

AGRICULTURE AND RURAL LIVELIHOODS: IS GLOBALISATION OPENING OR BLOCKING PATHS OUT OF RURAL POVERTY?

Jonathan Kydd

Abstract

An understanding of the future of smallholder agriculture is critical to the design of development policies. One of the major questions regarding smallholders is the potential impact of globalisation. Addressing this question requires an analysis of past agricultural development, such as the Green Revolutions in Asia; a recognition that the developing world is globalising at an uneven pace – on some measures perhaps countries containing at least 2 billion people are not globalising at all; and a clear understanding of the technological and institutional prerequisites for participation in a globalised economy. Much current policy advice focuses on the effects of policy distortions, but inadequate attention is given to the serious, embedded, institutional deficiencies that limit many smallholder areas from taking advantage of market opportunities. These institutional deficiencies require intensive, and long-term, attention if globalisation is to offer opportunities for smallholder development.

Research findings

- *There is a current division between globalising and non-globalising developing countries, due in part to the past success of Green Revolutions in some areas and slower progress in others.*
- *In order for non-globalising areas to catch up, it will take more than simple technological advance because these areas face the problems of late entry and must confront increasingly sophisticated and demanding markets.*
- *Neoclassical economics predicts that liberalised markets will allow smallholders to advance, but the theory overlooks serious institutional deficiencies, including inadequate access to information, contractual enforcement and finance, that constrain smallholders from full participation.*

Policy implications

- *Development policy must devote more attention to reducing transaction costs in poor rural areas and to promoting local organisations that help lower these costs.*
- *Continuing investment in public sector agricultural research is required because the private sector is unlikely to address many of the needs of smallholders.*
- *Technological and institutional development are co-evolutionary, and public sector research must be reorganised to reflect this.*
- *Subsidies may be required to elicit private sector engagement in research and development for smallholders, and such support must be directed towards the entire gamut of market failures affecting smallholder agriculture.*

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Acknowledgements

The work described here emerges from a number of research projects at Imperial College, Wye supported by DFID's NR, Livelihoods and Social Science Research Programmes. These include 'Policies and institutions for pro-poor agricultural growth' (R7989); 'Diverse income sources and livelihoods in South Africa' (R7774SL); 'Interlocking transactions as market alternatives' (R6439CA); and 'Improving smallholder access to maize markets' (R7147). For further references and to download papers see : <http://www.wye.ic.ac.uk/AgEcon/ADU/index.html>

The Agricultural Research and Extension Network is sponsored by the UK Department for International Development (DFID)

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Acronyms

| | |
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| CGIAR | Consultative Group on International Agricultural Research |
| GDP | Gross Domestic Product |
| GM | Genetically Modified |
| IWMI | International Water Management Institute |
| NARS | National Agricultural Research System |
| OECD | Organisation for Economic Cooperation and Development |
| WCA | Washington Consensus on Agriculture |
| WTO | World Trade Organisation |

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1 INTRODUCTION

An understanding of the possible futures facing smallholder agriculture is critical to the design of policies to achieve the international development targets. The majority of the world's extremely poor people live in rural areas and have livelihoods which are bound closely to smallholder agriculture as farmers, labourers, transporters, marketers and processors of produce and as suppliers of non-agricultural services to households whose income is principally agriculture-derived. Furthermore, the poor in rural towns and the larger cities are often engaged in the processing and distribution of agricultural products from the hinterland. The food needs of poor urban households are purchased, except where supplemented by supplies from rural relatives, and a growing share of rural food consumption is also purchased. This makes the welfare of the poor highly sensitive to food prices. Although food prices in the areas where the poor live are increasingly linked to world markets, the availability of local surpluses also has profound effects on prices and hence access. While local surpluses depend on national commercial agriculture as well as smallholders, smallholders are often important producers of the semi-tradable foodstuffs which tend to be consumed by the poor. In summary, smallholder agriculture is presently a key sustainer of the majority of the world's poorest people, so the dynamics of smallholder agriculture ought to be a central question for research and debates about development.

In the last half-century, across the globe, smallholder development has achieved some huge successes. The South Asian Green Revolutions, a process which started three decades ago, made a direct impact on poverty and a strategic contribution to wider processes of economic development. Likewise, the three decades of high productivity growth of Chinese smallholder agriculture, following the phased introduction of market incentives, has been at the root of China's impressive record in poverty reduction, at least in its earlier stages. In zones where the Green Revolution has been profound, discussion focuses on 'post Green Revolution Challenges' which include: sustainable water use; dealing with soil problems and pest complexes with growing resistance; weaning farmers off the subsidies which underpinned the Green Revolution, notably to electricity, water and inputs, so that these resources can be switched to uses with a higher development pay-off; and allowing the evolution of tenure arrangements to enable a gradual consolidation of farms as people leave agriculture for urban or rural non-farm

employment. It is noteworthy that in India and China, the pace of market liberalisation has been determined by a domestic agenda rather than external pressure from the World Bank linked to balance of payments difficulties. Although these countries' agricultural policies are likely to be affected by international policy influences in the future, this is much more likely to come from the WTO than from any 'policy-based lending' by international development agencies.

In some other parts of the developing world, notably sub-Saharan Africa, parts of South America and drier areas of Asia, the record of smallholder development has been mixed. In aggregate, productivity growth has been distinctly lower, and, notably in Africa, there have been advances and reverses. There has been greater policy instability, partly driven by policy-based lending from the World Bank and partly due to the financial non-sustainability of previous policies. For example, in sub-Saharan Africa, from the 1960s to the late 1980s, smallholder agriculture tended to be supported by state-owned marketing services, usually the vehicle for delivering subsidised inputs and credit as well as buying produce. These were criticised for poor operational efficiency; overstaffing and corruption; and for paying low prices for outputs. The reforms have sought to liberalise markets serving smallholders by replacing these structures with competitive suppliers of finance, inputs and output marketing services. Furthermore, the international trade of these countries in agricultural products has also been subject to pressure for liberalisation, although considerable tariff and non-tariff barriers to trade are maintained.

Both the countries that experienced a Green Revolution and those that did not have faced an international environment which can be characterised by the term 'globalisation'. Globalisation is a far from precise concept, with cultural as well as purely economic dimensions. Of the economic dimensions, a key feature is increased economic integration between countries, technically speaking, a higher share of GDP being traded. A feature of globalisation is the development of 'global markets' for products based on integrated international supply chains. This has led to a degree of homogenisation across the world of consumption preferences and options, shaped by what can be sold in the lucrative markets in richer countries. Thus industries in poor countries, which desire to grow through international trade, are, by and large, constrained to operate within this framework of global products and internationalised supply chains. Another

aspect of globalisation is that it is enabled by cross-border investment flows to emerging markets, which peaked in 1996 at \$300 billion.

However, the phenomenon of globalisation is far from truly global. Whether measured by increased investment or by greater trade openness, globalisation is restricted to a relatively small number of (admittedly highly populous) developing countries. According to a recent World Bank study (summarised in *The Economist* of 2/2/2002, but based on the work of Yusuf, 2001), about 2 billion people, one third of the world's population live in non-globalising countries, a category which includes large parts of Africa, and many Muslim states. In contrast, the globalising group within the developing countries, comprises 3 billion people, including China, India, Brazil and the Philippines. While there is evidence suggesting that participation in globalisation reduces poverty, the foregoing discussion of the role of the Green Revolutions suggests that these were equally, if not more, instrumental.

In recent years the globalising developing countries have grown faster than the rich countries, and their incidence of poverty has declined. Yet, even for this group, there is presently some doubt about how much momentum there is in the process of globalisation. In the last four years (1998 to 2001) private capital flows to emerging economies have been running at only two-thirds of the level of the previous three years (1995 to 1997). Thus the mid 1990s were the high point of globalisation, and we cannot be certain that this will be bettered in the present decade.

It is likely that broad-based smallholder development has played a critical supportive in enabling poor countries to successfully engage with globalisation. Among other benefits, success in smallholder development expands domestic markets for consumer goods, stabilises food prices, gives government more confidence to open the economy and provides the means for rural people to invest in schooling. This secures a platform from which to open up to international trade and investment.

If it is accepted that in the globalising poor countries prior success in smallholder development has laid the basis for successful participation in globalisation, and that both processes have been powerful reducers of poverty, then the obvious policy questions are how to extend these processes to the non-globalising poor countries. An interesting initial point is that simply opening a non-globalised country to investment and trade may not realise the full potential for poverty reduction, as the platform of broad-based smallholder development has not been created. A deeper point, is that for the remaining non-globalising countries, smallholder development may be harder to achieve, for a number of reasons:

- (a) They often exhibit more difficult fundamental agro-climatic and/or political conditions;
- (b) Late entrants to competitive markets experience huge challenges in catching up, as early innovators have accumulated a base from which to continue to forge ahead with technological improvements, while prices for commodities (as opposed to

differentiated improved products) are likely to suffer from over-supply. The evidence can be seen in established, and possibly accelerating, long term trends towards declining world prices for agricultural commodities.

- (c) Globalisation depends critically on a 'transactions infrastructure', which comprises not only the obvious aspects of roads, harbours, telecoms etc., but also a basic understanding of the transactions supporting roles of government in setting and maintaining a minimally acceptable policy environment in terms of macroeconomic management, taxes and trade restrictions, and an institutional infrastructure of acceptable legal codes and their enforcement. The reality is that in many of the non-globalising countries, the 'transactions infrastructure' is very weak and sometimes deteriorating further. Addressing this problem is a long-term challenge.
- (d) Trends in the development of supply chains based, as noted above, on exporting to markets with the incomes levels found in the rich countries, are potentially highly exclusionary for the non-globalisers, as well as for those producers within the globalising poor countries whose footholds in world markets are not well established, and perhaps based simply on commodities. For agriculture, horticulture and floriculture, the activities in which smallholders can engage, the end markets are dominated by large retailing firms, which compete among themselves on continuing minor innovations in products and packaging, on maintaining strict quality criteria and on price. These retailer-dominated supply chains require producers to be able to:

- meet exacting quality criteria, covering such matters as size, colour, texture, pesticide residues and taste;
- adjust production volumes rapidly to meet short-term market trends;
- track minor product innovations by changing planting material, planting methods and packaging;
- keep up with cost-reducing technical progress, in a context in which the partner retailer and its competitors have multiple sourcing.

These requirements are enormously demanding in terms of information flows, capital requirements and governance and management of the system. Dispersed smallholder suppliers are at an increasing disadvantage, as they have much greater difficulties in accessing and then acting on rapidly evolving price and technical information. Furthermore, as explained below, financing smallholder agriculture is often very difficult, this being exacerbated by the current policy climate.

Another emerging trend, in which smallholders are likely to struggle to be included, is the 'de-commodification' of some traditional commodity industries. This can be seen in the production of, for example, maize and oil seeds bred to have high proportions of the component most valued by the processors, and also consistent quality in this respect. This trend is likely to be accelerated by technologies

based on genetic modification (Kydd and Haddock, 2000). There is no reason, in principle, why GM technologies cannot be developed to be appropriate to the farming conditions and markets of poorer smallholders. It is a near certainty that the bulk of R&D investment will be concentrated on technologies for highly capitalised commercial farms supplying processors whose quality criteria are both exacting and different from those of traditional smallholder markets. An important question is the extent to which GM technologies developed for large farmers will be able to spill across to smallholders with only modest modification costs. This author's guess is that many of the GM technologies introduced into smallholder farming may not be particularly tolerant of smallholder conditions, where the full input package may not be affordable, ability to absorb detailed technical instructions may be less, and there is greater reliance on direct rainfall. Early work on cotton suggests that this may be too pessimistic a view (Huang et al., 2001), but it should be borne in mind that this concerns an early GM innovation, i.e., creating insecticidal properties in cotton plants, which are producing exactly the same product, i.e., GM technology is not being used in this case to enable de-commodification.

A final aspect of globalisation is that its underlying theory is neoclassical economics. The neoclassical model, based on certain stylised assumptions, predicts that increased openness to flows of trade and capital will raise welfare in all participating countries. In the case of trade and poor countries, the key mechanism is held to be that countries will export those goods which make intensive use of their most abundant factor of production, and in so doing raise domestic demand for this factor. Thus the growth of labour intensive exports (such as smallholder produce) will raise wages and returns to self-employment in the supplying country. Similarly, capital flows from richer countries to capital starved poorer countries should put capital to work with abundant supplies of land and labour, giving higher returns than is available through investing in capital rich countries.

The logic of the neoclassical model is powerful and, as noted above, the empirical evidence is broadly consistent in that, in general terms, open developing countries have fared better in growth and poverty reduction than the non-globalisers. However, as is explained below, neoclassical economics ignores transactions costs and the importance of the institutional issues which influence transactions costs. Even in the mainstream economics debates about developed countries this is becoming to be seen as a major weakness. Recently Hall and Soskice (2001) have elaborated a framework which explains comparative advantage among rich countries in terms of their different institutional infrastructures, which are in turn based in their histories. In other words, this is a theory that comparative advantage has institutional foundations, and has little to do with the neoclassical idea of trade patterns being driven by 'factor endowments', except in the most obvious cases (e.g. Saudi Arabia exports oil).

Comparative advantage determines what a country will specialise in, both in supplying export and its domestic markets, unless underlying tendencies are overridden by strong policies (such as the agriculture policies of the European Union). Hall and Soskice's theory that comparative advantage has an institutional basis has profound implications for poorer countries, although these authors have not yet published their ideas applied to development. However, a simple carrying across of this basic idea to poor countries suggests that weak institutions may deny poor countries comparative advantage where neoclassical logic suggests strongly that it should be present. This would be due to high transactions costs due to weak institutions, as is explained in detail below. The general implication is that a necessary condition for development is the building of transactions-enabling institutions. Within this, the challenge of building institutions to support smallholder development is critical for success in the earlier stages of development, and this seems to be a precondition for successful participation in globalisation.

The policy prescriptions of neoclassical economics are a thoroughgoing liberalisation of external trade and the domestic economy to capture the gains available from trade and capital flows. The economic role of government should be limited to regulation and the supply of public goods and merit goods, both of these arguments tempered by a moderate scepticism based in an appreciation of the possibilities of government failure. As already noted, there is much to be said for a general stance of openness, but new institutional economics warns us that we cannot simply assume that markets will be 'pro-poor'. If, as is suggested by the discussion of supply chains above, smallholders will experience difficulties in accessing international markets, hampered especially in respect of information and finance, then we have to say that markets will only be pro-poor where particular institutional conditions apply. The implication is that for markets serving poor producers, we cannot automatically assume that liberalisation will be the best option for smallholders. Rather, we have to engage in a case by case examination of possible paths of policy and institutional change, and ask whether or not this will improve market access for poor producers. Thus in order to understand the potential impact and relevance of globalisation for resource-poor farmers we must first look at the nature of smallholder agriculture, and consider the specific challenges which it poses for institutional development.

2 DETAILED ARGUMENT APPLIED TO SMALLHOLDER PRODUCERS

Debates about smallholder agriculture have a long and rich tradition, stretching well back into the 19th century. This paper draws on the insights developed by these traditions by focusing on three aspects of what is new: (a) global trends in technologies and markets; (b) trends in policies; and (c) fresh analytical insights. It is best to begin by reminding ourselves of several features of the place of smallholder agriculture in economic

development:

- It is to be expected, and if development is proceeding elsewhere in the economy, it is desirable, that smallholder agriculture's contribution to GDP and employment will progressively decline;
- Nevertheless, except where the non-agricultural sector has grown rapidly over a number of years, a precipitous collapse in output and incomes from smallholder agriculture is likely to have very damaging welfare effects, and to retard economic growth, particularly pro-poor growth;
- In contemporary development debates there are a number of dominant discourses about the fate of smallholder agriculture, which cut across each other in somewhat confusing ways. These can be initially sorted into two groups:
 - (a) those which do not see a key generalisable strategic role of smallholder agriculture in poverty reduction, while admitting that there may be cases where agriculture is critical; and
 - (b) approaches which broadly accept the premises that the fate of smallholder agriculture is a central issue in poverty reduction, and that a prospering smallholder agriculture is a goal of strategic importance, even though its share of GDP and employment will be expected to decline with economic development.

The view that smallholder agriculture did not have a key strategic role in development was central to the development economics of the 1950s. The highly influential Lewis (1955) model saw smallholder agriculture as often little more than a labour reserve, from which workers could be drawn for the growing industrial and service sectors. Specifically, Lewis assumed that in the earlier stages of development labour could be withdrawn from smallholder agriculture without raising the productivity of those workers who remained. This led to the infamous notion of a perfectly elastic supply curve for labour, which implied that in the early stages of economic development, industry and non-agricultural services could grow fast, as new workers could be drawn in without raising the wage rate, because the marginal cost of labour in agriculture was unaffected by departures from the sector. For Lewis, smallholder agriculture was implicitly a 'black box', within which low productivity might be due to either extreme overcrowding and/or the weak integration into the market and non-capitalist behaviour within the sector.

The Lewis view of smallholder agriculture was comprehensively challenged by scholarship from the 1960s to 1980s, as discussed below (and for convenience labelled 'the Mellor view', although many authors contributed). But from the later 1990s, a new questioning of the strategic role of smallholder agriculture emerged within what has become known as the 'livelihoods approach' (e.g., Ellis). Influential strands within the livelihoods literature emphasise the extent of diversity in the income generating activities of the rural poor, and suggest that a prior (Mellorian) 'agricultural fundamentalism' has downplayed diversity and its policy implications. According to this perspective,

agriculture may be an important way forward for improving the livelihoods of particular groups of poor people, but it should not be 'strategically privileged', i.e., it should not be seen as necessarily a more effective path out of rural poverty than any other livelihood opportunity that appears to be available to the poor in the local environment. This view can be summarised in the words of Ellis (2000:98): 'The recognition of diversification as a widespread strategy within a livelihoods approach to rural poverty necessitates moving away with the previous preoccupation with the small farm as the sole or main platform for rural poverty reduction'.

The counter view to Lewis, i.e., that smallholder development is normally strategically indispensable, had become conventional wisdom by the 1980s, held to have been empirically validated by the Green Revolutions, which had happened or were underway in major parts of South and East Asia. Mellor (1976) explained the various ways in which broad-based agricultural growth stimulated non-agricultural growth, thereby achieving a vigorous and potentially fairly equitable pattern of growth. Lipton (1977) was among the first to tackle the political economy aspects of this, explaining that the systemic effects of smallholder development on economic growth and poverty reduction could be much stronger if governments were to correct for 'urban bias'. Features of urban bias included much higher government spending per capita in urban areas and policies which manipulated the terms of trade against farmers and other rural producers. Lipton's general arguments stimulated much technical work in agricultural economics, which sought to identify and quantify sources of urban bias, and gain insights into the underlying political economy.

An important aspect of the 'strategic role of agriculture' view is that the promotion of smallholder agriculture is a 'win-win' strategy, because smallholders are an *efficient* user of resources (for example, compared to commercial agriculture) and also an *equitable* approach, as it increases returns on assets held by poorer people, and puts foodstuffs and cash income directly into the hands of the poor.

The *efficiency* argument goes back to the Nobel Prize winning work of Shultz (1964), whose discussion of 'penny capitalism' argued that poor allocated resources carefully, i.e. their low incomes stemmed from a low asset base, not from failure to use resources efficiently and maximise market opportunities. An important overlay on this argument was provided by, for example, Griffin, Lipton, and others who argued that policy distortions made items such as machinery and agricultural finance artificially cheap, lowering costs for relatively capital intensive commercial farms compared to smallholder farms, and consequently suppressing and disguising the underlying efficiency of smallholders. The policy implications are that the full benefits of efficient smallholder farming would only be realised with the removal of these distortions. This view underpinned a line of argument within the liberalisation debates of the later 1980s and the 1990s,

much used by the World Bank: that much reduced government intervention in the economy as a whole, and even in some aspects of agriculture, would likely have positive results for smallholders.

The *equity* argument is based in the obvious point that smallholders include many of the poor, and so direct gains by smallholders are equivalent to direct gains by the poor. In addition, smallholder agriculture may have stronger linkage effects on other categories of the poor than commercial agriculture or, indeed, most other economic activities which might form the basis of growth. These linkage effects include: (i) direct upstream and downstream linkages, i.e., the sale of inputs to farmers and the processing and marketing of outputs; (ii) labour market linkages, as prospering smallholders are more likely to employ extra labour, rather than replace labour with machines; (iii) consumption linkages, as farmers will spend a relatively high proportion of their extra income on locally provided products and services (e.g. building expansion and maintenance); and (iv) investment linkages, as smallholders invest in such areas as children's schooling, housing, land improvements and tree planting.

A weakness in the 'win-win' argument is that it gave insufficient prominence to market failures and focused instead on policy distortions. Essentially, the huge strategic potential of smallholder agriculture was seen as being held back by: the factor already identified, e.g. government policy distortions which artificially lowered input prices (and sometimes raised output prices) to more capital intensive sectors, e.g., commercial agriculture and other non-agricultural activities, while the predominant labour intensive sector, smallholder agriculture, faced relatively high input costs and, sometimes, artificially depressed output prices. The depression of output prices resulted from either state marketing monopolies and/or exchange rate overvaluation. Overvaluation turns the internal terms of trade against traded goods and services in favour of non-traded goods and services. Smallholders may suffer more than most sectors because their output is predominantly tradables or semi-tradables, but their high labour intensity means that they make little use of traded inputs. Of course, it was also argued that government needed to support smallholders through technology research and extension.

While for many years there has been an awareness of market failures in poor rural areas, fairly recent developments in new institutional economics have helped in describing their causes, and therefore have assisted in thinking about how 'structural' these may be, and what autonomous developments or government interventions may be necessary to remove them. The immediate point here is that if market failures are in some sense structural or embedded, then this must challenge policies which assume that smallholder development will take off simply from the removal of policy distortions and marketing monopolies, plus improvement in the quality and focus of research and extension. As is explained further below, work in a new institutional economics framework argues that structural market failures may be overcome through an

incremental co-evolutionary process of economic development (which erodes the underlying conditions causing the failure) and institutional development (i.e. new rules of the game). The starting point is likely to be production systems based on technologies with limited market linkages and apparently crude (archaic) institutional forms (e.g. sharecropping) – see Dorward, Kydd and Poulton (1998).

What the present author and Andrew Dorward (2001) have described as the Washington Consensus on Agriculture (WCA) essentially accepts the 'win-win' view as the premise for policies. To only slightly caricature the policy implications of this view (set out in the case of the World Bank by Anne Krueger – now of the IMF): smallholders face huge opportunities to supply domestic and international markets, but are held back by: (i) economy-wide domestic distortions (especially in the foreign exchange, credit markets and national trade policies); (ii) price suppression through state marketing monopolies for outputs and inputs; (iii) highly distorted international markets for agriculture, stemming mainly from the protectionist policies of most OECD countries, supplemented by some quite heavy industry-specific protection by certain developing countries. The WCA view is that all three policy agendas need to be tackled, but that substantial progress can be made simply by tackling (i) and (ii), with the hope that (iii) will be gradually corrected through the process of negotiating WTO rounds.

To unpack the arguments about the structural nature of market failure requires a detailed understanding of the challenges of contracting (i.e., of doing business) developed at a general level by North and Williamson, and applied to poor rural areas by, for example, Stiglitz (1986), Bardhan (1989), Jaffee and Morton (1995), Dorward, Kydd and Poulton (1998). The overall perspective is that *transactions* activities (doing business) should be given equal prominence in economic analysis as *transformation* activities (making or growing things), because without transactions, only very basic transformation can occur (inputs cannot be obtained, and output cannot be traded).

A fundamental weakness in the classical tradition in economics, and both its neoclassical derivative and Marxian partial-derivative, is that there is weak analysis of transactions. Neoclassical analysis has tended to ignore transactions costs, or to treat them simply as a form of production cost. Marxian analysis has seen transaction activities as unproductive, and has principally been concerned with analysing these as a means to structuring power relationships and thus facilitating unequal exchange or surplus extraction.

In contrast, new institutional economics stresses that contracting entails a number of specific problems and that institutions (rules of the game) are organised partly as responses to these problems, and partly (here converging with the Marxians) as a means to rent extraction where power relations are unequal. The specific problems of contracting include: *searching* for possible counter-parties with appropriate characteristics (in terms of ability to supply, prices, reliability etc); *screening* counter-parties for the desired characteristics;

measuring what is to be exchanged (in terms of quantity and qualities); *structuring* the deal to maximise the chances of satisfactory performance; *monitoring* performance of the contracting parties; and, finally, *enforcing* the contract where there has been alleged non-compliance. All of these challenges demand *information* in abundance, and the structuring and enforcement aspects work best when supported by effective tribunal processes, backed up by legal and/or social sanctions.

A key cause of market failure, or very weak markets, in rural areas is that the costs of the information needed to make effective contracts are prohibitive in relation to the potential benefits of the contract. This consideration is exacerbated where contract enforcement mechanisms are missing, as extra reliance has to be made on the personal characteristics of the counter-parties, i.e., more time has to be put in to assessing their reliability if subsequently there are no reasonable prospects of taking them to court for failure to perform. Thus in a weak legal environment, more complex contracts (e.g. credit, as opposed to buying some tomatoes on a spot market) are typically based on extended personal contacts between the counter-parties, and this much reduces the possibilities for rapid expansion of a particular transactions activity.

Institutions (in the framework of new institutional economics) are rules of the game which have been devised to govern transactions, and it is obvious that the lower the transactions costs then: (i) the less the likelihood of market failure; and (ii) the greater the benefit to the counter-parties of the transaction. Thus a development-enhancing path of institutional development will be one of progressive institutional innovations which reduce transactions costs. However, a key point of North (1990) is that we cannot assume that the path of institutional development will be transactions cost reducing. Powerful interests may wish to restructure institutions with the objective of serving their own short term interests, which may be achieved by increasing transactions costs through such devices as monopolies, taxes and other restrictions on contracting. For North, the overall process of economic development is powerfully influenced by the interplay among sections of the elite, i.e., between those who see their long-run interests lying in the promotion of transactions cost-reducing institutional innovation, and those who wish to retain, deepen or devise new rent-extracting institutions.

A key insight of Williamson (1985) is that economic activity is organised either through markets or hierarchies (such as are found in private firms and in public services). Market relations are based on contracts, in the general sense of the term. Hierarchical relationships are often sanctioned by contracts (e.g. contracts of employment) but work on a day to day basis through individuals being prepared to accept and act on 'reasonable' orders issued by their superiors. Both forms of organisation have advantages and drawbacks. In market transactions, there is usually greater clarity about the exchange, but sometimes very high transactions costs in relation to the value created

by the contract, and also considerable inflexibility, resulting from the requirement to specify exactly what is being exchanged. Hierarchies are, in some ways, more flexible modes of organisation, as individuals within a hierarchy are supposed to get on with executing 'reasonable' commands, without such detailed specification of quantities, prices etc. On the negative side, there are major supervision and enforcement problems in hierarchies. While competition is often found within hierarchies as a tool for promoting hard work and innovation, this may be ultimately less effective in this regard than inter-firm competition. In Williamson's view, in a liberal society where government does not impose a pattern (as was the case under Soviet style socialism, based entirely on hierarchy with what turned out to be, ultimately, insupportable supervision and enforcement methods) the frontiers between market and hierarchy will fluctuate, affected by the pace and direction of institutional and technological innovations.

To summarise the argument so far: smallholder agriculture is constrained by its organisational form to be distinctly more market than hierarchy. Tendencies towards concentration, which would essentially mean the end of smallholder farming, are often held back by social institutions such as usufruct tenure, sometimes supplemented by formal legal provisions to discourage farm amalgamation. In the last half-century, different institutional models have been tried to wrap types of hierarchy around what remains essentially a mass of decentralised small units. These include: (i) Tanzania's ujamaa experiment; (ii) state, or state sponsored co-operative, supply of input and output marketing services; (iii) contract farming of cash crops such as sugar and cotton, under which a single company supplies inputs and purchases outputs; (iv) irrigation schemes, whereby farmers may receive subsidised water, but are required to plant at least some of their land to crops specified by the scheme management. At present, with the exception of contract farming and perhaps independent farmer organisations, none of these approaches are sanctioned by WCA theory, which quite explicitly advocates an institutional model for smallholder agriculture based on minimal hierarchy, i.e., independent and competitive contracts between smallholders and numerous independent suppliers of finance, of inputs and purchasers of produce. State involvement in provision of marketing services to smallholders is strongly disapproved of under the WCA. In those states which have required extended balance of payments support from the Washington Institutions (e.g. most of sub-Saharan Africa, but not India or China) moves towards dismantling state marketing have often been a loan condition.

There are grounds for doubt whether the implicit WCA path for smallholder development is feasible in areas of poor smallholder farming. Output markets may work tolerably, in the sense that crop surpluses will generally be purchased if placed for sale in a local market. But financial markets for inputs are very problematical: lending for agriculture involves accepting climatic, pest and price risks, all to borrowers who

have little or no collateral. As noted earlier, lending based on personal relationships is an alternative to collateral, but it is expensive in lender time, with tight limitations of capacity to expand the number of borrowers per lender. With weak or absent markets to finance inputs, farmers have to rely on financing from non-farm enterprises, remittances, asset sales etc. The problem is greatest in areas of unimodal rainfall (unfortunately the environment of many of the world's poorer rural areas) where it is more difficult to develop off-season farm enterprises to generate cash to pay for inputs for the next season.

With weak financing of inputs, it may be expected that input markets will be anaemic, with low density of outlets, limited stocks, low competition and high prices. As noted earlier, contract farming for certain cash crops may provide a solution, working because the provider of finance is able to recover this through the price paid for purchasing the crops. Furthermore, financing of a cash crop may indirectly allow for some inputs to be applied to food crops. However, the contract farming model depends on the presence of quite demanding conditions, in particular, an assumption that the supplier of inputs has sufficient power (e.g. through a local monopoly) to force the farmers to sell produce via themselves, in circumstances where opportunistic buyers may appear and offer a higher price.

This leads to the conclusion that solutions will have to be found through institutional models beyond current WCA thinking. This is likely to involve more hierarchy and less competition than is conceived of by the WCA. We may need to envisage quite large service providers, achieving economies of scope through the provision of inputs and outputs. They would likely reduce their own risks to exposure to smallholder default on contracts through a degree of local monopoly, which entails the possibility of exploiting farmers. With reduced competition, system performance will have to be assured by additional governance mechanisms. Models could include a 'technocratic' regulator approach, with the regulator given a substantial degree of day to day independence of political direction. Additionally, or alternatively, there could be supervisory boards with representatives of farmers and other stakeholders.

3 IMPLICATIONS FOR RESEARCH AND EXTENSION

It is widely accepted that private profit motivated agricultural technology companies are not strongly attracted to the development of technologies appropriate to, or inclusive of, smallholder farmers because they do not represent a major market, especially in non-Green Revolution poor countries. The problems include the poverty of smallholders, their semi-subsistence orientation and agro-ecological heterogeneity. For many years, solutions have been proposed which would use government subsidies to encourage technology companies to engage with smallholders, and a recent contribution in this area has been made by Kremer and Zwane (2001) which has stimulated significant donor activity. An institutional

perspective identifies an additional gap in this area, which is that appropriate transactions cost reducing institutions need to evolve in tandem with technological development.

The key implication is that institutional development and technological development are both necessary for smallholder agriculture to play its strategic role in poverty reduction. The larger scale private sector has a very important role, as it has in technology development, and subsidies should be offered for a package of institutional *and* technological developments. Kremer and Zwane's work, and the policy and institutional development implications that follow from it, are narrowly focused on one (very important) market failure, that for technology development. Yet market failure issues surrounding smallholders are much broader than this. In other words, while it would be a great achievement to bring in policy and institutional changes which would stimulate the development of technology appropriate to poor farmers, the potential of this achievement will not be well exploited unless other market failures, e.g. in agricultural finance, are addressed. The conclusion is that we should have a much broader view of how to act against market failure. While it makes sense to temporarily subsidise the private sector to overcome market failure (with safeguards), subsidies should be for effective delivery of components of the larger package of institutional developments that are required.

There is much dissatisfaction with the effectiveness of public sector agricultural research in poorer countries, notably within the non-Green Revolution, non-globalising group which contain 2 billion people. There are voices questioning whether governments and development agencies should give up on public sector agricultural research, this thinking being motivated by views that: (a) the strategic role of agriculture in poverty reduction has been greatly exaggerated and therefore it is preferable to use research funds to back mainly non-agriculture-based livelihoods as routes out of poverty; and/or (b) 'globalisation and liberalisation will ride to the rescue', i.e., by connecting technology companies to small farmers, the former will start focusing on the latter as an important market segment. In contrast to these views, it is argued here that smallholder development is strategically important to the earlier stages of successful poverty reduction, especially for the poorer non-globalising countries, yet globalisation may hold limited prospects as an avenue for development, due to pervasive market failures, and unhelpful evolutions in rich country consumer demands and supply chains.

The implication of these comments is that it would be a huge mistake to cut public sector agricultural research on behalf of smallholders. It is funded because of real market failures, which globalisation will not sweep away. Rather, the issue is to find a way of making agricultural research in poor countries more successful. Presently the main approach to this is to tackle governance and process (e.g. Biggs and Smith, 1998) which is, undoubtedly, an important avenue of attack. But an implication of this discussion is that public sector

agricultural research in poor countries needs to engage in institutional research and development, in the new institutional economics sense of this term. This is to be understood not just in the limited sense of 'innovations systems theory', which is largely concerned with the organisations which are lobbying for or carrying out research, but in the sense that research should have strong institutional content, i.e., that it should seek, design and prove institutional innovations which tackle market failures and weak markets by reducing transactions costs. As noted above, technological and institutional development are co-evolutionary, and so public sector research should reflect this by ensuring that institutional research is closely linked to technological research.

If institutional research, focused on enabling and reducing the cost of transactions, is to become a major strand in public sector agricultural research, then huge changes will be necessary, both within the NARS and the CGIAR system. One CG centre which is trailblazing in this respect is the International Water Management Institute (IWMI), which is making institutional development a major cross-cutting theme in its research work.

4 SUMMING UP: UNDER GLOBALISATION SMALLHOLDER AGRICULTURE IS LOCKED IN AND LOCKED OUT OF THE MARKET

The overall narrative here is that we should not be too optimistic that globalisation and liberalisation will catalyse the development of smallholder agriculture, although, in non-Green Revolution developing countries, smallholder agriculture potentially has a massive strategic contribution to make to poverty reduction. Taking the argument a stage further, a successful Green Revolution provides a strong platform from which poor countries can engage with globalisation. The globalising group of developing countries, in which poverty rates are now falling quite sharply, are largely those in which a Green Revolution has occurred.

For the pre-Green Revolution countries, it has been argued that both policy trends (liberalisation) and autonomous developments in technology and supply chains (globalisation) may have made the achievement of broad-based smallholder development more difficult. However, the stakes are too high to give up on smallholder development, given that in the non-globalising poor countries alternative avenues out of poverty are often extremely limited. As Reardon (1997, 2000) has perceptively observed, rural livelihood diversification away from agriculture has often involved poor people crowding into a competitive sub-sector supplying a limited market. The consequence is that returns to labour in these sub-sectors, already low, falls further.

If the struggle for smallholder development under globalisation remains a key strategic objective, it needs to be informed by new theoretical perspectives. The central dilemma can be expressed in the phrase that smallholders are simultaneously 'locked in and locked

out of the market'. They are 'locked in' because:

- (a) smallholder agriculture as a form of economic organisation is intrinsically a non-hierarchical form, in the sense that farmers are not workers on large farms taking orders from superiors. (This is not to deny that smallholders are often politically marginal with a subordinate role in the political economy, which is a central point of the 'theory of peasantry', but simply to point out that they are not farm labourers, and that they have to manage small businesses and transact in a variety of markets).
- (b) Thus individual poor farms, with little or no collateral, have to depend on market relationships to supply inputs and finance as well as to sell output. Often this means that transactions costs are in excess of the potential benefits of the transaction, and therefore there is market failure. Solutions have to be found in organisation forms connecting to farmers, which are based on a degree of hierarchy. A traditional solution is sharecropping, and a more modern equivalent is contract farming and other smallholder cash crop schemes. In the last century, communist forms of organisation of agriculture replaced independent producers almost entirely with hierarchy, whereas non-communist development models for smallholders also emphasised hierarchy, although in a less complete and stifling form, e.g., state marketing organisations. Yet in the present era, liberalisation, which can be characterised as the dominant theory about how to enable globalisation, is unreflectively anti-hierarchical, notably in its WCA variant, which has become a major influence within poor countries.
- (c) In summary: the fundamental conditions of smallholder agriculture lock it into the market, while the dominant theory informing policy advice from rich to poor countries is antipathetic to the idea that smallholders need to be connected to hierarchies. Thus the WCA model of independent, competitive suppliers serving the different markets in which smallholders must contract is unhelpful in dealing with market failure, if services are really constrained to take this organisation form, smallholders are locked out of the market.

5 POLICY CONCLUSIONS

This examination of the nature of smallholder agriculture and the process of globalisation leads to several significant policy conclusions.

- (a) Transactions cost reducing development must be taken much more seriously as a central objective of development interventions. This will involve accepting and understanding those hierarchical organisations which may be encountered in poor rural areas of countries and which look, to a rich country observer, to be a non-standard organisation form, largely because they are based on private or public monopoly.
- (b) Market failure (and poverty targeting) arguments for public sector agricultural research in poor countries remain as strong as ever, as globalisation is unlikely to stimulate increased private agricultural

research appropriate to smallholders.

- (c) It must be more widely recognised that technological and institutional developments are co-evolutionary. Public sector research must be reorganised to reflect this, by ensuring that institutional research is closely linked to technological research, and in both cases involves extensive field trials.
- (d) Private sector engagement in research and development and marketing to small farmers is critical, and deserving of public subsidy. But the subsidy should not simply address the issue of market failure in technology research, but also the entire gamut of market failures affecting smallholder agriculture.

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