

OXFAM
RESEARCH
REPORT

The Missing Middle in Agricultural Finance

*Relieving the capital constraint on smallholder
groups and other agricultural SMEs*

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Disclaimer

This paper was written by Alan Doran, Ntongi McFadyen, and Robert Vogel who were working as consultants to Oxfam GB. The views expressed in the text and its recommendations are those of the authors. The authors take responsibility for any errors herein.

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Executive summary

Addressing costs and risks to improve capital supply

So far the private sector has made only small progress in responding to the needs of, and opportunities in, the market segment of small-scale agricultural enterprises, after the widespread withdrawal of the paradigm of government funded and controlled agricultural development. The unmet needs for finance of producer associations and other forms of SMEs (small- and medium-sized enterprises) in agriculture, for transactions in the size range £5,000 to £500,000, constitute the missing middle. The crucial issue is how to overcome the barriers to scaling-up the private sector's response.

Rural households typically adopt a diversified strategy for survival – including non-agricultural activities – making microcredit, offered in tiny amounts and over short terms, a financial product that can be viable in terms of costs, risks, and returns. By contrast, small- and medium-scale agricultural activities are exposed to a narrower range of crop, market and other risks, including those internal to the business. Appraising and monitoring loans to SMEs requires analysis of all aspects of the enterprise. Because loans are larger and longer-term, lenders also require collateral or other more formal guarantees. Transaction costs are thus much higher. These costs can be recovered from interest rate margins and fees but only if loans are large enough. In many cases, agricultural SMEs are too small to absorb this quantity of external capital; hence the missing middle.

Equity investors need higher returns to compensate for the higher costs and risks in primary agriculture. Up to now, nearly all other sectors have been much more attractive, even for socially-oriented funds.

Transaction costs for lenders and investors, as well as some risks, will diminish with improvements in the infrastructure of the financial sector. A complementary approach is to extend the use of collateral substitutes such as leasing, factoring, and contract finance.

Local lenders, whether commercial banks, rural financial co-operatives, or larger microfinance institutions (MFIs), have the advantage of knowing the immediate business environment for SME agriculture, but may find it hard to diversify risk. Even then, they need access to affordable external liquidity for survival during the inevitable bad times in their localities.

The promise of index-based weather insurance as a mechanism for transferring and pooling risk is large, and expectations are high. However, the difficulty of obtaining data is underestimated, the lead times are long, and the affordability is in question. Climate change is steadily increasing risk, reducing the scope of the insurance approach.

Nationwide lenders, including larger commercial banks and agricultural development banks, are better diversified – the latter to a lesser extent – but often lack systems for effectively delegating decisions to local rural branches. Many agricultural development banks need substantial reform in this and other respects before they can make a strong contribution.

Government imposed interest-rate ceilings and subsidised interest rates should be avoided: they usually result in rent-seekers or other larger-scale borrowers capturing the limited credit available, and are inherently unsustainable. Crucially they also crowd out sustainable private-sector initiatives.

Risk-sharing, through partial credit guarantees, is a more promising approach, since it works with the grain of the private sector. It encourages commercial banks to enter the

market for longer-term finance for enterprise development. The new generation of guarantors include powerful philanthropic foundations, international finance institutions, and banks with a special interest in agricultural development, such as Rabobank. Their contracts with banks have features that should produce outcomes better than those of historic government guarantee funds.

Because the pay-off is so much more certain than intervening directly in the market for finance, and the goods and services supplied are public goods, government and donor resources are better directed to supporting infrastructure improvements, both for the financial sector and outside it.

Releasing effective demand

As well as supply, effective demand for missing middle finance is also constrained. Only one third of smallholders are aggregated in some form of group enterprise, appropriate for larger transactions. Individual farmers with more land, employing labour, will not take on the risk of debt, unless they have access also to savings and insurance products. Formal collateral is frequently lacking.

Women farmers suffer from educational discrimination, limited mobility, lack of land rights, and restrictive social norms. They are virtually excluded from agricultural credit and extension services. This is despite heading up one in five farms, and being capable of achieving gains in productivity as large, if not larger, than men farmers.

Producer associations of both women and men often lack organisational capacity, a business culture, and specific finance-management skills, making them unacceptable as potential borrowers or investees.

A range of (mainly) non-profit actors offering technical assistance, often bundled with brokering access to external finance, or actual financial supply, is addressing these constraints. It includes specialised business development NGOs (non-government organisations) and bank-linked foundations. However, these efforts are usually focused on easier market segments involving high-value export commodities or Fair Trade goods, and relatively large transactions.

Poverty-focused NGOs such as Oxfam are also making a contribution through capacity building of very small co-operative businesses and introducing them to finance suppliers. This is an element of livelihoods programming, often working with disadvantaged women in remote areas.

Much of the external capital is required to finance fertiliser; other chemical inputs; irrigation and spraying equipment; and costly seed varieties in order to raise yields and incomes. A knowledge-based LEIT (low external input technologies) approach can also raise productivity, but often more slowly. Apart from needing less capital, it can be better for the environment, including climate change mitigation and adaptation, and for social development. On the other hand, LEIT agriculture requires efficient delivery of education and extension services, itself a major challenge. The existence of the LEIT alternative is a reminder that maximising the application of capital, or the effective demand for it, is not always the correct approach, and can exaggerate the size of the missing middle gap.

Improving infrastructure – financial and non-financial

Collateral contracts are the normal accompaniment to lending. Therefore changes in the regulatory and administrative environment, allowing more flexibility; ease of operation; and lower costs are important. Among these are the availability of independent services recording legal ownership of items and their location; working markets for land in rural

areas; allowing collateralisation of debts owed to the enterprise; crops in various stages of processing; and personal property such as jewellery.

For all types of finance, the availability of credit history reduces the lender's risk. Thus credit information bureaux are valuable, and can be made, with the right regulations and incentive structures for financiers, to cover the smallest loans in rural areas.

Bank reluctance to lend to SMEs will be lessened if risk-based supervision replaces the traditional, inflexible approach based solely on the presence of correct documentation, resulting in inaccurate and excessive provisioning. The new basis means assessing a lender's ability to manage risks systematically, in particular the risks that come from the challenges of diversification over new sectors and from the delegation of decisions to local levels.

Local financial suppliers, such as small commercial banks, rural financial co-operatives, or larger MFIs can benefit from apex organisations or their equivalent, as centres to their networks, which can diversify risk and provide emergency liquidity. Donors and governments can make further contributions to institutional strengthening of this kind.

There is more to be done by national governments, supported by multilateral donors, in reforming national agricultural development banks, which may or may not benefit from privatisation.

Electronic and mobile technologies, which are improving the infrastructure for financial transactions in rural areas, need to be extended beyond household needs to meet more SME requirements.

Non-financial physical infrastructure – water supply, roads, power, telecommunications, schools, health posts, and so on, is usually relatively neglected in rural areas, which obviously weakens farming at all scales as well as all other rural economic activities, including financial services. This is a local government responsibility, though judicious donor support in the form of technical assistance and partial funding can obviously help.

Extension services, and educating farmers about business, are also good candidates for government budgetary support, though delivery models can vary. Another high priority for government within non-financial infrastructure is the sponsorship of local, participative agricultural R&D (research and development).

Combining aggregation, market linkage, and finance

Aggregating smallholder agriculture clearly improves access to markets but the financial constraint often remains. Risks and transaction costs are still high in relation to expected returns. Finance along, or linked to, tightly-integrated and hence lower-risk value chains, may be valuable, but cannot meet the needs for finance of all smallholder farmers, most of whom are not in any organised group.

Moreover, value-chain finance has so far been mainly concentrated in higher-value export crops or commodities, rather than in staple food production for local or regional markets. External finance, provided directly, can also better preserve the independence and diversification of the primary producers, and encourages the development of local financial institutions.

The most common form of aggregation is the producer association. Other aggregation and market-linkage models, such as the hub-outgrower model and various forms of contract farming, offer an alternative to individual farmers, both those on family plots, and more commonly those with larger landholdings, that want to remain more independent. Again, some of these are focused on international markets, but others are combining local food production and export crops. External finance is sometimes present

as a component in these arrangements, leveraged in by the reduction in risk brought about by market linkage.

Concerted and multiple actions required

This paper seeks to show that while the reason for the missing middle is fairly straightforward, eliminating it requires a multi-track approach to match the complex pattern of demand, supply, and infrastructure features.

Setting up new institutional arrangements or intermediaries to divert scarce public or donor capital always adds costs, and does not in itself reduce risk, or increase returns. The possible benefits of this type of response, often put in the category of learning, or demonstration of viability, need to be carefully assessed against the danger of duplication of similar initiatives and the opportunity costs for all players involved of employing the resources in this way.

Many of the promising initiatives aimed at reducing the missing middle finance gap rely on combinations of actors, playing to their respective strengths. The common theme is working with the grain of the private sector to remove frictions of various kinds, thus improving the balance between risk, cost, and return. In this way, scale should be achieved. A number of initiatives cited in the paper are reviewed below:

- NGOs with a financial focus and a business development culture often have a crucial role, at least in the early stages, creating linkages and networks among financial suppliers, women and men producers, buyers, and other service providers;
- multilateral donors can be key sponsors of financial sector reform programmes working with national governments and central banks. Reforms can focus on specific institutions such as agricultural development banks, on better regulation, on improvements to financial infrastructure, or on stimulating competition in rural finance;
- donors and international financial institutions (IFIs) have pump-primed innovative financing mechanisms, such as warehouse receipts and leasing;
- alliances have been struck between commercial banks and non-financial distribution networks: for example, of irrigation equipment or mobile phone services;
- socially responsible investors of various kinds have been important in Fair Trade transaction financing, either working directly or in conjunction with banks. There are a few examples of business development investment in activities closely linked to primary agriculture;
- foundations and socially-oriented banks are offering partial and temporary guarantees on a commercial basis, sometimes working with other risk mitigation mechanisms, in order to encourage commercial banks to take the small-scale agricultural sector seriously as a profitable market segment.
- poverty-focused NGOs have explored the possibilities of building capacity in women's and men's smallholder groups, and other small-scale producer associations, in remote and difficult locations and then brokering linkages to formal sources of finance to support livelihoods.

Continuation of these and other efforts will be needed, as well as careful and independent evaluations of what works and what does not, if progress to solving the missing middle gap is to be maintained and indeed accelerated.

1. Introduction

New global forces – the economic downturn, a food crisis, and climate change – are driving a renewed interest in ways to improve the productivity of smallholder farmers in developing and emerging economies. More than two billion women and men work on smallholder farms and most live on less than two dollars a day.¹ Smallholder farmers can be efficient producers on a per-hectare basis.² However, limited capital for investment; exposure to risks such as weather; unreliable markets; and market price fluctuations, as well as imperfect knowledge of sustainable approaches and technologies, mean most smallholder farmers are not optimising potential returns.

Investment in agriculture is believed to pay off in terms of poverty alleviation; food security; and national economic development. Studies show that growth generated by agriculture, if it is appropriate in terms of capital intensity, can be up to four times more effective in reducing poverty than growth in other sectors.³ Improving the productivity of small-scale farming has the most potential to achieve this growth. If this can be done in a way that is congruent with soil-carbon sequestration, there is also a huge potential for CO₂ abatement.⁴

Three-quarters of the world's 1.4 billion extremely poor people live in rural areas. Farming, given its labour intensity, creates accessible employment for large numbers of people of varying skill-levels.⁵ Increasing the returns to land raises the value of one of the few assets of the rural poor as well as improving food security for families. Increasing the absolute contribution to food supply from small-scale agriculture is also critical for meeting global food demand. This is projected to rise by 50 per cent by 2030, presenting new income-earning potential for smallholders and viable investment opportunities for capital providers.⁶

However, this market segment suffers from huge underinvestment. For example, less than 1 per cent of commercial lending in Africa is going to agriculture.⁷ There is an urgent need to improve the flow of finance, particularly for larger, individually-owned farms and for enterprises that aggregate the capacity of smallholder farmers, where productivity gains can be more easily achieved.

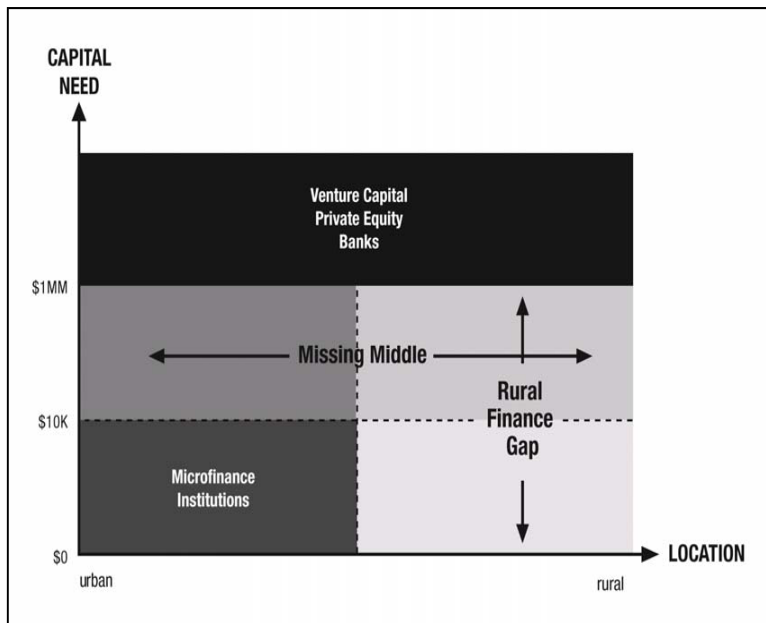
In the 1970s and 1980s, the solution was seen as large-scale state-funded programmes, delivered through government-owned institutions – usually agricultural development banks – often accompanied by subsidies to end-users. Marketing boards or their equivalent providing guaranteed prices, and sometimes extension services, were another common element. This approach fell out of favour during the 1990s in the international policy climate of market liberalisation, and is generally agreed⁸ to have suffered from huge inefficiencies, high costs, and frequent failure to provide adequate benefits to small-scale farmers. Many such structures and accompanying programmes have been dismantled, sometimes as a result of conditions imposed by IMF (International Monetary Fund) bail-outs.

So far, however, the private financial services industry has made limited progress in replacing the old paradigm by responding to the financial needs of small-scale agriculture and seeking out opportunities to improve existing services; develop new ones; and generate additional revenue. The gap in the financial landscape known as the missing middle remains a major challenge. The data is unavailable to quantify it even on a country level, let alone globally, but there is a consensus that the missing middle is a substantial and persistent problem.

The term is applied to small- and medium-sized enterprises (SMEs) in general, and refers to the lack of capital appropriate for their risk profile and available in the amounts they need. The loans or investments sought, typically in the range £5,000 to £500,000 for start-up or expansion, are generally too small to attract mainstream banks and private equity

groups and too large to be met by microfinance institutions. Recently there have been moves by organisations working to tackle the gap to ‘rebrand’ this market segment to show it in a more optimistic light: SMEs are now also being referred to as ‘small and growing businesses’ or ‘grassroots businesses’.

Figure 1: Rural finance gap and the missing middle



Source: Practical Action Publishing.⁹

Agricultural SMEs are one segment of the broader SME market and their missing middle is just one part of the overall rural finance gap. This paper is concerned with commercially-oriented, small- and medium-scale farming businesses. Some are larger privately-owned firms employing women and men workers, others group smallholders in collective production and marketing activities. The aggregation process can move families working small plots, typically under two hectares, from household subsistence production to surplus farming for markets. To attract external finance, these businesses need organisational cohesion and management capacity, especially in financial and business planning.

The main activity focused on in this paper is the primary production and marketing of crops and livestock. The financing of SMEs specialising in downstream activities, such as processing and agro-industry, is not excluded, though the gap for them is less serious because of their more favourable risk profile. The paper does not specifically cover other rural enterprises, although their importance in the rural economy is well-understood.¹⁰

Organisationally, enterprises range from informal associations, through traditional co-operatives, to privately-owned businesses providing employment for primary producers. There are also hybrid structures that combine the features of member-based co-operatives and private companies.

Geographically, the paper has no specific regional focus, and draws examples from many countries. A useful global perspective on agriculture is the tripartite one adopted by the World Bank.¹¹ The first category is agriculture-based countries: these have a large share of GDP (gross domestic product) in agriculture and most of their people in poverty live in rural areas. It includes most of sub-Saharan Africa. In ‘transforming’ countries, most economic growth is in non-agricultural sectors, but poverty remains overwhelmingly rural. This covers most of Asia, the Middle East and North Africa, as well as parts of Europe and Central Asia. Finally, urbanised countries: these are mostly in Latin America

and some parts of Europe and Central Asia, where much poverty is urban and agriculture may be dynamic but is a small share of total GDP.

It is important for potential lenders and investors to understand the barriers to both effective demand and supply that constrain the impact and expansion of SME agricultural finance. Equally, it is important to see how diverse and flexible financing models coupled with complementary business support services are beginning to address the capital, risk-management, and cash-flow needs of SME agricultural enterprises. This paper:

- provides a formal analytical explanation of the supply-side phenomenon of the missing middle;
- examines the constraints holding back effective demand for finance from smallholders;
- surveys the sources of supply of finance and the constraints preventing their reaching the segment;
- highlights how financial- and risk-management services from private, public, and philanthropic sectors are evolving to narrow the gap, providing examples of models being tested that benefit smallholder farmers;
- identifies improvements in the infrastructure supporting the financial sector, which are improving or could improve the function of agricultural finance markets;
- reviews the responsibility and opportunity for the private finance sector given by the missing middle;
- concludes by summarising the main findings and themes of the paper, in particular the pathways along which the competitiveness and reliability of markets for small-scale agricultural finance can improve and hence reduce the missing middle.

2. Why the middle is missing

The observation is widespread that there is, indeed, a missing middle, that is, that loans (and equity investments) are rarely provided in the size range between where micro-lending ends and where large-scale corporate lending begins. Moreover, this is true for urban as well as rural areas, so that it is important to understand the general reasons before delving into the peculiarities of rural finance. It is also important to recall that before the expansion of sustainable micro-credit in the 1990s, all lending by formal financial institutions was largely at the upper end, with those at the lower end being served by informal finance, if at all.

The next step in probing why the middle is missing is to understand the guiding principles that have made micro-credit, or at least a part of it, sustainable. The first key point is that the 'micro-entrepreneur' (like the small-scale subsistence farmer to be discussed below) must be diversified to deal with risk in order to survive; what is crucial for a lender is the family's overall cash flow rather than the specific performance of some 'micro-enterprise'. An important corollary of this is that it is a waste of lender resources to try to monitor closely the performance of this enterprise or even how borrowed funds are used because, in any case, money is fungible: that is money lent cannot be traced directly to money spent on a specific purchase.

The next point is the overriding importance of transaction costs incurred by borrowers relative to interest rates paid. Specifically, the greater importance of transaction costs compared to interest costs for small loans for short periods of time is what lies behind the popularity (success) of micro-credit, despite its high interest rates. The delivery channels for micro-credit keep transaction costs down for borrowers. Likewise, lenders must keep their own administrative costs low, in addition to charging 'high' interest rates, in order to make micro-lending profitable and hence sustainable. Cost, of course, in the form of legal and administrative requirements, rules out the use of formal collateral for micro-loans, although co-signers and informal collateral (for example, arrangements to surrender bicycles, tools, televisions, and other domestic appliances, etc.) are often used for enforcement if repayment is not forthcoming.

Of course, some lender costs that are relatively significant cannot be avoided: for example, the loan officer normally has to visit the prospective borrower to work through the family's overall cash flows since no formal accounting records can be expected. However, since the place of business and the home are often the same (or at least nearby), the loan officer can at the same time assess key indicators of character (viewing living conditions for example, and talking with neighbours and individuals with whom the prospective borrower has business relationships). Nonetheless, these visits are costly relative to the size of the loan, so that the first loan is unlikely to be profitable. This means that client retention rates, with loan sizes increasing, are as important as loan repayment rates in making micro-lending profitable.

What is it then that makes lending to SMEs so much more problematic? First and foremost, it is the reduction in risk diversification as the SME becomes more important than the family's overall cash flow. The lender must now analyse the SME in all its details (e.g. the ability and character of the management, the prospects for the product, the position of this SME relative to competitors, etc.) in order to understand the risks involved. To cover such costs, loans must be significantly larger, reaching a size that substantially exceeds the absorptive capacity for capital of the SME – hence the missing middle.

Moreover, lenders face a further diversification problem: precisely because they specialise in understanding thoroughly a narrow range of enterprise types, they tend to

amass an undiversified loan portfolio – and this may be especially applicable to agriculture and to rural areas in general.

Finally, in contrast to working-capital loans, longer-term financing (perhaps in larger amounts) is likely to be sought for investments that can allow an SME to grow. To provide medium- and long-term loans, the lender may need to improve the overall stability of its deposit liabilities or other funding sources, and go further than necessary to satisfy the banking regulator, typically being over-conservative on this issue.

Turning to agriculture and to rural lending in general, the foregoing observations apply, plus a host of other barriers that raise lender costs (for example, long distances and low population densities, less adequate infrastructure, etc.) plus inevitable limitations on diversification in rural areas. In this connection, the reasons for the well-known failure of micro-lending to penetrate rural areas are instructive.

One reason for the relative absence of micro-lending in rural areas is that lenders do not recognise that many rural households are often just as diversified as their urban counterparts. They are hence equally suitable for traditional micro-lending techniques, including monthly or even weekly repayments, essential for the lender to retain adequate contact with the borrower. Equally, however, those households that depend heavily on crop cycles need larger, longer-term, and better-structured finance, which most micro-lenders are ill-equipped to provide. There are exceptions: one product designed by Opportunity International and implemented by its microfinance institution (MFI) partner in Macedonia¹² supported crop/agricultural lending but had a minimum monthly repayment – notional but habit forming – with the remainder payable at point of crop/livestock sale.

The problem of higher risk for specialised agricultural activities becomes greater when finance is required not just to cover buyer credit or production cycles but for investment projects or for enterprise development in general. Here the exposure is longer, and the risks are much harder to assess, as outcomes depend more on the character and capacity of management, and the loan is not based on specific transactions. These considerations apply to SMEs in general, but pose special difficulties for co-operative forms of producer association, where ownership and control are dispersed, and there is no mechanism for an external investor to take an equity stake.¹³ This is because lenders want to compensate for their higher risk by requiring the owners of the enterprise, or external investors, to inject more cash into the business as equity, or to guarantee the loans personally.

External investment, other than informal from family and friends, is available only for a tiny proportion of SMEs in all economies. The reasons for this are threefold. First, it is appropriate only for the minority of SMEs that are both growth-oriented and have the business model and management to give a reasonable chance of achieving such growth. Second, professional investors taking significant shares in enterprises have to recover the transaction costs of making and monitoring their investments and of absorbing the losses from the enterprises in their portfolio that fail. These costs are largely independent of the size of the investment, so that having a smaller number of bigger investments in larger size firms is nearly always the preferred strategy. Third, there have to be one or more reliable exit routes so that investors can sell their stakes to realise the profits and recycle their capital. As will be seen later in the paper, there are some novel approaches to the problem of ‘small-ticket equity’ being tried, though so far with little or no impact on agriculture.

3. The lack of effective demand

Demand for finance would be higher if more small-scale farmers were able to optimise their production activities and invest accordingly. Individual farmers, without access to methods of reducing or transferring their risk, confront the full range of agriculture-related risks – drought, heavy and/or untimely rainfall, variable soil conditions, pest and disease outbreaks, and volatility in market prices. In the face of these risks, many of those working small, family plots do not specialise in a higher-value cash crop but sensibly take a diversified and subsistence approach to their livelihood (see Box 1) to try to meet the basic consumption needs of their households, and then market any surplus, if they achieve one. Many smallholder farmers remain net buyers of food.¹⁴

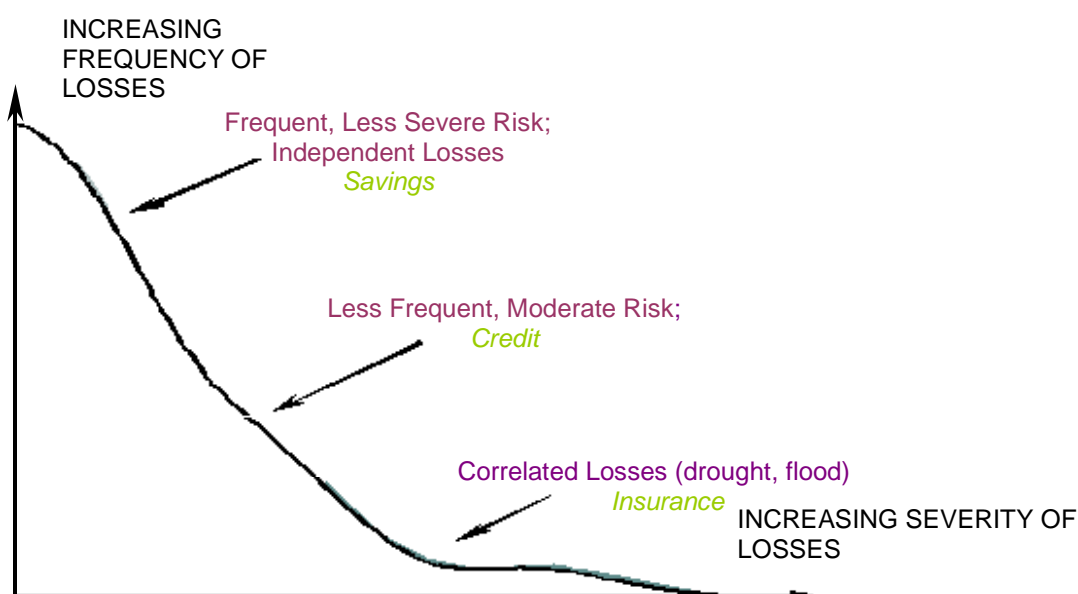
Box 1. The risk trap for subsistence smallholders

The cash-flow and risk-management needs of agriculture-dependent households prevent most smallholders from allocating capital sources towards more specialised and profitable production activities for market. Most rural households operate tiny land holdings (less than two hectares) for a range of subsistence production activities and they diversify their income sources across farm and non-farm economic activities. They tend to favour low-risk, low-return crops that do not require significant investment in inputs but are more robust even in unfavourable weather and soil conditions.¹⁵ For example, one hectare of maize, which requires several applications of (costly) fertiliser, can yield three times as much as one hectare of millet or sorghum. A study in Kenya found that less than one-half of farmers who intended to invest in fertiliser actually did so even though fertiliser increases yield returns up to 36 per cent over several months.¹⁶ For cash constrained households, the security of a sub-optimal supply of food is frequently the only rational option. This subsistence approach to farming minimises demand for external capital and its potential returns.

Source: Oxfam GB

A second set of smallholders – wealthier individual farmers with larger landholdings (up to 10 hectares) and employing significant levels of hired labour – have potential capital requirements in the lower tiers of the missing middle. These larger individual farm households are in a better position to borrow for specialised agricultural activity, but one constraint on their effective demand for credit is the lack of complementary financial services, such as savings and insurance, more appropriate for coping with some kinds of risk (see Figure 2 and Box 2). With a range of basic financial services and given access to market outlets these farmers have the potential to manage the risks of specialisation and build their production capabilities to produce at a sufficient scale to be attractive small enterprises.

Figure 2: Blend of financial services for risk management



Source: Oxfam GB

Box 2. Credit alone is insufficient

Smallholder households, with small and large landholdings, are likely to require a blend of complementary financial services to gain the economic stability and confidence to maximise the allocation of self-mobilised capital or borrowed sources, which carry additional cost and risk. The examples below illustrate how different financial services – credit, savings, and insurance – can assist smallholders in managing foreseen and unforeseen risks of varying severity and frequency.

Short-term credit: cash or in-kind sources of short-term credit for seasonal inputs, such as seeds, fertiliser, and hired labour, can help smallholders expand or diversify their production activities.

Long-term credit: longer-term credit (over 12 months) facilitates procurement of larger purchases, such as equipment, which can significantly improve productivity. Preparing land by hand requires farmers to cover an area twice as many times as it takes with a simple plough, and hand-sowing results in an inferior quality of planting. Leasing, discussed later in this report, is an alternative arrangement for farmers to gain the right to use, and potentially own, equipment in return for a series of payments.

Savings and insurance: credit is not the only constraint. Illness and unfavourable weather are often matters of the greatest concern that affect the productivity of agricultural-dependent households and their willingness to invest scarce resources into more profitable agricultural activities. Having savings can prevent smallholders from selling off productive assets or making lower cost, lower-return investment decisions to cover expenses associated with less severe, independent risks, such as illness. Having insurance changes the incentives for farmers to better optimise investment decisions and protect them from losses in the face of potentially catastrophic events, such as drought or flooding.

Source: Oxfam GB

In considering effective demand, what is required is judicious rather than maximal use of external capital. Heavy use of inputs such as fertiliser, pesticides, and herbicides as well as expensive seed varieties that require external capital is not the only route to improving

productivity. While providing quick gains, these methods may be unsustainable in the longer run. Knowledge-based inputs, such as practices to improve soil fertility; rainwater retention; and integrated pest management, within a LEIT (low external inputs technology) approach, can be an effective complement, economising on inorganic fertiliser, in raising productivity. This is especially so in more remote areas where farmers are dispersed, and land quality is poor. Such methods cause minimal harm to the environment; promote collective action among farmers; and also reduce costs.¹⁷

Importantly, such methods also contribute to mitigating climate change through carbon sequestration, for which there is huge potential in the agriculture of developing countries: maintaining¹⁸ high levels of the carbon stocks in the soil – and with adaptation to new climate circumstances.¹⁹ The methods can also have a positive impact on other rural activities and employment. When Indonesia, for example, banned the most harmful pesticides; removed costly subsidies on the others in use by rice farmers; and introduced integrated pest management instead, jobs of pesticide salesman fell dramatically and jobs for local extension workers rose in field-schools for farmers.²⁰ The efficient delivery, however, of the extension and education programmes necessary for the successful application of LEIT agriculture requires a high-quality public investment programme, itself another challenge.

Limited penetration of smallholder associations

The bringing together of individual farmers and their production capacity via producer associations, co-operatives, and other forms of collective enterprise greatly improves their access to methods of diversifying and transferring their risk. It also leads to economies of scale in market transactions and greater bargaining power to form more reliable and profitable relationships with market players.

Organised associations of farmers facilitate access to input and output markets as well as to knowledge channels. When aggregated, farmers are much more willing to invest in productivity-enhancing practices and to undertake activities with higher profit margins. They move from diversified subsistence farming to specialised surplus production activities, and from being net buyers to net suppliers of food. All these changes increase the demand for external finance.

Of the 800 million smallholders in developing countries, however, it is estimated that only a third (250 million) belongs to producer organisations.²¹ Globalisation of value chains²² and the expansion of supermarkets in developing countries are two factors increasing the need for farmer organisations to support individual smallholders by providing the necessary market linkages, economies of scale, and quality control.

Despite this growing pressure, many smallholders are still simply operating as individual farmers, where risk traps are more severe.

Women farmers: excluded

Within the missing middle, women constitute the largest missed potential. The role of women in agriculture and the added economic value they can bring is underestimated. Women produce one-half of the world's food.²³ One in five farms is headed by a woman, and women form well over half the agricultural workforce.²⁴ Yet, globally, women receive only 10 per cent of agricultural credit and less than 5 per cent of agricultural extension services worldwide.^{25, 26}

Common barriers – such as limited mobility; absence of land rights;²⁷ poor access to education and hence literacy; and restricted social networks – inhibit women's engagement with agricultural organisations that can improve their access to the markets, capital, and the technology needed to move into higher-value, market-oriented

production. Women are often simply excluded from membership and management of rural co-operatives. World Bank studies found that giving women farmers in Kenya the same inputs and education as men could increase yields by more than 20 per cent. In Zambia, if women had the same overall degree of capital investment in agricultural inputs, including land, as their men counterparts, output in Zambia could increase by up to 15 per cent. A 1995 study in Burkina Faso, where men controlled fertiliser use within the household, showed that output could be increased by between 10 and 20 percent by reallocating actually used factors of production between plots controlled by men and women in the same household²⁸. Additionally, a survey across 20 countries found that women's engagement in community organisations led to higher levels of collaboration and solidarity, and improved resolution of conflicts. There is also some evidence that women's agricultural organisations can outperform men's organisations.²⁹

Lack of collateral and collateral substitutes

Even men farmers, both individuals and grouped into producer associations, frequently lack the collateral traditionally required by banks for larger and longer-term loans. This is exacerbated where the legal and administrative framework does not support collateral contracts effectively through registration and court procedures. The result is that required collateral ratios are much higher than they would be otherwise.

Collateral substitutes acceptable to banks, in the form of third-party sureties or partial guarantees from external funds, are sometimes available. However, government funded guarantee funds and agricultural insurance corporations designed to support agricultural lending and common in the 1970s and 1980s had on the whole a poor performance record, weakening the trust that banks have in this type of instrument.³⁰

Weak organisational capacity

Many existing agricultural SMEs cannot meet minimum requirements of financial service providers. Geographical isolation for some agricultural enterprises can put bankers or investors completely out of reach for effective communication. In some regions, producer associations have been recently created as a response to the withdrawal of the old paradigm of state-provided agricultural finance and marketing support.³¹ These begin with social and sometimes political functions. Transforming them into enterprises requires a major cultural adjustment, and sometimes setting up a separate organisation may be preferable.

Before being attractive to external capital providers, agricultural enterprises need to prove their capacity as borrowers or investees. Basic business skills such as strategic planning, record-keeping for financial reporting and analysis, human resource management, and marketing can be acutely lacking in smaller rural enterprises that cannot attract trained staff. This problem is exacerbated where government and donor support for extension services and SME development infrastructure has been reduced.

Newly formed enterprises or those poised for expansion can require significant upfront investment to finance costly inputs and equipment, yet the range of possible outcomes presents a high degree of unpredictability, making financial planning and hence a convincing approach to an external provider difficult.

Those responsible for managing the enterprise also need to demonstrate that they can plan for and respond in time to contingencies, for example, unexpected weather patterns or price fluctuations that can negatively or positively affect the financial position of the business.

Even among high-potential enterprises there can simply be unfamiliarity with the spectrum of possible financial mechanisms and the potential providers who would best

meet their financing needs. Owners or finance managers may lack the confidence to assess the trade-offs of working with different financial mechanisms.

4. Capital suppliers and their constraints

On the supply side, the financial sector has not found the right delivery models or risk-reward relationships to supply enough capital to meet the diverse needs of agricultural SMEs. The financing needs of this market appear tiny (though this may not be true in aggregate) compared to the clear opportunities presented by large-scale agricultural enterprises and non-agricultural businesses. This overriding perception deters new entrants from being attracted to the sector and leaves little competition among existing ones.³²

Another major constraint is that agriculture is generally perceived to be a low-margin business compared with other economic activities, because of poor returns in unstructured markets on top of covariant (affecting many activities simultaneously) agriculture-related risks. Burdensome regulatory policies; poor infrastructure; limited access to and use of technologies that can enhance basic productivity; and weak market linkages between small-scale production, processing, and marketing businesses further deter the supply of private sector capital. This perception is changing, however, in the new conditions of higher food prices, and with new investors entering the market.

Where there is active financing, it has tended to be focused on 'last-mile activities', such as processing, marketing, and distribution. First-mile transactions – those oriented towards increasing the quality and quantity of smallholders' produce – bear a greater level of uncertainty so that capital flows are most limited for seasonal crop finance. Where finance is available it is usually limited to short-term working capital, such as pre-financing for inputs from crop buyers or trader credit from seed or fertiliser suppliers. Longer-term sources of capital, such as loans of several years duration, are even more difficult to come by given the lack of visibility and degree of unpredictability in cash flows and asset recovery in future years.

Trade credit

Traditionally, marketing linkages – what is now called the value chain – have been the dominant, albeit insufficient, source of working capital for smallholders. Credit can be in cash or in-kind, whereby repayment is deducted when production is delivered to traders. Local suppliers and buyers, however, rarely have sufficiently deep pockets to meet even the short-term capital requirements of more substantial agricultural SMEs. Also fewer would have an interest in providing credit for investment in expansion, given the larger amounts needed, higher risks, and longer exposures.

The connection between marketing linkages and agricultural finance has been studied for many years. A seminal study from the 1970s analysed linkages between marketing and credit in Colombia and various Central American countries.³³ Marketing agents (sellers of inputs and buyers of outputs) tended to be the main providers of finance for agricultural producers, especially small-scale ones, rather than banks. The main reason was, of course, the intimate knowledge that buyers of output in particular have about the cash flow and reliability of producers, especially compared with what bankers know. The main barriers to more widespread lending by marketing agents were found to be the prejudices against 'middlemen' nicknamed 'coyotes' in the development community. Their services were seen to be 'unproductive' or at worst exploitative from local monopolies, so that they were typically excluded from the credit lines for agriculture that were so prevalent at that time. Such exclusion from formal finance not only reduced their

ability to on-lend but also tended to enhance their monopoly powers by reducing competition.

Over the last twenty years, the traditional, small-scale middlemen have been supplemented in many areas by more powerful actors working along integrated value chains. Increasingly, the buyer at the top of the chain is a major food manufacturer or a regional, national or international supermarket operation. The best chains offer a lot more than credit to producer associations and other SMEs: capacity-building; supplies of suitable inputs; access to market nodes (safe storage and transport hubs) or collection points; appropriate technologies; business relationships and strategies for the mitigation of risk. However, the extent to which the new kind of value chain is improving the flow of credit to agricultural SMEs at an acceptable level of risk to producers is still a matter of debate.³⁴ Also, to be included in the chain, the smallholder group must conform closely to the requirements of the buyer. Many producer organisations, especially those in more remote areas, want to retain more flexibility in their activities. Finally, there is a continuing danger of confusion over charges, and worse of exploitation, if a single counterparty, i.e. business partner, is solely responsible for the supply of inputs, credit and crop sales.

Commercial banks

The reluctance of private-sector commercial banks to lend to the agricultural sector, beyond a few large-scale agribusinesses, is well known and driven by the perception that agricultural enterprises are not only higher risk and less well-managed than SMEs in other sectors but also fail to offer the prospect of a compensating higher return. Banks generally have had no incentive to incur the fixed and recurrent costs required to build an understanding of the risks of SME agriculture, such as weather and price variability, and then to service large numbers of geographically dispersed enterprises requiring small loans. Most of them simply limit their engagement in rural areas or impose heavy collateral requirements even in production sectors with reliable markets, such as commodities. Even where collateral is available, the cost to the bank of perfecting it – registering it to make it legally useable – is often high in relation to the return on an SME loan. In some cases, banks require additional security such as government guarantees, and some of these have proved unreliable in the past, making banks in those countries wary.

Handling the funding of longer-term loans required for investment projects by agricultural SMEs can also be more problematic for smaller banks with less ability to raise funds through issuing bonds or other capital market instruments, or from central bank refinancing. There is a failure of bankers, and even regulators, to recognise the overall stability of large pools of small sight deposits³⁵, despite their being withdrawable on demand. As a result, there is exaggerated concern over any dependence of funding on a small number of large-scale time deposits that are indeed vulnerable to flight when competing interest rates rise.

Banks also have fears, often grounded in historical experience, of political interference in the finance market for agriculture, a sector that typically dominates the economy and population. Such involvement can affect market dynamics, loan recovery, and the reclaiming of assets. Generalised loan pardoning by state-owned banks has occurred in several countries, India and Honduras, for example,³⁶ reducing the willingness to repay of a new generation of borrowers.

Compared to larger international and regional banks, local independent banks that are closer to the ground tend to be more willing and able to be flexible and innovative in responding to the needs of the agricultural sector.³⁷ But their advantages in local knowledge are offset by their vulnerability to systemic default from covariant risks – climate, pests, and so on, faced by most or all the farmers in a small area, and to the

associated liquidity shortage brought about non-performing loans, i.e. those where repayments are interrupted or cease altogether. These considerations also apply to the few larger MFIs that have the capacity to lend in the sizes and for the terms needed by agricultural SMEs.

Less locally based banks, with national or regional coverage, can diversify across geography and activity and provide pooled liquidity. The problem for them is effective delegation, so that loan applications are not routinely sent up to head office. What is needed are effective systems of local incentives for lending officers, backed up by good internal financial and audit controls.

Overall, domestic bank lending remains at only a fraction of its potential in many countries. A survey across six countries, generating 19–38 per cent of their GDP from agriculture, showed that local banks on average allocate less than 8 per cent of their lending to the sector.³⁸

Agricultural development banks

State owned agricultural development banks had a very poor track record in the 1970s and 1980s. This followed the high hopes for them as a key channel for the development effort launched in the 1950s and 1960s backed by the Western policy community and relying on subsidised finance. Many have failed or been closed down.

Weak banking practice exacerbated by bad governance, associated with political intrusion and corruption, was the key reason for most failures. However, in a recent GTZ³⁹ study led by Hans Dieter Seibel⁴⁰ (on which this section draws) at least 75 state-owned agricultural development banks were identified as still functioning in 2006. Some have survived difficult times through exceptional governance circumstances – for example the Land Bank of the Philippines – where others in the same country failed.⁴¹ The important question for this paper is whether there is a useful role to be played in the provision of growth finance for medium-scale agriculture by those agricultural development banks that have not only survived but have been, or are in the process of being, successfully reformed.

The aim of reform is to transform these banks into self-reliant sustainable financial intermediaries that are active and responsible participants in rural financial markets.

One reason for attempting reform is that the outreach of agricultural development banks can be substantially better than the nearest alternative because they have large rural branch networks with trained staff, even if their quality of service needs much improvement. Private financial institutions have often been driven out from rural areas by the subsidised interest rates and weak loan recovery policies of agricultural development banks, so that the latter offer the only remaining financial infrastructure. Another is that ignoring a problematic loss-making agricultural development bank implies substantial on-going fiscal costs for the country, as most international donors are no longer willing to support such unreformed institutions. As liquidation⁴² of these agricultural development banks normally means the loss of this valuable infrastructure, reform, which may include privatisation, becomes an option that should be carefully considered.

For sustainability, the elements of reform include an end to subsidised credit; a strong savings offering to mobilise deposits; a diversified portfolio of demand-oriented financial products, timely repayment encouraged by incentives and the offer of repeat loans; transforming branches into profit centres and offering performance incentives to staff; as well as increasing outreach especially to small farmers, female and male.

Reform is sometimes compatible with continued state ownership, as in the case of Bank Rakyat Indonesia, BNDA Mali, and others in Syria, Iran, and Jordan, but also with partial

or complete privatisation, for example Banque Nationale Agricole, Tunisia, several banks in Latin America, and Mongolia's Agricultural Bank. Regional associations of agricultural credit providers have been set up, covering Africa, Asia, Latin America, and the Middle East/North Africa.⁴³ These are channels for efforts at reform, with a strong focus on governance, supported by substantial external technical assistance from multilateral and bilateral donors. The process of reform is slow, however, taking several years.

Flagship banks in each region are showing the way forward and some others are following, but the availability of local branches in a reformed bank will not be enough if the bank branches do not have the tools to manage the credit risks while keeping transaction costs down. Risks include those that are weather- and price-related, as well as those associated with matching asset and liability maturities while building a portfolio of loans in the missing middle market segment. The cost of credit is another question.

Public-sector credit

A principal role for agricultural development banks in earlier decades was to channel subsidised credit to farmers. While this approach to agricultural finance has been largely, though not entirely, abandoned, recent discussion on the failure so far of the private sector to do much to replace it has reopened the debate on whether it should be reintroduced in some form.⁴⁴ What contribution can public-sector credit, which is almost always accompanied by elements of subsidy, overt or hidden, make to filling in the missing middle?

The first obvious drawback to subsidised credit is that it is limited in scale, relying as it must on government budget allocations, sometimes backed up by external donor capital, both subject to fierce competition from other priorities. Attempts to target the credit to those most in need, such as small-scale farmers and their organisations, to maximise its effect, have run into another problem: rent-seeking. Rent-seeking is appropriation of the programme resources by others interested just in obtaining the cheap credit, not in using it for the intended purpose and also thinking it need not be repaid, given the source. Larger and more sophisticated borrowers have the resources to circumvent in various ways the rules that govern the intended allocation of the cheap credit line, such as making multiple applications to stay below the ceiling for individual loans. Officials may collude for gain or give in to pressure. The efforts to control such rent-seeking, by managing the credit-line more carefully, raise transaction costs for all borrowers as application procedures become more complex and slower. It is nearly always the smaller borrowers who give up the struggle first.⁴⁵

Government-owned and managed credit distribution systems have a poor record on efficiency and cost control. If new privileged institutions are set up to distribute a fresh wave of internationally-supported agricultural credit lines at favourable rates, they will still face the fundamental problems of keeping transaction costs down without the discipline of competition. The high transaction costs associated with restricting credit to particular beneficiaries can also bear down on commercial distributors of subsidised credit, if governments excessively restrict their interest margins, further reducing their incentives to push the credit to its intended targets.

Finally, the partial availability of low-interest finance, administratively restricted to certain activities or sub-sectors, introduces unhelpful distortions into the market place, and can make capital allocation sub-optimal, by diverting resources away from other more profitable sectors, thus reducing its overall return.

New public-sector credit lines are becoming available as part of the response to climate change. For example the Clean Development Mechanism under the UN Framework Convention on Climate Change (UNFCCC) is designed to channel funding from public

sources, as well as from private and voluntary ones or in combination with them, to projects that reduce carbon emissions in developing countries. It could be a new source of finance for certain kinds of investment in smallholder agriculture, but the cumbersome and inflexible distribution methodology, including the requirement to demonstrate 'additionality', has taken years to develop and has already erected a hurdle of large transaction costs. So far, the agriculture category contains only large-scale livestock projects mostly involving the treatment of animal manure. The new mechanism designed to reduce emissions from forestry activities, REDD,⁴⁶ included in the Copenhagen negotiations, also has potential for smallholder investment where forests are next to farming land, but is likely to run into exactly the same distribution problems.

One approach to reducing transaction costs for disadvantaged producers, especially women, who are trying to get access to various kinds of subsidised finance, is for non-governmental organisations (NGOs) to facilitate linkages between finance providers and borrower associations emerging from the community, temporarily absorbing part of the transaction cost. Oxfam GB has been doing this successfully on a small scale in Sri Lanka. Of course NGO resources are also donor-constrained, so sustainability is addressed through building borrower financial management capacity. Oxfam expects to be able to withdraw once relations have been established and confidence built up. See Box 3.

Box 3. Brokering access to finance

In Sri Lanka, Oxfam GB has been facilitating linkages between producer organisations and a variety of banks and other financial institutions distributing government- or donor-subsidised credit.

Building the capacity of organisations such as women's rural development societies – active in market gardening, livestock breeders' co-operative societies, and paddy farmer societies, including help with loan applications – has extended to establishing stakeholder steering committees for these organisations. Banks and agricultural companies, as well as local government extension services, are represented on these committees. Confidence building, including Oxfam meeting senior bank staff to explain the sector and the management capabilities of potential borrowers, has enabled new client groups to apply successfully for loans and collateral to be reduced or waived. There is some evidence of take-off and expansion following good repayment experience; of new banks entering these segments; and of the technique being applied to funding lines seeking a rate of return closer to commercial norms. Oxfam has not itself provided any finance or guarantees.

Source: Oxfam GB

Rather than applying the subsidies to credit, governments may be better advised to subsidise inputs such as fertiliser and seeds, as this avoids rent-seeking; has lower transaction costs; and creates fewer distortions. It is important of course that the bulk of subsidy is passed onto the farmers rather than being retained by the suppliers. The recent programme in Malawi, for example, appears to be showing signs of success and may be self-funding.⁴⁷

Publicly-funded agricultural credit programmes delivered through state-owned channels or via reluctant commercial institutions have been frequently problematic. Governments and donors can invest more safely, productively, and with high financial returns⁴⁸ in improving the physical infrastructure in rural areas. Many components of this kind of investment are not narrowly related to finance, but rather to overcoming the general discrimination against rural areas that is typically found – lack of roads, power, communications, schools, health facilities, and so on. In the context of climate change, investment in water infrastructure, both supply and conservation of sources, and in weather data systems for forecasting and modelling should be moving up in priority. Achieving such improvements will certainly benefit all farmers.

How public investment can also be productive through improving financial infrastructure is covered in a later section.

Another infrastructure priority is support for agricultural research and development (R&D) to be carried out in local universities and institutions and with the participation of farmers, women, and men. Appropriate solutions aligned with social, cultural, and environmental needs, as well as being economically promising, are much more likely to emerge from this approach than from relying exclusively on high-tech approaches driven by Western science and corporate interests. However local research also needs to take account of the latest scientific information from wherever this comes.

Not all subsidies are inefficient of course. But in the finance sector, as in others, they should be carefully targeted – and hopefully be temporary – by being based on careful problem identification rather than just ‘throwing money’ at small farmers in poor areas.

Rural financial co-operatives⁴⁹

Being private, member-owned, and locally based rural financial co-operatives have the advantage of local knowledge but suffer from two constraints: lack of long-term funding to support investment lending, and a poorly-diversified customer base. More focused on households than on SMEs, and traditionally emphasising savings services as much as credit, financial co-ops are widespread in the developing world and have substantial outreach in some countries. In Burkina Faso, Brazil, Kenya, and Sri Lanka, for example, co-op networks serve 20 per cent or more of households. There are, however, as with agricultural development banks, serious problems of weak governance and some unsustainable financial models. Poor regulatory and supervisory frameworks often exacerbate this situation.

Financial co-ops are also vulnerable to liquidity shortages, or worse insolvency, when exposed to systemic agricultural risks. Providing short-term liquidity support requires a well-managed centralised umbrella or apex institution with sufficient expertise to exercise the right degree of toughness in these situations.

To encourage entry into SME lending and at longer term, it is tempting for donors to offer credit lines to co-ops for the expansion of their lending to SMEs. However, the danger is that the institutional stability of co-ops will be disturbed by such interventions, and that their commitment to mobilise local deposits by offering attractive savings products will be undermined. The contribution of financial co-ops to solving the missing middle will therefore have to be paced according to their evolution and strengthening.⁵⁰ Apex institutions of networks, or partnerships with like-minded banks, such as the strongly performing Co-operative Bank in Kenya, may be a better route to the handling of external long-term funds, forming pools from which local co-ops can draw.

Socially responsible investment

Many new socially responsible investment (SRI) funds focused on SMEs in developing countries have been raised in the last five years. Capital managed by such funds has quadrupled to \$4bn for those funds prepared to invest in amounts of less than \$2m. On the other hand, many management teams are new; track records and performance data are scarce; and the volume of deals exited is still small so that the investment category of developing country SMEs is a long way from being established as a recognised asset class for institutional investors. Of the 150 funds, more than half are managing less than \$50m.⁵¹ To date, most start-up capital is sourced from foundations, development finance institutions, and private individuals. Pension funds, insurance companies, and other capital market participants are just beginning to be tapped by funds with the strongest track records. The cost of capital for each fund reflects the blend of its sources and their differing expectations of return.

In relation to the missing middle, the classic problem – that transaction costs and fund economics largely preclude small deals – applies to these funds. With a small management team, usually highly paid professionals, and a fund of (say) \$30m to disburse, it makes no sense⁵² to make and closely supervise initial investments substantially less than \$1m, even assuming participation in subsequent larger financing rounds for some companies. Also most investment vehicles are US or European-based, meaning that their transaction costs are much higher still, unless they can delegate cost-effectively to an active and competent local presence to facilitate deal-sourcing, due diligence, and post-investment support. There are additional problems to overcome in countries where external investment is rare; legal protection for investors is weak; and exit options are limited.

Furthermore, few investment funds are explicitly focused on agriculture. The bulk of financing is in commercial business models with high potential for rapid expansion. Some funds do include agricultural enterprises in their overall portfolio mix, but place low limits on their exposure to the sector. More common in the agriculture sector are socially-focused institutions, with low expectations of return for their investors, who are lending (rather than investing) directly to producer groups in developing countries. Some 20 of these have been identified with estimated funds of \$250–300m.⁵³ To mitigate risk such funds rely heavily on contract-based, short-term lending models⁵⁴ and geographical diversification. Borrowers and their customers are commonly engaged in large, well-developed internationally traded sectors, with lower risks, such as coffee or Fair Trade certified goods. These producer groups are recognised as relatively well-managed enterprises, having already passed significant certification hurdles. They also tend to benefit from favourable prices and access to buyer networks and training.

5. The evolution of financial and risk management services

The financing gap for agricultural SMEs is far from being closed, but there are some promising initiatives, some only at the pilot stage, others quite well established. These include the application of financial tools in innovative ways to satisfy the risk and cost-management requirements of suppliers and users of capital.

Also important are improvements in financial infrastructure, which benefit all parties in the market. These directly affect the quality of financial services and especially their availability in rural areas. They include reducing the costs and widening the forms of collateralisation; expanding the outreach of credit bureaux; and improving communications through mobile phones, etc. These are covered in a Section 6.

Many of the developments are being realised through the combined efforts of public, philanthropic, and private-sector agencies. Below are some examples illustrating how fundamental barriers in agricultural finance are being tackled within different institutional settings using a variety of delivery mechanisms. The evolution of efforts has brought about mixed success and highlights a number of the challenges still to be faced.

Bringing external capital into value chains

Well-structured value chains with close relationships among value-chain actors offer producer organisations more secure outlets for surplus production and increase smallholders' willingness to invest in practices that enhance productivity and in higher-margin activities. Payment for goods along the value chain creates opportunities to extend credit from external sources.⁵⁵

In Croatia, for example,⁵⁶ the supermarket chain Konzum established preferred-supplier programmes to procure strawberries. It encourages suppliers to use irrigation and greenhouses to extend the strawberry season and improve the quality of produce. Such investments require significant capital, which many farmers did not have, nor did they possess enough collateral to secure bank loans. So Konzum negotiated with the local banks to persuade them to lend, using the farmers' contracts with the supermarket as a collateral substitute.

Over the last 10 years, Root Capital, a non-profit social investment fund, has provided \$120m in working capital and investment loans, ranging from \$25,000 to \$1m, to more than 200 SME co-operatives and companies across Latin America, Africa, and Asia engaged in sustainable agriculture, mainly coffee and handicrafts. It lends using a factoring approach i.e. making partial advances against purchasing agreements with more than 75 international buyers, such as Starbucks and Whole Foods. Borrowers, who also receive training in financial management, are advanced up to 60 per cent of the purchase contract value. On receiving the goods, the buyer pays Root Capital, who deduct the principal and interest before the balance is paid to the producer group. Interest rates on loans range from 10–15 per cent. The repayment rate from borrowers has been 99 per cent.⁵⁷ 85 per cent of lending is short-term working capital. For longer-term loans, collateral is taken, usually 1.3 to 1.5 times loan value, as compared with a typical commercial bank requirement of two times.

Root Capital currently covers one-half of its operating costs, tapping into low interest debt with rates below 4 per cent. Its investors include foundations; corporations looking for supply-chain stability such as Starbucks; and social investment vehicles. Grants and donations currently cover the shortfall, but it expects to break even once its rate of

lending triples – something it is hoping to achieve through its recent fundraising. It also works with local commercial banks using loan guarantees from the Development Credit Authority (DCA) programme of the US Agency for International Development (USAID) when possible. It would like commercial banks to take over its established clients, so that it can move into more marginal areas.

PepsiCo now sources 60 per cent of its global requirement for potatoes from 15,000 farmers in India, and this large-scale programme, based on annually renewed contracts, and developed over 15 years, is still expanding.⁵⁸ It uses an informal group system, where 20–50 farmers in a locality are linked to it through a respected lead farmer. The lead farmer facilitates communication, backed up by extension services including soil and crop experts and weather forecasts, and local storage facilities. Because of the strength of the guaranteed buy-back arrangement, which has price-premium incentives for measured crop quality, State Bank of India – 60 per cent government owned – is making finance available at a low 7 per cent interest to cover the specialised inputs required, all of which PepsiCo supplies. Another scheme involving the same two partners is providing equipment finance for seaweed cultivation by selfhelp groups in Tamil Nadu.⁵⁹

In Kenya, PRIDE Africa, an NGO focused on rural finance, set up a commercially-oriented transaction broker, DrumNet in 2002.⁶⁰ It offers supply-chain management services for mainly high-value food crops for export. It is an information and risk-management hub at the centre of a network that contractually links groups of smallholder farmers, commercial banks, large-scale buyers of farm products, produce transporters, field agents, and suppliers of farm inputs. Farmer groups need to pool sufficient savings in order to co-guarantee credits and prepay credit insurance, but then DrumNet will co-guarantee repayments to commercial banks. DrumNet also guarantees payment by farmer groups to stockists of inputs, when the group uses its transaction card. It documents the credit histories of farmer groups, and requires verification by cellphone calls. DrumNet co-ordinates produce aggregation, quality control, transport, and marketing services. Banks and buyers have a single account with DrumNet, which uses its proprietary software platform to calculate and make net payments due to people in the network, allowing for financing costs. It charges 10 per cent on gross proceeds plus a fee from participating banks.

Precisely where along the value chain external finance should be provided is not always obvious. It is tempting to choose the larger and more sophisticated actors further away from the primary growers, but this may not result in the costs and benefits of the financing being fairly distributed or the maximum return being generated from the investment.

Expanding inventory credit

External finance can also be secured on stocks, though these need to be secure and accurately certified. Over the last decade, schemes based on warehouse receipts have received donor support in both technical assistance and finance. Producers deposit their goods in certified storage facilities in exchange for a receipt documenting the value, which can then be leveraged for a loan to finance inputs or investment needs. Access to storage also allows for the delayed sale of goods until prices are more favourable.

However, sophisticated warehouse facilities carry substantial fixed operating costs that have to be recovered in user fees if they are to be sustainable. In Mali, for example, evaluation of a USAID-sponsored pilot found that individual farmers who were not able to produce sufficient level of surplus, lost money.⁶¹ Less formal schemes may be more cost-effective to support individual smallholders but could lack sufficient legitimacy and transparency in front of external capital providers, and thus remain an instance of the missing middle.

New credit distribution channels for commercial banks

The development of new credit distribution channels for commercial banks parallels what has been happening in the personal finance market, where banks have made alliances or agency agreements with a variety of retailer networks to reach new market segments. In India, for example, ICICI Bank, already active in expanding its rural outreach, collaborated with a non-profit company, IDEI – the Indian affiliate of International Development Enterprises, California – that develops solutions for improved irrigation and water supply for farmers, sources them from local manufacturers, and markets through a network of distributors. Earlier, IDEI had received support from Acumen Fund, a philanthropic mixed-source fund seeking below-market rates of return and recycling of them into further investment. Investment in appropriate irrigation technology, for example treadle pumps and small-scale drip-feed systems, is one of the surest ways to increase farm productivity and raise smallholder incomes.

ICICI Bank appointed five irrigation equipment distributors as credit franchisees in a pilot programme in February 2007. In this way, it was able to lower the transaction costs and hence the price of credit to farmers wanting to improve their irrigation. The franchisees had to share risk by putting up equity (minimum \$11,000), which provided a first-loss guarantee, and upon which they could then draw up to 10 times that amount from ICICI funds to make loans to farmers. Farmer loans, at a minimum of \$111, could be for up to two years, and at rates from 11–14 per cent, depending on whether the 3 per cent margin allowed to the franchisees was passed on to the farmer.⁶² While this initiative was aimed at individual farmers, there is no reason in principle why the finance could not be available in larger amounts for producer associations or other SMEs that aggregate production. However, the arrangement with ICICI Bank has been supplemented by the establishment in 2008 of a separate for-profit distribution company called Global Easy Water Products with the help of a further equity investment from Acumen.

Leasing

To obtain the use of a specific asset, such as a processing machine or a vehicle, leasing offers advantages both to the finance supplier and the agricultural enterprise. The risks and costs are both reduced, because the equipment itself is the security for the loan, and typically it is paid for gradually, over several years. After the down payment, cash can be conserved or used for working capital. Lease payments can be tax-deductible. Services such as insurance and maintenance can be bundled into the leasing contract. Specialist leasing companies can co-operate with equipment dealers, making supply possible in rural and remote areas even where banks have little presence.

The International Finance Corporation (IFC), the commercial arm of the World Bank, has long prioritised the encouragement of private-sector leasing activity, including services for rural SMEs and households (see Box 4), through both technical assistance and investment.⁶³ Often new legislation is needed to allow leasing within the financial regulatory framework and under commercial contract law, and also to determine tax treatment. Education, advocacy, and awareness-raising about the concept and its practice are also important. Over 30 years, IFC has committed over \$850m in 177 leasing projects, and in 25 countries was an investor in the first leasing company established. In Mongolia, for example, IFC has supported the leasing activity of a supplier of solar panels for electricity supplied to herder households.

Box 4. Micro-leasing for women farmers in Tanzania⁶⁴

Sero Lease and Finance is a woman-owned leasing company established in 2002 that enables women entrepreneurs to obtain water pumps, grain-milling machines, generators, sewing machines, and other equipment. Its expansion from 5,000 clients in 2007 to a planned 30,000 in 2010 is being supported by a \$1m loan from IFC via a local bank.

Using guarantee facilities to stimulate bank lending⁶⁵

Guarantees for agricultural credit provided by governments or donors have a chequered history. At worst, government guarantee funds have been destroyed because of covariant risk, or because of moral hazard: banks transferring existing troubled loans to guarantors, and borrowers failing to repay what is seen as government money. The guarantee facilities have also been subject, as with agricultural development banks, to problems of governance and political intrusion, and to confusion from links with credit subsidies.⁶⁶ However, new actors and approaches are trying to breathe new life into the mechanism, often combining it with a value-chain approach.

In March 2009, for example, a consortium of philanthropic investors – the Alliance for a Green Revolution in Africa (AGRA), backed by the Rockefeller and Gates Foundations – and the Mozambique section of the US government-backed Millennium Challenge Account, launched a \$10m guarantee facility to support a \$100m agricultural lending programme over three years by Standard Bank of Africa. Loans will be disbursed to individual farmers, farmers' groups, and agri-businesses providing inputs, processing, and storage, across Ghana, Mozambique, Uganda, and Tanzania, aiming to benefit in all 750,000 farmers.

The guarantee will cover the bank's losses up to 20 per cent of the portfolio in the first year; 15 per cent in the second year; and 10 per cent in subsequent years. Borrowers will pay favourable rates of prime plus 3–5 per cent. Standard Bank says it plans to expand the programme subsequently and hopes other banks may follow suit. According to Robert Mbugua, the bank's Director of Governments and International Organisations for Africa, the optimism and ambition is based on identifying and, with the help of partners such as AGRA, actively addressing all the major risks in smallholder farming – any one of which can severely increase default rates – together with the credit programme.

Among the risk areas cited are problems with fertiliser, seeds, and soil as well as lack of business and financial education among borrowers and their associations, all of which AGRA is trying to address in its programmes. More problematic is tackling climate-related risk. The hope is that weather index insurance can be extended from South Africa to the new markets, with local insurers underwriting risks, backed up by international reinsurance, but data availability (see heading on weather insurance below) could be a major obstacle, and climate change will make insurance less affordable in many areas.

The bank also mentions the possibility of using futures markets to reduce price risk, and working, again with AGRA, on storage and transport facilities to reduce transit losses. Price risk is already being tackled for cotton and coffee by CRDB Bank Tanzania, on behalf of its borrowers in those sectors, by a combination of forward sales and the use of options on the New York commodity futures exchange. It also provides updated price information to its borrowers.⁶⁷

Other risk-sharing agreements set up by AGRA and the Rockefeller Foundation elsewhere in Africa claim to have established low default rates, below 2 per cent.⁶⁸ In Uganda, Centenary Bank, given a 50 per cent guarantee from Rockefeller Foundation, provided \$1.6m of loans over the 2006–2008 period to individual farmers of green bananas. With the support of the NGO Technoserve, they had come together in village-

based groups and were able to sell in bulk to larger brokers, who in turn supplied universities and hospitals. The brokers were benefiting from factoring finance from the same bank, and the shorter and efficient supply chain had raised prices, encouraging farmer demand for credit. The total loss on the farmer credit programme was just \$21,000.⁶⁹

Not all programmes succeed however. In Kenya, Equity Bank's interest rate was lowered from 18 to 12 per cent as a result of the 10 per cent AGRA guarantee launched in May 2008, but only about 10 per cent of the \$50m was extended during the first year. However, the reasons for this are likely to be connected with political strife rather than problems with the financial engineering design.

In Tanzania in 2008, AGRA, jointly with the multilateral donor-funded Financial Sector Deepening Trust, provided a \$1.1m fund to provide a 50 per cent guarantee to the National Microfinance Bank to enable it to expand its loans to agro-dealers financing inputs to farmers, and cutting interest rates from a typical 46 per cent to 18 per cent. The programme is initially piloted at \$5m loan volume, but is planned to expand. By April 2009 \$3m had been approved, though default rates are yet to emerge.

Rabobank set up its Sustainable Agriculture Guarantee Fund, now called the Rabo Agri Fund, in 2008. All transactions are aimed at sharing risk, with banks lending to rural co-operatives engaged in Fair Trade production for export. Target products include coffee, cocoa, tea, nuts, oil seeds, and horticulture, sold to international buyers. Initial fund investors, apart from the bank and its foundation, include the Dutch government, and two Dutch NGOs, Cordaid and Solidaridad, which are also acting as advisers. Guarantees in the form of 'stand-by letters of credit' are for a minimum of \$500,000 and a maximum of \$1m, but above that it will syndicate with others. Fees to borrowers are 1.5–2.5 per cent upfront. Risk-sharing tapers over four years from a maximum of 90 per cent to zero, after which local banks should be able to operate without the guarantee of support. Transactions in 2008 were done in Peru, Tajikistan, Costa Rica, Honduras, Nicaragua, and India. The aim is to reach \$30m in annual issuance of credit guarantees during the initial three-year phase.⁷⁰

The Development Credit Authority of USAID provides external portfolio guarantees, maximum 50 per cent, at commercial rates and over a fixed term for local commercial banks lending to various sectors including SMEs, agriculture, micro-enterprises through MFIs, and infrastructure. Its activities in agriculture and SMEs have been increasing over the past decade, and the percentage guaranteed has been reducing for repeat loans. In the year to September 2008, \$32m of the total of \$128m new guarantee commitments were for agricultural lending, in five countries, supporting a credit envelope of \$91m.⁷¹

On a much smaller scale, Oxfam GB has partnered with Kafo Jiginew, a large MFI in Mali, setting up a pilot £200,000 guarantee fund to support seasonal crop-lending to producer co-ops diversifying away from reliance on conventional cotton. The arrangement provides for tapered risk sharing by Oxfam at 20, 10, and 0 per cent respectively for first-, second- and third-season loans to the same borrower, and in principle would extend to longer-term loans for equipment or investment projects.

Transferring weather risk through index-based insurance

New index-based weather insurance models offer the promise of transferring weather risk and thereby increasing investment in the agricultural sector, especially in upstream production activities where there is greatest lack of capital. In contrast to traditional insurance, whereby individual farm losses are assessed and compensated, index-based insurance provides proxy indicators to correlate to, and hence approximate, loss. Variables measured and indexed include air temperature, rainfall, humidity, river levels,

and sea temperature. Payments are triggered when the index falls above or below a pre-set threshold.

Index-based models offer a cost-effective approach to delivering insurance and its objectivity helps remove self-selection bias and moral hazard. However, preliminary results are only just emerging from pilot studies and recently established facilities.

Furthermore, serious obstacles have to be overcome for this kind of insurance to be offered and its costs understood and financed. A dense network of sustainably-operating weather stations providing locally-accurate and timely data is necessary.⁷² In Mali, for example, a recent pre-feasibility study⁷³ found that many weather stations are non-operational due to the withdrawal of donor funding. Also, reliable historical data needs to be built up to attract reinsurance companies and minimise basis risk – the likelihood that a payment is not triggered when a loss occurs, or vice versa, when a payment is triggered without a loss.

In Mongolia, herders can purchase insurance alongside working capital loans from the national agricultural bank to protect them against the loss of livestock from too much snowfall. The lower default risk is recognised through an interest rate reduction.⁷⁴ In Viet Nam, an agricultural development bank is negotiating an index-based ‘business interruption’ policy to cover up to \$1m in increased operating expenses – higher default rates and loss of profit from rescheduling – on its lending to rice farmers when there is excessive flooding. The cover is less than 15 per cent of the bank’s estimated exposure.⁷⁵

In PepsiCo’s contract farming programme for potatoes in India, index-based weather insurance is supporting expansion.⁷⁶ Previously, it was mandatory for agricultural borrowers to purchase a government area-yield insurance product with a poor reputation for transparency and payment. The new index-based product, offered since 2007 through a private firm, is based on humidity and temperature levels that trigger late blight disease or frost. The premium is 3–5 per cent of the sum insured and covers losses above 30–40 per cent of the yield. Premium costs to farmers are partially recovered from a price increment. Farmers buying insurance include non-borrowers. Take-up rates have been 50 per cent or more and as high as 95 per cent in some areas. The scheme has already been improved. New weather stations have been built to reduce high variations in basis risk, and the payout was modified to maximise at the break-even level for farmers. So far participation from reinsurers has not been achieved – a constraint on expanding coverage.

Putting index-based insurance into practice is lengthy and complex. In addition to identifying, establishing, and calibrating a suitable index, stakeholders, including farmers, lenders, insurers, and regulators have to develop contract agreements that are well-understood and align incentives. ‘14’⁷⁷ a new alliance of multilateral donor agencies, an NGO, and a university rural poverty research unit, was launched in 2009 to work with commercial insurance companies and others to design and implement a new range of index insurance policies specifically aimed at supporting rural livelihoods.

A new difficulty for weather insurance and calculating and pricing basis risk is the effect on agricultural yields of non-cyclical climate change and increasing water shortages. A 2006–2007 review of a pilot scheme for groundnut farmers in Malawi, supported by the World Bank, analysed this.⁷⁸ The conclusion was that increased donor support will be needed to maintain the robustness of schemes. This suggests that index-based schemes could be a candidate for ‘adaptation funding’ under the UNFCCC.

There are substantial projected increases in the frequency and severity of extreme weather events and water scarcity. According to the Intergovernmental Panel on Climate Change (IPCC), climate change could reduce yields from rain-fed crops in parts of Africa by 50 per cent as early as 2020,⁷⁹ and there are equally serious worries about effects on cereal production in Asia and on destabilising farmland through increased water erosion

in the Andean region of Latin America. Some commentators have suggested that catastrophe bonds, rather than reinsurance, may be the best way that the private financial markets can transfer covariant risks at an aggregate level and diversify them globally.⁸⁰

New models of investment finance for smallholder producers

Commercial farms are a traditional way to aggregate land and labour to support larger investments in irrigation, infrastructure, and centralised facilities for extension services such as supply-control systems, processing, and storage. At the other extreme are individual farmers owning their plots and operating independently, who as we have seen find it difficult to raise capital for undiversified activities, and are disadvantaged in many other ways. While independent producer organisations participating in value chains are one response, there are several other approaches to aggregating smallholders, which work in conjunction with large-scale operations. No one approach is likely to suit farmers across even a sub-region because land distribution; markets for inputs; access to water; and many other factors – including social norms about working together – vary so much. Having competing systems working alongside each other is also healthy in itself.

Africa Invest⁸¹, a UK-based investor set up in 2006, focuses on both large commercial farms and smallholder development in Malawi. Its original business model was to build or acquire large-scale commercial farms and to provide a range of social and health benefits to its employees and their families in line with the Millennium Development Goal (MDG) targets. Crops are a mixture of high-value exports, currently paprika and chillies, rotated with staple food crops. However, the farm managers realised that smallholders farming in areas around the commercial farm, ‘outgrowers’ might be brought in efficiently to extend crop production. They could also benefit from a range of centrally held or delivered resources as well as organised market days and guaranteed sale prices. Centrally available resources include good-quality chemical supplies, seeds, discounted back-pack sprayers, and agronomy advice.

Under the Africa Invest Growers Scheme, individual smallholders form themselves into 15–20 member family or village-based clubs choosing a club captain. Three or four clubs then combine to choose a lead grower, recognised as the best farmer among them, and typically literate, who is paid a salary. The lead grower reports to an extension supervisor who provides advice and monitoring. Once they are linked with the hub in this way, smallholders as a group are able to access credit – though they have to raise a 15 per cent compulsory deposit – and open individual accounts with the mobile units of a local bank.⁸² This has increased confidence in their permanence, repayment intentions, and capacity. In the first two seasons, the credit was in-kind and managed on behalf of the club by Africa Invest, which supplied inputs against it, and repayed it from sales proceeds. In subsequent seasons, the intention, for the better performing clubs, is that the credit will include a cash element, allowing club members to plant additional land for food crops to be sold independently. There were 5,000 outgrowers in the period 2008–2009 and 14,000 registered for the period 2009–2010.

Clubs are rated by Africa Invest according to the quality of their crops; the yields they achieve; the standard of their farming practice; how they respond to technical advice; and their management and record-keeping. Apart from the internal social pressures that operate within clubs, there is a control system to prevent poorly performing farmers from moving from club to club. The vision is that clubs develop into independent SMEs. While improved farming techniques and application of chemical inputs can go some way to reduce the huge gap between the yield of the commercial farm and the traditional smallholder in local staple foods – including maize, rice, wheat, and potatoes – bigger yield increases depend on irrigation access. This is difficult because outgrowers are spread over thousands of square miles, but there are pilot irrigation projects adjacent to the commercial farms.

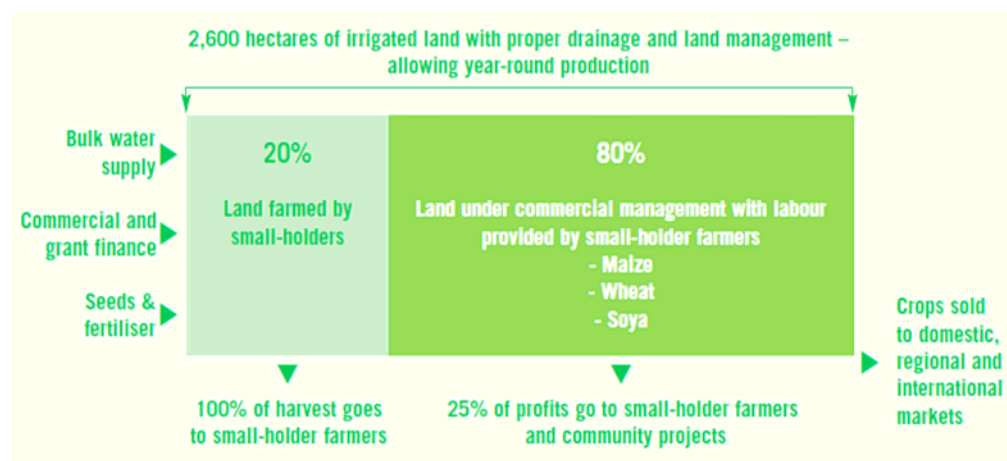
Africa Invest had plans to expand its operations from Malawi to reach as many as ten countries in Sub-Saharan Africa, if fundraising succeeded. Its public offering during the period 2008–2009 to institutional and retail investors, however, with a target rate of return of 15–20 per cent, including an element of land value appreciation, was not successful.⁸³

Another African agriculture proposal, also planning to include the hub-outgrower model, is AgDevCo.⁸⁴ This is a not-for-profit-distribution company closely based on the model of InfraCo, a publicly-funded, privately-managed infrastructure development company (set up in 2005) operating in low-income countries in Africa and Asia. InfraCo is part of the Private Infrastructure Development Group (PIDG) owned by six European governments and the World Bank Group.

Launched in April 2009, AgDevCo is seeking to raise \$45m of front-end capital from government and private-sector donors, which it expects, over a 10-year horizon, to leverage at least 10 times from private commercial and development finance institutions. This would be invested to create agricultural SMEs in Africa, both primary producers and processors, in food crops aimed principally at local and regional consumption. AgDevCo aims to raise smallholder productivity and income by linking every commercial agriculture/agribusiness opportunity to a smallholder development programme, often using the hub-outgrower model. It would build on the existing agricultural operations by InfraCo, which has launched a hub-outgrower component, reportedly successful, as part of an irrigation infrastructure investment in Zambia (see Box 5). AgDevCo’s funding plan and investment programme also includes major agriculture-supporting infrastructure projects, mainly irrigation, with a 20-year low-interest payback horizon. It expects to earn returns from selling its stakes in profitable SMEs. AgDevCo does not pay dividends to its shareholders and all returns after debt service are recycled into developing new projects.

Box 5. Hub-outgrower farming combined with water infrastructure

InfraCo’s Chanyanya project in Zambia involves 120 farming families pooling their land into one large block of 554 hectares. In return for leasing all the farmers’ unused land (80 per cent of the total area), a commercial farming company will invest in irrigation equipment to draw water from the local Kafue area and make it available to smallholders to grow maize and vegetables as well as to the commercial farm. With crop support also provided by the commercial farming company, crop yields are expected to increase three- to five-fold. Smallholders also participate in the profits of the commercial farm.⁸⁵ Once loans are repaid over a 10–12-year period, the smallholder farmers will have 100 per cent ownership of the full project. A subsequent phase of the project currently being financed will extend the area under production to 2,600 hectares. Local government representatives see much merit in the project.⁸⁶



Source: AgDevCo⁸⁷

A third example of the hub-outgrower model, and one that is established in a number of contexts, is that used by the long-established (1968) US NGO Technoserve. It has applied the approach of a nucleus business providing a range of services to outgrower farmers to various crops, including coffee in Tanzania; jatropha for biofuel in Guatemala; and pineapples and sorghum (for brewing) in Ghana.⁸⁸ The model is able to reduce credit risks so as to substantially improve access to external financing. In the dairy sector, Technoserve has promoted farmer-owned bulk collection and cooling centres enabling rural farmer groups to sell to major urban processors; these centres also serve as hubs for farm supplies and veterinary and financial services.⁸⁹

Hybrid finance or quasi-equity

In economies with well-developed financial services for SMEs, the concept of hybrid finance, combining elements of collateral-free debt and equity is quite well known. In France, for example, the *prêt participatif* (participating loan) is long established, and in the UK, the venture capital firm 3i has used debt and equity combinations extensively. There are a number of variations including the use of unsecured long-term debt together with an 'equity kicker' in the form of a profit share, a royalty or an option to acquire equity. This is triggered once certain performance milestones have been reached.

The hybrid approach suits firms that are medium-risk, and expect a moderate rather than a spectacular growth trajectory. In contrast to classic venture capital, the hybrid approach, sometimes called 'risk capital', does not require a firm exit timetable⁹⁰ for the sale of the external equity at a substantial profit. Repayment of debt installments fulfils the function of recycling capital as well as being a control and monitoring mechanism, and in addition there is a running interest yield to provide regular cash-flow for the funders. If there is equity as such, it plays a different role, and exit routes and timing can be more flexible, often including buy-backs by the owners. Because of these advantages, many professional investors in SMEs favour the risk capital approach over pure 'small-ticket equity'.

Applying the risk capital concept to SMEs in developing countries has great potential, given the shortage of collateral, and the numbers of natural, growth-oriented entrepreneurs with energy and ideas, but lacking the training and track records that conservative equity investors would require. A number of risk capital investors are already active, but so far they have avoided the agricultural sector, where risks and returns are less favourable, and ambitious entrepreneurs perhaps less common.

A leading exponent of the hybrid approach is GroFin,⁹¹ a privately-owned South-African company, which began operations in 2003 but now has more than \$250m under management and over 100 employees. Its approach received early endorsement from the Shell Foundation, which remains a strong supporter.

Grofin's model of flexible finance combined with intensive support for business strategy and development – 'money and mentoring' – has been tested and refined through its management of a number of small funds (\$10m–\$20m range raised from a mix of sources) investing in high-growth SMEs in South and East Africa. The finance package, in amounts between \$50,000 and \$1m, typically contains unsecured or partially collateralised debt, and a royalty payment based on performance. Expected overall returns, made up of fixed and performance-related elements, range from 15 to 30 per cent per annum depending on the investment risk, and interest charges are higher than bank loans to reflect the risk levels. Repayment is normally phased over four to six years.

Grofin has now scaled up its operation. Its new 10-year fund closed in August 2009 at \$170m, attracting support from major development finance institutions, plus corporate foundations as well as the European Investment Bank. The target IRR (internal rate of

return) is 10 per cent. GroFin's nine in-country teams will invest in some 500 privately-owned SMEs in manufacturing, retail and services over the next five years, spread across Nigeria, Ghana, Rwanda, Kenya, Tanzania, Uganda, and South Africa.

Primary agriculture⁹² has not figured as a sector for Grofin. The risks have been considered too high⁹³ especially with the prospect of climate change. It does however finance secondary agricultural activities when there is value addition to the primary agricultural produce. One investee, for example, is an exporter of organic honey and mangoes.

On a much smaller scale of operation, but specifically targeted to agriculture, Oxfam GB began its own hybrid approach to investment in 2008 (see Box 6).

Box 6. Oxfam's Enterprise Development Programme

The Enterprise Development Programme works with embryonic producer organisations committed to gender equality, in high-poverty and often remote regions, to build sustainable agriculture-based enterprises using a mixture of loans and grants, backed up by advice and support from local Oxfam partners and mentors.

Grants are primarily for training and building capacity, but extend to the financing of initial losses while the business builds up to break-even scale of operation. In that sense this is also a hybrid finance approach to business investment. Oxfam is seeking to build the credibility of loan finance in a context where grants are the norm. It does not want to build ownership stakes in these enterprises for resale, nor does it expect a high rate of return, but it is hoping to be able to recycle donor funds from loan repayments and interest into new rounds of investees. The programme, currently with a £1m portfolio of 11 investments, is in its very early stages, with proof of concept yet to be achieved.

Source: Oxfam GB

Overview

These examples show that lending to, and investment in, agriculture demands an innovative approach and a proper understanding of the risks of the sector and how they can be managed with complementary inputs. Commercial banks in particular find it difficult to innovate as they are constrained by legal and regulatory pressures as well as by the demands of depositors, shareholders, and central bank supervisors. There are exceptions, such as Rabobank, which has a unique agricultural and co-operative heritage. It has a dedicated agricultural risk-management centre.

However, in general, the diverse financial mechanisms and approaches being applied to the missing middle are changing attitudes about risk and performance in the sector. They are also challenging received perceptions of the level of entrepreneurship, sophistication and skilled labour among smallholder farmers and their organisations. The ongoing challenge will be to continue to identify, evaluate, and match the available financing tools with the capabilities and appetite for risk of the producers, their organisations, and capital providers themselves.

6. Improving the infrastructure for financial services

Infrastructure supporting financial services covers the legal and regulatory environment, the provision of information for market actors, and the cost of communications. Improvements in infrastructure can result in lower costs, reduced risks or both. Once in place, such developments act to raise the returns available from lending and investment in SME agriculture.

Credit information bureaux can reduce transaction costs

Transaction costs for formal finance sector lenders dealing with SME loans include the time and effort of assessing borrower 'character'. Credit bureau information about the creditworthiness of potential borrowers, both their credit histories and their current indebtedness, can greatly reduce these costs. The received wisdom, however, is that small and rural entities will fall beyond the 'radar' of credit bureaux, not just because of their size but also because so much of their dealing is with the informal finance sector.

But if two conditions are met, then unregulated entities will find it attractive to participate in sharing credit information. First, all regulated lenders must be required by the supervisory authority to report all loans of any size to a credit bureau (either a government sponsored one or a privately run service).⁹⁴ Second, unregulated entities need to be permitted to participate based on reciprocity (information must be given in order to be obtained). It is also crucial, however, that the operating rules of credit bureaux prevent the release of lender identity when a credit report is requested, in order to avoid attempts to steal good clients from other lenders.

More effective collateral guarantees

Another way of reducing lender transaction costs and risks is increasing the effectiveness of collateral guarantees. Use of formal collateral guarantees may be attractive for the larger and longer term of the missing middle, but only if the necessary infrastructure is in place (for example, accessible and inexpensive registries for land and other assets, functioning commercial courts and markets for assets, including movable goods, taken as collateral). Extending the forms of collateral to include jewellery and other household items, as well as crops and livestock, can improve women's borrowing power.⁹⁵

The need to promote functioning markets for rural land is often overlooked, but lenders are normally not interested in collateralising rural land that they might have to farm. This is because, in the context of many rural communities, it cannot be sold outside the community, if at all. This explains why lenders often insist instead on urban houses as collateral. Furthermore, recommendations such as reducing notary requirements and their costs for collateralisation can be very important but may not get implemented because of protectionism by the profession. In Colombia, for example, most congressmen and senators are notaries and directly control admission of individuals to notary status. These and other political economy barriers to improving collateral infrastructure have often been overlooked.⁹⁶

Collateral substitutes, such as leasing and factoring services and the use of warehouse receipts, also need a supportive legal infrastructure if they are to succeed. The prime example of attention devoted to this aspect is IFC's work across the globe on improving the legal and regulatory infrastructure for leasing, as noted earlier.

Better regulation of SME lending

Traditional approaches to regulation by banking supervisory authorities tend to place substantial weight on the existence of documentary proof of formal collateral, or on the presence of official documents, such as up-to-date tax returns or audited financial statements, in classifying loans. When these are absent, provisions against future losses are automatically required. Clearly, banks and other regulated lenders are less likely to lend to potential borrowers when such loans would require initial provisions that would have an immediate negative impact on lender profitability. Both the impact on profits and the increased perception of risk are likely to increase the hesitancy of banks to enter the fields of microfinance and SME lending in rural areas.

The shift to risk-based supervision, which is now seen to be the norm, can help to reduce the bias against micro- and SME-lending in rural areas when it is effectively implemented by regulatory agencies. With risk-based supervision, it is the ability to manage risks that makes lending sound and not simply adherence to arbitrary rules that may be largely inapplicable.⁹⁷

Nonetheless, risk-based supervision will not eliminate this bias unless it is effectively implemented, which requires a major re-orientation and training for supervisory personnel. Otherwise, bank examiners will continue to regard the lack in a loan file of certain documents and/or evidence of collateral as reason to classify a particular loan as risky, and possibly even to question the overall risk-management capabilities of the lender.⁹⁸ Furthermore, continuing to focus on these traditional indicators of risk on a loan-by-loan basis can lead to neglecting a far more important aspect of risk in micro- and SME- lending in rural areas, specifically the potential lack of diversification and management techniques to deal with this type of risk.

Use of mobile technologies

SMEs in rural areas can benefit through reduced transaction costs in payment services, running deposit accounts, and in accessing and servicing loans offered by branchless banking. Channels include mobile phones, POS (point of sale devices), smart cards, and ATMs. Mobile bank branches are also important in this respect. Mobile phones can also improve price transparency (and other useful information flows) for farmers. The rural poor have greatly expanded their use of mobile phones as coverage has improved and costs come down. In the Philippines, for example, a country with more than 7,000 islands, over 95 per cent of land area is covered and over 95 per cent of families have a least one mobile phone. However, there is a certain degree of 'hype' about the global success so far of branchless banking, even for urban households where it has the best prospects. Very few examples exist that are both serving more than 1 million poor clients and making a profit through doing so.⁹⁹

The potential for huge cost savings through mobile phone banking was seen by the leaders of a USAID-funded project to assist the hundreds of rural banks in the Philippines. Mobile phone companies there found it could be very profitable. By allowing people to deposit cash into their own mobile phone account and make transfer payments into the accounts of other mobile users, the phone companies could avoid the 20–30 per cent that they were paying to wholesalers and retailers to distribute pre-paid air time. Moreover, officials of the financial regulatory authority likewise saw the potential and put in place forceful yet flexible rules to deal with security, secrecy, anti-money laundering, access to information, and so on, in ways that did not significantly increase costs. Nonetheless, there have been barriers to the hoped-for rate of expansion, not on technical or regulatory aspects, but rather on practical aspects such as handing the deposit and withdrawal of cash from the system and covering a sufficiently wide range of transaction types.¹⁰⁰

Standard Chartered in Pakistan uses credit cards to provide unsecured lines of credit of up to \$2000 to farmers to finance the procurement of agricultural inputs. An unlimited number of withdrawals and payments can be made through the Bank's network of 325 authorised merchants that sell agricultural inputs and carry card-reader devices. The facility uses six-member groups to manage and enforce repayment. It charges 30 per cent interest and is renewed every six months at the end of the crop cycle. As of mid-2008, the Kissan Card had over 16,000 customers.

Standard Chartered also offers a complementary revolving credit line of up to \$450,000 for input suppliers. The product has a fixed rate of 15.5 per cent and is serviceable monthly. By 2009, it was reaching 265 retailers with \$12m outstanding. The facility is promoting downstream business growth and ensures more reliable supplies for Kissan customers.¹⁰¹

Price transparency, while not directly related to the supply of finance, can radically improve returns and thus the bankability of rural enterprises. In Uganda, members of a dairy co-operative, 120km from Kampala markets, use mobiles phones connected by a booster antenna to the nearest cell network to find buyers, negotiate prices, and organise delivery of milk. Previously, farmers faced significant losses due to milk spoiling during transport and at market waiting for sales to be confirmed. Farmers use the system, financed by a \$350 loan from a local MFI, to get up-to-date information about prices for a range of commodities and regular weather reports via SMS (text message). The information service tells farmers which buyers are offering the best prices and gives their contact information.¹⁰²

Networks for international SME investors

Lastly, a different aspect of financial system infrastructure is improving: the facility for interested actors to share information, ideas, and experience at a strategic level. New industry-level networks are emerging to help accelerate the connection of capital with investment opportunities in SMEs, with a global focus that includes developing countries.

The Finance Alliance for Sustainable Trade (FAST) and the Aspen Network for Development Entrepreneurs (ANDE) are two recently launched member-based associations that bring together leading investors, practitioners, entrepreneurs, donors, and other stakeholders. FAST focuses specifically on promoting finance for SMEs within the 'sustainably produced product' market. ANDE's mandate covers 'small and growing businesses' in any sector. Together, these associations have broad agendas and unique projects to support the management of funds, facilitate investor and investee relationships, deliver direct assistance to SMEs, and co-ordinate market research and knowledge dissemination.

7. The private sector and the missing middle

Responsibility and opportunity

The number of chronically hungry people worldwide has exceeded 1 billion for the first time. Despite the world's pledge to decrease hunger by 50 per cent by 2015 under the MDGs, development assistance to agriculture was in 2007 down to only 4.6 per cent of all aid, compared to 18 per cent in 1979.¹⁰³ Less than 1 per cent of commercial lending in Africa is going to agriculture.¹⁰⁴

Over the last 30 years, Africa has gone from being a net exporter to a net importer of food, and crop yields are no higher than they were in 1980.¹⁰⁵ Staple food prices are 50 per cent lower than last year's peak, but they remain at a level higher than in 2008, when the crisis began, and are likely to take off again as the supply and demand gap widens.¹⁰⁶

With the onset of the food crisis, agriculture has surged to the top of the international political and economic agenda. World leaders are looking for ways to reinvigorate the global economy and bring jobs and incomes to rural areas. They are being advised to invest heavily in sustainable agriculture, and especially in 'pro-poor' policies, which will get capital to smallholder farmers to produce for local and regional markets. Investment in better land use, water conservation, and drought-resistant crops can help farmers adapt to climate change.¹⁰⁷ Investment in labour-saving infrastructure and technology, particularly for activities traditionally undertaken by women, such as obtaining water and fuel, can raise marginal productivity to deliver both economic and developmental returns. Women generally spend a greater proportion of their income on food to improve household food security and nutrition.

Investment in the missing middle is one critical way to move toward achieving social, economic, and environmental change but it cannot be done without substantial involvement from the private sector. There are concerns that governments' increased attention to agriculture, as a key element of their economic stimulus initiatives, may be offset¹⁰⁸ by reduced credit and investment from the private financial sector. These concerns feed into the new thinking by strategic decision-makers in financial institutions, and their regulators, about sustainable long-term opportunities, after the huge damage precipitated by excessive and short-term risk-taking. A serious look at agriculture, within the context of global food-supply and climate change, should be part of this rethink.

Better returns

With the increase in food demand driven by population growth; greater food dependency as a result of migration from rural to urban areas; and changes in dietary preferences, the agricultural sector is becoming more attractive. In May 2009, *The Economist* highlighted that, 'no matter how hard things get, people still need to eat' and argued that 'at a time when much of the global economy is falling apart and demand both for consumer goods and the firms that make and finance them is collapsing, the notoriously cyclical world of agriculture is holding up notoriously well.'¹⁰⁹

The potential productivity gains in developing country agriculture from the application of technology, both basic and innovative, are huge. New technology alone is not expected to drive a major transformation in the short term. Greater use of existing, inaccessible, and underused technologies, such as efficient irrigation, fertiliser, seed selection as well as improved market access and transport, are likely to facilitate big gains and improve returns in the short term. Further productivity gains, and incidentally greater emissions reductions, could come from the cost-effective provision of knowledge-based inputs,

which are not only less dependent on external finance, but are also designed to promote long-term sustainable farming practices. Among these are integrated pest, water, and fertiliser management approaches. As well as government extension programmes, this kind of agro-ecological advice is sometimes available for farmers in the supply chains of food manufacturers committed to a sustainable business approach. An example is PepsiCo's work with contract farming of rice in Punjab, where an independent survey found that inputs including irrigation requirements have been reduced while maintaining yields.¹¹⁰

Agricultural SMEs are just emerging as a potential stand-alone asset class. While the sector remains small, many risks and inefficiencies are being reduced through financial innovation and human capital development. Early movers in the more established commodity and Fair Trade segments are demonstrating ways that such enterprises can be viable and profitable banking and investment partners. Over the next few years, the track record of high repayment performance and competitive return expectations should be widened within the sector.

Pro-poor growth prospects

According to Robert Mbugua, Standard Bank of Africa's Director of Governments and International Organisations, the trick to serving agricultural SMEs (both primary producers and downstream activities) is being able to identify all the risks, which are generally feared yet little understood. He predicts that major profits can be made, 'if you can crack open a way of lending to agriculture; it's such a big field. It could be a big growth field.'¹¹¹

Africa is considered the last great frontier for agricultural investment. Agriculture already contributes at least 40 per cent of exports; 30 per cent of GDP; 30 per cent of foreign exchange earnings; and 70–80 per cent of employment. Of the 30 fastest growing agricultural economies in the world, 17 are in sub-Saharan Africa.¹¹² Africa has a larger variety of staple crops than Asia and Latin America and offers significant opportunities for increasing production for local and regional markets.

The potential for increasing production of food is very large. Africa has a total arable land area of 167m hectares, of which currently only 28m hectares is used for crop production. Of this less than 3 per cent of the farmed area is irrigated, compared to 30 per cent in South Asia and 29 per cent in East Asia,¹¹³ despite a total of 53m¹¹⁴ hectares of available inland water. Farm productivity in Africa is just one quarter of the global average.¹¹⁵ Low use of fertilisers¹¹⁶ mean about 75 per cent of sub-Saharan African farmland is affected by severe loss of soil nutrients.¹¹⁷

According to one estimate,¹¹⁸ the potential income for African farmers by 2030 from export markets is \$4.5bn and from domestic and cross-border markets, \$30bn.

Regions such as Latin America and Asia, which have more developed agricultural economies, are well-poised to diversify into higher-value goods. Increasing incomes and urbanisation are shifting dietary preferences away from cereals toward higher-value products such as livestock for meat and milk products, fish, and fruits and vegetables. Horticulture, in particular, provides ten times the return as cereals.¹¹⁹

Scaling-up financing solutions

The process of scaling-up financing solutions for the missing middle may take longer and have more obstacles to overcome, at least in agriculture, than it did in microfinance. That began with philanthropic capital and, as it has matured, a minority of urban micro-credit operations have already become able to offer acceptable risk-adjusted rates of return and attract diverse sources of private capital.¹²⁰ Several MFIs, originally donor projects, have

become full service banks and have reduced or eliminated their dependence on soft finance sources. A handful of micro-credit providers have achieved high rates of return but many observers believe this has come as a result of exploiting vulnerable borrowers, thus losing the underlying social context.¹²¹ SME agriculture, however, because it is clearly primarily an economic development tool and only secondarily a short-term poverty alleviation mechanism, may be able to establish itself as an asset class while avoiding this controversial phase.

SME agriculture will also benefit from improvements in physical and regulatory infrastructure that have been discussed. More instances of creative combinations of actors from the commercial banking, insurance, and investment worlds; the new philanthropic capitalist foundations; and reformed and strengthened public-sector and co-operative finance provider networks, will also boost it. The World Bank's new Agricultural Finance Support Facility¹²² funded by a \$20m contribution from the Gates Foundation underlines the co-operative approach. It will make grants to bank and non-bank institutions for activities to increase access to financial services for smallholder farmers, but as profitable business lines.

Buyers and intermediaries in agricultural value chains are another important element – reducing risks for external finance and supplying internal finance along the chain.

Early movers in the missing middle market are making strategic investments in higher-risk projects that give credibility to SMEs in poor countries, and are developing options for lower-risk and longer-term follow-up capital injections. These efforts are ramping up, though so far primary agriculture is not a favoured sector, except for the restricted segment favoured by the more socially-oriented funds. The size and spread of credit commitments to the SME agriculture sector from regional and international banks is already increasing, though as with investment, reliable commercial returns have yet to be proven. Yet the trend is a sign of increased confidence in the capacity and entrepreneurship of agricultural SMEs and the potential for growth and profits in the sector.

Root Capital recently launched a \$63m capital-raising campaign to triple its loan portfolio, which would allow the fund to lend \$121m each year to 350 grassroots businesses.¹²³ That is roughly the cumulative amount lent since it started operations in 1999 and will provide the scale needed for the organisation to break even. Root Capital is just one example of how financial services embedded or linked with value chains can be expected to continue to grow as the integration of production and marketing systems intensifies with globalisation.¹²⁴

On the banking side, the Standard Bank of Africa's \$100m multi-country lending programme, backed by tapering risk-sharing support from Rockefeller and AGRA foundations, will be an important test of returns in SME agriculture. Mitigation of weather risk and market price risk are complementary to this effort, but the use of both index-based insurance and futures markets is still in the pilot phase.

Unlocking agricultural enterprises' access to domestic commercial banks, including reformed agricultural development banks, will also be essential to close the missing middle gap. Encouragement for banks to address the sector and innovate with partners to reduce costs and risks should be the responsibility of the central bank. Local banks have the scale of capital, presence, and cost-base to be competitive, but they need sufficient means of diversification, and access to extra liquidity in difficult seasons. Some local banks need to supplement their demand-deposit bases, though, as noted earlier, these are more stable than commonly perceived, with additional sources of funds, preferably with longer maturities, for lending to SMEs. All banks need properly incentivised lending officers at branch level. Larger banks, internally better diversified,

need to have both effective delegation and strong internal control to make the most of local opportunities.

The judicious use of the guarantee mechanism is increasingly recognised as one key to expanding commercial bank lending. Extending its use to social lenders, who have up to now focused on the Fair Trade segment but are interested in extending to more conventional areas, is a project by the trade association FAST.¹²⁵ The aim is to improve access by removing existing barriers, developing instruments for facilitating access, and to the degree appropriate, creating a sector-specific guarantee fund.

For longer-term enterprise development, quasi-equity financial mechanisms backed by hands-on business development support from local investor teams are gaining momentum, but have yet to extend into the agriculture sector. Moving them down the value chain from the processing stage can be one route, but again there will be need for sustainable and affordable risk transfer services to be in place.

8. Summary and conclusions

Addressing financial costs and risks

Producer associations and other agricultural SMEs are exposed to a narrower range of crop, market, and other risks in comparison to rural household micro-enterprises, which adopt a diversified strategy for survival. This implies that lenders face higher costs in appraising and monitoring a loan because they need to analyse the specific aspects of the enterprise. Also, because of the larger sizes and likely longer periods for such loans, lenders have to become involved with collateral or other more formal guarantees. Private sector lenders can recover these higher transaction costs from interest rate margins and fees but only on fairly large loans. In many cases, agricultural SMEs are too small to absorb this amount of external capital: hence, the missing middle.

Local lenders, whether commercial banks, rural financial co-operatives, or larger MFIs, have an advantage of intimate knowledge of local clientele and their operations, but have a concomitant problem of lack of ready diversification. This requires attention, in part through sources of liquidity that allow them to survive during the inevitable bad times in their locales.

The promise of index-based weather insurance as a mechanism for transferring and pooling risk is great, and expectations are high. However, the technical barriers to its introduction in each locality are usually high, the lead times are long, and the affordability is a potential barrier. Another key hurdle for the mechanism to overcome is climate change. This is imposing a long-term trend of increasing risk, making the insurance approach more difficult to apply, and more expensive.

Nationwide lenders, including larger commercial banks and agricultural development banks, are better diversified – the latter to a lesser extent – but very often do not have good systems for delegating decisions to local rural branches. This requires some training and technical assistance to help them create incentives for decisions at the local level and, at the same time, closer attention to internal audit and financial controls, so that delegation is not abused. Many agricultural development banks need substantial reform in this and other respects before they can make a strong contribution.

Commercial banks in developing countries are not naturally innovative, because they are constrained by legal and regulatory pressures and are risk-averse, on behalf of depositors and conservative shareholders. They will need encouragement, but not direction,¹²⁶ from central banks to address the risks of the agriculture sector, in alliance with partners and complementary inputs.

Government-imposed interest-rate ceilings and subsidised interest rates should be avoided, not only because they are unsustainable in themselves but also because they crowd out sustainable private-sector initiatives. Because the payoff is demonstrably large and so much more certain than intervening directly in the financial markets, government and donor resources are better directed to supporting infrastructure improvements, both financial and non-financial.

Risk-sharing, through partial credit guarantees is a more promising approach, since it works with the grain of the private sector. It also works in the direction of longer-term finance for enterprise development, something which commercial banks are unwilling to embark on alone. New guarantors are emerging in the shape of powerful philanthropic foundations, sometimes in alliance with IFIs, and banks with social as well as financial goals, and a strong agricultural pedigree, such as Rabobank. They use a more sophisticated approach to guarantee contracts, including a tapering element for example,

and benefit from lessons of past experience. They are thus likely to avoid repeating the many past failures of government guarantee funds in the agricultural sector.

Releasing effective demand

Effective demand for missing middle finance is also constrained by a number of factors: too few smallholders are aggregated in producer organisations, hub-outgrower schemes or other grouping arrangements. Larger individual farmers need access to savings and insurance products, often not available, as well as credit, if they are to handle the range of risks it brings. Formal collateral is frequently lacking.

Women farmers, who are especially disadvantaged by educational discrimination; limited mobility; lack of land rights; and social norms, are virtually excluded from agricultural credit and extension services, despite heading up one in five farms; making up most of the agricultural workforce; and sometimes being capable of greater productivity gains than men farmers. Organisational capacity; a business culture; and specific finance management skills are often lacking in producer associations, of both women and men, making them unacceptable as potential borrowers or investees.

Many of these constraints are being tackled by a range of (mainly) non-profit actors, offering technical assistance often bundled with brokering access to external finance, or actual financial supply. Among these are non-government organisations specialising in business development, such as Root Capital, Technoserve, PRIDE Africa, and bank-linked foundations such as Rabobank Foundation. However, these efforts are usually focused on easier market segments, involving high-value export commodities or Fair Trade goods, and relatively large transactions. For producers, especially women, in remote or difficult areas, where transactions are smaller in scale, and oriented more to local food markets, there is more scope for poverty-focused NGOs, such as Oxfam. For these NGOs business development is seen not as the central goal, but rather as a solution to the absence of sustainable livelihoods and a contribution to alleviating household poverty.

The adoption of sustainable agriculture practice, especially for farmers in remote less productive areas, using a LEIT approach is a promising alternative approach to raising productivity, which requires less external capital to finance fertiliser and other inputs, and has long-term advantages, environmental and social, including congruence with carbon sequestration. This is a reminder that maximising the application of capital, or the effective demand for it, is not always the correct approach.

Improving infrastructure – financial and non-financial

Part of the higher transaction costs for lenders comes from the collateralisation process, both perfection (establishing clear legal rights over the asset pledged) and execution (recovering the value of the collateral in the event of default). Therefore, improvements generating flexibility and ease of operation are important. Among these are asset registries; working markets for land in rural areas; and regulations permitting collateralisation of a range of moveable property, including jewellery. A complementary approach is to extend the use of collateral substitutes such as leasing, factoring and contract finance.

The availability of a borrower's credit history reduces the lender's risk. Thus credit information bureaux are valuable. To work well, reporting, even for the smallest loans, needs to be mandatory for all regulated institutions, and the bureau should be open to non-regulated lenders including phone companies and other utilities on the basis of reciprocity (providing data to get data). Confidentiality must also be respected (no names of lenders) to avoid stealing of good clients.

Another barrier to extending SME lending is the persistence of bank supervision, based solely on documentation and rigid norms, for example, using ratios and seeing if loan files have audited financial statements, documented collateral, etc. Although regulators pay lip service to risk-based supervision, few have introduced effective regimes, as the old approach is easier. The new basis means assessing a lender's ability to manage risks systematically, in particular the risks that come from the challenges of diversification and delegation.

Local financial suppliers, such as small commercial banks; rural financial co-operatives; or larger MFIs, can address the missing middle segment more easily if they have apex organisations or their equivalent, which can diversify risk and provide emergency liquidity. Donors and governments have already made contributions to institutional strengthening of this kind and there is scope for further work.

There is more institutional strengthening to be done in reforming national agricultural development banks, which may or may not benefit from privatisation. Again, multilateral donors are important supporters of national governments here.

Electronic and mobile technologies can make a big contribution to improving the infrastructure for financial transactions in rural areas, positively affecting both demand and supply. The use of cellphones and POS devices is particularly beneficial, and their extension to more SME transaction types is desirable. At the same time, attention needs to be paid to dealing with regulatory impediments to their use.

Non-financial physical infrastructure – water supply and conservation; power distribution, roads, transport, telecommunications, schools, health posts, and so on – is usually relatively neglected in rural areas, which obviously weakens farming at all scales and all other rural economic activities, including the finance services sector itself. This is a local government responsibility, though judicious donor support in the form of technical assistance and partial funding can obviously help.

Another high priority for government within non-financial infrastructure is the sponsorship of local, participative agricultural R&D.

Combining aggregation, market linkage, and finance

An important theme in this paper has been that while there is no doubt that aggregating smallholder agriculture improves access to markets, both directly and through intermediary or downstream organisations, the financial constraint may not be so easily relieved because risks and transaction costs are high in relation to expected returns. Finance alone, or linked to, tightly integrated and hence lower-risk value chains, while a valid way of addressing the problem, cannot be the whole answer to the scale of resources needed for smallholder farmers, most of whom, women especially, are not as yet organised in associations. So far, value-chain finance has been mainly concentrated in higher-value export crops or commodities, rather than in staple food production for local or regional markets. External finance provided directly can also better preserve the independence of the primary producers, and encourages the development of local financial institutions.

The most common form of aggregation is the producer association. Other aggregation and market-linkage models, such as the hub-outgrower model and various forms of contract farming, offer an alternative to individual farmers, both those on family plots, and more commonly those with larger landholdings, who want to remain more independent. Again, some of these are focused on international markets, but others are combining local food production and export crops. External finance is sometimes present as a component in these arrangements, leveraged in by the reduction in risk brought about by market linkage.

Concerted and multiple actions required

This paper has sought to show that while the reason for the missing middle finance gap in agriculture is fairly straightforward, eliminating it requires a multi-track approach to match the complex pattern of demand, supply, and infrastructure features.

Overemphasising one solution affecting one type of transaction with its characteristic features and types of participants will not do.

In particular, setting up new institutional arrangements or intermediaries to divert scarce public or donor capital always adds costs, and does not in itself reduce risk, or increase returns. The possible benefits of this type of response, often put in the category of learning, or demonstration of viability, need to be carefully assessed against the danger of duplication of similar initiatives and the opportunity costs for all players involved of employing the resources in this way.

Many of the promising initiatives aimed at reducing the missing middle finance gap identified in this paper rely on combinations of actors, playing to their respective strengths. The common theme is working with the grain of the private sector to remove frictions of various kinds, thus improving the balance between risk, cost, and return. In this way, scale should be achieved. A number of those cited in the paper are reviewed below.

- NGOs with a financial focus and a business development culture are often essential, at least in the early stages, creating linkages and networks between financial suppliers, women and men producers, buyers, and other service providers.
- Multilateral donors can be key sponsors of financial sector reform programmes working with national governments and central banks. Reforms can focus on specific institutions, such as agricultural development banks, or rural financial co-operatives; on better regulation; on improvements to financial infrastructure; and on removing barriers to competition in the supply of rural finance.
- Donors and IFIs have pump-primed innovative financing mechanisms, such as warehouse receipts and leasing.
- Alliances have been forged between commercial banks and non-financial distribution networks, for example, of irrigation equipment or mobile phone services.
- Socially responsible investors of various kinds have been important in fairly traded transaction financing, either working directly or in conjunction with banks. There are a few examples of business development investment in activities closely linked to primary agriculture.
- Foundations and socially-oriented banks are offering partial and temporary guarantees on a commercial basis, sometimes working with other risk-mitigation mechanisms, to encourage commercial banks to take the small-scale agricultural sector seriously as a profitable market segment.
- Poverty-focused NGOs have explored the possibilities of building capacity in women's and men's smallholder groups, and other small-scale producer associations, in remote and difficult locations and then brokering linkages to formal sources of finance to support livelihoods.

Continuation of these and other efforts will be needed, as well as careful and independent evaluations of what works and what does not, if progress to solving the missing middle gap is to be maintained and indeed accelerated.

Notes

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<http://www.ifad.org/events/op/2008/g8.htm> (last accessed 17 November 2009).
- ² Several studies show that the returns to capital for agriculture can be very high in many developing countries: Christopher Udry and Santosh Anagol, (2006) 'The return to capital in Ghana' *Yale University Economic Growth Center Discussion Paper* No. 932; S. de Mel, David McKenzie and C. Woodruff (2008) 'Returns to capital: Results from a randomized experiment' *Quarterly Journal of Economics*, forthcoming.
- ³ Lennart Bage, *op. cit.*
- ⁴ About 90 per cent of the very large potential for GHG abatement from agriculture could be achieved through soil carbon (C) sequestration. 'Enabling Agriculture To Contribute To Climate Change Mitigation, FAO Submission to UNFCCC March 2009'
<https://unfccc.int/resource/docs/2008/smsn/igo/036.pdf> (last accessed 20 October 2009).
- ⁵ Anne Perkins (2008) 'The Future for Agriculture in Africa' *guardian.co.uk* 9 July (last accessed 17 November 2009).
- ⁶ Lennart Bage, *op. cit.*
- ⁷ Standard Bank of Africa, AGRA, and MCA Mozambique (2009) 'Fact Sheet: New Loan Programme for African Agricultural Development' www.agra-alliance.org/.../911_file_AGRA_SBG_MCA_Fact_Sheet_Approved_March18.pdf (last accessed 17 November 2009).
- ⁸ See, for example: Hans Dieter Seibel, Thorsten Giehler and Stefan Karduck (2005) *Reforming Agricultural Development Banks*, Eschborn: GTZ.
- ⁹ Brian Milder (2008) 'Closing the gap: reaching the missing middle and rural poor through value-chain finance' *Enterprise Development & Microfinance* Vol. 19, No. 4, December 2008.
- ¹⁰ The view that agriculture is of overriding importance in rural areas was dispelled as early as the 1970s by the work of Karl Liedholm and others at Michigan State University.
- ¹¹ World Bank (2007) *World Development Report 2008: Agriculture for Development* Washington DC: World Bank.
- ¹² The Moznosti Savings Bank.
- ¹³ This point was endorsed by several interviewees, including Emma Caddy, Director ERM Foundation Low Carbon Enterprise Fund and by Roy Parizat, Project Director, FAST Finance Alliance for Sustainable Trade.
- ¹⁴ Lennart Bage, *op. cit.*
- ¹⁵ J. Hartell, and J. Skees, (2009) *Pre-feasibility Analysis: Index-based weather risk transfer in Mali*, Westport: Save the Children, Washington DC: USAID, and Lexington: GlobalAgRisk Inc.
- ¹⁶ E. Duflo, M. Kremer, and J. Robinson (2009) 'Nudging Farmers to Use Fertilizer: Evidence from Kenya' www.econ.upf.edu/docs/seminars/duflo.pdf (last accessed 17 November 2009).

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- ¹⁷ Jules Pretty, (2008) 'Agricultural sustainability: concepts, principles and evidence' Phil. Trans. R. Soc. B 12 February 2008 vol. 363 no. 1491 447-465
[Hhttp://rstb.royalsocietypublishing.org/content/363/1491/447.abstract](http://rstb.royalsocietypublishing.org/content/363/1491/447.abstract)
(last accessed 17 November 2009).
- ¹⁸ Carbon sequestration involves a variety of practices that either increase the amount of carbon added to soils (as plant residues and manure) and/or reduce the relative rate of CO₂ released through soil respiration, for example, low tillage.
- ¹⁹ FAO (Food and Agriculture Organisation) (2009) 'Enabling Agriculture To Contribute To Climate Change Mitigation', FAO Submission to UNFCCC March 2009
[Hhttp://www.scidev.net/en/key-documents/enabling-agriculture-to-contribute-to-climate-chan.html](http://www.scidev.net/en/key-documents/enabling-agriculture-to-contribute-to-climate-chan.html)H (last accessed 17 November 2009).
- ²⁰ K. Gallagher (2001) 'Stopping Subsidies for Pesticides in Indonesian Rice Production, Sustainable Development International', [Hwww.p2pays.org/ref/40/39707.pdf](http://www.p2pays.org/ref/40/39707.pdf)H (last accessed 17 November 2009).
- ²¹ World Bank (2007), *op. cit.* p154.
- ²² The sequence of economic activities during which value is added at each stage from the growing of crops on farms via processing, marketing, transport, and distribution to the sale of food products in shops.
- ²³ FAO (Food and Agriculture Organization) (2007) 'FAO Focus: Women and Food Security' [Hhttp://www.fao.org/FOCUS/E/Women/WoHm-e.htm](http://www.fao.org/FOCUS/E/Women/WoHm-e.htm)H (last accessed 17 November 2009)
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- ²⁵ Carolyn Hannan (2008) Remarks on 'The situation of rural women: Providing tools for economic empowerment' United Nations, New York, 16 October 2008.
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- ²⁶ FAO (2009b), *op.cit.*
- ²⁷ Lack of land rights include restrictions on ownership and inheritance affecting both the absolute amount and the average size of plot compared to men. For country level detail on percentage ownership by women of rural land see FAO (2007) 'Gender and law: Women's rights in agriculture', Legislative Study No. 76, revised 2007, Rome, FAO.
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- ³⁰ Richard L. Meyer, and Nagarajan Geetha, (1996) 'Credit Guarantee Schemes for Developing Countries: Theory, Design and Evaluations' unpublished report prepared for the African Bureau, US Agency for International Development, Washington DC, 15 April 1996.
- ³¹ In the cotton region of Mali, for example, village associations were transformed overnight by legal decree into co-operatives and expected to begin operating as

enterprises, diversifying into non-cotton activities. Oxfam GB has a programme of capacity-building for co-operatives in the area.

³² M. D. Wenner, S. Navajas, C. Trivelli, and A. Tarazona (2007) 'Managing credit risk in rural financial institutions: what seems to work' *Enterprise Development & Microfinance* Vol. 18 No. 2/3, 2007, pp.158-75.

³³ As collected in Dale W Adams, D. H. Graham, and J. D. Von Pischke, eds., *Undermining Rural Development with Cheap Credit*, Westview Press, 1984. Vogel, Robert C. and Donald W. Larson. "Limitations of Agricultural Credit Planning: The Case of Colombia, Savings and Development. Vol. IV, No. 1, 1980. pp. 52-62.

³⁴ For a collection of articles on value-chain finance see journal, *Enterprise Development & Microfinance* Vol. 18, No. 2/3, September 2007 and Vol.19 No. 4, December 2008.

³⁵ Joachim Bald (2009), *Stability of Small Balance Deposits, A Technical Note, January 2008*, Washington DC: CGAP/World Bank
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³⁶ C. Gonzalez-Vega, G. Chalmers, R. Quiros and J. Rodriguez-Meza (2006) Hortifruiti in Central America, A Case Study About the Influence of Supermarkets on the Development and Evolution of Creditworthiness Among Small and Medium Agricultural Producers, Microreport 57, DAI for USAID
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³⁷ Examples of more flexible banks are Peoples Bank and Hatton National Bank in Sri Lanka.

³⁸ Finance Alliance for Sustainable Trade (FAST) (2009) Presentation to the Specialty Coffee Association of America. 2009. Survey included Burundu, Kenya, Malawi, PNG, Uganda, and Zambia.

³⁹ Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH. the development agency owned by the federal German government.

⁴⁰ Hans Dieter Seibel, Thorsten Giehler and Stefan Karduck (2005) *op.cit.*

⁴¹ The Land Bank of the Philippines, in contrast to the other two state-owned Philippine banks, avoided bankruptcy during the Marcos era because the chairman of the board for this bank (and not for the others) was the finance minister, who recognised that he would end up being responsible for covering the losses that the Land Bank would incur if the typical intrusions were allowed (see Robert C. Vogel and Gilberto M. Llanto, (2006) *Successful experiences of government-owned banks in rural and micro finance: the case of the Land Bank of the Philippines*, Washington DC, USAID).

⁴² A World Bank project in Nicaragua in the 1990s offered an interesting variation on liquidation, as branches of the agricultural development bank were offered at auction to private banks; in towns where there was no private bank, monetary incentives were offered to private banks to purchase such branches if there were initially no bidders.

⁴³ APRACA (Asia Pacific), AFRACA (Africa), NENARACA (Near East North Africa) Rural and Agricultural Credit Associations, ALIDE (Latin America) Association of Development Financing Institutions.

⁴⁴ Credit lines for crop production are available in Senegal at 7.5 per cent and in Sri Lanka at 8 per cent for example, well below market rates of 15 per cent or more.

⁴⁵ The first major study of transaction costs in agriculture, carried out in Honduras in the late 1970s by the Rural Finance Group at The Ohio State University, showed quite precisely the perverse impact of subsidised interest rates on transaction costs, which rose to the point where equilibrium between supply and demand for the subsidised credit

was achieved, with those seeking smaller loans – those who were supposed to be benefiting from the subsidy – being rationed out.

⁴⁶ Reduced emissions from deforestation and forest degradation in developing countries (REDD).

⁴⁷ In the 2008/2009 agricultural season, Malawi is spending \$186m to subsidise fertiliser and seeds for poor farmers, tripling the previous year's figure of \$62m. Malawi's success in this programme, against donor advice, has made the country a grain exporter and helped contain food costs. The emerging consensus is that such subsidies are essential for African agriculture. In November the UN's Food and Agriculture Organization rewarded Malawi President Bingu wa Mutharika, who also serves as his country's Minister of Agriculture, with the Agricola Prize. In Malawi, moreover, the programme has more than paid for itself by reducing costs for food imports (*Africa Focus Bulletin*, 22 Jan 2009).

⁴⁸ Such investments earn high returns, far greater than the cost of money accessible to developing countries. The highest are in agricultural research, rural roads and education, *More and Better Investment in Agriculture Policy Brief* attached to World Bank (2007), *op. cit.*

⁴⁹ This section draws on World Bank, Agricultural and Rural Development Department (2007) *Providing financial services in rural areas: A fresh look at financial co-operatives*, Report no 40043-GLB, Washington DC, World Bank.

⁵⁰ Technical assistance over a sustained period from countries with advanced financial co-operative networks, such as Germany, Canada, Netherlands and the Nordic countries, has often been a productive intervention.

⁵¹ ANDE - Aspen Network for Development Entrepreneurs (2008) Background Analysis July 11th, 2008, Dalberg <http://www.aspeninstitute.org/policy-work/aspen-network-development-entrepreneurs/ande-publications-knowledge-library> (last accessed 17 November 2009).

⁵² However good the percentage return from those small deals that succeed, the absolute profits will not be enough to compensate for the inevitable, and expected, capital losses from investee failures in the high-risk high-return business of venture capital, as well as to cover the transaction costs – essentially the same for a small deal as for a large one, and finally the cost of capital, including the manager's profit share.

⁵³ Finance Alliance for Sustainable Trade (FAST) www.fastinternational.org

⁵⁴ Contract-based lending refers to a three-way partnership arrangement whereby credit is provided based on the value of a buyer's order. The lender is paid directly by the buyer, who subtracts the principal and interest before passing the remaining proceeds onto the producer group.

⁵⁵ Brian Milder (2008) *op.cit.*

⁵⁶ World Bank (2007), *op. cit.* p129

⁵⁷ Kathryn Tully (2008) 'Investors boost the "missing middle"' *Financial Times* 24 June; Root Capital (2009) 'Root Capital Awarded 2009 *Financial Times* and IFC Sustainable Banking Award' Press Release: 4 June; Interview (June 2009) with Brian Milder, Director Strategy and Innovation, Root Capital.

⁵⁸ Interview Vivek Bharati, PepsiCo India (June 2009) and confidential programme review *PepsiCo Contract Farming in India*, IFAD-WFP Management Facility (2008), summarised in Microinsurance Network Newsletter No. 19, September 2009, p2 [Hwww.microinsurancenet.org/newltr/fichier/MI_Newsletter_19_EN.pdf](http://www.microinsurancenet.org/newltr/fichier/MI_Newsletter_19_EN.pdf) (last accessed 17 November 2009).

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- ⁶⁸ Standard Bank of Africa, AGRA, and MCA Mozambique (2009), *op. cit.*
- ⁶⁹ B Milder (2008) 'Reaching the missing middle and rural poor through value chain finance' *Enterprise Development & Microfinance*, Vol.19, No. 4, December 2008. The author points out that the bank did not relax its normal fixed asset collateral requirements, however.
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⁸² Opportunity International Bank of Malawi. Biometric identification, face and thumbprint is available for non-literate customers.

⁸³ The intention is to turn instead to a mix of development finance institutions, commercial banks and venture capital. [Hhttp://www.africainvestfm.com/index3.html](http://www.africainvestfm.com/index3.html)H (last accessed November 17 2009).

⁸⁴ AgDevCo business plan summary [Hwww.agdevco.com/documents](http://www.agdevco.com/documents)H (last accessed November 17 2009).

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⁸⁷ AgDevCo 'Developing Sustainable Agriculture in Africa', Concept Note <http://www.agdevco.com/documents/AgDevCo.pdf>

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⁹⁰ This is typically three to seven years for a venture capitalist who needs it to meet his fund's profit target and recycle capital back to his investors.

⁹¹ Information from Grofin and Shell Foundation publications, Grofin investment manager interview 21 July 2009 in All Africa.com (last accessed 26 October 2009).

⁹² Minimum investment size for GroFin is \$50,000 and agriculture is conspicuously absent from their list of target sectors.

⁹³ 'Due to the unpredictability, GroFin does not finance primary agriculture or other speculative projects. For example, given the effects of climate change, it would be hard to predict profits in primary agriculture. We do however finance secondary agricultural activities when there is value addition to the primary agricultural produce,' explained Guido Boysen [chief investment officer GroFin], interview with All Africa Com, 21 July 2009 [Hhttp://allafrica.com/stories/200907211088.html](http://allafrica.com/stories/200907211088.html)H (last accessed 23 October 2009).

⁹⁴ Given that loan reporting is computerised, there should be no extra cost to banks or the credit bureau from handling data on small loans as well as large. A bonus is the opportunity this gives supervisors to check bank reporting for completeness, including loans to related parties – often omitted.

⁹⁵ Roger D Norton (2004) *Agricultural development policy: concepts and experiences*, Chichester, John Wiley & Sons Ltd/FAO.

⁹⁶ Heywood 'Woody' Fleisig and Nuria de la Pena, at the Center for the Economic Analysis of Law (CEAL), Washington DC, have carried out studies on how to improve collateralisation, including for moveable property, in several countries, mainly in Latin America, but implementation has seldom resulted.

⁹⁷ For more detail on risk-based supervision, see Tom Fitzgerald and Robert C. Vogel (2000) *Moving Towards Risk-Based Supervision in Developing Economies* Harvard Institute for International Development, CAER II Discussion Paper No. 66, May 2000.

⁹⁸ The complexities of implementing supervisory policies that are at least neutral with respect to a formalistic approach to examinations was shown in the Philippines when bank examiners were explicitly allowed flexibility in classifying small loans that were without normal documentation or collateral. Nonetheless, examiners maintained strict standards, recognising that if a loan that they had viewed flexibly later became a problem loan, the problem became their problem.

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¹⁰¹ Ali Zayad (2008) 'An overview of Agricultural Financing Products of SCB Pakistan' presentation, 1st September 2008, Karachi, Standard Chartered Bank Pakistan.

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¹⁰⁵ Christie Peacock (2009) 'Africa: Farming sense' OECD Observer Hhttp://www.oecdobserver.org/news/fullstory.php/aid/1617/Africa: Farming_sense_.htmlH (last accessed 24 November 2009).

¹⁰⁶ Javier Blas (2009) 'G8 admits losing battle against hunger', Financial Times 20 April. H<http://www.ft.com/cms/s/0/3db36d9c-2da7-11de-9eba-00144feabdc0.html>H (last accessed 24 November 2009).

¹⁰⁷ Al Gore and Ban Ki-Moon (2009) 'Green growth is essential to any stimulus' FT.com. 16 February 2009 H<http://www.ft.com/cms/s/0/0fa98852-fc45-11dd-aed8-000077b07658.html> (last accessed 24 November 2009).

¹⁰⁸ This is more likely to occur if government initiatives include inappropriate interventions in financial markets.

¹⁰⁹ *The Economist* (2009) 'Green Shoots' 19 March 2009 H<http://www.economist.com/node/13331189> (last accessed 24 November 2009).

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- ¹¹⁰ [Hhttp://www.highbeam.com/doc/1P2-20664767.html](http://www.highbeam.com/doc/1P2-20664767.html)H and [Hhttp://www.financialexpress.com/news/pepsico-to-sell-seasons-harvest-to-lt-overseas/390581/](http://www.financialexpress.com/news/pepsico-to-sell-seasons-harvest-to-lt-overseas/390581/)H (last accessed 17 November 2009).
- ¹¹¹ Rachel Keeler (2009) *op.cit.*
- ¹¹² Anne Perkins (2008) *op.cit.*
- ¹¹³ World Bank (2007) *op. cit.*
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- ¹¹⁵ Standard Bank of Africa, AGRA, and MCA Mozambique (2009) *op. cit.*
- ¹¹⁶ Farmers apply about 9 kg/ha of fertilizer in Africa, compared to 86 kg/ha in Latin America, 104 kg/ha in South Asia, and 142 kg/ha in Southeast Asia: Source: Study quoted in Jonathan Agwe, Michael Morris, And Erick Fernandes (2007) Africa's Growing Soil Fertility Crisis: What Role For Fertilizer? Agricultural and Rural Development Notes Issue 21 May 2007, Washington DC: World Bank.
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- ¹¹⁹ World Bank (2007) *op.cit.*
- ¹²⁰ Kathryn Tully *op.cit.*
- ¹²¹ In the drive to seek higher returns and improve microfinance's standing as an asset class some commercial investors and their MFI investees have seriously departed from the original concept. Especially since the Compartamos MFI's stock market flotation in May 2007, there has been sharp controversy in the microfinance world over how to balance access to large-scale capital with preservation of the mission to provide affordable and appropriate personal financial services for people living in poverty.
- ¹²² World Bank Group announcement June 8 2009.
- ¹²³ Root Capital (2009) 'Root Capital Announces Launch of Innovative Five-year \$63m Growth capital Campaign', Press Release, 26 March 2009 [Hwww.rootcapital.org](http://www.rootcapital.org)H (last accessed 17 November 2009).
- ¹²⁴ Calvin Miller and Carlos Da Silva (2007) 'Value Chain Financing in Agriculture' *Enterprise Development & Microfinance* Vol. 18, No. 2/3, June/September 2007.
- ¹²⁵ FAST (2009) 'Guarantee Facility for Social Lending' at [Hhttp://www.fastinternational.org/en/node/65](http://www.fastinternational.org/en/node/65)H (last accessed 27 October 2009).
- ¹²⁶ Directed lending to agriculture and other priority sectors at below market rates has long been a policy in India, but banks have not always met their quotas, there is evidence of widespread corruption in credit allocation and small farmers still suffer credit shortages. See for example: India Knowledge at Wharton article 15 November 2007 'Raghuram Rajan on Rewriting the Rules for India's Banks' [Hhttp://knowledge.wharton.upenn.edu/india/article.cfm?articleid=4239](http://knowledge.wharton.upenn.edu/india/article.cfm?articleid=4239)H (last accessed November 23 2009) and Priya Basu (2006), *Improving Access to Finance for India's Rural Poor*, Directions In Development 36448, Washington DC: World Bank.

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