



APRA Brief

Issue No. 1 June 2018

What is Agricultural Commercialisation Who benefits and how do we measure it?

Policy pointers

- Increasing the efficiency – including stability – of food markets is important in any strategy to promote smallholder agricultural commercialisation.
- Smallholder commercialisation is highly dependent on conditions outside of smallholders' control, e.g. road infrastructure, market institutions and support services that reduce transaction costs. Larger farms can establish their own market linkages if a basic enabling environment is in place.
- Efforts to promote new production practices generally need to be accompanied by measures to improve producers' linkages to remunerative output markets. Remunerative market opportunities provide the incentives and, at times, the revenues for farmers to adopt new production practices.
- Early smallholder commercialisation is an incremental process, with some households able to engage profitably with markets before others. However, whilst gains are not equally shared, either across or within households, there are few permanent losers. By contrast, a greater number may be negatively affected by the establishment of large-scale farms.

How does agricultural commercialisation occur?

Agricultural commercialisation occurs when agricultural enterprises – and/or the agricultural sector as a whole – rely increasingly on the market for the sale of produce and for the acquisition of production inputs, including labour. The process is encouraged by the rising demand for agricultural products (food and raw materials for agro-industries) and for workers within expanding urban centres, as well as by new export opportunities.

Agricultural commercialisation evolves from the decisions of farmers, input suppliers, traders and processors. However, it is also an endogenous process that interacts with other sectors of the economy and is influenced by the investments of public and development agencies (governments, donors, non-governmental organisations [NGOs] etc.).

Farm-level dynamics

At farm level, agricultural commercialisation encompasses two contrasting dynamics:

1. Smallholder farm households *shift* from semi-subsistence agriculture to production principally for the market and, in the process, come to rely increasingly on purchased inputs (and also labour) for their production. However, scale of production remains small, primarily due to high demand for land among people who have yet to obtain more remunerative and reasonably secure employment in the non-farm economy.
2. Smallholder farm households are *complemented or replaced* by medium- or large-scale farm enterprises that are predominantly/purely commercial in nature.



© Neil Palmer/CIAT

Ultimately, as structural transformation proceeds (see box), the second dynamic is observed as the natural outcome of market forces. Movement of labour out of semi-subsistence agriculture is an inevitable part of the economic development process. However, if smallholder farm households are replaced by medium- or large-scale farm enterprises early within the structural transformation process, the impacts of agricultural commercialisation are likely to be much less positive.

Structural transformation

Agricultural commercialisation is an integral part of the process of structural transformation, through which a growing economy transitions over a period of several decades or more:

- from one where the majority of the population live in rural areas and depend directly or indirectly on semi-subsistence agriculture for an important part of their livelihood;
- to one where the majority of the population live in urban areas and depend on employment in manufacturing or service industries for the major part of their livelihood.

A growing urban sector gradually draws surplus labour out of semi-subsistence agriculture. Eventually, a 'turning point' is reached when the additional labour required exceeds increases in the rural population (Lewis 1954). As a result, landholdings are consolidated and rural wages rise sharply and are closer to urban wages.

Smallholder commercialisation

Early smallholder commercialisation is an incremental process, with some households able to increasingly engage with markets while others (initially the majority) remain at semi-subsistence level. The priority given to production for home consumption – encouraged by the high cost and volatility of food markets (Fafchamps 1992; Jayne 1994) – restricts production for market on small farms. The willingness of smallholder households to exploit family labour when opportunities within the rural non-farm economy and in urban areas are limited means that smallholders can still compete with more sophisticated and capital-intensive commercial farms in some agricultural output markets, despite their disadvantageous position with respect to capital and information (Binswanger & Rosenzweig 1986). However, where competitiveness is achieved through self-exploitation, it is almost by definition not associated with affluence.

Later in the structural transformation process, and particularly once the 'Lewis turning point' (see box) has been passed, these dynamics radically change (Pingali 1997).

Who participates?

Households close to urban centres

One would expect households close to urban centres to commercialise more quickly as market proximity increases access to information and buyers, reduces transport costs, and food prices are likely to be more stable. High-return but perishable crops (e.g. horticultural products) are commonly grown in peri-urban areas. However, some crops require more land or particular agro-ecological conditions which affects the overall pattern of commercialisation.

Wealthier households

Wealthier households are more likely to commercialise ahead of poorer households as they: a) have more land; b) have more capital; c) are better able to bear risk. During the Green Revolution in Asia, it was wealthier smallholders who drove the increase in production (Mellor 2014) and, in turn, employed labour and purchased non-tradeable goods and services to the benefit of poorer households within the community.

Men rather than women

Whilst it might be expected that men engage in smallholder commercialisation more quickly than women, this depends on local social norms and gendered labour division. Often, men seek to control major sources of household income, while women have responsibility for food provision. However, this sometimes leads to men taking over production of what was previously a woman's crop when market opportunities increase (von Braun et al. 1994). Similarly, men may capture a disproportionate amount of available purchased inputs for use on their fields (Udry et al. 1995).

Conversely, in southern Ethiopia, women's bargaining power within a household – proxied by the share of livestock assets that the wife would control in the event of divorce – was found (Lim et al. 2007) to be positively (albeit weakly) correlated with the production of the local staple, enset, and negatively correlated with coffee production.

Benefits of smallholder commercialisation

Household (micro-economic level)

Not all efforts for market production are successful. However, successful commercialisation should lead to increased income, nutrition, and other welfare indicators for household members – though not necessarily equitably. It may also generate increased casual employment for other rural people. In addition, increased farm incomes may be re-invested on farm or elsewhere. Thus, higher farm incomes may support diversification out of farming (stepping out) as well as agricultural expansion (stepping up).

Production that is market-oriented can result in increased farm incomes via the following channels:

1. Potential to sell to consumers elsewhere who are willing to pay more for the product. However, gains are only realised if transport and transaction costs are low.
2. Potential to make the most efficient use of smallholders' resources, assuming that they specialise in production activities

in which they have a comparative advantage. However, these producers are then dependent on food markets for their own consumption needs, which may be high-cost and volatile. So early in the structural transformation process, specialisation tends to be limited and involves those with above-average land resources, who can still grow food for their own consumption as well as for market.

3. Increased use of capital inputs (fertiliser for intensification or mechanisation for extensification) and/or good agricultural practices to achieve increased productivity.

Rural non-farm economy (meso-economic) and macro-economic levels

There are important spillover effects from smallholder commercialisation, especially early in the structural transformation process when the agricultural sector is still large relative to manufacturing and services.

1. Smallholder commercialisation can expand demand for manufactured goods and services produced in major urban centres, but it is also the major driver of growth in the rural non-farm economy.
2. Increased marketed volumes of tradable food crops (e.g. rice) have limited impact on consumer price, as this is largely determined by international markets, so the majority of commercialisation benefits remain in rural areas. Conversely, increased marketed volumes of non-tradable major food crops (e.g. cassava, yams etc.) put downward pressure on prices, thereby passing many of the benefits to consumers. Nevertheless, farmers can still end up better off if their rate of productivity growth exceeds the decline in prices (de Janvry and Sadoulet 2002).

Losers from smallholder commercialisation

Those at greatest risk of incurring losses during early smallholder commercialisation are those that experiment with new techniques or venture into new crops. This may be because:

1. Investment in increased productivity does not generate the hoped for financial returns due to adverse weather events or shifts in market prices.
2. Too many farmers invest in the same perceived market opportunity, yet demand is inelastic and increased supply causes prices to crash.
3. They become 'locked in' to production of a particular crop, e.g. tree crops with long gestation periods.

These risks may discourage many resource-poor smallholders from increasing their exposure to agricultural output markets.

By contrast, in the later stages of the structural transformation, the main losers are those individuals/households who neither make the transition to non-farm employment nor manage to 'step up' their agricultural production activities through: consolidation of landholdings; progressive mechanisation of production; and engagement with remunerative market opportunities. These are dependent on employment on other people's farms.



© S Sridharan/ICRISAT

Medium-scale agriculture

The rise in medium-scale farms in Africa is, as yet, only imperfectly understood, but appears to be driven by growing market opportunities, with rising urbanisation and higher agricultural prices over the past decade. Where these growing market opportunities are occurring in a context of relative land abundance, some farms are expanding and new farms are being established to meet rising demand.

Only 5% of medium-scale farmers have been smallholder farmers (Jayne et al. 2016). Most are urban dwellers (e.g. civil servants) who are choosing to invest in market-oriented agricultural production or are rural elites who have above-average landholdings. This reveals that some people are much better equipped to respond to the growing market opportunities than others.

More research is required on medium-scale agriculture.

Large-scale commercial agriculture

Large-scale farms may be:

- Family-run enterprises that complement family labour with mechanisation and hired labour.
- Estates/plantations – with employed or contracted management – that are often associated with investment in processing.

Large-scale farmers and their associated processing operations often also create employment for smallholder households in surrounding areas.

Large-scale farms enjoy competitive advantages over smallholders in many areas (e.g. input, output and financial markets, technical and market information, quality assurance and traceability), but are disadvantaged when it comes to labour costs (Poulton et al. 2010).

Smallholder labour advantages

Binswanger and Rosenzweig (1986) argue that the labour cost advantages of smallholders normally outweigh the competitive advantages of large-scale farms in low wage economies, i.e. in the early stages of the structural transformation. The major exception is when there are significant management costs associated with

ensuring a smooth supply of highly perishable materials to a large and expensive processing plant.

Subsequent reviews support this analysis (Poulton et al. 2010; Baglioni and Gibbon 2013). Smallholders remain competitive with (or still outcompete) large-scale farms in many of the most important crops grown in Africa, including staple food crops, whilst horticulture has come to occupy an increasingly prominent place in terms of total investment, if not land area, within large-scale farming.

Winners and losers

The claims made by promoters of large-scale farms – that they can generate foreign exchange or food supplies to growing urban populations, along with employment generation – are often not fulfilled in practice, although there are exceptions (see, for example, Van den Broeck et al. 2017). However, policymakers may be sympathetic to the establishment of large-scale farms during the early stages of structural transformation because less state facilitation and support is required for large-scale farms to operate than is required to promote smallholder commercialisation and productivity enhancement (Deininger and Byerlee 2012; Poulton et al. 2010).

Once operational, large-scale farms may also generate spillover benefits for nearby smallholder farms (Ali et al. 2016). However, the losers from establishing large-scale farms may be numerous, with the biggest issue being that of land access. A review of investments in Africa (Cotula 2013, p139, p145) concluded that, “The negatives tend to outweigh the positives ... As a broad generalisation, local livelihoods tend to be disrupted in ways that are not offset by the new agricultural venture.”

Outgrower schemes

In recent years, outgrower schemes have been emphasised by some as a means of incorporating smallholders into commercialisation processes led by large-scale farms. The critical indicator of whether smallholder commercialisation is a central objective of such schemes is the size of the core estate relative to the scale of the processing operation. If a processor can (almost) achieve its break-even processing capacity utilisation from its core estate alone, then its incentive to invest in the productivity and upskilling of smallholder outgrowers is greatly diminished. By contrast, if the core estate provides a stable base level of raw material supply to the processing facility and the chance to demonstrate good practice to outgrowers, but it is outgrowers who provide the majority of the supply, then the processor will be more strongly incentivised to invest in their capabilities.

How do we measure agricultural commercialisation?

To measure the scale of smallholder commercialisation – as defined in this brief – the following indicators can be used depending on the availability of data.

Share of production sold

The household commercialisation index (HCI) is one of the best indicators of agricultural commercialisation.

$HCI = (\text{gross value of all crop sales} / \text{gross value of all crop production}) * 100$

0 = total subsistence; 100 = full commercialisation

However, this ‘simple’ index is quite data intensive. It raises issues of the accuracy of respondents’ recall in a household survey, as well as the appropriate way to value production consumed at home.

In addition, the index makes no meaningful distinction between a farmer who produces one bag of maize and sells that one bag (HCI = 100) and a farmer who grows 50 bags of maize and sells 30 (HCI = 60). This is a particular issue where a poor farmer is forced to make distress sales.

Volume/value of production sold

Increases in this indicator within a given farm population over time are likely to be a reliable commercialisation indicator. It is less data demanding than the HCI and less susceptible to the issue of distress sales. However, applying this indicator to a single crop may overstate commercialisation trends, as farmers switch between crops in response to market signals.

Share of land devoted to crops that are sold

This is a crude indicator that may be straightforward for some crops but not others as it relies on classifying crops produced for market or for home consumption. However, it may provide some insight into commercialisation in situations where reliable data on crop sales is not available.

Quantity of inputs purchased

This should complement indicators (above) that assess engagement with the market for the sale of produce to provide additional evidence of the commercialisation process, but should not be used as the primary indicator. Nevertheless, as increased use of purchased inputs is one of the major channels through which commercialisation enhances livelihood outcomes for producers, as well as for the wider economy, this is a good indicator to monitor.

Quantity/value of hired labour

This indicator is useful to monitor as it provides one of the major channels through which agricultural commercialisation enhances livelihood outcomes for households (often poorer households) that do not directly engage in the commercialisation process.

References

- Ali, D., Deininger, K. and Harris, A. (2016) Large Farm Establishment, Smallholder Productivity, Labor Market Participation, and Resilience, Policy Research Working Paper 7576, Washington DC: World Bank
- Baglioni, E. and Gibbon, P. (2013) 'Land Grabbing, Large- and Small-scale Farming: What Can Evidence and Policy from 20th Century Africa Contribute to the Debate?' *Third World Quarterly* 34: 1558–1581
- Binswanger, H. and Rosenzweig, M. (1986) 'Behavioural and Material Determinants of Production Relations in Agriculture', *The Journal of Development Studies* 22.3: 503–539
- Cotula, L. (2013) *The Great African Land Grab? Agricultural Investments and the Global Food System*, London: Zed Books
- de Janvry, A. and Sadoulet, E. (2002) 'World Poverty and the Role of Agricultural Technology: Direct and Indirect Effects', *The Journal of Development Studies* 38: 1–26
- Deininger, K., and Byerlee, D., (2012) 'The Rise of Large Farms in Land Abundant Countries: Do They Have a Future?' *World Development* 40: 701–714
- 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
- Jayne, T. (1994) 'Do High Food Marketing Costs Constrain Cash Crop Production? Evidence from Zimbabwe', *Economic Development and Cultural Change* 42: 387–402
- Jayne, T., Chamberlin, J., Traub, L., Sitko, N., Muyanga, M., Yeboah, F., Anseeuw, W., Chapoto, A., Wineman, A., Nkonde, C. and Kachule, R. (2016) 'Africa's Changing Farm Size Distribution Patterns: The Rise of Medium-scale Farms', *Agricultural Economics* 47.s1: s197–s214
- Lewis, W.A. (1954) 'Economic Development with Unlimited Supplies of Labor', *The Manchester School* 22: 139–191 Open Publishing
- Lim, S., Winter-Nelson, A. and Arends-Kuenning, M. (2007) 'Household Bargaining Power and Agricultural Supply Response: Evidence from Ethiopian Coffee Growers', *World Development* 35: 1204–1220
- Mellor, J. (2014) 'High Rural Population Density Africa – What are the Growth Requirements and Who Participates?' *Food Policy* 48: 66–75
- Pingali, P. (1997) 'From Subsistence to Commercial Production Systems: The Transformation of Asian Agriculture', *American Journal of Agricultural Economics* 79: 628–634
- Poulton, C., Dorward, A. and Kydd, J. (2010) 'The Future of Small Farms: New Directions for Services, Institutions, and Intermediation', *World Development* 38: 1413–1428
- Udry, C., Hoddinott, J. Alderman, H. and Haddad, L. (1995) 'Gender Differentials in Farm Productivity: Implications for Household Efficiency and Agricultural Production', *Food Policy* 20: 407–423
- Van den Broeck, G., Swinnen, J. and Maertens, M. (2017) 'Global Value Chains, Large-scale Farming, and Poverty: Long-term Effects in Senegal', *Food Policy* 66: 97–107
- Von Braun, J., Johm, K. and Puetz, D. (1994) 'Nutritional Effects of Commercialization of a Woman's Crop: Irrigated Rice in the Gambia', in J. von Braun and E. Kennedy (eds), *Agricultural Commercialization, Economic Development and Nutrition*, Baltimore MA: Johns Hopkins University Press
- Citation: Poulton, C. (2018) *What is Agricultural Commercialisation: Who Benefits and how do we Measure it?* APRA Brief 1, Future Agricultures Consortium.



**The Agricultural Policy Research in Africa (APRA) programme is a five-year research consortium.
APRA is funded with UK aid from the UK government and will run from 2016-2021.**

The programme is based at the Institute of Development Studies (IDS), UK (www.ids.ac.uk), with regional hubs at the Centre for African Bio-Entrepreneurship (CABE), Kenya, the Institute for Poverty, Land and Agrarian Studies (PLAAS), South Africa, and the University of Ghana, Legon. It builds on more than a decade of research and policy engagement work by the Future Agricultures Consortium (www.future-agricultures.org) and involves new partners at Lund University, Sweden, and Michigan State University and Tufts University, USA.

Funded by

