this (see Dercon and Hoddinott, 2005, among others). However, households have different relations to markets because of costs associated with market transactions. The key is enabling farmers to access markets for their produce – as evidenced by the various ‘making markets work for the poor’ initiatives that emphasise market access as a major pathway out of poverty and the need to link farmers more effectively to new markets (DFID, 2000; Asian Development Bank; Commission for Africa report, 2005; SIDA, 2003; World Bank World Development Report, 2000/2001, Chapter 10, ‘Making markets work better for poor people’; Almond and Hainsworth, 2005). These stress the importance of agricultural growth, but also highlight infrastructure development as necessary to improve access to new markets, as well as bringing other benefits to improve welfare overall.

Other aspects of the current orthodoxy include better market information, strengthening farmer organisations and promoting contract farming. However, while many measures implemented in support of increasing market access have value in their own right, there are still questions around who participates. Will it still only be the top few per cent of farmers who respond, especially if, on the whole, smallholders cannot either buy their food reliably and cheaply from the market or intensify their own production?

Successes in various initiatives that fall under the banners of ‘making markets work’ for poor people and ‘linking farmers to markets’ have been mixed. Case studies from the DFID/ADB joint initiative focusing on financial, labour, and agricultural markets, and public-private partnerships, include contract farming schemes and other measures to encourage value chain participation by smallholder farmers, mainly in East and South-East Asia.<sup>11</sup> Contract farming schemes implemented in Cambodia encompass production of oranges, vegetables, rubber, tobacco and rice, with the aim to provide to smallholder farmers with: price information; new technologies; lower costs of entering the market; and access to credit. Of three schemes, two failed (CEDAC, an NGO supported scheme, and AADA, under a local farmer association) because of weak market linkages – even though AADA managed to increase productivity 5-fold. The third scheme – Angkor Kasekam ROUNGROUNG (AKR) – is a rice contract farming scheme of more than 1,000 households.

Benefits of the scheme have been to increase specialisation and the adoption of new production methods, as well as access to a stable market and secure income. Participating farmers received higher prices than in the market and on the whole felt that they were better off as a result. However, the scheme has excluded poorer farmers with smaller farm sizes.

A study by Minten, Randrianarison and Swinnen (2005) of smallholder farmers contracted to supply local supermarkets describes how smallholder farmers under micro-production contracts, have received extensive farm assistance and supervision to help them meet the high quality standards and food safety requirements demanded by European supermarkets. Under the scheme almost 10,000 vegetable farmers in Madagascar are now producing for this market. Benefits of the scheme include higher welfare, greater income stability and shorter lean periods. However, local market opportunities have been slow in coming, not least because local supermarkets do not demand the same high quality and are reticent about contracts that emphasise higher quality standards.

What are the characteristics of participating farmers? The contracting farm households tend to be considerably more highly educated than the average Malagasy household: ‘The households that have contracts with the firm are: 64 per cent of them had finished primary schools, and only 1 per cent of them did not do any studies at all. This compares to almost half of the national population that is illiterate’ (Minten et al., 2005:9). An area under contract is restricted to 0.01 hectare, but given the relatively short production cycles there can be many different contracts on the same plot over the course of the year. Usually there is only one contractor per household, and contractors can have only one contract at a time, but multiple household members can have contracts concurrently. Households also subcontract land to people outside the household.

On a much smaller scale, smallholder farmers in South Africa have been supplying a local SPAR supermarket, while SPAR supports and maintains market access. The initiative is underpinned by South Africa’s Agricultural Black Empowerment (AgriBEE) Policy, introduced in 2004. These smallholder farmers are classified as emerging farmers, and meet 30 per cent of the store’s demand for fresh produce, supplying cabbages, spinach and other vegetables. However, its reach is limited in that it amounts to only 27 farmers in total (Louw et al., 2006), especially given that there are about 3 million small-scale farmers in South Africa. These farmers are mainly settled in communal areas and farming only 14 per cent of agricultural land, compared with 46,000 commercial farms,

which produce 95 per cent of marketed surplus on 86 per cent of agricultural land (Sautier et al., 2006: 9). Participation of small-scale farmers in contract farming is still very limited.

An empirical analysis of the impact of a contract-farming programme (ARB) in Senegal examines poorer community members' access to contracts and the programme's impact on participants' incomes (Warning and Key, 2005). Contracting farmers' incomes significantly increased, which not only raises the standard of living of growers, but the authors suggest this may also create positive multiplier effects for economic growth, infrastructure and employment in the region. The study also finds no significant difference in wealth levels between contract and non-contract farmers, and therefore does not seem to favour "wealthy" farmers over their poorer neighbours. The reason put forward for this is that the programme focuses on producing a traditional cash crop, peanuts, that all farmers in the locality have grown before and already have the agricultural inputs to cultivate, rather than non-traditional crops that have limited markets locally. So not only is there less uncertainty around producing the crop, no new large capital investments are needed to participate. This creates more of a level playing field between larger and smaller farmers (Warning and Key, 2005).

The Porter and Phillips-Howard (1997) evaluation highlights how important socioeconomic context is in determining success or failure of contract farming schemes, in particular the relative balance of power between large companies and small-scale farmers. Citing work by Glover and Kusterer (1990), "ownership" by contracting farmers and farmer-company relations and communication are fundamental. A key element in successful schemes is effective liaison between firm and farmers that takes account of language needs and cultural understanding, including gender-related issues. The most successful liaison and extension is when companies employ people of the same ethnic background as the contracted farmers, and female extension officers. Representativeness of farmers' organisations is another element contributing to increasing power of smallholder farmers under contract; where there have been strong local farmers' organisations, farmers have successfully influenced scheme policy. Other important factors which help to put farmers in a stronger position vis à vis the contracting company, allowing them to negotiate more effectively and maintain independence, include: having alternative livelihood and income-generating activities alongside the scheme; previous experience of interacting and working with other large companies; land tenure; and control over water supplies for irrigation (Porter and Phillips-Howard, 1997).

Contract farming can have impacts or multiplier effects on non-contract farmers and other actors in the locality, which may not always be beneficial (Singh, 2002; Porter & Phillips-Howard, 1995). Some studies have found that producing for contract can shift farm production towards export-oriented and cash crops. This is at the expense of basic food crops, potentially leading to higher prices. These are especially felt by those whose incomes have not increased as a direct result of contracting, such

as non-contract farmers and labourers (Little & Watts, 1994, cited in Porter & Phillips-Howard, 1995).

These cases illustrate that while market access initiatives are valuable with many benefits to participating farmers, in practice relatively few are able to participate in what, on the whole, tend to be niche markets. That only the top few per cent of smallholder farmers can actually benefit highlights the limitations of conventional thinking if it is decoupled from support for staples development. This is always going to hold back their ability to diversify out.

### **Access to staple foods: food markets and/or food production<sup>12</sup>**

It is now a well-attested fact that the majority of smallholder households in Sub-Saharan Africa are net-deficit in food production terms and that only a minority sell any food staples at all in an average year.<sup>13</sup> Illustrating this for the case of Kenya, Nyoro et al. (1999) found that around 70 per cent of households in the high potential maize zone were net sellers of maize, but in none of the other six major agro-ecological zones in their survey did the proportion of net seller households exceed 30 per cent. Yet, almost all households grow staple foods and, in most cases, they devote the majority of their land area to them. It is thus not uncommon for studies of food-crop marketing to find that the top 10 per cent of producers account for 50 per cent or more of marketed surplus. Similarly, studies of cash crop systems tend to find that, within a given area of smallholder producers, it is the larger farms that engage more heavily in cash crop production (especially where larger farms also equate to higher land:labour ratios), leading to similar distributions of cash crop sales.

This subsistence orientation persists because rural food markets in Africa are risky and subject to wide seasonal price variations. In this context small farm households are rational to prioritise the growing of subsistence food crops, even when growing other crops for market would yield a higher mean return in a normal year. In this section we develop this argument further. The corollary of this argument is that the expansion of commercial agriculture will generally have to go hand in hand with investments that increase the productivity of food staples.

There are two main strands of literature that investigate the relationship between subsistence and commercial agricultural production among smallholders. The first concerns the impacts of cash crop production on food security and nutrition. NGO and other critics of the promotion of cash crops have argued that cash crop production absorbs women's labour and may also justify men taking over land previously controlled by women. It thereby diverts these resources from food production for household consumption. Meanwhile, the resulting income is controlled by men, who prioritise personal consumption (e.g. of alcohol), marrying other wives or investment in fixed assets, rather than providing for the household's immediate food and nutritional needs.

A seminal work in this literature is von Braun and Kennedy (1994). Summarising across their case studies, they found that households that invest in cash crops rarely sacrifice food security to do so. Specifically:



- Farms adopting new “commercial” crops or technologies often devote a considerably smaller share of their land to food crops for own consumption than do non-adopters. In absolute terms, the area that they devote to food crops for own consumption may also be smaller. However, they generally achieve higher yields in their food crop production. As a result, per capita production of food for own consumption was as often higher for adopters than for non-adopters as vice versa.
- Higher incomes as a result of adoption of new “commercial” crops or technologies generally lead to higher calorie intake, although the increase is less than proportional due to increased non-food expenditure shares and a preference for more expensive calories (good for other aspects of nutrition). ‘Any negative tendencies to spend less for food because of loss of income control by women or because of increased involvement in market (cash) transactions are generally small and are more than compensated for by increased incomes due to commercialization’ (p78).
- There is ‘no evidence for an adverse effect on child nutrition from increased commercialisation, even when income is held constant’ (p46). Equally, though, child health indicators rarely improved, despite higher incomes, as (aside from food) additional incomes were rarely spent on items with short-run health benefits. The authors argued that increased incomes should be combined with public action to deliver improved health outcomes.

While this first strand of literature examines the impact of commercial agricultural production on the food security of those who have already engaged in it, the second considers whether household concerns about food security act as a constraint to adoption of commercial agriculture. Specifically, if food markets are unreliable, inefficient or highly volatile, it is argued that farm households will prioritise feeding themselves and hence will only cultivate very small quantities of crops intended for sale if they expect to experience a food deficit (Fafchamps, 1992; Jayne, 1994). Thus, under production conditions better suited to oil crops than to grains, Jayne (1994) found that, ‘Controlling for differences in household assets and location, grain-surplus households in five semi-arid regions of Zimbabwe were found to cultivate 48% more oilseed crops for the market than their grain-deficit neighbours’ (p388).

Some evidence for this food-security-as-constraint-to-commercialisation view is also found in the studies reported by von Braun and Kennedy (1994). Thus, while several of the authors in that volume calculated that returns to land and/or labour were significantly higher under cash cropping than under food production for own consumption, adopting households generally devoted only 40 per cent or less of their land to the new “commercial” crops or technologies, which was less than they continued to devote to subsistence food crops. Meanwhile, the smallest farms in the study areas were under-represented in cash crop schemes for various reasons, including both administrative selection (where this occurred) and their own choice.

The case study by Peters and Herrera (1994) neatly summarises why smallholders in Malawi plant on average around 80 per cent of their land to maize. Prices of purchased maize are both high and unpredictable in the annual “deficit period” (December-January). However, in addition to this there are strong taste preferences for local maize varieties pounded in a traditional way and there are cultural reasons as to why cash resources within the household tend to get exhausted more readily than retained food stocks, hence making the latter more reliable as a food security reserve.

The Mozambique study by Heltberg and Tarp (2002) also highlights the importance of staple food production to agricultural commercialisation. Thus, in their regressions to explain the extent of participation in agricultural output markets, the single most important variable was the mean level of maize yield achieved in the district concerned. This could indicate that maize was readily available for purchase in the districts concerned or that individual households in such districts were able to devote land and labour to crops other than staple foods because they were also able to ensure a reasonable supply of food through own production.

Of course, the two aspects of the relationship between cash crop production and subsistence food production are not mutually inconsistent. Indeed, if adoption of a cash crop only occurs when concerns related to food security can be allayed, then non-negative outcomes of cash crop production on food security are likely to be observed.

More recently, Pandey et al. (2006) have carefully investigated the role of upland rice in the farming systems of the northern uplands of Vietnam. Yields of upland rice are lower than for lowland rice, so households that have both upland and lowland plots tend to plant less upland rice in their upland plots<sup>14</sup>, which are better suited to higher value cash crops (tree or horticultural crops) or even maize (a cash crop in this context). In more accessible areas, households can also readily obtain rice through the market from nearby lowland areas, so also produce less upland rice. However, in more remote areas, households cannot rely on obtaining reasonably priced rice through the market and hence plant a much higher proportion of their plots to upland rice. Within the subset (210 households) of their household survey dataset that did not have lowland rice plots, Pandey et al. (2006) show that higher upland rice yields are associated with a lower proportion of total area planted to upland rice and a higher proportion planted to cash crops. In a similar vein, Poulton and Ndufa (2005) found that, within three subdivisions of Siaya and Vihiga districts in western Kenya, households that achieved higher maize yields in the long rains season had more diversified cropping patterns (away from maize) in the short rains season, controlling for farm size.

Pandey et al. (2006) argue that,

Rice productivity improvement can thus be an important strategy for escaping from poverty while assuring food security. Improvements in household food security can thus facilitate and reinforce the process of commercialization rather than negating this process, as is believed in some policy circles. [Contrary to these same beliefs] ... a more gradual

approach that is based on enhancing food security first before launching a major commercialization program for uplands is likely to be more successful in bringing about the desired change (von Braun and Kennedy 1994). Examples abound where commercialization programs that did not give due consideration to food security have performed poorly in the uplands of Vietnam and elsewhere (p77).

In the context of Vietnam, intensification of staple food production for home consumption may be a prerequisite for diversification into commercial agriculture principally in less accessible areas that cannot rely on food purchase from the market. However, basic infrastructure and transport is better in much of Vietnam than in most of Sub-Saharan Africa, while local food markets are also generally better developed (assisted by greater population density and the fact that the nation as a whole has a rice surplus). In sub-Saharan Africa, intensification of staple food production for home consumption may be a prerequisite for widespread diversification into commercial agriculture in many areas – not just the more “remote” ones.

We note, however, that policies to promote staple intensification among food deficit households with small-medium land holdings, as a means to eventual diversification into production of other crops for market, are likely to be different from policies to (further) expand staples production among existing surplus producers. Thus, policies that raise the price of food staples should provide incentives for the latter to further expand their production, but will only worsen the trap that the former find themselves in, reducing the already scarce cash that they have to buy improved seeds or fertiliser. In areas of average or higher agro-ecological potential, but poor market development, a system of input vouchers for staples production might assist diversification into higher value crops, if accompanied by other interventions to simultaneously promote such alternative crops<sup>15</sup>. However, in semi-arid areas significant staples intensification may always be too risky for producers to contemplate. In such cases, widespread commercialisation of agriculture might only come with improved market access, allowing both purchases of staples and opportunities to sell crops more suited to local growing conditions. The Machakos area in Kenya may be illustrative here (Tiffen et al. 1994). We note at least two effects of small land sizes on agricultural commercialisation. First, in the absence of efficient food markets, households with smaller land sizes have to be assisted to achieve higher staple yields before they will begin to devote land to production of higher value crops for market<sup>17</sup>. Second, lower land per capita means that they will be able to benefit less (in absolute terms) from their commercialisation efforts.

### Asset accumulation

Intuitively, differences in asset holdings are likely to be a big determinant of who responds to incentives to commercialise. This is confirmed by empirical evidence, such as Heltberg’s 2001 study of smallholder farmers in Mozambique, which identifies capital accumulation as an important stimulus to commercialisation. In this

section we discuss the key assets for rural households: land, plus livestock and equipment.

### Land

Jayne et al. (2003) present evidence from five countries of southern and eastern Africa (Ethiopia, Kenya, Mozambique, Rwanda and Zambia) of land-holding patterns among smallholder households in the 1990s, based on nationally representative rural household surveys. Average land holding sizes per household have fallen by one third to one half since the 1960s, as populations have risen (see also Ellis, 2005). Contrary to some stylised facts about the relatively egalitarian nature of land distribution within communal tenure systems, Jayne et al. (2003) also demonstrate that there is considerable inequality within land holdings – at least as great as in Asia at the onset of the Green Revolution. Only about a third of this inequality can be explained by inter-village effects (for example, differences in agro-ecological potential and local population densities); the remainder is within-village inequality. Observable household variables, such as demographic structure and livestock holding (see below) explain a further 12–20 per cent of total observed variation. Jayne et al. (2003, p267) suggest that ‘institutional and governance factors operating within local systems for allocating land’ may account for some of the remaining inequality. Thus, for example, the first clans and families to settle an area commonly receive larger land allocations than later arrivals, while other studies indicate that those related to the Chief responsible for land allocation receive larger allocations than those without such links.

Jayne et al. (2003) show that around 25 per cent of households in all five surveyed countries have access to less than 0.1 ha of land per capita – near landless. They also show that income per capita rises sharply as land holding rises from this level to 0.25 ha per capita (and more gradually thereafter). In other words, whereas households with lower land per capita obtain a higher share of their income from non-farm sources than households with a greater land endowment<sup>16</sup>, this is insufficient to compensate for lower land holdings in a predominantly agricultural economy.

Jayne et al. (2003, p254) comment that ‘the poor generally lack the land, capital and education to respond quickly to agricultural market opportunities and technical innovation’. Thinking specifically about land, we argue that small land holdings interact unhelpfully with poorly developed food markets to keep poor households focused on the production of (often low value) staple food crops. Thus, at any given yield level, a household with lower land per capita has to devote a higher proportion of its land to food production if it is to achieve a given level of self-sufficiency. There is then less land available, if any at all, for production of higher value crops for market.

These points are illustrated by Table 2, which is derived from action research carried out in Siaya and Vihiga districts of western Kenya in 2001–2005. Land holding sizes in these districts are tiny, such that in a 2005 survey the 75th percentile household only had access to around 0.6ha, albeit land that could be farmed in two seasons per year. (This works out at 0.18ha per capita – below

the threshold of 0.25ha per capita highlighted by Jayne et al. 2003). Table 2 considers possible outcomes from agricultural intensification efforts that permitted an intensification of maize production in the long rains season, so as to permit diversification into other crops in the short rains. In the project in question, intensification of maize production was being promoted through provision of technical advice plus a credit scheme that assisted households to acquire improved maize seed and inorganic fertiliser. Production of soybean was being promoted for cash, food and soil fertility benefits, while planting fast growing “improved fallow” tree species on small parcels of land helps restore soil fertility as well as producing firewood, poles or fodder. Kales provide additional cash income. In the “best case” scenarios shown in Table 2, maize and bean yields for the 75th percentile farm are double those recorded by the actual 2005 project survey.

According to Table 2, the 75th percentile farm household could satisfy all its maize requirements at these enhanced yields (per capita consumption requirement is about 140kg per person p.a.) and devote 80 per cent of its land area to crops other than maize during the short rains season. However, its income per capita from farming activities alone would still only be around half of the international poverty line of US\$1 (PPP terms), meaning that it would require non-farm activities to take it out of poverty. Meanwhile, with lower expected yields, as very poor households are rarely early adopters of new technological packages, the 25th percentile farm household would not satisfy its maize requirements, so would be likely to continue devoting most or all of its land to maize and beans for home consumption.

Jayne et al. (2003) acknowledge that there are few easy solutions to the problem of limited land access for many African smallholder households. In both Malawi and Ethiopia, land redistribution programmes to enforce a floor level of land holding per farm household are periodically floated in policy dialogues. Less radical would

be efforts to stimulate land rental markets within customary tenure systems (see Crookes and Lyne, 2003, for an example from KwaZulu-Natal) or investment in irrigation. What is clear is that efforts to stimulate intensification and commercialisation among farm households with small landholdings will require significant coordination across several services and markets: provision of technical advice; supply of both improved maize seed and alternative high value crops; supply of fertiliser and a mechanism for making it affordable to poor households (either credit or subsidy), and some form of linkage to a market for higher value produce. This may be achieved in a project setting, but is a formidable challenge for regular development administrations (see section 5). Moreover, the continued absence of a replicable seasonal credit model for small-scale, semi-subsistence farm households in Africa suggests that intensification and commercialisation among farm households with small landholdings might only be feasible where the state is willing to invest in a fertiliser subsidy as a way of overcoming the affordability constraint.

Even then Table 2 suggests that efforts to promote commercialisation should focus on reaching households with middling land holdings<sup>18</sup>, on the assumption that better endowed households are likely to adopt promising technological packages fairly readily. According to Jayne et al. (2003), the long-term hope for poorer households with tiny land holdings is that eventually agricultural growth will stimulate growth in non-farm employment opportunities.

Until then, such households may best be assisted through some form of social protection intervention (e.g. public works programmes, cash transfers, possibly also including fertiliser subsidies as social protection).

#### Animal traction

Another asset that greatly assists smallholder households to respond to market opportunities is animal traction (livestock plus the relevant equipment). Animal traction

**Table 2. “Best case” agricultural incomes for representative farm households in western Kenya**

	75th percentile farm		25th percentile farm	
	Long Rains	Short Rains	Long Rains	Short Rains
Cropping pattern (ha)				
Maize/beans (intercrop)	0.42	0.12	0.2	0.2
Soybean	0.06	0.24		
Kales	0.12	0.12		
Improved fallow		0.12		
Total (ha)	0.6	0.6	0.2	0.2
Assumed yields (t/ha)				
Maize (intercrop)	3.0	1.5	1.37	0.7
Beans (intercrop)	0.6	0.4	0.29	0.2
Soybean	1.5	1.5		
Kales	5.0	5.0		
Family size	6.5		4.0	
Maize production per person/ year	222kg		104kg	
Net Income per person/ day				
Kshs	16.63		3.78	
US\$ PPP (current)	0.47		0.10	

Source: adapted from Poulton and Ndufa (2005)

allows farmers to respond quickly to rains, thereby increasing yields, and to cultivate more land (assuming that they have access to it<sup>19</sup>). In addition, livestock ownership can provide manure for soil fertility, to the benefit either of staples intensification or of cash crop productivity. West African cotton sectors provide an excellent example of a virtuous circle of cash crop production and animal traction investment, with profits from cotton being reinvested in animal traction to the benefit of both food production and cash crop productivity (Savadogo et al. 1998). Historically, cotton sector policy in West Africa has promoted animal traction adoption, with the result that 30–40 per cent of farm households are considered fully equipped for animal traction use (weeding as well as planting). By contrast, in southern and eastern African cotton sectors, fewer households are equipped even to plough with their own equipment. “Top end” producers in the different regions achieve similar yields, but the much greater proportion of fully equipped producers in West African cotton sectors goes a long way towards explaining the much higher average yields achieved by these sectors as compared with southern and eastern Africa.

## Which crops and markets?

It is clear that - contrary to the fears described in Section 2 that commercialisation means large scale, export-oriented farming, and essentially changes that favour larger, more powerful players to the detriment of smallholder farmers - commercialisation as measured by something like the CCI could be relevant for any size of farm and any market. What is important is that farmers benefit from participating wherever the opportunities are and will respond to any market opportunities that are available. This does not mean exclusively export markets. Indeed, staples markets in SSA are estimated to be worth US\$50 billion per annum and growing at 4 per cent per annum (Diao et al. 2003)<sup>20</sup>. Further, in reality large-scale and smallholder farming have different strengths, which give each of them advantages in producing certain crops.

### Competitive strengths and weaknesses of different farm types

Often, different modes of agricultural production exist side-by-side and interact with each other.<sup>21</sup>

These include:

- Small-scale farmers:
  - Small-scale “non-commercial” farmers – might sell some produce but do not or cannot make their entire living from farming (Type A);
  - Small-scale commercial farmers – tend always to have been market-oriented and make a living from selling their output (Type B);
- Small-investor farmers – farming entirely for the market, albeit on a modest scale and often as a secondary activity;
- Large-scale “business” farming.

A long-standing literature (see, for example, Binswanger and Rosenzweig 1986) observes that different farm types have different advantages and disadvantages when it comes to production and marketing. Some of these are summarised in Table 3.

**Table 3. Competitive strengths and weaknesses of different farm types**

	Smallholder farmers		Small Investor-farmers	Large-scale farming
	Type 'A'	Type 'B'		
Land	*	**	**	**
Finance / Credit		*	**	***
Inputs: access/purchase	*	*	**	***
Skilled labour: access		*	**	***
Unskilled labour: motivation, supervision	***	***	**	*
Contacts/networks	*	**	**	***
Market knowledge	*	**	***	***
Technical knowledge	*	**	***	***
Product traceability and quality assurance			*	***
Risk management	*	*	**	***

\* = poorly positioned (no star is worse!); \*\*\* = well-positioned

Crudely speaking, the competitive advantages of smallholder farms are centred on their low-cost supply of (generally) highly motivated family labour, whereas large-scale farms face lower costs in most other input and output market transactions.

Small-investor farmers are also sometimes labelled “emerging” commercial farmers. The term “emerging”, however, implies that they have risen from the ranks of smallholder producers, which is often not the case. Such farmers are still relatively rare in most of Africa, although we would expect their numbers to increase as processes of commercialisation continue (see section 2.2)<sup>22</sup>. Work under the Future Agricultures Consortium by Amdissa Teshome, exploring young peoples’ aspirations in relation to the agriculture sector, suggest that this is the type of farming that many young rural people, the sons and daughters of farmers themselves, would hope to undertake in the future.

Table 4 takes the analysis in Table 3 one stage further and assesses the likely competitiveness of different farm types in different crops and markets, given the technical and economic requirements of different crops and the demands made by different markets. This is an area where the predictions of theory and actual experience of commercial competitiveness tally quite closely.

Better-endowed smallholders continue to feature prominently as suppliers of staples, horticultural products and a variety of other crops for domestic and regional markets, where quality requirements are modest and



safety and traceability are yet to become major issues. Whilst we have focused on crops within this paper, a similar assessment could also be made for dairy products. They also maintain a strong position in a number of traditional export commodity chains characterised by highly labour-intensive production, harvesting or post-harvest processes. However, they have struggled to remain within many export horticulture chains, even where they have initially featured strongly, due to increasing demands for quality (especially where this is linked to new capital investments), safety and traceability over time (Boselie et al. 2003, Maertens and Swinnen 2007).

Large-scale producers continue to expand as horticultural exporters (see, for example, Maertens and Swinnen 2007), but have made fewer inroads into domestic markets where high-value segments are often still small.<sup>23</sup> Africa as a whole records almost no success in low value export commodities where economies of scale in handling and efficient logistics are critical for international competitiveness, given low margins. Cassava in Nigeria may be on the threshold of export competitiveness (Nweke 2004). In general, though, one would expect smallholders to be at a competitive disadvantage compared with larger farms in supplying low value export commodities, due to the higher costs of bulking up supplies from numerous small-scale producers.

One implication of this sort of analysis is that the dominant type of farm observed during agricultural commercialisation will depend at least in part on the types of crops being promoted (which is, in turn, a function of agro-ecological conditions and market opportunities) as well as the markets being targeted. Large-scale farms might flourish because they are the most appropriate mode of commercialised agriculture for particular crops and markets in which the country or region has comparative advantage – not necessarily because there is a large farm bias in policy. Equally, a country or region may do well in two product groups (say, coffee and export horticulture in Ethiopia), with smallholder production systems dominating in one and large farms dominating in the other.

## Policy discourse versus implementation

However, there may also be other reasons why large farms are seen to do better than smallholder farmers. Given the diversity of policies at the national level care should be taken when making generalisations. It is necessary, however, to consider how policy narratives, with their in-built assumptions about the way things work, actually translate in implementation.

At the national level, Poverty Reduction Strategy Papers (PRSPs) are one component of an array of policy instruments and strategies for poverty alleviation and economic development. Our reading of various PRSP documents (Ethiopia, Kenya, Malawi, among others) tells us that they do not focus, either explicitly or implicitly, on large-scale/ estate export-led agriculture to the exclusion of small-scale farmers. Most PRSPs see the commercialisation of smallholder agriculture as a key pillar of rural development. It is fair to say, however, that most

**Table 4. Predicting competitiveness of farm types in different crops and markets<sup>24</sup>**

	Smallholder farmers		Small Investor-farmers	Large-scale farming
	Type 'A'	Type 'B'		
Food staples (local/national/regional markets)	✓	✓		?
High value crops, e.g. horticulture (local/national/regional markets)		✓	✓	?
Low value export commodities, e.g. cassava, soya, grains				?
Horticulture exports		?	?	✓
Traditional export commodities		coffee, cotton, cocoa, tea, ground-nuts	✓	sugar, tea, tobacco

current government policy, backed by donors, appears to promote an essentially dualistic agricultural system, through supporting large commercial farms on one side and the 'small farm sector' on the other.

However, how policy objectives translate into policy actions is important. In practice what is observed is typically a mix of interventions to assist both large-scale and smallholder farm enterprises. Unfortunately, the general picture over the past decade or more has been one of declining support to agriculture in Africa. Recent reviews of the rural focus of PRSPs and PRSCs (Poverty Reduction Support Credits) have found the seeming neglect of rural issues in PRSPs to be 'not so much the lack of policies targeting the rural productive sectors but rather the nature and reach of those policies' (Cromwell et al., 2005:3)<sup>25</sup>. Such neglect hits smallholders hardest.

### A level playing field?

Why might large farm bias be apparent in practice even though policy appears to be pro-smallholder on paper? Implementation of policies can produce different outcomes to those stated or intended for various reasons, including:

- Individual officials or politicians do not believe the pro-smallholder rhetoric of policies. (This may be true, but it is difficult to produce evidence to substantiate such a claim).

- Implementation may reflect the personal or collective priorities of elites, rather than the priorities set out in national poverty reduction or agriculture sector strategies (see Chirwa et al., 2006 on Malawi).<sup>26</sup>
- Smallholder farms need a higher level of support if they are to prosper than do large-scale farms.

This latter point is a critical one in the light of policy reforms that have occurred over the past two decades in African economies. Large-scale farms can prosper when a basic enabling environment is in place. By contrast, smallholders tend to require pro-active service provision.

An enabling environment for the agriculture sector, most of it centrally provided, includes:

- macro-economic stability and favourable real exchange rates;
- a sound banking sector, which is not just city-focused;
- core infrastructure (especially trunk roads, ports, availability of electricity and telecommunications in rural areas);
- security of land tenure;
- political support of private enterprise.

Getting these right might be enough for large-scale agriculture and/or agribusiness development, as large-scale enterprises are able to source critical production and marketing services themselves.<sup>27</sup> They may even be able to draw upon the results of international research and development (seed varieties and another technologies developed elsewhere) in the absence of an active national research and extension system. Large-scale agriculture and/or agribusiness development might in turn facilitate some smallholder involvement and development (see discussion of contract farming in section 3.1). However, broad-based smallholder commercialisation will require much more active state engagement in service provision.

Smallholders need to be provided with a range of pre- and post-harvest services.<sup>28</sup> These include:

- finance schemes;
- extension advice;
- input markets/systems;
- market information and linkages.

As argued earlier, even if the objective is production of crops for market, service support may have to be provided to enhance the efficiency of staples production before this objective can be reached by the majority of smallholders.

Few of the required services will be entirely private sector-driven under current conditions in Africa, though some may be assisted by capacity building for farmer organisations. There nearly always has to be some state role – if not in service provision, then in its regulation.<sup>29</sup>

The upshot of all this is that, where state capacity is lacking, large-scale farms may still perform well, along with smallholder production of a few key export commodities, while the majority of smallholder systems languish. This is different from a pro-large scale bias, but the outcomes may not look that different.

### **The institutional environment for pro-smallholder policies**

Two important observations flow from the arguments of the previous section. The first is that, except in very

small and agro-ecologically homogeneous states, effective decentralisation is important for broad-based smallholder commercialisation. The pre- and post-harvest services required by smallholders producing food staples for own consumption and crops for domestic and regional markets are best organised at decentralised (for example, district or regional) level (Foster et al. 2001, Poulton et al. 2006a). Agribusiness is unlikely to invest in coordinated service provision for these crops through contract farming schemes and it is at local level that the coordination across multiple, independent providers of complementary services is most feasible.

The second is that large-scale farms may be able to prosper even with an ineffective or non-performing Ministry of Agriculture, but smallholders need the services that the Ministry of Agriculture is supposed to be responsible for. A quick review of the key elements of an enabling environment for agriculture shows that all, with the possible exception of land-tenure security, fall under the remit of central economic ministries such as Finance and Planning. A now-common observation is that the Ministry of Finance handles more policy relevant to agriculture than the Ministry of Agriculture (Foster et al. 2001, Cabral and Scoones, 2006). However, this is at best only partially true. For, if the Ministry of Agriculture is not actively committed to ensuring that services are provided to smallholders, then the likelihood is they will not be provided (with the partial exception of contract farming schemes noted above). The result will be stagnation and continuing poverty on the majority of a country's (smallholder) farms.

Historically, Ministries of Agriculture have seen their role to be that of providing services – which have rarely reached more than a tiny minority of largely privileged, well-connected farmers. Instead, their role should be to support decentralised service provision and local coordination mechanisms (effectively, providing a technical input into processes that are actually focused on local government).

This points to reorienting Ministries of Agriculture, specifically to maintain strong state capacity but also, as a recent Future Agriculture paper on policy narratives in African agriculture suggests, to 'refocus attention on key roles – including investment in state-led reforms to help create the structural conditions for kick-starting the agricultural economy' (Cabral and Scoones, 2006, p32). This means on-going investment in coordination and intermediation functions. Of course, such a shift to substantial state function for ministries is not trivial. A change in agricultural governance setting, against many vested interests, is certain to be challenging in terms of organisation and capacity, not to mention politically. But if we want to see agricultural commercialisation policy that reflects and promotes pathways that are truly pro-poor, pro-smallholder and pro-development, governments and donors need to move beyond rhetoric to actually recognising and supporting channels and environments through which smallholder farmers can and do participate.

## End Notes

- <sup>†</sup> Institute of Development Studies, Brighton;
- <sup>#</sup> School of Oriental and African Studies (SOAS), University of London.
- <sup>1</sup> For work on multipliers and growth linkages see Delgado et al. (1998).
- <sup>2</sup> See also: Pretty et al. (1996) on sustainable agriculture's links to food security and strengthening rural economies; Swaminathan (1995); IDS work on labour exchange in Northern Province, Zambia (White et al., 2005). The Commission for Africa report (2005) also cites family farms as the primary source of jobs in Africa, commercialisation of family-farms has important multiplier and employment creation effects going beyond the farm itself. For example, increasing employment in formal and informal trade can have far-reaching poverty-reduction effects, for instance in Benin, where poor rural women make up 90 per cent of informal traders.
- <sup>3</sup> Livestock, aquaculture and other forms of agriculture are not within the scope of this paper, although the arguments presented here are equally valid for these and other subsectors.
- <sup>4</sup> See Sharp et al. (2007).
- <sup>5</sup> For example, Pingali (1997) and von Braun (1995), among others.
- <sup>6</sup> We are interested here in all activities other than agricultural production undertaken by the household on its own account. These include both casual labour hire on the farms of others ("off-farm", but not "non-farm") and small business activity such as processing or handicraft making ("non-farm") that is conducted on the household's own property.
- <sup>7</sup> In the light of discussions elsewhere in this paper, however, it is worth noting that, while estate farm workers derive more than one third of their income from agricultural wages, own-farm agriculture is the main source of income in the area. On average across the sample, two thirds of household income is derived from own farming.
- <sup>8</sup> Migrant families are, however, under-represented as estate employees.
- <sup>9</sup> See also Omamo 1998 (a) and (b).
- <sup>10</sup> For example, Heltberg's study of smallholder farmers in Mozambique finds 'to stimulate commercialisation the most important factors appear to be improved access to markets and information, risk reduction, capital accumulation' (Heltberg, 2001).
- <sup>11</sup> For more information see: Cambodia: <http://www.dfid.gov.uk/pubs/files/mmw4p/agcambodia.pdf>; Vietnam: <http://www.dfid.gov.uk/pubs/files/mmw4p/agvietnam.pdf>.
- <sup>12</sup> This section draws on an as-yet-unpublished 'All-Africa Review of Experience with Commercial Agriculture', undertaken by Poulton and colleagues for the World Bank during 2006-07.
- <sup>13</sup> One of the first articles in the literature establishing this was Weber et al. (1988).
- <sup>14</sup> However, some upland rice is typically still planted, as it is harvested before lowland rice and is available in time for consumption during the main lean period (September–November).
- <sup>15</sup> The challenge of providing a coordinated package of support measures to both promote staples intensification and simultaneously assist diversification should not be underestimated, however.

<sup>16</sup> Jayne et al. (2003) also examine the relationship between share of non-farm income and total income per capita and find that this is positive in all countries except Ethiopia – a finding that is broadly consistent with that of Reardon (1997).

<sup>17</sup> Note that higher yields for staples also raise the returns to their production, which may discourage diversification into other crops.

<sup>18</sup> The figures cited by Jayne et al. (2003) show mean land holdings among smallholder households ranging from 0.16ha per capita in Rwanda to around 0.6ha per capita in Zambia.

<sup>19</sup> Jayne et al. (2003) found that landholdings both per household and per capita were strongly associated with livestock ownership. The causality could work both ways here.

<sup>20</sup> In a study of maize pricing and policy in Kenya, Jayne et al. (2001) also state the case for diversified crop production: „productivity growth in agriculture is likely to be a precondition for injecting purchasing power into rural areas and hence stimulating demand and employment growth in the broader economy. But this will require viewing agricultural income growth as deriving from many crops. Important regional differences suggest that tailoring policies with their regionally dis-aggregated impacts in mind can lead to improved outcomes' (2001: 25).

<sup>21</sup> See for example, White et al. (2006) on Zambia, Cromwell et al. (2005) on Malawi; Sharp et al.'s (2007) Future Agricultures work on Ethiopia.

<sup>22</sup> See work on 'New actors in rural land markets' Ouedraogo (2006); Toure and Seck (2005).

<sup>23</sup> In Zimbabwe prior to 2001, large-scale farms dominated supplies of fruit and vegetables to domestic markets – both "top end" supermarkets and hotels (through specialist wholesalers) and traditional wholesale markets, such as Mbare. However, the land allocation in Zimbabwe at that time meant that large-scale farms enjoyed not just better land than the majority of smallholders, but also better access to the major urban centres (important for perishable products). By contrast, in Kenya, smallholders producers dominate supplies of fresh produce to traditional wholesale markets, whilst a cohort of small investor farmers has grown up to supply supermarkets, which still only account for around 5 per cent of urban fresh produce sales (Neven and Reardon 2004). Large-scale enterprises have so far focused on export opportunities, perhaps because supermarket supply chains are insufficiently consolidated to constitute sizeable market opportunities.

<sup>24</sup> Some of the insights underlying this table were derived from an as-yet-unpublished 'All-Africa Review of Experience with Commercial Agriculture', undertaken by Poulton and colleagues for the World Bank during 2006-07.

<sup>25</sup> The study, which examines three PRSPs: Malawi, Nicaragua and Vietnam, also notes the seeming lack of hard evidence of what actually has been or is being implemented (page 26). See also Shepherd and Fritz (2005) and World Bank (2005) A Review of Rural Development Aspects of PRSPs and PRSCs, 2000-2004.

<sup>26</sup> Taking Malawi as an example, there is a tendency towards seeing the agricultural sector as principally dualistic in nature with the estate sector on the one hand, and small farms on the other. Small farms are

further subdivided by type into: commercial small farms (about 10 per cent of small farms); small farmers with commercial development potential (about 50 per cent), and severely resource constrained small farmers (about 40 per cent). For this bottom cadre of small farms the policy focus is on social safety nets, with little indication of how this links to broader economic growth efforts (Cromwell et al., 2005).

<sup>27</sup> The cost of sourcing such services is, of course, important for competitiveness and may constrain even large scale agricultural and agribusiness development.

<sup>28</sup> Note that technical requirements vary by crop. Hence, roots and tubers generally require fewer purchased inputs for their production than cereals, and hence make fewer demands on seasonal finance. Where they exhibit less seasonality in production, as in the case of cassava, issues of price stabilisation are also less pressing. (In any case, prolonged storage of roots and tubers is infeasible). Production of such crops may thus do well even where there are no systems for coordinated service provision to smallholder producers. We also note the rather better agricultural performance in West Africa, as compared to southern and eastern Africa, over the past two decades. This is worthy of further systematic analysis, to distinguish the effects of different crop mixes, conditions more or less conducive to high-quality service-provision and other factors.

<sup>29</sup> Within contract farming schemes, several of the key services may be provided by agribusiness, although these would not usually include capacity-building for independent farmers' organisations or the support for asset accumulation or staples intensification that were highlighted above. Unfortunately, contract farming itself is not appropriate for all crops – for example, those for which independent local markets exist. Moreover, even contract farming requires some form of regulatory framework, for example to manage the problem of side-selling where loans are advanced to contract farmers.



## References

- Almond, F. R. and S. D. Hainsworth, eds. (2005) *Beyond Agriculture – making markets work for the poor: proceedings of an international seminar*. 28 February–1 March 2005, Westminster, London, UK. Crop Post-Harvest Programme / Practical Action.
- Binswanger, H. and M. Rosenzweig (1986) "Behavioural and Material Determinants of Production Relations in Agriculture" *Journal of Development Studies* 22(3): 503-539.
- Boselie, D., S. Henson and D. Weatherspoon (2003) "Supermarket procurement practices in developing countries: redefining the roles of the public and private sectors" *American Journal of Agricultural Economics* 85(5): 1155-1161.
- Bryceson, D. (1999) "African Rural Labour, Income Diversification and Livelihood Approaches: A Long-Term Development Perspective" Leiden, Afrika Studie Centrum.
- Chirwa, E. W., J. Kydd and A. Dorward (2006) "Future Scenarios for Agriculture in Malawi: Challenges and Dilemmas". Paper presented at the Future Agriculture Consortium held at the Institute of Development Studies, Sussex, 20–21 March 2006.
- Cromwell, E., C. Luttrell, A. Shepherd and S. Wiggins (2005) "Poverty Reduction Strategies and the Rural Productive Sectors: Insights from Malawi, Nicaragua and Vietnam". ODI Working Paper 258, November 2005. London: Overseas Development Institute.
- Crookes, T. and M. Lyne (2003). "Efficiency and Equity Gains in the Rental Market for Arable Land: Observations from a Communal Area of KwaZulu-Natal, South Africa." *Development Southern Africa* 20(5): 577-591
- Dercon, S. and J. Hoddinott (2005) "Livelihoods, Growth, and Links to Market Towns in 15 Ethiopian Villages", *Food Consumption and Nutrition Discussion Paper* 194, July 2005. Washington DC: IFPRI.
- DFID (Department for International Development) (2000) "Making Markets Work Better for the Poor. A Framework Paper", Economic Policy and Research Department and Business Partnerships Department, November 2000, London: DFID.
- Diao, X., P. Dorosh and S. Rahman (2003) "Market Opportunities For African Agriculture: An Examination Of Demand-Side Constraints On Agricultural Growth", *Development Strategy and Governance Division Discussion Paper* 1, September 2003, Washington DC: IFPRI. Available from <http://www.ifpri.org/divs/dsgd/dp/papers/dsgdp01.pdf> (28 September 2007).
- Dorward, A. (2003) "Modelling Farm-Household Livelihoods in Malawi: Methodological Lessons for Pro-Poor Analysis" Paris.
- Dorward, A., N. Poole, J. A. Morrison, J. Kydd and I. Urey (2003) "Markets, Institutions and Technology: Missing Links In Livelihoods Analysis" *Development Policy Review* 21(3): 319--332.
- Ellis, F. (2000) *Rural Livelihoods and Diversity in Developing Countries* Oxford: Oxford University Press.
- Ellis, F. (2005) "Small Farms, Livelihood Diversification and Rural-Urban Transitions: Strategic Issues in Sub-Saharan Africa, The Future of Small Farms: Proceedings of a Research Workshop", Wye, UK, 26–29 June 2005, Washington DC: IFPRI.
- Fafchamps, M. (1992) "Cash Crop Production, Food Price Volatility and Rural Market Integration in the Third World." *American Journal of Agricultural Economics* 74(1): 90-99.
- Foster, M., A. Brown and F. Naschold (2001) "Sector Programme Approaches: Will they work in Agriculture?" *Development Policy Review* 19(3): 321-338.
- Haggblade, S., P. Hazell and T. Reardon (2007) *Transforming the Rural Nonfarm Economy: Opportunities and Threats in the Developing World*, Baltimore: Johns Hopkins University Press.
- Hazell P., C. Poulton, S. Wiggins and A. Dorward (2007) "The Future of Small Farms for Poverty Reduction and Growth" IFPRI 2020 Discussion Paper 42, May 2007, Washington DC: International Food Policy Research Institute.
- Heltberg, R. (2001), "Commercialization and specialisation in Mozambican Agriculture, mimeo, Institute of Economics, University of Copenhagen, 2 January.
- Jayne, T. (1994) "Do High Food Marketing Costs Constrain Cash Crop Production? Evidence from Zimbabwe" *Economic Development and Cultural Change* 42(2): 387-402.
- Jayne, T. S., T. Yamano, J. Nyoro and T. Awuor (2001) "Do Farmers really benefit from high food prices? Balancing rural interests in Kenya's maize pricing and marketing policy" *Tegemeo Working Paper* 2B, 28 April.
- Jayne, T., T. Yamano, M. Weber, D. Tschirley, R. Benfica, A. Chapoto and B. Zulu (2003) "Smallholder Income and Land Distribution in Africa: Implications for Poverty Reduction Strategies." *Food Policy* 28(3): 253-275.

- Jayne T., B. Zulu and J. Nijhoff (2006) "Stabilizing food markets in eastern and southern Africa." *Food Policy* 31(4): 328-341.
- Little, P.D. and M. J. Watts, (1994) *Living Under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa*, Madison: University of Wisconsin Press.
- Maertens, M. and J. Swinnen (2007) "Trade, Standards and Poverty: Evidence from Senegal"; Paper prepared for the 106th EAAE seminar on "Pro-poor development in low income countries: Food, agriculture, trade, and environment", Montpellier, 25–27 October 2007.
- Neven, D. and T. Reardon (2004) "The Rise of Kenyan Supermarkets and the Evolution of their Horticulture Product Procurement Systems"; *Development Policy Review* 22(6) 669-699.
- North, D. C. (1991) "Institutions" *Journal of Economic Perspectives* 5(1) 97-112.
- Nweke, F. (2004) "New Challenges in the Cassava Transformation in Nigeria and Ghana" EPTD Discussion Paper 118, Washington DC: International Food Policy Research Institute.
- Nyoro, J., M. Kiiru and T. Jayne (1999) "Evolution of Kenya's Maize Marketing Systems in the Post-Liberalization Era", Workshop on Agricultural Transformation in Africa, Nairobi.
- Omamo, S. W. (1998a) "Farm-to-market transaction costs and specialisation in small-scale agriculture: explorations with a non-separable household model" *Journal of Development Studies* 35:152-163.
- Omamo, S. W. (1998b) "Transport Costs and smallholder Cropping choices: An Application to Siaya District, Kenya" *American Journal of Agricultural Economics* 80(1) 116-123.
- Otsuka, K. and T. Yamano (2006) "The Role of Rural Labor Markets in Poverty Reduction: Evidence from Asia and East Africa", background paper prepared for World Bank World Development Report 2008, , October. Tokyo: Foundation for Advanced Studies on International Development.
- Ouédraogo, S. (2006) "New actors and land acquisition around Lake Bazèga, Burkina Faso", Issue Paper 13, London: IIED.
- Pandey, S., N. Khiem, H. Waibel and T. Thien (2006) *Upland Rice, Household Food Security and Commercialization of Upland Agriculture in Vietnam*, Los Banos, Philippines: International Rice Research Institute.
- Peters, P. and M. Herrera (1994) "Tobacco Cultivation, Food Production and Nutrition Among Smallholders in Malawi", in J. von Braun and E. Kennedy, eds, *Agricultural Commercialization, Economic Development and Nutrition*, Baltimore, Maryland: The Johns Hopkins University Press, 309-327.
- Pingali, P. L. and M. W. Rosegrant (1995) "Agricultural Commercialization and diversification: processes and policies", *Food Policy* 20(3) 171-185.
- Pingali, P. L. (1997). "From subsistence to commercial production systems: the transformation of Asian agriculture" *American Journal of Agricultural Economics* 79(2): 628–634.
- Porter, G. and K. Phillips-Howard (1997) "Comparing Contracts: An Evaluation of Contract Farming Schemes in Africa" *World Development* 25(2): 227-238.
- Poulton C., J. Kydd and A. Dorward (2006a) "Overcoming Market Constraints to Pro-Poor Agricultural Growth in Sub-Saharan Africa" *Development Policy Review* 24(3): 243-277.
- Poulton C., J. Kydd, S. Wiggins and A. Dorward (2006b) "State intervention for food price stabilisation in Africa: can it work?" *Food Policy* 31(4): 342-356.
- Poulton, C. and J. Ndufa (2005) "Linking Soil Fertility and Improved Cropping Strategies to Development Interventions: Final Technical Report Annex A". Report submitted to DFID Natural Resources Systems Programme, October. Imperial College London / Kenya Forestry Research Institute, Wye.
- Pretty, J. N., J. Thompson and F. Hinchcliffe (1996) "Sustainable Agriculture: Impacts on Food Production and Challenges for Food Security", IIED Gatekeeper Series 60, London: IIED.
- Reardon, T. (1997) "Using Evidence of Household Income Diversification to Inform Study of the Rural Non-farm Labour Market in Africa" *World Development* 25(5): 735-748.
- Savado, K., T. Reardon, et al. (1998). "Adoption of Improved Land Use Technologies to Increase Food Security in Burkina Faso: Relating Animal Traction, Productivity and Non-Farm Income" *Agricultural Systems* 58(3): 441-464.
- Sharp K., E. Ludi and S. Gabreselassie (2007) "Commercialisation in Ethiopia: Which Pathways?" Future Agricultures Consortium Paper, presented at EEA Conference, 8 June.
- Shepherd, A. and V. Fritz (2005) "Key issues in sharpening the rural production focus of Poverty Reduction Strategy Processes: Literature Review for IFAD Issues Paper", London: Overseas Development Institute.

- Singh, S. (2002) "Contracting out solutions" *World Development* 30(9): 1621–1638.
- Smith, S., D. Auret, S. Barrientos, C. Dolan, K. Kleinbooi, C. Njobvu, M. Opondo and T. Tallontire (2004) "Ethical Trade in African Horticulture: Gender, Rights and Participation" *IDS Working Paper 223*, Brighton: Institute of Development Studies.
- Strasberg, P. J., T. S. Jayne, T. Yamano, J. Nyoro, D. Karanja, and J. Strauss (1999) "Effects Of Agricultural Commercialization On Food Crop Input Use And Productivity In Kenya", *MSU International Development Working Paper 71*.
- Swaminathan, M. S. (1995) "Population, environment and food security" *CGIAR Issues in Agriculture 7* Washington, DC: CGIAR.
- Tallontire, A., C. Dolan, S. Smith and S. Barrientos (2005) "Reaching the Marginalised? Gender, Value Chains and Ethical Trade in African Horticulture", *Development in Practice* 15 (3&4): 559-571.
- Tan, S. F. and B. Gueye (eds) (2005) "Portraits of family farming in West Africa", *Issue Paper 134*, March, IIED Drylands Programme. London: IIED.
- Tiffen, M., M. Mortimore and F. Gichuki (1994) *More People, Less Erosion: Environmental Recovery in Kenya*. Chichester: John Wiley and Sons.
- Touré, O. and S. M. Seck (2005) "Family and Commercial farming in the Niayes area of Senegal", *Issue Paper 133*. London: IIED.
- USAID (2004) *Agriculture Strategy: Linking Producers to Markets*, July, Washington DC: US Agency for International Development.
- Von Braun, J. (1995) "Agricultural Commercialization: impacts on income, nutrition and implications for policy", *Food Policy* 20(3): 87–202.
- Von Braun, J. and Kennedy, E. (eds) (1994) *Commercialization of Agriculture, Economic Development and Nutrition*, Baltimore, MD: John Hopkins Press.
- Warning, M. and N. Key (2005) "Consequences of Contract Farming: An Equilibrium - Analysis of the Arachide de Bouche Program in Senegal", *World Development* 30(2): 255–263.
- Weber, M., J. Staatz, J. Holtzman, E. Crawford and R. Bernsten (1988) "Informing Food Security Decisions in Africa: Empirical Analysis and Policy Dialogue", *American Journal of Agricultural Economics* 70(5): 1044-1052.
- White, H., J. Leavy, M. Mulumbi, G. Mulenga, V. Seshamani (2006) *Rural labour markets in Africa: a channel for pro-poor growth? preliminary findings from a research project in Northern Province, Zambia (discussion draft)*, mimeo, Brighton: IDS.

This **Working Paper** was written by **Jennifer Leavy** and **Colin Poulton** of the **Future Agricultures Consortium**. The series editor is David Hughes. Further information about this series of Working Papers at: [www.future-agricultures.org](http://www.future-agricultures.org)

The Future Agricultures Consortium aims to encourage critical debate and policy dialogue on the future of agriculture in Africa. The Consortium is a partnership between research-based organisations across Africa and in the UK. Future Agricultures Consortium Secretariat at the University of Sussex, Brighton BN1 9RE UK T +44 (0) 1273 915670 E [info@future-agricultures.org](mailto:info@future-agricultures.org)

*Readers are encouraged to quote or reproduce material from Future Agricultures Briefings in their own publications. In return, the Future Agricultures Consortium requests due acknowledgement and a copy of the publication.*

FAC appreciates the support of the  
UK Department for International Development (DFID)

