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AGRICULTURAL COMMERCIALISATION: LESSONS FROM ASIA AND LATIN AMERICA

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SUMMARY AND KEY MESSAGES

This paper aims to draw out lessons from experiences of smallholder commercialisation in Asia and Latin America that may be instructive for sub-Saharan Africa.

It addresses these questions:

- **To what extent has agriculture in Asia and Latin America been commercialised?**
- **What forms of commercialisation have been seen? What scale of farms have been able to commercialise? For smallholders, what kinds of supply chains have been created to link them to markets, as well as to suppliers of inputs and services?**
- **What have been the drivers of commercialisation of smallholders? How important have public policies been in shaping the processes seen?**
- **What have been the outcomes of smallholder commercialisation? How well-distributed have been the processes and their outcomes? Has smallholder commercialisation contributed to broad-based agricultural and rural development? Have any groups suffered losses from commercialisation by others?**

This report is the product of analysis of datasets, largely from FAOSTAT, on agricultural production, as well as a review of recent literature on commercialisation in both regions.

Since time was short and resources limited, this report cannot pretend to be comprehensive. Nevertheless, it has produced some intriguing insights, many of which were not clear to this author before writing.

0.1 Asia

In Asia, agricultural development has very largely been achieved on small-scale farms. An atomised and fragmented agricultural structure has apparently not limited agricultural growth. Indeed, from the late 1960s, most countries in Asia saw a green revolution in cereals production as improved seeds, with fertiliser and water control allowed food production to increase faster than

population growth.

That has been followed by even more impressive growth of the output of higher-value produce (mainly for domestic and regional markets) of meat, fish, dairy and oils. Most of this has also come from small-scale, family farms.

Many of these farms have both intensified and commercialised their production. They have done so in large part through private initiative, even if public investments have been critical. Better roads and booming cities expanded the market, while improved technology made a response possible. Traders have often lived up to hopes of the role of the private sector, linking farmers to market while helping them obtain inputs and technical advice, sometimes on credit.

Changes to land structures have not, in most cases, been part of this story in the past 25 years. The great reforms that broke the power of the landlords in some Asian countries took place from the late 1940s to the 1980s. Land markets may be active, but they are as likely to result in land operated moving to smaller farmers as they are to any consolidation of operated areas.

Producing on a small scale has not proved an obstacle. Where lumpy investments have been needed (e.g. for farm machinery), either small-scale machines have been produced (such as two-wheeled tractors) or rental and hire services have emerged.

Yet it is not clear that most of these smallholdings provide a decent income: the technical advances and the shift to growing higher-value crops may allow farm households to escape deep poverty, but often not much more than that. Across the continent, most farm households have half or more of their income coming from off the farm. The vigour of local rural economies in creating additional jobs, and the amount of migration and commuting, are quite remarkable features of modern rural Asia.

In some cases, they have outflanked longstanding power norms. Local village gatekeepers who brokered

access to land were once all-powerful. Today we have reports of lower-caste workers returning to the village from their bus commute to a factory in nearby town, laughing at the upper-caste landowners as they make their way home. Once they would barely have dared look them in the eye.

So important is the setting of dynamic urban and rural non-farm economies that one might wonder if there is any sense in still pursuing agricultural development, and especially on smallholdings. But that would ignore at least three key points. One is historic: the dominance of the urban and industrial economy over the rural and agrarian economy is very recent and its effects have only emerged since the turn of the century. Agriculture's role has been critical in getting to this point. The second point is that for millions of people in rural areas, the lights of the city are unattainable due to lack of education, health, and old age; they remain on the farm. Yet even for these people, shackled to their villages, examples of how they can make a better living off the land can be seen. The third point is that the agricultural revolution unleashed in the late 1960s has not abated; farm output is growing as fast as ever. The demands from the cities are great and growing. Someone has to farm to meet that demand: the returns to farming are, in many cases, rising over time.

It might be feared that agricultural commercialisation in Asia has favoured only a few farmers, while others have been marginalised. The evidence, patchy and imperfect as it is, does not support this. One has only to see what has happened to rural wages for unskilled work (above all since 2000) and to read time and again of labour shortages in the fields, to infer that progress is being made for the many, not the few.

This is not to claim that commercialisation is always a good thing, nor that commercialisation alone is the driver of the improved welfare seen across much of rural Asia. With the many factors that can apply in diverse circumstances, all manner of processes and outcomes can be seen.

Instead of entering into a sterile debate on this, it is better to set out the conditions that have made for successful smallholder commercialisation. They comprise the following.

Farming opportunity

- **A market and effective links to that market.**
- **Natural conditions – soils, rainfall/irrigation, temperature – that allow cash crops to be grown at a low enough unit cost to make a profit.**

- **The technology used for the cash crops can be adopted by a wide range of farmers. That means not just technology that is appropriate, but also that smallholders can access capital – not just credit, but also off-farm earnings, remittances, savings, etc., to enable investment without undue risk.**

Spread effects through rural labour markets and the non-farm economy

- **The commercial opportunity requires labour, and creates labour demand in seasons that were previously slack. Mechanisation is not often seen when labour is abundant at low wages.**
- **Commercialised farming creates links to the local economy in processing facilities, input supplies, transport, storage, etc.**
- **Commercialising smallholders spend much of their increased incomes on local goods and services.**

Context

- **Overall economic growth that means thriving and growing cities with rising demand for food.**
- **Improved transport links between urban centres and the rural surrounds.**
- **No institutionalised roadblocks: cartels in marketing, exclusive contracting deals, deliberate marginalisation of minorities, land grabs, etc.**

That is a long and demanding list. But the cases reviewed here suggest that many and most of these conditions were fulfilled.

0.2 Latin America

Latin America is rather different. Owing to a history of European invasion and settlement, unequal distribution of land, and rentierism, by the time of the Second World War, most of the region had highly inequitable land tenure. The bulk of the land was held in very large estates, while most of the rural population was either landless, dependent on the estates for work, or else had access to small farms, usually on low quality land that did not interest the landowners.

In the 1960s, some land reform and land redistribution took place. Legislation to transfer unused land from large estates to smallholders often galvanised the landowners into investing, innovating and greatly raising the productivity of their estates. Owners of large farms lobbied successfully to extract subsidies from the state to do this. Some of these large farms have thus become models of efficient farming on a large scale. The giant soy farms of the Cerrado in Brazil may be the best-known example.

In common with Asia, since the 1960s Latin America has also seen a green revolution in cereals production, as well as even larger increases in the output of higher-value crops. The difference is that Latin America has seen major increases in output for export: soy and beef from Argentina and Brazil; fruit, flowers, vegetables and wine from Chile, Colombia, Costa Rica, Mexico and Peru. Much of this increase has indeed come from large-scale farms.

Yet there are still more than 6 million small farms in Latin America: they comprise more than half of all farms. Some may be very small subsistence holdings with few prospects. Some, however, have found ways to commercialise at least some of their output. Cases can be found of smallholders producing perishable, fresh produce for regional cities: high-value export crops from niches – off-season snow peas from Guatemala, quinoa from Bolivia and Peru; and even participating in the soy boom, where keeping unit costs down is critical. In common with Asia, most commercialising smallholders in Latin America have other jobs and businesses. A diversified rural economy is central to the prospects of eliminating (deep) rural poverty. Small farms in themselves rarely generate enough income to reach a minimally acceptable standard of living.

Indeed, for the most marginalised rural residents – those with no land or very little land, those lacking labour, those living in remote areas with poor natural resources – transfers may be the only way to ensure that households survive with some dignity, and to give the next generation the start in life that will give them better prospects.¹

Latin America shows how adaptable agriculture can be. For all the technical advances, both on large farms and in the supply chains, which seem to imply that competitive production must involve large-scale operations with heavy capital investments, intermediate solutions arise and persist. The advantages of family farms in labour supervision are considerable. The drawbacks of not operating at thresholds for machinery, or to get bulk discounts, can be overcome by renting, trading in used

machinery, and in forming small associations.

0.3 Lessons for Africa

So what can African policy-makers learn from these experiences? Some have argued that Brazil's massive farms worked by machines using high technology are the way to transform African agriculture (Collier 2008). But this model is only appropriate for countries with abundant land, plenty of capital and little labour. But where in Africa matches those conditions? Gabon, Botswana perhaps? Where else?

Asia – with its small farms, abundant labour and limited capital – may thus prove more instructive for contemporary sub-Saharan Africa. So what may be learned from Asia?

1. Success in agricultural development comes from sustained efforts over decades.

It requires no miracles, even if the eventual outcomes seem miraculous: just some fairly straightforward public investments in roads and other infrastructure, and in people – in education, health and clean water. That, and providing a reasonable investment climate (in some cases, such as China, after trying the alternative), is all that most Asian governments have had to do.

This is not just an Asian story. Brazil's agricultural success, albeit from large farms, has been underpinned by strong public investment in agricultural research (sustained over decades), in roads and, at times, in unaffordable capital subsidies. No overnight miracle has been seen in Brazil.

2. Nothing helps farming and rural economies thrive more than successful urban development.

Urban markets create opportunities for farmers. When rural people can get jobs off the farm, without necessarily giving up farming, then not only does the economy benefit, but also rural incomes rise substantially. The most successful cases in Asia have all had major booms in urban-based manufacturing.

3. If the former two conditions are met, then **agricultural growth**, ahead of population growth and with rising productivity of both land and labour, **is more likely than not**. Some people engaged with agricultural development in sub-Saharan Africa were so dismayed by the dismal years of low growth that prevailed across the continent from the early 1970s to the mid-1980s that they assumed that only dramatic efforts, or some technological miracle, will spur agricultural growth. Not so: experiences from Asia and Latin America suggest that a rather more prosaic agenda will allow growth.

4. **Small scale is not an obstacle to farming**. It is not necessary to make wholesale changes to the

structure of farming, and still less to dispossess peasants of their land, to get successful agricultural development.

Some influential voices have cast doubt on the ability to raise production and productivity in agriculture when the majority of the land is divided into smallholdings (Collier 2008). Asia shows that farming on a small scale is no obstacle to agricultural growth. Indeed, some East Asian experiences – e.g. mainland China, Japan, South Korea, Taiwan province – suggest that splitting larger holdings into smaller units actually encourages growth.

It is remarkable how resourceful and adaptable farmers and grass-roots traders can be in overcoming any drawbacks of small-scale operations. Intermediate solutions are often found.

Some of these responses are unglamorous, shabby even. Who wants a two-wheel tractor, or some beat-up used tractor, if you could have a brand new John Deere Series 8 with more than 600 horsepower on tap? No one – that is, until they do the accounts and see the cost difference.

- 5. This is not to suggest complacency,** to suggest that the conditions set out above are all that is needed for agricultural and rural

development. Around a central set of conditions, all manner of additional efforts are warranted to deal with finer points and local specifics.

Moreover, while getting the conditions right can get small-scale commercial agriculture moving, ensuring that this is done equitably and that all share in prosperity will require additional measures.

A focus on commercialising smallholder farming does not preclude an active rural development policy that attends the needs of all. Even in farming, there are things to do for households with little labour and little land, perhaps run by an ageing couple whose children have long since left.

- 6. Encouraging better policy can be challenging.** The conditions that have encouraged smallholder commercialisation may be, for the most part, common sense and straightforward; but policy choices in reality can sometimes reflect greed and narrow self-interest, populist currying of favour, and even delusions. Not for nothing has there been such a surge of interest in the political economy of agricultural development in Africa (see, for example, Poulton 2014).

1. INTRODUCTION

This paper aims to draw out lessons from experiences of smallholder commercialisation in Asia and Latin America that may be instructive for sub-Saharan Africa.

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The paper draws on two exercises. One was an analysis of production data from FAOSTAT to examine the growth of agriculture, including crops, livestock and aquaculture. A particular interest here is comparing growth rates of staple crops – some of which are consumed on the farm – to those of crops grown mainly for sale.

The other was a review of recent literature. A search was carried out for publications between 2007 and 2017, looking for articles that contained the term ‘agriculture’, ‘agricultural’, ‘farm’, or farming; and the term ‘cash’, ‘commercial’, ‘commercialization’, or ‘surplus’; and the names of particular countries. The Asian countries covered were Bangladesh, China, India, Indonesia, Malaysia, Pakistan, Philippines, Thailand, and Vietnam; the Latin American countries were Argentina, Brazil, Chile, Costa Rica, Mexico and Peru. For Latin America, the search was carried out using Spanish and English versions of the terms and countries.

The search generated 27 hits that contained relevant insights for Asia, and just 13 for Latin America. A more wide-ranging search, using broader search terms, may have generated more hits, but would have taken a disproportionate amount of time.²

Given the breadth of the questions asked, and the size of the two regions covered, what follows cannot be comprehensive. Nevertheless, enough evidence has been reviewed to make it likely that significant and widespread processes would have been identified, even if much detail has necessarily not been seen.

The rest of this paper is organised by region. For Asia and Latin America, the review begins by considering the prevalence of smallholder farming, the trends seen in growth of production, the forms and processes that smallholder commercialisation has taken, followed by a discussion of the major insights. The final chapter concludes by comparing the two regions.

2. SMALLHOLDER COMMERCIALISATION IN ASIA

The focus here is on East, Southeast and South Asia, the most populated parts of Asia, omitting Central and West Asia.

2.1 *Preamble: Asia's small family farms*

Surprising little of Asia's agricultural land is now, or ever has been, cultivated in large holdings. Most farmland has been operated by family farms.³ Given the limited use of power additional to that of human labour until the past 30 or so years (draught livestock have been the main source of additional power), family farms have tended to be small – less than 5 hectares, and often much smaller than that.

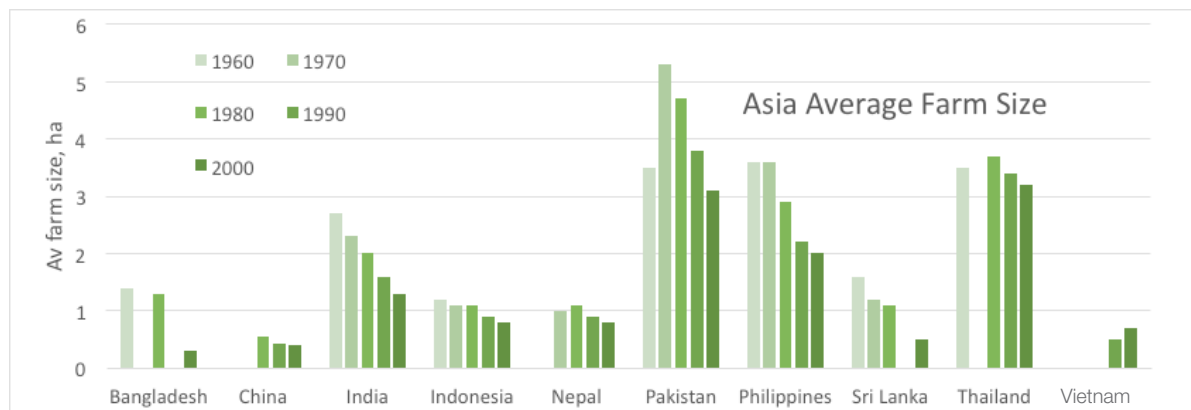
Moreover, across much of Asia, average farm sizes have been falling between 1960 and 2000 (Figure 1). Only one of ten countries, Vietnam, shows an increase in size for the most recent time interval reported (1990 to 2000). Although the agricultural census data for the 2010 round are only partly available,⁴ there are few signs from the papers reviewed that farm sizes have increased significantly since 2000.

The exceptions to small-scale agriculture are easy to spot, but they are limited by location, crop and circumstance. They comprise the estates growing cash

crops, largely for export, of oil palm, rubber, sugar cane, tea, cocoa and so on, which can be found in the hills of South Asia, and in the former rainforests of Malaysia, Philippines and Indonesia. It is striking, however, that few of these large-scale operations existed prior to the European intrusion into Asia in the eighteenth and nineteenth centuries. Most estates and plantations were founded under special conditions: when land was relatively abundant and sparsely settled, so that the crops could not be produced readily by resident family farmers; and when lumpy investments were required, in mills, refineries and factories (to process the raw material), and in roads, rail and ports (to extract the produce for export) (Hayami 2000). When those conditions have not applied, the same crops have been produced by family farmers. Indeed, when those conditions have changed through time, then areas formerly under estates and plantations have ceded ground to smallholder cultivation (Byerlee 2014).

That the land should be operated in smallholdings does not necessarily mean that the land has been owned by the families operating these farms. On the contrary, historically, the Asian countryside has been marked by landlordism. Many smallholders have had to pay rents or a share of their crop to get access to their plots. The great majority of such arrangements have involved owners with large properties renting their land to small-scale farmers.

Figure 1 Average farm size in Asia (hectares), 1960–2000



Source: Author's own, based on FAO data from agricultural censuses, compiled in Lowder, Skoet and Singh (2014). China data from Fan and Chan-Kang (2005)

Since the Second World War, governments across Asia have actively reformed land tenure either to transfer land from landlords to their tenants and agricultural workers, or to control and reduce land rents. Some of these reforms have radically transformed land ownership and access, particularly in mainland China, Japan, Korea, Taiwan province and Vietnam (Apthorpe 1979; Borras, Kay and Haroon Akram-Lodhi 2007; Studwell 2013). Most of these reforms resulted in land being redistributed to small-scale, family farms – albeit for China and Vietnam, after an interlude when larger-scale cooperatives were preferred.

This, then, is the first major lesson from Asia: whatever has been achieved in the agricultural development of much of Asia – and, as will shortly be seen, the achievements have been considerable – has largely been achieved through the efforts of millions of small-scale, family farms. An atomised and fragmented agricultural structure has clearly not limited agricultural growth.

2.2 Trends in agricultural production in Asia

2.2.1 Prelude: the gloom of the mid-1960s

In the 1960s, the prospects for agricultural development across much of Asia seemed bleak. India was a prime example. Gaining independence in 1947, its development strategy during the 1950s was to prioritise industrial development. It was hoped that a thriving urban and industrial economy would, of itself, provide enough of a market incentive for farmers to increase output to match the growth of population and the urban areas. Indian agriculture grew in the 1950s and early

1960s at rates variously reported as 2.1 percent a year (Dandekar 1988) or 3.0 percent a year, and 2.5 percent a year for food crops (Rao and Deshpande 1986). While those rates were a considerable improvement on growth before independence, compared to population increases that were accelerating to reach more than 2 percent a year by the early 1960s, the increases per person were minimal. So much so that when the southwest monsoon failed for two consecutive years in 1965 and 1966, it provoked a food crisis of rising prices, street riots, and famine in Bihar. Only US food aid, shipped in with onerous political conditions, prevented more suffering.

Given accelerating population growth – in India, it was to peak in the early 1970s at just over 2.3 percent a year – some observers saw in Asia the final realisation of the dire predictions of Thomas Malthus: that population growth would indeed eventually outpace agricultural growth.

This pessimism extended beyond India. China was barely recovering from the disaster of the Great Leap Forward of 1958 to 1961 that had seen major harvest failures leading to a famine that may have killed more than 25 million people (Kula 1989). Indonesia, particularly the island of Java, was seen as a case where ‘involution’ had taken place since the nineteenth century: although farming had intensified and yields per hectare had risen, population growth meant almost no increase in output per farmer (Geertz 1963).

Gloom over Asia’s prospects ranged from the hysterical suggestion that India should be triaged out of American aid (Paddock and Paddock 1968), to the more measured and analytical assessment of South Asia’s prospects in **Asian Drama** (Myrdal 1968).

2.2.2 The green revolution

Such pessimism was, with the benefit of hindsight, not justified. The accelerating population growth across Asia was to peak in the early 1970s in most countries, thereafter decelerating. Policy failures were to be corrected, perhaps most notably when China abandoned collective farms in favour of family farms in 1978. Above all, a green revolution was about to happen.

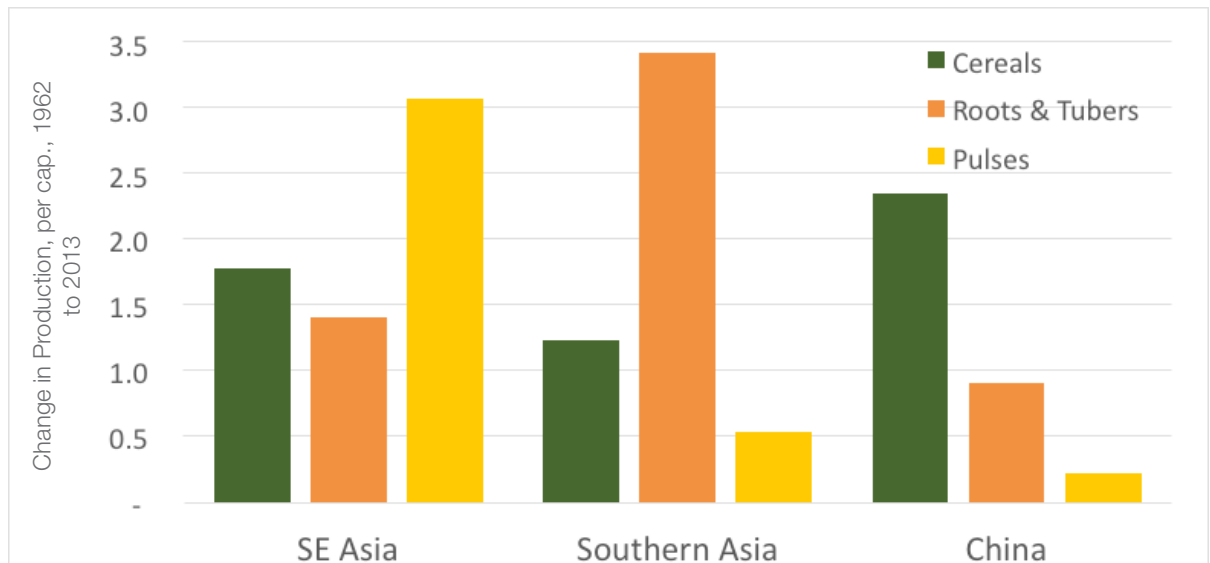
During the 1940s and 1950s advances in crop breeding – hybrid seeds, above all – suitable for the main cereals of the developing world had been nurtured, largely through Rockefeller Foundation funding (Lele and Goldsmith 1989). By the early 1960s, packages of hybrid seeds, manufactured fertiliser and crop protection chemicals, with water control through

irrigation, had been developed, trialled and proven for maize, rice and wheat. In late 1965, in the face of the failing monsoon, India took the fateful decision to roll out the new seeds on a large scale. Other countries in Asia soon followed suit.

The result was that within half a decade, substantial increases in domestic output of cereals had been achieved – well ahead of population. India ended shipments of US PL480 food aid in 1971 (Goldsmith 1988). By the early 1980s, more than 20 million tonnes of grain were in Indian public stores (Pal, Bahl and Mruthyunjaya 1993).

Asia's green revolution has resulted in production of staples per person in the 2010s considerably greater than it was in the early 1960s – despite large increases in population (Figure 2).

Figure 2 Asia's green revolution, 1962–2013



Note: Production per person for 1961/63 has been compared to that for 2012/14; taking three-year averages to reduce the influence of annual harvest variations arising from variable weather.

Source: Author's own, compiled from FAOSTAT data.

Output increases have outstripped population for most types of staple crops, and especially for cereals, which in most countries are by far the most important staples. The declines seen in the production of pulses per person in Southern Asia and China largely reflect their inferior status: as incomes have risen, consumption of pulses has been replaced by consumption of animal produce. The very strong growth in roots and tubers per person in Southern Asia arises largely from potato, which has become a premium among staples in India and other parts of South Asia.

2.2.3 Asia's other agricultural revolutions

While increased production of staples has more than matched population growth since the late 1960s in Asia, the subsequent growth in production of other crops, livestock produce, and farmed fish and shrimp has been even more remarkable. Taking the period since 1990, much larger increases have been registered for livestock products, farmed fish and shrimp, fruit and vegetables, beverage crops and some of the industrial crops than increases in staples (Figure 3).

In China, almost 50 percent more cereals were grown in 2013 compared to 1990, compared to population growth of just 18 percent. Meat production, however, more than doubled, eggs and farmed fish more than trebled, while milk, fruit and vegetables all expanded by four or more times.

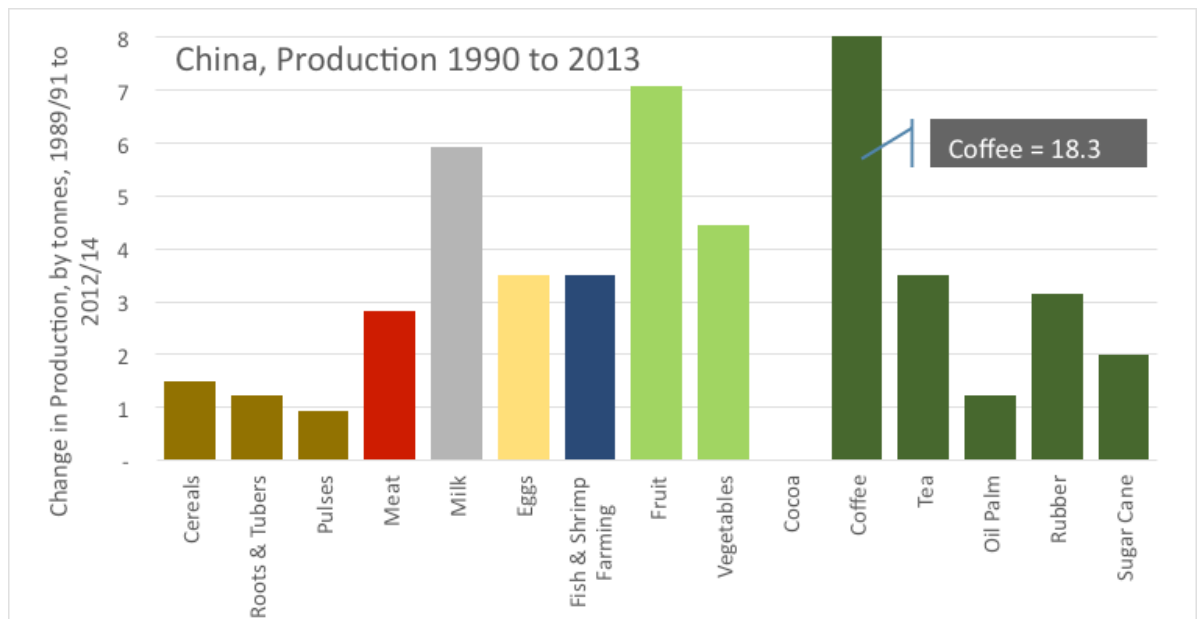
For Southeast Asia, where the population rose by 39 percent between 1990 and 2013, almost twice the amount of cereals was grown by 2013 compared to 1990. Yet for almost every other category of produce, the increase was greater than that for cereals.

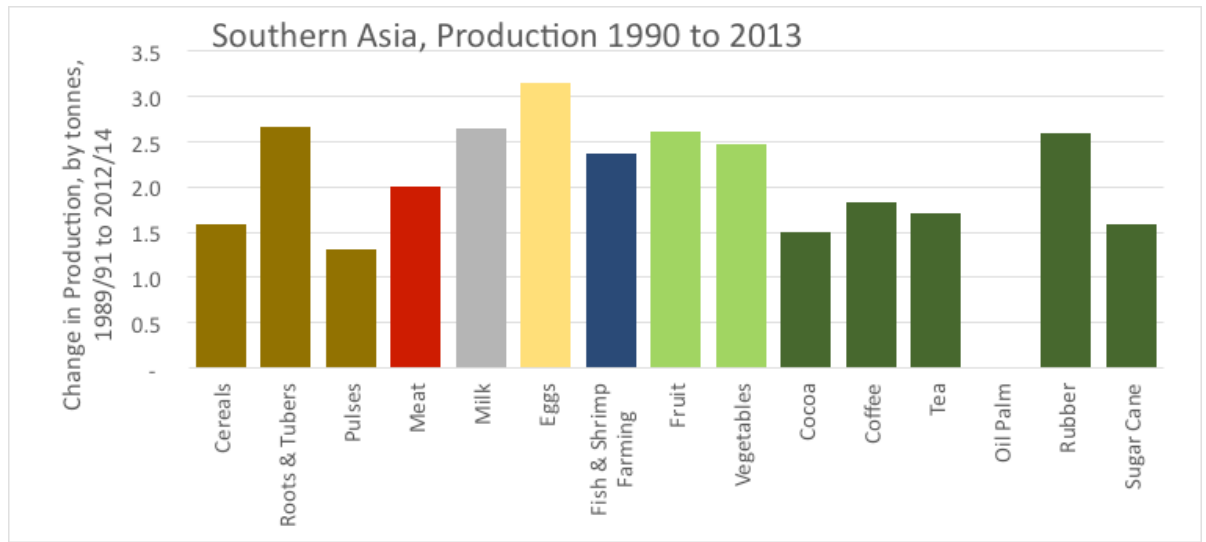
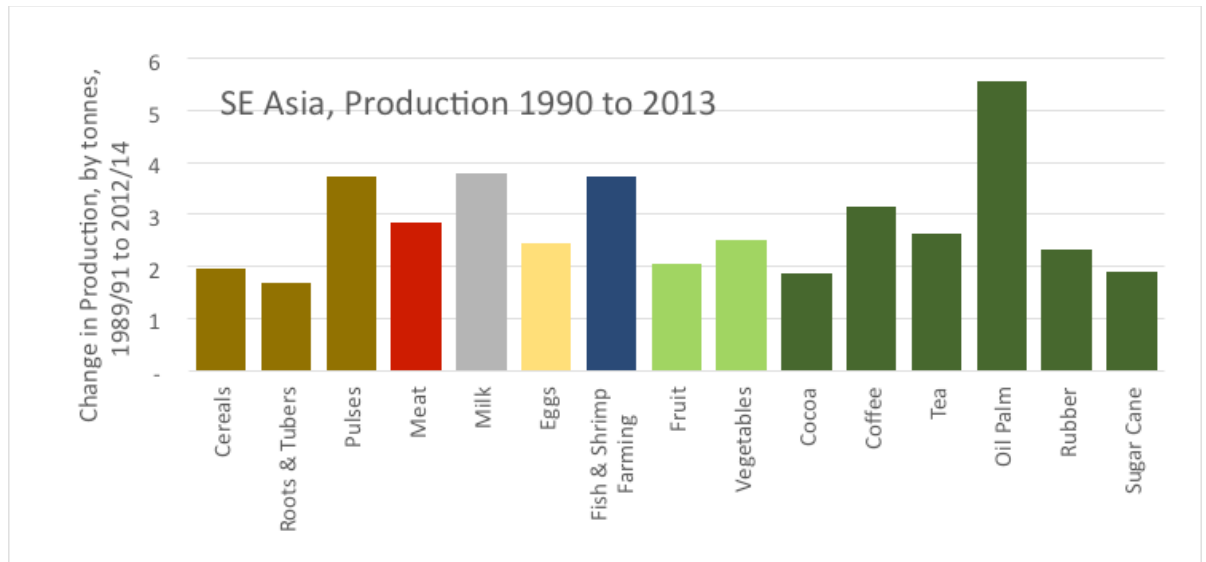
In Southern Asia, 58 percent more cereals were grown in 2013 than in 1990, compared to a population increase of 49 percent. Once again, increases in production for almost all non-staples were greater than increases in cereals.

While part of the non-staple production was consumed by the farm household, for items such as milk, eggs, chicken, fish, fruit and vegetables, much of this increased output was destined for market. Most produce, in most countries, has gone to domestic markets; although some countries, with Thailand the leader, have increased their farm exports, and some crops such as oil palm have everywhere been grown with a view to export markets.

Asia's success in raising farm output over the past quarter century or so has very largely been the result of three trends: intensification of the use of land, diversification of the product mix, and commercialisation of output. While some of the increased output has come from large farms and estates, with oil palm in Southeast Asia the best example, the bulk of the increased production has come from small-scale, family farms.

Figure 3 Asia's increased output of non-staples, 1990–2013





Source: Author's own, compiled from FAOSTAT data, plus data from the Food and Agriculture Organization of the United Nations (FAO)'s World Fisheries Production for aquaculture ('fish and shrimp farming') Comparisons are those of the three-year averages of 1989/91 and 2012/14.

In the next section, some of the recent literature helps explain how intensification, diversification and commercialisation have taken place on smallholdings.

2.3 *Forms and processes of smallholder commercialisation in Asia*

2.3.1 **Conditions for smallholder commercialisation**

Three elements are present in almost all accounts of smallholder commercialisation in Asia: markets, roads and technology.

Markets and roads. It goes without saying that commercial farming requires access to a market. In much of modern Asia, these conditions are invariably met. Population growth with urbanisation, coupled with public investments in roads, means that most farmers have a sizeable urban market within a few hours' drive – and often down a metalled road at that. Supply chains that link the major cities to their agricultural hinterlands are lengthening as transport costs fall.

In the early phases of the green revolution, governments in Asia often ran schemes that would buy surplus grain production at guaranteed prices. They may have been necessary then, but much less so today; even if governments may still offer to buy, this time it is as a price support rather than to make up for any deficiency in demand.

Most accounts of smallholder commercialisation are of production for domestic markets but, as the case of north-east Thailand shows (Box 2), exporting is possible.

Technology. The green revolution was made possible by public breeding of higher-yielding cereals. In most accounts of commercialisation, farmers have been able to raise their staple production prior to commercialisation through use of improved seed and fertiliser. Higher yields of food crops have then made it possible to free up land for cash crops and livestock. Quang Binh province, Vietnam, is a good example of this (Box 1), as is that of the dryland villages of central India (Box 4).

Box 1 Building from green to cash revolution: Quang Binh

Studies of change in six communes, two each in the mountains, plains and coast of Quang Binh, central Vietnam, undertaken between 2006 and 2008, illustrate phases of agricultural intensification and commercialisation in one of the country's poorer provinces.



Hill country, Quang Binh. Photo: Woodford

Commercialising smallholders first raised their food productivity, drawing on technical advances, principally for rice. Rapid adoption was facilitated by collective decisions in areas with irrigated rice. Increased food production, however, was generally not for sale: indeed, sales of rice probably fell.

Farmers then diversified into cash crops – vegetables, farmed fish, flowers, etc. Ventures sometimes benefited from complementarities between crops and livestock: manure from the animals for the plots; leafy fodder and crop by-products from the fields for animal and fish feed.

First movers in commercialising often acted as marketing intermediaries for their neighbours. They also sold them inputs. But as more households became familiar with the supply chains, competition developed, so that the first movers found themselves having to offer more services to their clients, such as credit. Input markets developed, but only after output markets had grown.

Not all households have been able to commercialise, though, particularly those lacking adult labour. Factors critical to commercialisation in Quang Binh include roads and improved food crop technology. Secure land tenure – more secure on the coast than in the hills – has helped.

However, rural Quang Binh remains an economy with plenty of labour. Escaping poverty depends as much on finding off-farm jobs as it does on agricultural development.

Sources: Quan 2009; Woodford and Quan 2010; Woodford 2016.

Across the region, most of the links from smallholders to markets have been developed by **private traders** or by agribusinesses active in processing, wholesaling, retailing and, in some cases, exporting. Public schemes or the efforts of non-governmental organisations (NGOs) are much less common. Traders frequently not only buy produce, but also provide inputs and technical advice on credit.

This assumes both that private intermediaries have the skills and capital to offer services and that they do not have the monopoly power to extract undue rents from the farmers. The studies searched, which focused mainly on farmers, do not offer much insight on these points although occasionally there is reference to the skills and experience of traders (see the case of Isaan, Box 2) as well as to competition between traders for custom, leading in some cases to traders offering an increasingly wide range of services to farmers.

Land tenure changes, important as they may have been from the 1950s to the 1980s, do not figure as main drivers of change in the past two decades. From central India come accounts of more land rentals from large-scale to small-scale farmers (Deb et al. 2015); in Quang Binh, Vietnam, security of tenure assists commercialisation in a context of state land being de-collectivised into smaller household units (Quan 2009). Recent Chinese policy may encourage the formation of larger-scale units, but it is not clear that much consolidation of operating units is taking place (Zhang and Donaldson 2008).

The main point seems to be that commercialisation requires neither consolidation of holdings, nor still less dispossession of the peasantry. Economies of scale

seem to apply in the supply chains, not on the farm. Even when it comes to machinery, where equipment requires threshold investments and where large tractors may require large fields, the Asian response has been to enable smallholders to hire services, and the adoption of small, two-wheel tractors that can operate effectively in small plots.

This is not to say that land struggles are absent. In the islands of Indonesia and the Philippines, where forest remains to be cleared for oil palm and other profitable cash crops, elite farmers and agribusiness have been trying – not always successfully – to grab land used by hunters, gatherers and swidden cultivators (Rutten et al. 2017). In north-east Thailand, attempts have been made to evict small farmers from designated forest areas; while they may be evicted, larger-scale growers with political influence are not (Mekong Commons 2015).

Where farmers have long been established as crop cultivators, the main cases of land loss can be found where municipal authorities of burgeoning cities have taken over land in the peri-urban surrounds for housing, factories and roads.

Smallholder commercialisation can produce quite remarkable results – results that would have been difficult to imagine 50 years ago. Nowhere is this more true than in north-east Thailand where a lagging, peripheral region has been transformed into an agricultural export powerhouse (Box 2).

Box 2 Isaan, Thailand: from backwater to export powerhouse

North-east Thailand, or Isaan as it is known in Thai, had long been neglected. Remote from Bangkok with a climate prone to droughts, with little irrigation and otherwise modest natural resources, it was the least developed part of the country. Indeed, the rural population of Isaan were the butt of national jokes about country bumpkins.



Source: Wikimedia, <https://commons.wikimedia.org/wiki/File:Isaanmountains.png>. Published under a Creative Commons Attribution-Share Alike 4.0 (CC BY-SA) licence, <https://creativecommons.org/licenses/by-sa/4.0/>

Since the 1960s, however, the regional economy has been transformed to become the fastest-growing region of Thailand, driven by exports of cassava, rubber, sugar cane, grapes and vegetables. Average incomes have tripled, in real terms, between 1970 and 2004.

Change began with agriculture. Production of the main staple, rice, which still occupies around 70 percent of the land, doubled between 1973 and 2003. Growth did not come from a green revolution of intensification per hectare; on the contrary, Isaan's agriculture grew in the 1970s and 1980s as forest was cleared to create new fields. Rice area expanded: yields rose only modestly from around 2.5 tonnes per hectare in the late 1970s to just over 3 tonnes in the early 2000s. With more land cleared, cash crops were added: cassava – for export, initially as chips for animal feed to Europe; maize – again a livestock feed; sugar cane; fruit and vegetables; and rubber. Almost all these are produced at costs to rival any in the world, thereby allowing exports at a profit.

What has made the difference in this region of Thailand?

Public investment began with roads in the 1960s, where US money paid for roads into the more remote parts of the country to counter the threat of insurgency at the time of the Vietnam war. Roads linked Isaan to the rest of Thailand and to the ports, making exporting possible. Irrigation works were constructed, although even today the region has little more than 17 percent of the cultivated area under irrigation. Government also invested in people, through education and health.

Traders have played a key role in linking smallholders to the rest of the supply chain. Chinese-speaking traders had long been active in Isaan, providing consumer goods and farm tools, among other things; but from the 1960s, with the roads in place, they saw the commercial opportunities. They not only bought up produce, but also made sure that farmers had the inputs they needed to expand production. They built rice mills and warehouses. In recent times, traders and agribusinesses in the supply chains have proved adept at making sure that Thai farm exports meet the demanding standards of high-value markets, including those of Japan and the United States of America (USA).

In the 1960s, the government set up the **Bank for Agriculture and Agricultural Cooperatives** (BAAC) to provide finance to smallholders. Unlike so many other state agricultural banks, BAAC has not only operated with relatively little state support but has also successfully reached many smallholders, using group liability lending.

Government has, in general, made useful, strategic interventions. It has funded agricultural research to overcome some of the limits of Isaan's modest soils and climate. Where links between farmers and agribusiness have needed a kick-start, government has often helped. It has intervened occasionally and judiciously in supply chains.

Isaan's transformation is not, however, solely one of farming. The **non-farm economy** has thrived, partly owing to the links created from agriculture, and partly owing to some manufacturing factories locating in rural areas to take advantage of lower land and labour costs.

Above all, the rapid growth of the Thai economy since the 1960s has created the chance for many young people to **migrate**. Young men have travelled to the construction sites of the Gulf, Singapore and other prosperous parts of Southeast and East Asia. Young men and young women have moved to the assembly plants of the eastern seaboard and Bangkok; young women have often sought jobs as domestic servants and retail assistants in the capital and other cities. Remittances have thus flowed back to Isaan, some of which have financed farm investments, but most have gone into better housing and consumer goods. As the young have left, an ageing farm population has mechanised some farm operations, mainly with two-wheel tractors.

Sources: Ekasingh et al. (2007); Rigg, Salamanca and Parnwell (2012); Rigg, Promphaking and Le Mare (2014).

2.3.2 The non-farm economy, rural and overall

Reading the village and district cases, it rapidly becomes clear that agricultural development is only part of the story. Time and again, surveys show that farming households gain the majority of their earnings from non-farm activities. A wide range of non-farm activities are observed: operating small businesses, working locally for wages, and migrating or even commuting daily to urban centres for paid work.

The case of East Laguna village in the Philippines (Box 3) is a good example. While green revolution technology allowed the village to grow more rice from the time improved seeds were introduced in the late 1960s, to create more jobs, and help allay poverty and hunger, this had less effect on incomes than did the opportunities that arose from the 1980s onwards to get paid work locally, to commute to towns, and (mainly for educated youth) to migrate and earn in distant cities or countries.

Box 3 How proximity to cities changes the game: East Laguna, Philippines

Since the early 1970s a rice-growing village in southern Luzon, dubbed 'East Laguna',^(a) has been repeatedly surveyed by researchers working with the International Rice Research Institute (IRRI) whose headquarters at Los Baños are close to the village.

By the mid-1990s, the village had seen agricultural development including more irrigation and the adoption of high-yielding varieties of rice. Agrarian reform had also controlled the rents taken by landlords so that tenants got a greater share of the benefits of their efforts.

But much more important was the growing importance of work off the farm, as the village became better integrated with urban centres in the Philippines – and, indeed, with global labour markets. The young tend to migrate, or get the better jobs when commuting to towns. Although many such jobs require few formal skills, nevertheless secondary education is the gateway to such jobs.

Incomes rose in the 30 years observed (Figure 4), but more strikingly their composition changed dramatically. Whereas in the 1970s, 87 percent of incomes (on average) came from farming, by the mid-1990s that share had fallen to 37 percent (Figure 5). The majority of village incomes came from operating non-farm enterprises, working for wages doing non-farm activities, and from remittances.

Figure 4 Average per capita income by type of household, East Laguna village, 1974–76 to 1995–96

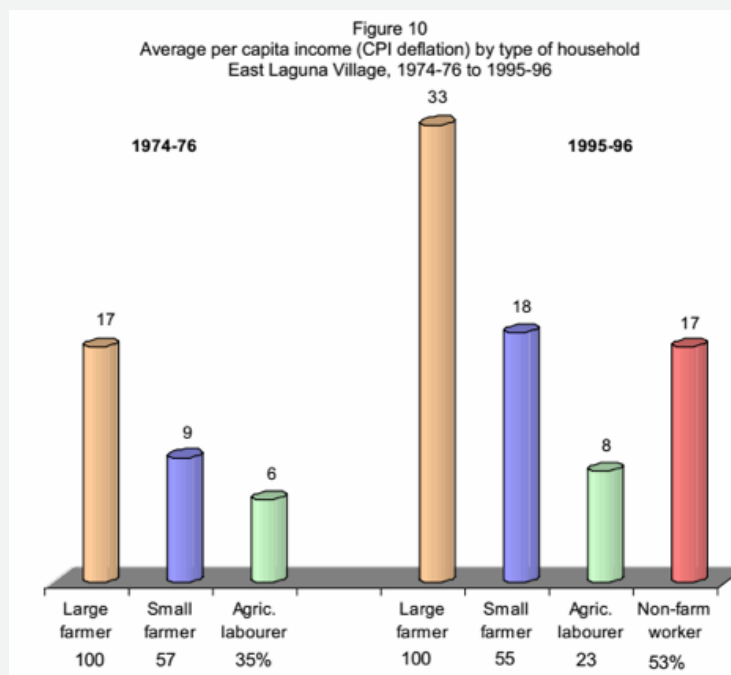
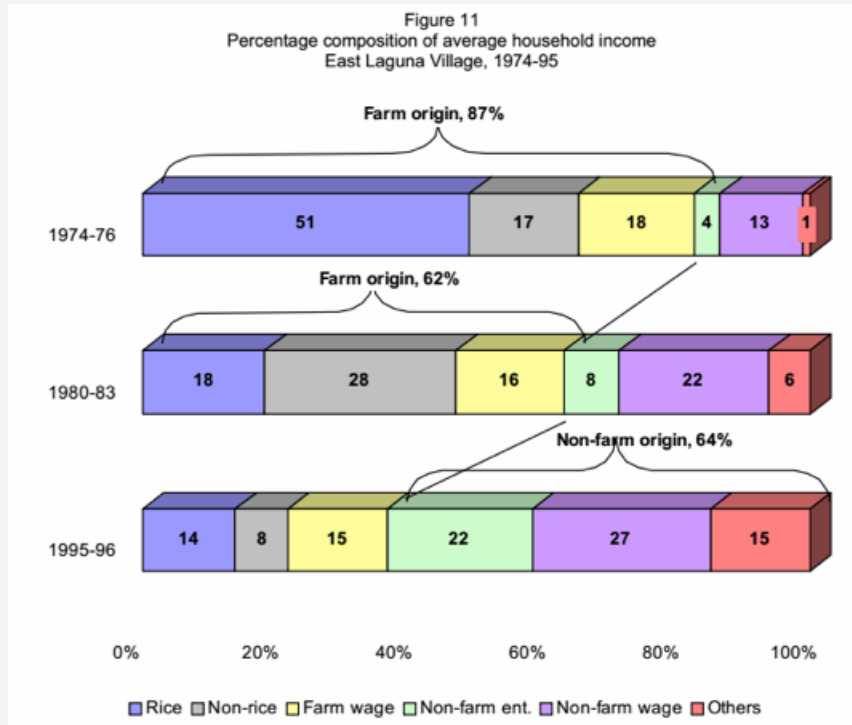


Figure 5 Percentage composition of average household income, East Laguna village, 1974–95



Sources: Hayami 2006; Estudillo and Otsuka 1999

(a) A pseudonym, the name reflects the village location close to the shores of Laguna de Bay

East Laguna, however, might be seen as exceptional. It benefited from being located a handful of kilometres from IRRI's headquarters at Los Baños, and more pertinently from being just 90km from the centre of Manila, a journey of less than two hours.

Reports from less-favoured locations, however, show similar patterns. Repeated surveys since the mid-1970s of six villages in dryland India tell a similar story (Box 4). Most villages benefited from the advances in breeding crops for the drylands, such as sorghum and millet, for which technical improvements came after the first wave of hybrid seeds for maize, rice and wheat. These

innovations – accompanied by public investments in roads, power, and public banking, which helped farmers invest in small-scale irrigation – helped ensure that even as village populations grew, farm output increased faster, as did the number of jobs.

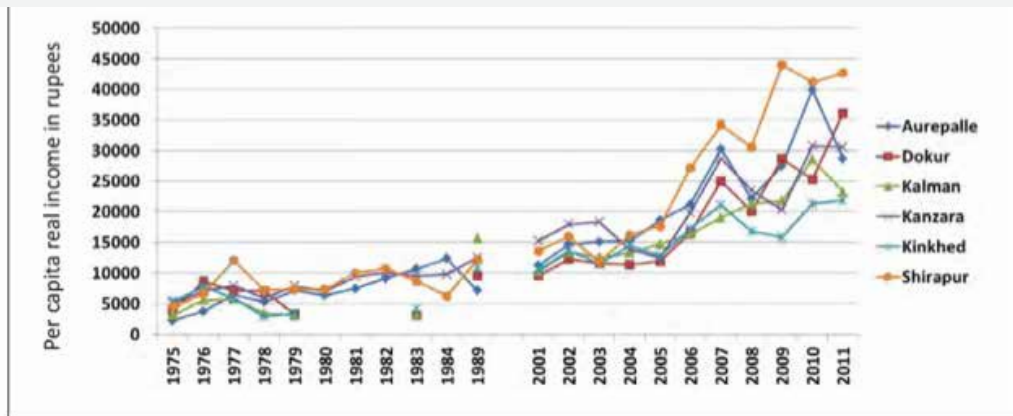
But the gains from agricultural development have been dwarfed by those seen in the new century as opportunities off the farm have multiplied. Labour markets have tightened, wages have soared and incomes have increased several times over – with most of the increases seen since the early 2000s.

Box 4 How technology and urban growth beat poverty: long-term change in dryland Maharashtra and Telangana, India

Since 1975, the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) has repeatedly surveyed six villages in dryland India: two from Mahbubnagar district, Telangana; and two each from Solapur and Akola districts in Maharashtra. A recent re-survey in 2011 reveals some dramatic changes to livelihoods, income and poverty.

Average household incomes, in constant terms, are now between 3 and 8 times higher than they were 35 years earlier (Figure 6) – remarkable increases considering that these villages were in the least-favoured parts of India. Real farm wages have risen by between 1.8 and 5 times, depending on the village. Poverty, measured at 80–90 percent of households in the mid-1970s, has fallen to 55 percent in the poorest village today, and to just 5 percent in the village that has seen most progress.

Figure 6 Farm household incomes in dryland India, 1975–2011



Source: Author's calculation based on ICRISAT VLS dataset.

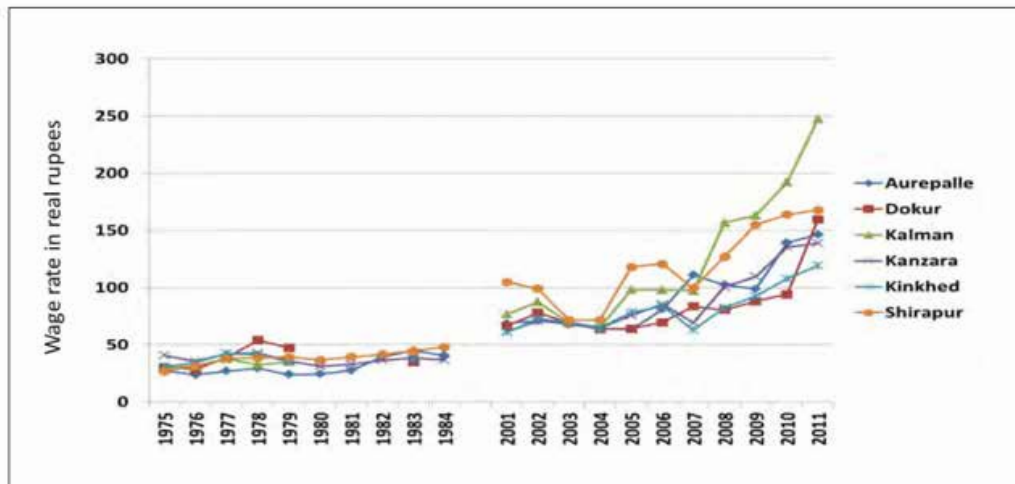
Figure 12. Trends in per capita real income (₹ 2009/10 equivalents) in the study villages of Telangana and Maharashtra, 1975/76-2011/12.

So what changed in these villages? Population has risen and landholdings have been divided so that farms are less than half the size they were. But in most villages, irrigation has spread. That, together with green revolution packages of improved seed and fertiliser, has seen yields rise so that overall output is much higher than before. Where formerly the land was largely planted to food crops for subsistence, today cash crops of cotton (Bt), groundnut, onion and sunflower have been introduced.

Prosperity is as much the consequence of the non-farm and urban economies as of agriculture. There are now more opportunities to get work in local towns or to migrate. The labour market has tightened to the point where some farm operations, such as land preparation and threshing grain, have had to be mechanised. To get the better off-farm jobs, education helps: whereas in the 1970s most adults were lucky if they had more than 2 years of schooling, today the average is more than 7 years.

Much of the increase in incomes has taken place since the early 2000s. Why the take-off should be quite so marked is not very clear; India's economic growth did not accelerate in the same way. An intriguing hypothesis is that in rural economies where labour has for long been abundant, it takes plenty of new activity demanding labour before the labour market tightens and wages rise (Figure 7). But when that happens, the difference it makes to incomes can be pronounced.

Figure 7 Farm wages, dryland India, 1975–2011



Source: Author's calculation based on VLS dataset.

Figure 10. Daily real wage rates (in 2009/10 ₹ equivalent) for male agricultural workers in Telangana and Maharashtra villages: 1975/76 to 2011/12.

Sources: Quan 2009; Woodford and Quan 2010; Woodford 2016.

These cases are far from exceptional. Almost all village studies record the importance of non-farming earnings. Often, these activities cover the almost inevitable slack seasons in the agricultural calendar. They make the difference between smallholders working hard on their farms, but living in or close to poverty, and getting by (albeit still living very modestly). Access to non-farm jobs, however, depends on both having the labour (woe betide households that have little or no adult labour) and having the education⁶ and connections to get the jobs on offer.

2.3.3 Farming in the face of the non-farm economy

Given how many farm households get most of their income from off the farm, it might be thought that farming is not that important. That would be to ignore three points.

One is that, in many cases, it is only recently that the non-farm economy has generated quite as many jobs as it does. Urbanisation in some parts of Asia, with Thailand a good example, has not been that rapid: Thailand only reached 50 percent urbanisation in 2015. Only recently has it become usual for most villages to be connected by an all-weather road to secondary and tertiary urban centres.⁷

Moreover, the greater connection to towns and cities has taken place in some countries just as

rural population growth has notably slowed, even reversing in some countries as depopulation sets in. The combination of new jobs and slowing population growth has, at long last, hit rural labour markets. In the second half of the twentieth century, parts of Asia saw historically unprecedented population growth, so that large numbers of youth were added to the rural labour supply every year. Small wonder that rural wages were often low and stagnant. Since the 1990s or so, that has changed: the combination of more jobs, largely off the land, and a slowing rural population has driven up rural wages in most countries (Wiggins and Keats 2014). Labour shortages are frequently reported, even in densely populated Bangladesh. Indeed, a major new challenge in Asian farming is how to deal with shortage of labour.

The second point is that not everyone can work off the land. Some people lack the skills and education to get off-farm jobs. They then depend on what they can earn from the farm, as well as (in many cases) on what migrant (younger) members of the household can send home.

Remaining on a small plot does not necessarily mean farming in poverty. Shandong province (China) illustrates what is possible (Box 5). Shandong is very densely populated with rapidly growing cities. Many farm households have lost land to urban development, leaving them with farms so small that they might better be described as gardens. For the young, their

peri-urban location means they can look for work in the nearby cities. But for the elderly, with little schooling and no experience of formal work, this is not

possible. Commercial cultivation of fruit, vegetables and chickens, however, means that they can actually support themselves from their tiny plots.

Box 5 What is the use of farming in urbanised regions? Insights from Shandong province, China

Shandong province in north-west China has urbanised rapidly, and farmers have lost land to urban development. Most of the young people from farming households have jobs off the farm, leaving their ageing parents to take care of the farm. Lacking education and formal skills, these older people have few other options but to continue to farm the little land they have.

Nevertheless, in such unpromising circumstances, commercial farming on a very small scale has flourished. Apples, grapes, vegetables and poultry are being produced by highly intensive systems.

For poultry, one of the largest processors in China, Xinchang, contracts 40 percent of its supplies from small farmers, providing them with chicks, feed and technical advice. With a massive urban market to supply, and rapidly expanding demand for chicken, including fried chicken, the processors have signed up 10,000 outgrowers. These activities have made the difference between households living in poverty and getting enough to live modestly: poultry outgrowers can reportedly earn \$200 a month.

Highly intensive production of fruit and vegetables has been aided by the growth of private trading and wholesaling. Shouguang county now has one of the largest wholesale markets in China, assembling and distributing produce across the country. Improved roads have made this possible.

Sources: Huang et al. 2009, Zhang and Donaldson 2008

Third, when presented with evidence of the decline of farming as a share of the national economy – and, indeed, of the rural economy – it is easy to forget that agriculture across Asia is growing quite quickly (see Section 2.2). The green revolution might have been consigned to history, but there has been no slowdown in the growth of farm output, even as countries have urbanised and population growth has abated.

Most of that increased output is coming from small-scale, family farms. Some of them are clearly investing and innovating in recent times as much or more than in the past. This should hardly be surprising: domestic markets are large, and the demand for higher-value produce is growing rapidly.

Farming may be losing its relative importance, nationally, rurally, and for many rural households: but production is higher in recent years than ever before, with few signs of a decline in growth rates.

2.4 Reflections

2.4.1 Does commercialisation improve rural welfare?

Does smallholder commercialisation improve rural welfare, in contributing to higher incomes, lower incidence of poverty and hunger, and also greater equity in these outcomes?

The papers reviewed offer varying levels of insight into these questions, but none of them systematically address this question in all or even most of its dimensions.⁸ Most of the recent literature, however, reports rising incomes for rural households, when averaged across the sample surveyed. That is perhaps not surprising: farmers commercialise for a reason – to earn more. Some do just that, and their increased earnings will be enough to boost the average. Moreover, time and again the context is favourable, with the non-farm economy offering more jobs so that some households will record impressive income gains without that necessarily owing much to agriculture.

The big question, not well answered, is how broadly the increased incomes have been shared. Only the occasional paper estimates a Gini coefficient. For example, for the six villages in dryland India, the Gini coefficient for household incomes was lower in 2011 than in 1975 in four villages, the same in one, and had risen in another. The differences through time, however, were not that large: income distribution had not changed much (Deb et al. 2014).

A partial answer to the question may be inferred from wage rates and labour shortages. For the dryland villages of central India, rural wages had risen just as average incomes had. For parts of Bangladesh with fish farming, rural wages in real terms had doubled in the ten years to 2010/11 (Gurung, Bhandari and Paris 2016).

In north-east Thailand, real rural wages had more than doubled by 2001 compared to 1977 (Ekasingh et al. 2007). Given the reliance on farm wages of households on very low incomes, that suggests that their welfare probably improved. Papers not reporting wage rates, moreover, frequently mention labour shortages, which might be taken to imply more opportunities for low-income households.

Discussions of the welfare impacts of commercialisation can, however, become exercises in rather pointless empiricism. Commercialisation takes many forms, operates to different degrees, and arises in all manner of contexts where, as we have seen, changes in that context may have greater impact on incomes and welfare than anything happening to the farm economy. Hence general statements to the effect that smallholder commercialisation leads to any specific impact are thus not very helpful. Given the diversity of processes and circumstances, almost any outcome may be observed in some place at some time.⁹

What may be more useful is to identify some principles that may be inferred from the cases reviewed. Commercialisation seems likely to raise incomes of the majority of the rural population, whenever the following conditions are present.

Farming opportunity

- **A market, and effective links to that market.**
- **Natural conditions (soils, rainfall/irrigation, temperature) that allow cash crops to be grown at a low enough unit cost to make a profit.**
- **The technology used for the cash crops can be adopted by a wide range of farmers. That means not just that technology is appropriate, but also that smallholders can access capital (credit, but also off-farm earnings, remittances, savings, etc.) to enable investment without undue risk.**

Spread effects through rural labour markets and the non-farm economy

- **The commercial opportunity requires labour, and creates labour demand in seasons that were previously slack. Mechanisation is not often seen when labour is abundant at low wages.**
- **Commercialised farming creates links to the local economy in processing facilities, input supplies, transport, storage, etc.**

- **Commercialising smallholders spend much of their increased incomes on local goods and services.**

Context

- **Overall economic growth that means thriving and growing cities with rising demand for food.**
- **Improved transport links between urban centres and the rural surrounds.**
- **No institutionalised roadblocks: cartels in marketing, exclusive contracting deals, deliberate marginalisation of minorities, land grabs, etc.**

This is quite a long and apparently demanding list of conditions. The cases reviewed, however, suggest that most of these conditions can be met. The devil, however, lies in the detail – as in many cases some but not all conditions were fulfilled, while in others, these conditions were only partly fulfilled.

There are reasons to be optimistic, however. When Otsuka and Yamano (2006) assembled panel data from surveys in Bangladesh, India (Tamil Nadu), the Philippines and Thailand, which allowed situations in the 1970s and 1980s to be compared to those in the early 2000s, they found considerable improvements in rural incomes across the very different circumstances observed. Indeed, nothing seen in the more recent literature would lead one to revise that impression.

This is not to claim that rural Asia has seen an end to all the ills of the past, or present. If we take rural Thailand, it is not hard to compile a long list of rural maladies: the middle-income trap that seemingly applies to villages that have escaped poverty but have yet to encounter prosperity; the social tensions created by heavy migration of young people, including the dangers to which the young are exposed and the question of care for the older people who remain in the village; the treatment of migrant workers from Burma, Laos and Cambodia; over-use of agro-chemicals; clearance of forest, and other threats to the environment, etc.

The results of 50 years of development produce plenty of evidence for dismay. But the question that remains is whether life is better today – and for so many more people – than it was in the past. Most rural Thais no longer live under the threat of hunger. Their children do not die in infancy at the rate they did before. Old people may yearn for a past in which they were youthful, but I am not sure how many really want to return to the material conditions of that youth.

2.4.2 Sustainability and the environment

A review of environmental change in Asia is considerably beyond the scope of this paper. Nevertheless, some environmental impacts are clear.

The green revolution, with its intensive methods of cultivation, had costs for the environment. Heavy use (and sometimes over-use) of fertiliser and chemicals has led to polluting run-off into watercourses. Some irrigation schemes, usually large-scale, have suffered from salination owing to poor drainage. Heavy use of tube wells in some catchments has drawn down the groundwater levels.

Habitats and biodiversity have suffered as well. Monoculture of improved cereals of just a few varieties has reduced agricultural biodiversity. While intensification

of farming may have limited the demand for new land, in some areas agriculture has expanded at the expense of valuable habitats such as tropical forest, peat and wetlands (United Nations and Asian Development Bank 2012; Rosegrant et al. 2007) .

A considerable challenge for the twenty-first century, then, is to protect remaining habitats, maintain biodiversity, and change farming methods to be sustainable, using fewer chemicals, and economising on irrigation water.

3. SMALLHOLDER COMMERCIALISATION IN LATIN AMERICA

3.1 Latin America's dual agricultural structures

The setting for commercial farming across much of Latin America could hardly be more different than that for Asia. With few exceptions, large-scale farms dominate the area cultivated and grazed.

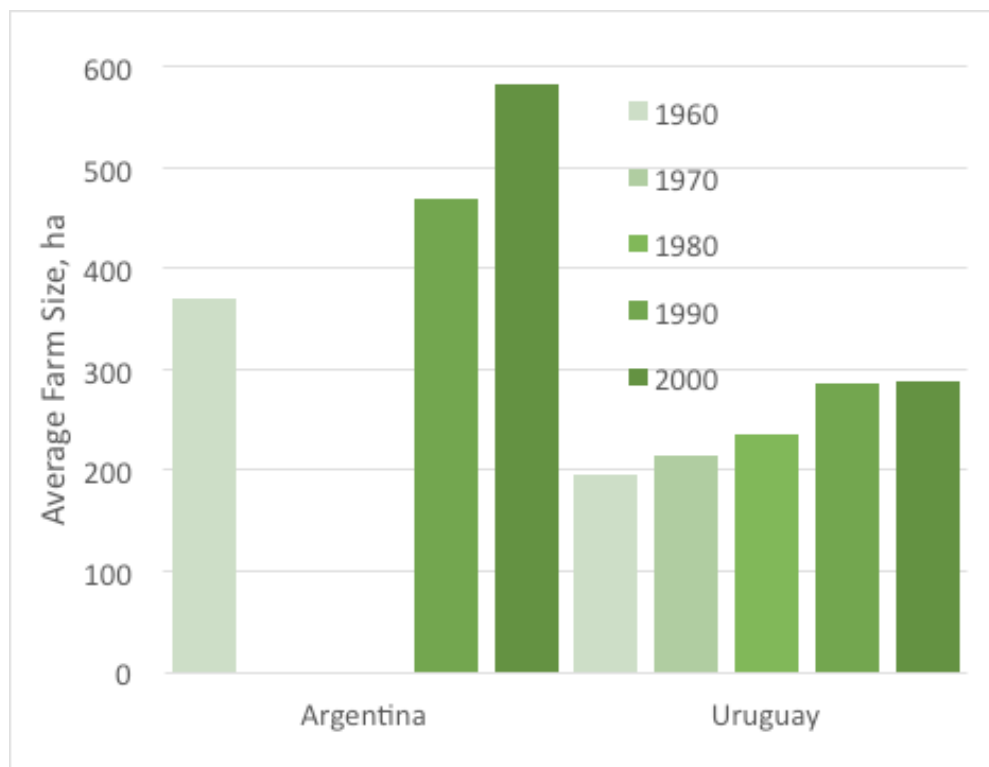
For example, in 22 countries in Latin America and the Caribbean, 79 percent of farmland was in units of more than 100 hectares, according to agricultural censuses of the 1990s and 2000s (Lowder et al. 2014). Which is not to say that Latin America does not have small farms; in the 22 countries, there were 6.7 million farms of less than 5 hectares. Farms of more than 100 hectares constituted just 17 percent of all farms; smallholdings

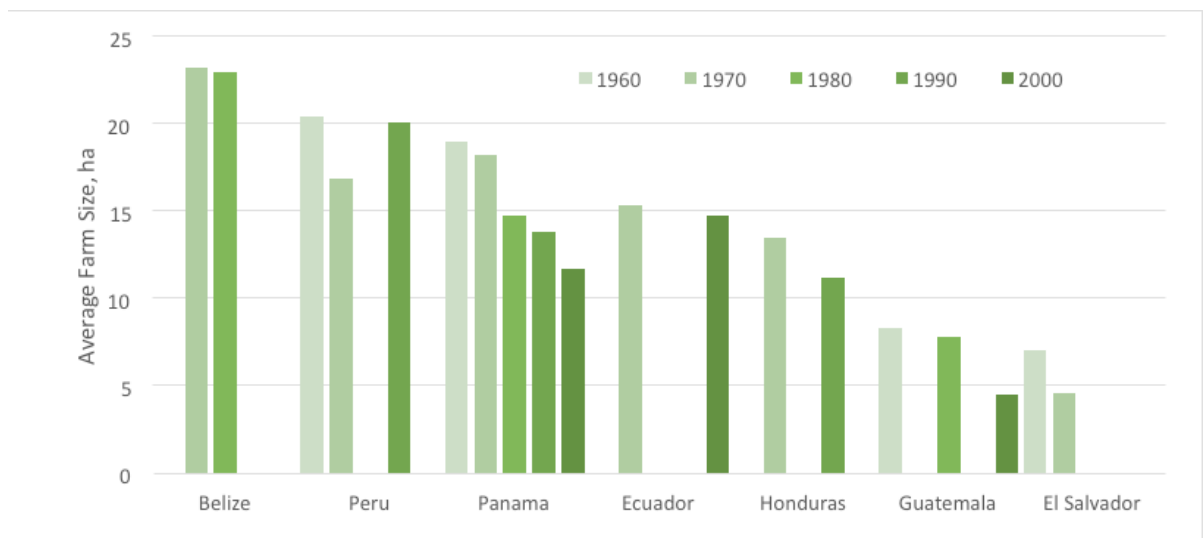
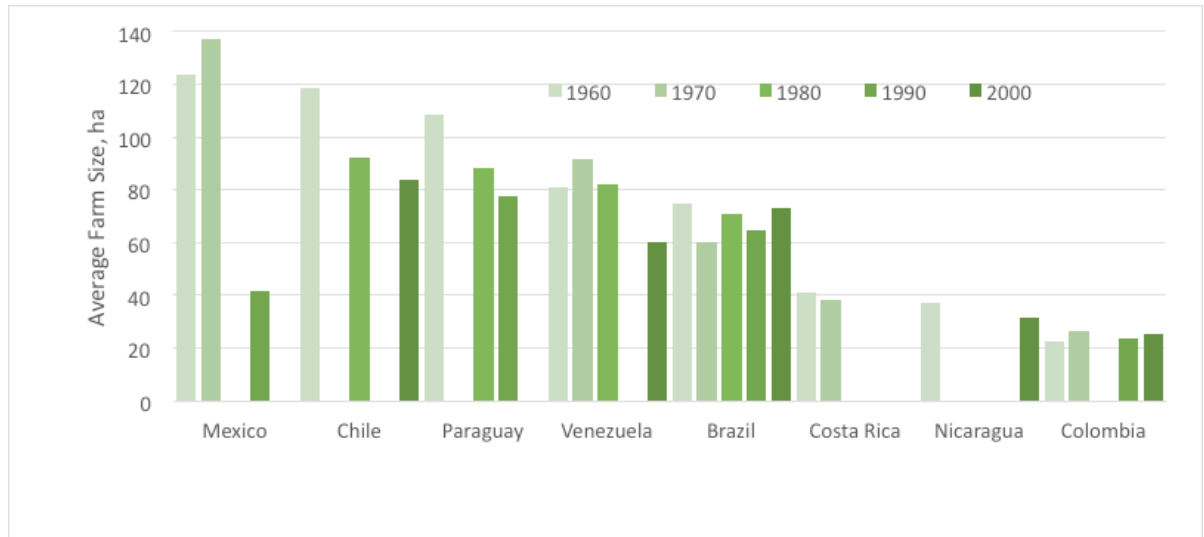
of less than 5 hectares made up 51 percent, but they occupied less than 2 percent of the agricultural area (ibid.).

More so than in any other region of the world, Latin America's farm structure is bimodal: most of the land is in relatively few *latifundia*, but with an abundance of *minifundia*.

Average farm sizes are thus large (Figure 8), although in most countries the average size was falling in the late twentieth century. Some countries do have relatively small average farm sizes: Honduras, Guatemala and El Salvador, for example, which reflects the fact that smallholdings in those countries are very small. All three, however, have some very large estates.¹⁰

Figure 8 Average farm sizes in Latin America, 1960–2000





Source: Lowder et al. 2014, Table 4

3.1.1 Agrarian history from 1492 to 1900

Latin America's bimodal farm structure was established in the century or so after the Iberian invasions of the sixteenth century. In the parts of Latin America that were moderately to densely populated at the time, above all in Mexico and the Inca empire that stretched from Colombia to Chile, the impact of invasion was a catastrophic fall in the indigenous population. As few as 10 percent of the pre-Colombian population survived the conquest, most cut down by diseases brought from Europe, against which they had no natural resistance (Stannard 1993). The Spanish parcelled out much of the land in large estates for themselves, but then faced the problem of labour to work the land.

The most common response was to attach indigenous communities to the estates who were then expected to provide labour service on the central farm, in return for the right to farm subsistence plots – thereby

reproducing a feudal tenancy arrangement seen in Europe in the Middle Ages. That produced the pattern that has often survived, to some extent, to the present day: a large farm, surrounded by smallholdings. As might be imagined, the central farm took the best land (Arrieta et al. 1990; Laserna, Gordillo and Komadina 2005).

Some parts of the continent were lightly settled. This land was once again appropriated by the Iberian masters in large estates. Where the opportunity to farm commercially existed, the response to lack of local labour was to bring in slaves from West Africa. The numbers trafficked were large:

Well over 60 percent of the more than 6 million individuals who migrated to the New World from 1500 through the end of the eighteenth century were Africans brought over involuntarily as slaves...

The fraction of migrants who were slaves grew continuously, from roughly 20 percent prior to 1580 to nearly 75 percent between 1700 and 1760. (Sokoloff and Engerman 2000)

One crop in particular represented a commercial opportunity for export in the colonial era: sugar. Its high value for weight could withstand the cost of export to Europe. Estates were established in suitable climates, above all on the Caribbean islands and in north-east Brazil.

Where population was low and the conditions for an export crop were lacking, large pastoral estates were set up, lightly stocked with cattle.

With the exception of the sugar estates, most of the large farms established produced for the small domestic markets of colonial Latin America. They were operated to generate just enough surplus to allow the landowning gentry the means to live comfortably in town.

Independence in the early nineteenth century made little difference to these patterns of tenure and farming. Only by the last quarter of that century did new opportunities for exporting farm produce arise – the result of the burgeoning demand from Europe and North America that had seen an industrial revolution and urbanisation, and of the reductions in the cost of long-distance sea freight that arose with steamships and refrigerated ships.

This galvanised some of Latin America's agriculture. In Brazil, Central America and Colombia, coffee farms were planted. While some of these were small family farms, in countries such as Guatemala and El Salvador, this led to land being grabbed from indigenous communities to create coffee estates (Mahoney 2001). In the River Plate region, it became possible to export frozen carcasses of beef, leading to commercialisation of large pastoral estates.

By the early twentieth century other opportunities became apparent: bananas, for example, could be grown in the Caribbean basin for export to the USA and Europe. Most bananas again came from estates, some set up in lightly populated tropical lowlands. The scale of these plantations – predominantly owned and operated by US fruit companies as export enclaves – was justified by the need to coordinate production, and to cover the heavy initial investments in physical facilities needed for washing, packing and transporting the fruit (Bulmer-Thomas 1983).

Only a few countries and regions escaped division into large farms. Southern Brazil and Costa Rica are examples, where nineteenth century settlement saw European immigrants set up family farms. Otherwise the template was the large farm, seen as the emblem of progressive endeavour. Appropriating even more land from indigenous communities was regarded and portrayed as modernisation, rather than the crude land grab it so often was. To do this in good conscience, however, required the elites to denigrate the farming and culture of the indigenous peasants. For the former, the latter were simply poor stewards of the land, unable and unwilling to put it to good use.

3.1.2 Twentieth century land reform intents and responses

The highly unequal land distribution and social inequity of rural Latin America has been challenged. The half dozen or so genuine revolutions¹¹ seen in the region – those of Mexico from 1910, Bolivia (1952), Cuba (1959), Peru (1968), Chile (1970) and Nicaragua (1979) – all involved radical land reform. In Mexico, large estates were broken up and given to peasant communities, '*ejidos*', where nominally collective holdings were individually farmed as smallholdings (Heath 1992). Bolivia also saw the haciendas occupied by their serfs and by neighbouring peasants. In Peru, Velasco's 1968 coup saw the coastal estates seized by the military and the highland haciendas occupied by peasants (Kay 1982). Chile saw estate land distributed to peasants and landless workers. Cuba and Nicaragua differed, in that most large estates in both countries were not broken up, but taken over as large state farms and farmed as such (Thiesenhusen 1995).

These were not the only attempts at land reform. In other countries, there have been less radical attempts to influence land tenure, many of them prompted by the panic among ruling elites that spread across Latin America after the 1959 Cuban revolution. That event was widely interpreted – not least by the US Central Intelligence Agency (CIA) – as almost inevitable given the extreme inequality of Cuban society. Regimes across Latin America, with US support and prompting, thus reviewed their land tenure systems and tried to reduce some of the more egregious inequities.

These reforms tended to be half-hearted in that not much land was transferred from large properties. They often bypassed the rural poor, distributing worse-than-average land to richer-than-average peasants. Moreover, they often achieved little. Those given more

land were often left bereft of access to inputs, credit or technical assistance, while the terms of trade had turned against them: 'In general, government took away by stealth what it had given with a flourish' (ibid.: xi).

Settlement of the tropical forests was another non-revolutionary response to agrarian inequality. Across the Amazon basin, governments drove roads into the forests and helped those with little or no land from densely settled rural areas to open up new farms (Hiraoka 1980; Nelson 1973).

The attempted land reforms of the 1960s, however, had one perhaps unexpected consequence. Large landowners – fearful of their less productive land being seized – intensified and commercialised their farms. This protected them from legislation that decreed that land not being actively farmed could be expropriated. It also allowed them to respond to rising demand for food from the cities in what, at that time, were countries undergoing rapid population growth and urbanisation. Moreover, landowners were often powerful enough to convince government agencies to support their investments with subsidised credit – some of which came from loans from the World Bank and Inter-American Development Bank (de Janvry and Sadoulet 1989).

Hence today, across Latin America, many large farms are thriving and productive – a far cry from the rather sleepy haciendas of the 1950s that monopolised land, yet produced only a minimal surplus. These large farms have often seized upon commercial opportunities to export to new markets in Asia and the Middle East, with soybeans as the prominent case and chicken meat not far behind.

3.2 Trends in agricultural production in Latin America

Agricultural development since the Second World War has taken place in a very different context to that of Asia. At no point has the spectre of a Malthusian nightmare been invoked for Latin America, despite the region having population growth in the 1960s as rapid as that seen in Asia. With relatively abundant land, and much under-used land, Latin America was seen as a potential bread basket for the world, not as a continent about to exhaust its food supplies.

Agricultural growth has been driven by three main processes. One has already been mentioned – the **intensification of production on large farms** that took place partly in response to the threat of expropriation and partly to meet rising demand, both

at home and abroad. Large farmers invested more in irrigation, machinery (sometimes subsidised despite rural underemployment) and in improved seeds, breeds, fertiliser, crop protection chemicals and veterinary medicines. As mentioned, they were able, in some cases, to get cheap credit to do so (Shirota, de Araujo and Meyer 1990).

Intensification may have started partly as a political measure to defend their holdings; but increasingly, and especially in the new century, landowners have been producing for international markets, driven by the large and rising demand from Asia and Middle East for oilseeds, animal feed and meat.

A second feature of agricultural development has been **bringing new land into arable farming**, by clearing forest, ploughing grasslands and draining swamps. Between 1961 and 2014, the area of arable and permanent crops in South America more than doubled, rising by 124 percent. Much of this increase comes from conversion of the Amazon basin, a process greatly aided by governments building roads into the forests. Although attempts have been made to foster smallholder settlement schemes – and despite every road built attracting many more smallholders as spontaneous settlers – nevertheless, much of that new farm land has been cultivated on a large scale.

The third feature has been **public attempts to foster smallholder development**. Prominent among these was Plan Puebla, which began in the late 1960s in Mexico. This was a concerted attempt to raise cereals yields among smallholders (*ejidatarios*), through application of improved seed, fertiliser and chemicals – the green revolution packages developed by the International Maize and Wheat Improvement Center (CIMMYT) in Mexico. This effort succeeded, so long as it had public support in provision of inputs, technical assistance, and the assurance of guaranteed prices paid by a state marketing agency, CONASUPO. When the debt crisis hit Mexico in 1982, most of these supports ended and the effort foundered (Díaz 1992).

Public attempts at smallholder development have not always prospered, running into problems of inappropriate technology, misunderstandings of the circumstances of smallholders,¹² and – perhaps more important than any other factor – insufficiently attractive prices for increased output.

Moreover, in many countries, the scale of public support to smallholder development has been limited. The large farm lobby has often succeeded in diverting substantial

amounts of the agricultural and rural public budgets towards subsidies from which they have benefited disproportionately, at the cost of investment in public goods, which would have been more widely enjoyed (de Ferranti et al. 2005; Soto, Rocha and Ortega 2006).

So, what of the record of agricultural growth in Latin America? A green revolution in food crop production did take place (Figure 9), at least for cereals. Per capita production of cereals since the early 1960s increased well ahead of population growth – a considerable increase bearing in mind that population growth in much of Latin America was rapid from the early 1960s until at least the 1980s. Between the early 1960s and the present, the population of South America has grown 2.6 times, and by more than 3 times in Mexico and Central America.

Growth of pulses and roots and tubers has been considerably less than cereals and in several instances has lagged behind population growth.

Since 1990, increases in agricultural production have tended to be larger for high-value produce and for some export crops, than for staples (Figure 10). Some particularly striking increases can be seen for oil palm,

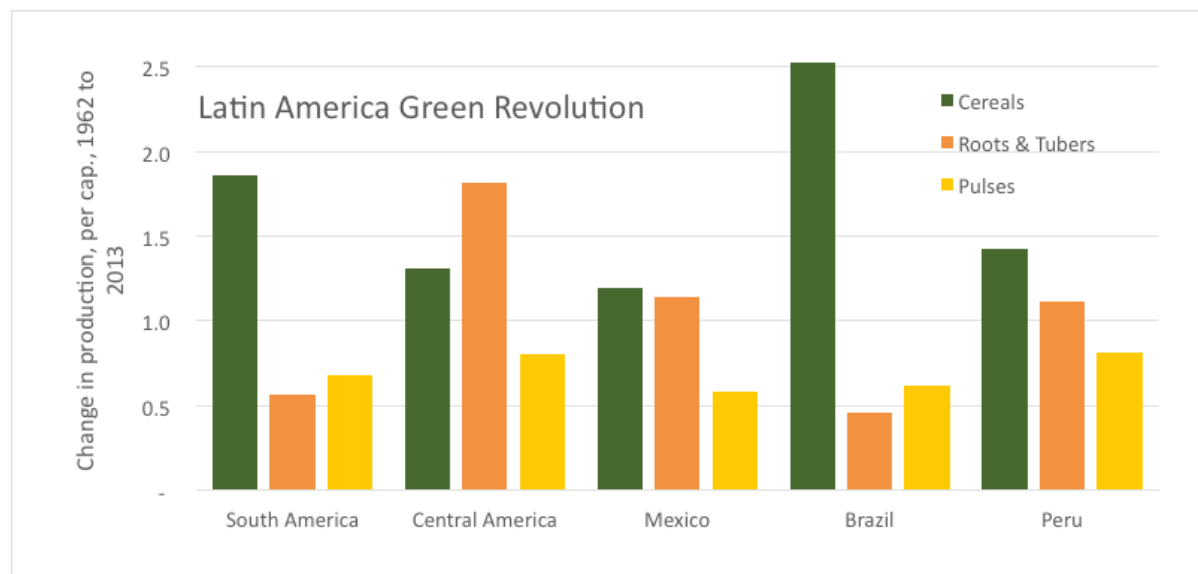
rubber and soybeans, most of which was destined for export. Most increases have been greater than increases in population growth.

Some crops, however, have stagnated or declined. Among the staples, output of pulses, roots and tubers has grown slowly; while among cash crops, cocoa, coffee and cotton have lost ground in several parts of the region.

Compared to Asia, growth in output of high-value foods for the domestic market has been less marked, not because Latin America does not produce large quantities of these, but because output was much larger per capita in 1990 than it was in Asia.

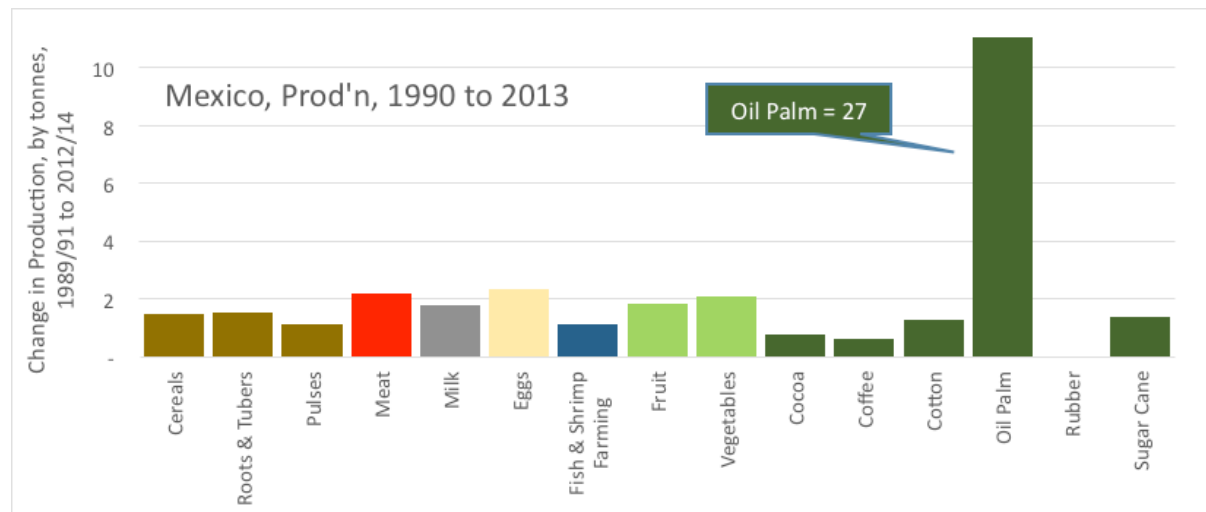
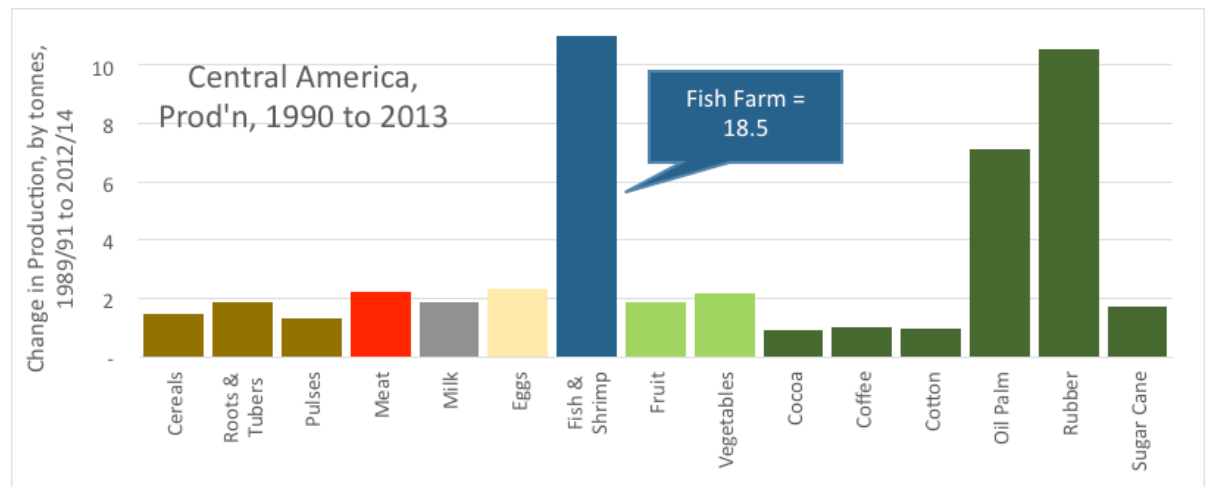
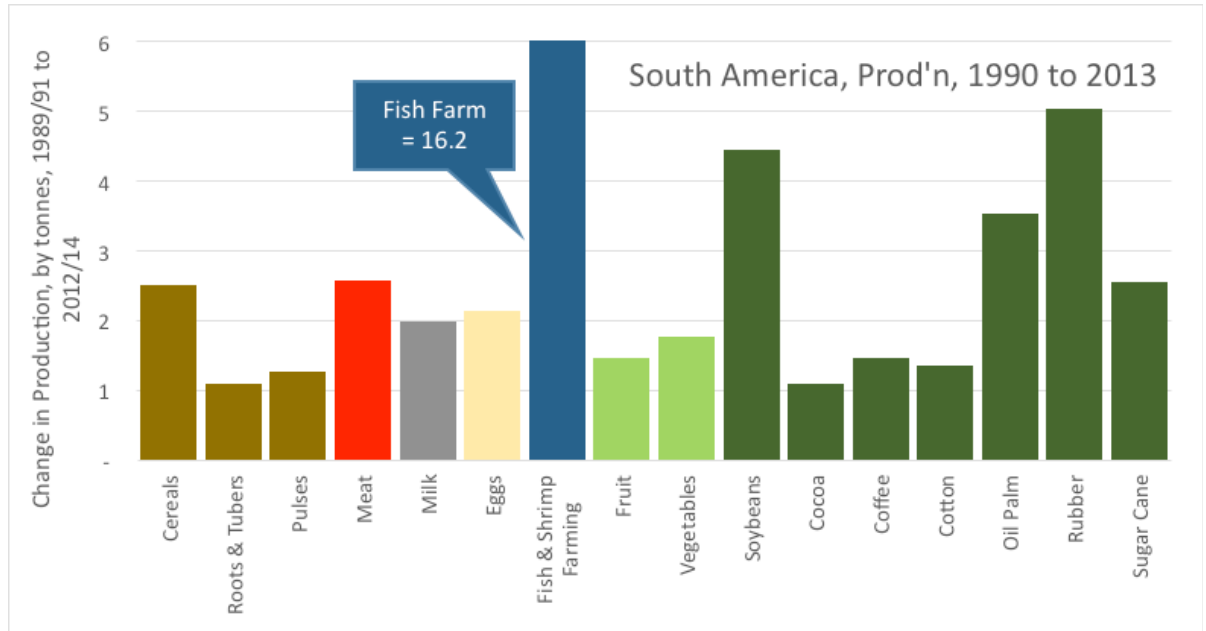
The other difference to the Asian experience is the importance of export crops. Almost every Latin America country has seen large and growing farm exports. In the past quarter century, some supply chains have become world class in both their ability to produce to demanding standards (Chile's rise as an exporter of high-value farm produce has been remarkable) and to produce at low unit cost (with Brazil's soybeans and chicken as good examples).

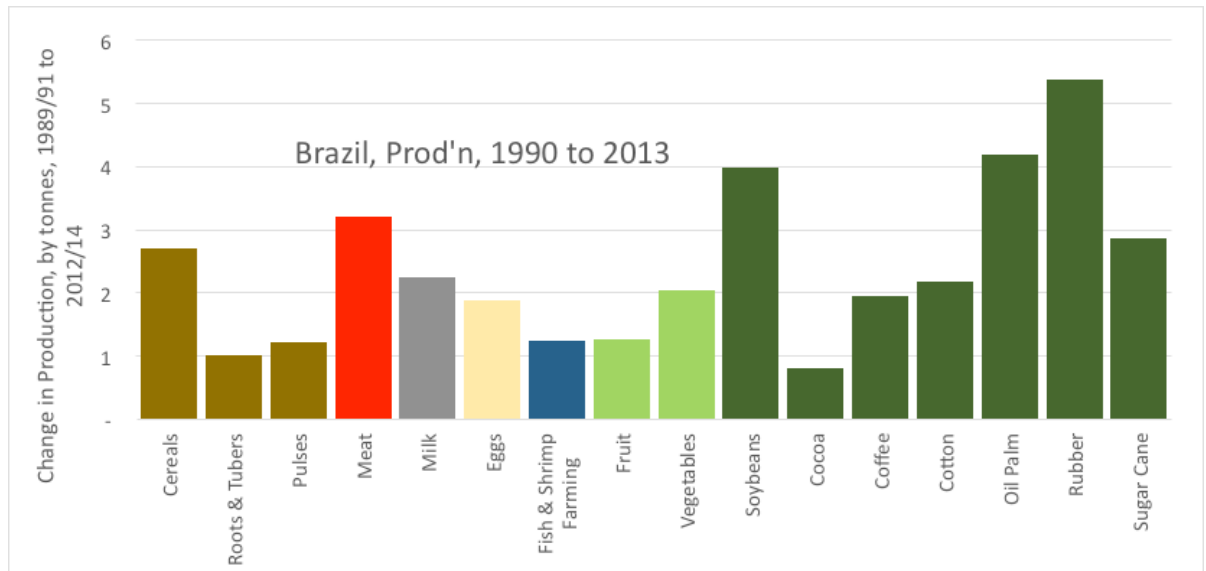
Figure 9 Latin America's green revolution



Source: Author's own, compiled from FAOSTAT data.

Figure 10 Latin America farm output increases, 1990–2013





Sources: Author's own, compiled from FAOSTAT data, plus data from FAO's World Fisheries Production for aquaculture ('fish and shrimp farming'). Comparisons are those of the three-year averages of 1989/91 and 2012/14.

3.3 Forms and processes of smallholder commercialisation in Latin America

the poverty of the majority of the rural population, they contributed little to the economy. At worst, they were deadweight for Latin America's development.

3.3.1 Large farms: two visions

Large farms have always been the most eye-catching aspect of agricultural development in Latin America. Fifty years ago, many large farms operated at quite low productivity, using the two factors of production that came cheap: land and servile labour. Many of them encapsulated the ills of the region; a source of rents for the fortunate landowners, extracted at the cost of

Today, more often than not, the reports of large farms stress their technical innovation, their heavy capital investments, and their links into sophisticated and efficient supply chains that have proved capable of conquering markets half-way around the world. The poster children here are the large, sometimes enormous, soy farms of the Cerrado of Brazil (Box 6)

Box 6 Brazil's Cerrado

Half a century ago, the Cerrado of Brazil was little used. An area of dry tropical forest and savannah, it suffered from acidic soils, which made it hard to grow crops or fodder.

Brazil's Cerrado: more than 2 million km²



Four things have changed that. One is the international demand for soybeans and for beef, potentially making the Cerrado a valuable resource. The second is a set of technical advances largely pioneered by EMBRAPA, the public agency that conducts agricultural research in Brazil. EMBRAPA realised that heavy liming would have to be used if the soils were to be productive. So it bred legumes with rhizobium that helped fix nitrogen and economised on fertiliser. It took soybean, a crop native to more temperate areas, and bred varieties that would flourish in a tropical climate. It developed varieties of brachiaria grass suitable for the hot climate that yielded far more than the native grasses. Third, government invested in roads to open access to the Cerrado. Fourth, Brazil had farmers from the south of the country who were accustomed to farming effectively on a large scale, technically knowledgeable, and who knew how to deal with the supply chains. When they heard of the technical advances, they followed the roads and opened large farms in the Cerrado. Many of these farms are counted in the thousands of hectares and function by using large machines, guided by Global Positioning System (GPS).

Since 1990, Brazil has added almost 20 million hectares of soybeans, much of it in the Cerrado. The region now produces tens of millions of tonnes of soy, most of which is exported from the eastern seaboard to the distant markets of China and other parts of Asia.

Sources: World Bank (2009); Cremaq (2010).

Similar, very large farms produce soybeans and wheat in Argentina: companies lease in land from farmers to form huge blocks, giving economies of scale that favour the largest farm machinery available, and justify the hiring of postgraduate agronomists charged with optimising production. Some 30 companies reportedly operate no less than 2.44 million hectares (Deininger and Byerlee 2012).

Not all large farms in Latin America are quite so large, but increasingly, large farms tend to be capitalised, operate state-of-the-art technology, and are linked to highly effective supply chains, which ensure that produce hits the quality and standards of distant export markets.

3.3.2 Smallholder commercialisation

Despite the prominence of the large farms, the majority of farms are smaller scale. By one estimate (Lowder et al. 2014), Latin America has more than 6.6 million smallholdings operated by families. Another estimate

counts 16.5 million to 17 million family farms (Leporati et al. 2014 and FAO/ECLAC/IICA 2013, cited in Schneider 2016).¹³

Some of these primarily produce for household subsistence, with only small surpluses sold. Some are located in inaccessible areas, have poor soils and climate, and suffer from under-capitalisation; but not all. Three forms of smallholder commercialisation can be identified, as follows:

- 1. Local perishables.** Those small, family farms that are within a few hours' travel of cities have the chance to produce milk, fruit and vegetables – items for which consumers value freshness. Being perishable, local producers have natural protection against supplies coming from distant farms. Small farms employing household labour that may have few other opportunities can produce at low cost and compete in such markets. Dairying is one such case (Box 7).

Box 7 Small-scale dairying in Mexico

In the 1990s some Mexican agronomists that had trained in the USA had a vision of modern dairying. They had seen in California herds of several hundred cows corralled on concrete, under a roof, sprayed with water to keep them cool, eating alfalfa supplemented by concentrates in stalls.

In central Mexico, however, this model was costly. Growing alfalfa then cutting and carrying to cows kept in stables was expensive; the fodder competed with land that could grow maize and other food for human consumption. Stabling meant hours spent not only moving fodder in, but also in taking manure out. Concentrates, relatively cheap in the USA, were expensive in Mexico since the country did not have the abundant grain of its northern neighbour.

But other smallholders planted small plots of rye grass and grazed their cows. They limited the amount of concentrate used. By doing so, they could keep their production costs down to \$0.11 a litre. Smallholders sold into informal supply chains where traders with pick-ups would take the milk to sell in working-class urban neighbourhoods as raw milk. With no processing costs, the farmers were getting prices that reached \$0.42 a litre.

For farmers with less than a couple of hectares, having half a dozen dairy cows to add to the maize plot and kitchen garden was a way to escape poverty.

Source: Wiggins (2002).

It can be surprising just how much of urban produce comes from small farms. Colombia has many large farms, with capital and technical nous that allows exporting to the USA. They can connect with sophisticated logistics that lead to the country's supermarkets.

And yet in Bogotá, in the *barrios populares* where people on low incomes live, fresh food is sold in markets and corner stores, sourced largely from small farms. Supermarket managers have abandoned ambitions to serve this section of the market, admitting that they cannot compete on price with the seemingly ramshackle supply chains that serve these neighbourhoods (Guarín 2013).

2. Growing high-value produce for export.

Some small-scale farms are located in ecozones where conditions are particularly suited for producing very high-value produce (sometimes in the off-season for the northern hemisphere) that can be air-freighted to the USA. Crops such as snow peas (Box 8) are an example. In this case, the crop requires much labour and care in operations, making it suitable for small, family farms where labour is self-supervising.

Box 8 Snow peas from smallholdings in Guatemala

In the 1980s, a boom in export vegetables saw smallholders, organised in the *Cuatro Pinos* cooperative, growing snow peas in the central highlands of Guatemala to be air-freighted to the USA. By 2000, 4,550 hectares were sown to snow peas in Guatemala. The crop is so labour intensive that this generated 32,000 jobs.

Snow peas were grown in small plots, typically less than one quarter of a hectare, no more than 30 percent of the crop land of the smallholders. One possible reason for not expanding was the problem of supervising the hired labour that would be necessary on larger plots; household labour is usually self-supervising.

The experience was, however, mixed. Many smallholders adopted snow peas only to abandon the crop a few years later. The business faced several problems through time:

- **Soil quality fell and pests became more resistant to repeated applications of insecticides.**
- **Competition from other parts of Central America and the Caribbean brought prices paid by US buyers down sharply.**
- **US concerns over pesticide residues led to import bans, which could only be overcome by costly spot-checks in Guatemala.**
- **The *Cuatro Pinos* cooperative lost competence, with poorer technical assistance, credit defaults, and worsening management.**

Similar setbacks have been experienced by smallholders in other countries when producing high-value items to strict standards for export to relatively small markets in the North.

While not insurmountable, these problems serve as a reminder that such enterprises are not necessarily miracle crops. The Guatemalan smallholders, never devoting more than one-third of their fields to peas, and being quite prepared to give them up, were clearly wise to keep their options open.

Source: Carletto et al. 2007

Some export production benefits from very unusual ecological conditions, as well as from the authenticity of having the crop produced by farmers whose ancestors have grown it for hundreds of years. Fifty years ago, quinoa was an inferior crop, planted by peasant farmers in the high Andes of Ecuador, Peru and Bolivia, only where more valued crops such as wheat or potatoes would not do well.

Farmer field school dealing with crop husbandry and quality production of quinoa (*Chenopodium quinoa*), a native grain of the Andes. Location: near Puno, Peru.



Source: www.cropsforthefuture.org/

In the past 20 years or so, however, quinoa has seen an extraordinary revival. Having been rediscovered by well-heeled consumers in the North as a particularly healthy grain, quinoa can be sold at a premium price. That premium is higher if the crop is grown organically – and traditionally it was always grown in this way – and if it is fair-traded, having been produced on small farms and grown by Quechua and Aymara-speaking farmers who have safeguarded the crop for generations. Across the high Andes, farmers are sowing quinoa as never before, making deals with buyers from North America, Europe and Japan, most of whom want to be reassured of the authenticity of their supplies.

3. Producing high-volume, low-cost export crops on a small scale. Not all soybean farms are vast estates. In Bolivia, some medium- and small-scale farms can be found that grow the crop on family-operated holdings and make a profit (Box 9).

Box 9 Growing soybeans on family farms in Santa Cruz, Bolivia

On the lowlands of eastern Bolivia, in Santa Cruz department, soybeans took off in the late 1970s. At the start, just 10,000 hectares were planted to soy; today more than 1.2 million hectares are under soy, thanks to clearing of the dry forest, scrub and savannah.

Bolivian farmers have benefited from the technical knowledge of farmers in neighbouring Brazil, as well as from being able to buy economical, second-hand machinery from Brazil.

Much of this land is in large farms, but not all of it. Medium- and small-scale farms have found ways to grow soybeans as well. Two cases from San Pedro, a small community to the north of Santa Cruz settled by migrants, show how it can be done. Here, 40 percent of the land is planted to soybeans, yet only 37 percent of the soy area is in units of more than 500 hectares.

(1) Grupo Comercialización Filial Norte is an association of 170 or so members who typically have between 20 and 100 hectares under cultivation. It arranges contracts for marketing, thereby getting a premium for bulk deliveries, and also supplies some services, including contracting two specialists.

(2) Operating on a smaller scale is the Grupo de Trabajo San Pedro, which was set up in the early 1980s by settlers who lacked land and capital. An initial attempt that had up to 80 members failed since there was too little control on collective goods, while earnings from a parcel of 50 hectares were always distributed without any accumulation.

In 1992 the group re-formed around 6 members of an extended family, and this time they met with success. In a decade, the area worked increased from 40 to 400 hectares, while the owned area increased from 50 to 750 hectares. The group was able to diversify into running a small repair shop, a plant to clean seed, and grazed some cattle.

The group functions as an austere collective. It also offers help to other groups thinking of following the same path, through a promoter. The small number in the group and their extended family relations keeps them together.

Sources: Hecht (2005); PNUD (2005).

3.4 Reflections

3.4.1 Rural incomes

Little published information can be found for changes in rural incomes in Latin America, still less on the relationship of any such changes to smallholder commercialisation. In some parts of the region, rural poverty rates have fallen considerably since the early 2000s – above all in Brazil, Bolivia, Chile, Colombia, Ecuador, Peru and Uruguay, where rates of rural poverty have fallen by a third or more (data from the United Nations Economic Commission for Latin America and the Caribbean (ECLAC/CEPAL)). It is far from clear, however, that agricultural development and commercialisation has made the difference: the growth of the rural non-farm economy and the introduction of cash transfers targeted to households on low incomes may explain much of the improvement.

3.4.2 Environmental sustainability

Agricultural development in Latin America has been achieved at the cost of converting large areas of forest to crop fields and grazing. Biodiversity has been lost as a consequence; ecosystem services have been damaged (Carr, Lopez and Bilsborrow 2009).

Soil erosion, degradation and chemical pollution have been somewhat less problematic in this region than in densely settled Asia, because farming in Latin America has tended to be less intensive. However, where rural population has been dense – as in some parts of the Andes, Mexico and Central America – environmental problems have been more serious.

As with Asia, a major challenge is to make agriculture environmentally sustainable, while curbing further conversion of valued habitats such as the remaining forests.

3.4.3 Prospects for smallholder commercialisation

Despite the dominance of large farms in Latin America, there are still more than 6 million small farms. Some may be very small subsistence holdings with few prospects.

Some, however, have found ways to commercialise at least some of their output. Their opportunities to do so may be increasing, as better roads link them to cities and ports. Moreover, as Latin America's economies grow and the middle-class in secondary cities expands, the scope for smallholders to supply fresh produce may increase. Even globalisation can offer some opportunities for small-scale, family farms as better transport links connect producers in remote areas to world markets.

In common with Asia, most commercialising smallholders in Latin America have other jobs and businesses. A diversified rural economy is central to the prospects of eliminating (deep) rural poverty. Small farms in themselves rarely generate enough income to reach a minimally acceptable standard of living.

Indeed, for the most marginalised rural residents – those with very little or no land, those lacking labour, and those living in remote areas with poor natural resources – transfers may be the only way to ensure that households survive with some dignity, and to give the next generation the start in life that will give them better prospects.

The experience of some Latin American smallholders shows that agriculture is an adaptable industry. For all the technical advances, both on-farm and in the supply chains, which seem to imply that competitive production must involve large-scale operations with heavy capital investments, intermediate solutions arise and persist.

It is still not clear, for many agricultural enterprises, what economies of scale apply in farming beyond the scale of the family-operated holding, owing largely to the high costs of supervising farm operations carried out by hired hands. Thresholds for lumpy investments such as machinery can be overcome by renting machinery or buying used equipment, while small associations of family farmers can market produce and acquire inputs in bulk, with premia and discounts.

4. CONCLUSIONS

4.1 Recapping

The **main messages** from this review are as follows.

For Asia

The vast majority of farms in South, Southeast and East Asia are smallholdings of 2 hectares or less. Operated farm sizes show little sign of consolidation; if anything, with every passing decade, they are becoming smaller. Despite the small scale of most farms, across Asia, the pace of agricultural growth has been maintained, from the acceleration created by the green revolution starting in the late 1960s through to the present day. Increasingly, growth of production has been in higher-value produce – fruit and vegetables, dairy and meat, fish, etc.

Not only has much of the extra production come from smallholdings, but those farms are operated by households that increasingly obtain their earnings from non-farm activity. No longer do farm households deploy most of their labour on the farm.

Public investments have underpinned agricultural and rural development – above all, in rural roads, electricity, education, health and water.

While public agricultural development interventions in irrigation development, supply of seeds and fertiliser kick-started the green revolution in the 1960s and 1970s, increasingly, the supply chains of inputs and services to farms and produce from farms to market are being operated by private traders. The evidence may be patchy, but most accounts of change in privately operated supply chains report innovation and improvement through time.

The processes seen across Asia are uneven, by geography and social group. While early developments tend to widen gaps between place and person, subsequent ones tend to close them. Socially, the increases in unskilled rural wages suggest that gains from agricultural development are being shared across social groups.

For Latin America

Large farms dominate the agricultural area, although the majority of holdings in Latin America are of 5 hectares or less.

Latin America's agriculture has grown strongly since the 1960s, much of that growth coming from expanding the farmed area. Since the 1990s, exports have been rising rapidly: for South America in 2010, they represent around 60 percent of all output.

Although many smallholdings in Latin America may be producing largely for household subsistence, some are commercialising. Three pathways can be seen: producing perishables for nearby cities; growing crops for highly specialist, usually foreign, markets that value authenticity, organic and fair-traded characteristics (with quinoa the prime example); and producing export crops for mass markets on a relatively small scale, overcoming scale inefficiencies in machinery, input supply and marketing by forming groups.

The drivers of smallholder commercialisation are similar to those seen in Asia: the combination of public investments in infrastructure and people, with private enterprise organising the supply chains.

4.2 Conditions that allow smallholder commercialisation

As argued in Section 2, from a review that looks at a restricted number of studies at village and district levels, it is hard to arrive at definitive conclusions. Circumstances vary too much, while smallholdings are diverse in all manner of respects. That said, this review suggests that three sets of conditions enable smallholder commercialisation.

(1) The **opportunity to realise returns from producing for the market**. This entails, in turn, that there be a market for surplus produce that can be accessed at reasonable cost, which usually implies roads in reasonable condition. It needs traders or other intermediaries who can run the supply chains effectively. It requires that farmers have the natural conditions of soil

and climate that allow crops to be grown, or livestock raised, at a low unit cost. Technology has to be readily accessible to and usable by smallholders. Access to inputs, finance and advice is usually needed as well.

(2) Conditions within the **overall economic environment**. Thriving and growing cities with rising demand for food create markets, and markets that increasingly want higher-value produce. Improved transport from village to town and city facilitates marketing. Obstacles to doing business – such as cartels in marketing, political interference in cooperatives, heavy taxation of produce and so on – need to be absent.

(3) If the **benefits of commercialisation are to be widely shared**, then it helps when the commercial opportunity requires labour, especially in seasons that were previously slack. It further helps when the commercialised farming leads to more local economic activity in processing, input supplies, transport, storage, etc. When commercialising smallholders spend much of their increased incomes on local goods and services, this also stimulates the local rural economy. Respect for land and other rights can prevent land grabs and other processes that lead to marginalisation of vulnerable rural people.

4.3 Equity, livelihoods and evolving rural areas

How equitable are the processes of commercialisation that have taken place? They are not equitable: they rarely are when it comes to private enterprise operating in market economies. Some people are smarter than others, some work harder, and some are just luckier than their neighbours – a category that includes those fortunate enough to possess land, livestock and other assets that they inherited. It is thus probable that the early stages of commercialisation will see widening gaps between farming households.

This does not mean, however, that the benefits are limited to those groups mentioned above. Demand for labour and linkages in supply chains and consumption can create employment and incomes for others in rural areas. Evidence, particularly from Asia, shows that this not just an aspiration; rural wages do not rise for nothing.

Economic forces alone, however, are not the whole answer. Basic public services such as education, health and water can make sure that that the young get a decent start in life, no matter their parents'

circumstances. Social protection is needed for those who are unfortunate, or otherwise are so poor that it offends us that they should be so.

In some areas, moreover, the distribution of land may be so inequitable that redistribution can be justified socially.

Rural livelihoods continue to move away from a dependence on farming, with household surveys showing that ever-increasing shares of earnings for farm households come from off the farm. These additional incomes allow many smallholder households to live above the poverty line: unless a farm household has highly intensive farming, only so much income, net of costs, can be wrested from a couple of hectares or less.

Paradoxically, even as many smallholders in these regions live on real incomes far higher than their grandparents could have dreamed of, with the comforts of running water and electricity, the disparity between their living standards and those of many urban dwellers has probably widened. Hence, a newfound conundrum has arisen in places (such as rural Thailand) that have seen much success in agricultural and rural development – that is, a version of the 'middle-income trap' (Rigg et al. 2014). Almost all rural households in much of rural Thailand have escaped deep poverty and hunger is a memory rather than a seasonal regularity; yet rural incomes remain quite low and it is not clear how they can be raised to match those of urban households. Indeed, it seems that as rural development proceeds, rendering conditions experienced only a generation ago a memory, unease mounts. Loss of natural resources and environmental costs, gender inequity, risks and hardships of migration, the prospects for rural youth, the care of the old when children often migrate – all these problems loom larger, no matter that they may be less severe than in the past. The more qualitative accounts of current conditions in rural Asia list no end of challenging problems. By removing some of the most pressing problems of the past, a long list of lesser evils emerges.

While the remaining problems rightly demand responses, it is nevertheless remarkable progress to go from a world in which one-fifth or more of newborns in villages would have died of disease and hunger before their fifth birthday, to worrying about those who now overwhelmingly survive infancy to become today's sometimes bored and disaffected rural youth.

4.4 Lessons for Africa

agricultural development.

So what can African policy-makers learn from these experiences? Some have argued that Brazil's massive farms worked by machines using high technology are the way to transform African agriculture (Collier 2008). But this model is only appropriate for countries with abundant land, plenty of capital and little labour. But where in Africa matches those conditions? Gabon, Botswana perhaps? Where else?

Asia – with its small farms, abundant labour and limited capital – may thus prove more instructive for contemporary sub-Saharan Africa. So what may be learned from Asia?

1. Success in agricultural development comes from sustained efforts over decades.

It requires no miracles, even if the eventual outcomes seem miraculous: just some fairly straightforward public investments in roads, other infrastructure, and in people – education, health and clean water. That, and providing a reasonable investment climate (in some cases, such as China, after trying the alternative), is all that most Asian governments have had to do.

This is not just an Asian story. Brazil's agricultural success, albeit from large farms, has been underpinned by strong public investment in agricultural research sustained over decades, in roads, and, at times, in unaffordable capital subsidies. No overnight miracle has been seen in Brazil.

2. Nothing helps farming and rural economies thrive more than successful urban development.

Urban markets create opportunities for farmers. When rural people can get jobs off the farm, without necessarily giving up farming, then not only does the economy benefit, but also rural incomes rise substantially. The most successful cases in Asia have all had major booms in urban-based manufacturing.

3. If the former two conditions are met, then agricultural growth, ahead of population growth and with rising productivity of both land labour, is more likely than not.

Some people engaged with agricultural development in sub-Saharan Africa were so dismayed by the dismal years of low growth that prevailed across the continent from the early 1970s to the mid-1980s that they assumed that only dramatic efforts, or some technological miracle, would spur agricultural growth. Not so: experiences from Asia and Latin America suggest that a rather more prosaic agenda will allow growth.

4. Small scale is not an obstacle to farming.

It is not necessary to make wholesale changes to the structure of farming, and still less to dispossess peasants of their land, to get successful

Some influential voices have cast doubt on the ability to raise production and productivity in agriculture when the majority of the land is divided into smallholdings (Collier 2008). Asia shows that farming on a small scale is no obstacle to agricultural growth. Indeed, some East Asian experiences – mainland China, Japan, South Korea and Taiwan province – suggest that splitting larger holdings into smaller units actually encourages growth.

It is remarkable how resourceful and adaptable farmers and grass-roots traders can be in overcoming any drawbacks of small-scale operations. Intermediate solutions are often found.

Some of these responses are unglamorous, shabby even. Who wants a two-wheel tractor, or some beat-up used tractor, if you could have a brand new John Deere Series 8 with more than 600 horsepower on tap? No one – that is, until they do the accounts and see the cost difference.

5. This is not to suggest complacency, or to suggest that the conditions set out above are all that is needed for agricultural and rural development.

Around a central set of conditions, all manner of additional efforts are warranted to deal with finer points and local specifics.

Moreover, while getting the conditions right can get small-scale commercial agriculture moving, ensuring that growth is equitable and that all share in prosperity will require additional measures.

A focus on commercialising smallholder farming does not preclude an active rural development policy that attends the needs of all. Even in farming, there are things that can be done to support households with little labour and little land, perhaps run by an ageing couple whose children have long since left.

6. Encouraging better policy can be challenging.

The conditions that have encouraged smallholder commercialisation may be for the most part common sense and straightforward; but policy choices in reality can sometimes reflect greed and narrow self-interest, populist currying of favour, and even delusions. Not for nothing has there been such a surge of interest in the political economy of agricultural development in Africa (see, for example, Poulton 2014).

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ENDNOTES

- 1 Transfers to those on low incomes do not necessarily have to be an additional public charge. In many parts of Latin America, transfers have long been made to those who are well-off. Such flows could be redirected to those in need, for the benefit of the next generation.
- 2 For example, using 'smallholder' as a search term for the Asian countries generates more than 3,600 hits in Google Scholar. Checking these to identify relevant articles could take 2 days.
- 3 Here, a family farm is defined as one that is managed by a family, and where most labour comes from the family. This definition is similar to that proposed by Garner and Campos (2014) for the FAO, namely, 'Family farming is a means of organizing agricultural, forestry, fisheries, pastoral and aquaculture production which is managed and operated by a family and predominantly reliant on family labour, both women's and men's. The family and the farm are linked, coevolve and combine economic, environmental, reproductive, social and cultural functions.'
- 4 For example, the 2013 Agricultural Census for Thailand, preliminary results, show an average farm size of 3.1 hectares: slightly less than the average for the year 2000.
- 6 Jobs may not involve formal skills, but for employers seeking workers, getting through secondary school is sometimes reported as an important signal of employability.
- 7 Which is not to say that all rural households are well-connected. A major divide has arisen across the continent between the majority of rural households who live in quite densely settled areas with urban areas close to hand, and those who live in the remaining remote regions – isolated by mountains, deserts and forests.
- 8 The papers reviewed do not reflect a random sample of villages, or even of village studies. They were sought out to illustrate cases of agricultural commercialisation. Hence they do not reflect what may be happening in areas with weak processes of commercialisation. It may even be that villages where commercialisation has been strong with evident benefits may be more likely to be studied than others.
- 9 This helps explain why some of the debates seen in the literature are apparently so difficult to resolve. Each author focuses on a particular case, or set of cases, often selecting different indicators of success. The danger is then to conclude that what is seen is somehow typical of wider processes, rather than a single case embedded in a particular context. For a flavour of the very different judgments made about rural development in Thailand and, indeed, Asia as a whole, see the opening pages of Rigg et al. (2012).

Some social science, however, has a long and not very distinguished history of observing social problems at one moment in time and inferring both that this must be the result of processes taking place at the same time, and that as those processes continue, the social problems will only intensify.

Both such propositions have more than once been contradicted by subsequent events. Some accounts of the impacts of the green revolution in the early 1970s excoriated the technology and the policies that drove it forward. Within a decade, the evidence suggested more positive outcomes. See, for example, Orr (2012) on the case of Bangladesh.
- 10 In the case of Honduras, the 1993 census seems not to have counted farms of more than 100 hectares.

- 11 Latin America, from independence in the early nineteenth century to the 1990s, was famously a region of political instability, with frequent coups and insurrections. In most cases, however, power passed from one autocrat to another, with few changes to the governance of the country, and without substantial reforms.
- 12 In the 1960s and 1970s some social scientists were much exercised by trying to determine the underlying circumstances of smallholders. Were they independent peasants operating to a pre-capitalist logic or a special category of peasant economy? Or were they in transition, subject to the forces of capitalism, most destined to become in effect a proletariat, even if they retained their land and apparent independence; while a few would become agrarian capitalists ('kulaks') who would take advantage of their neighbours in the rural proletariat?
- 13 These debates took place about smallholders in all parts of the developing world. While the concern that changes were inequitable was understandable, in some cases the arguments were based more on theoretical positions than empirical evidence.
- In Latin America, theoretical predictions contributed to alarming misjudgements about smallholders and what they needed. In revolutionary Nicaragua, from 1979 to 1985, for example, several prominent leaders were convinced that Nicaragua's smallholders would be better off organised into collective farms – despite all the evidence that the farmers themselves wanted to farm alone, even if cooperation to obtain credit, inputs and market was welcome. They were equally sure that large farms would be more productive than smaller holdings, so they resisted breaking up the newly nationalised estates and continued to operate them as large holdings – and at a loss (Biondi-Morra 1993).
- 13 Lowder et al. have less than 13 million farms for Latin America and the Caribbean.

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