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RURAL AND FARMER FINANCE: AN INTERNATIONAL PERSPECTIVE

Imperial College Wye

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Abstract

A wide range of institutional models and financial products are currently serving, or attempting to serve, the poor's demands for savings and loan services. However, very few of these operate in lower density rural areas or in areas where there has not already been some agriculturally based growth in the rural economy, and virtually none are (a) operating in the conditions faced by the majority of poor farmers in sub Saharan Africa and (b) offering financial products that adequately address farmers' needs for seasonal finance for food crop production. This is partly due to the high costs and risks in the supply of such services, but may also reflect high risks and relatively low returns for borrowers investing in agriculture. However, loan products are often structured in ways that make them particularly unsuited to seasonal lending, unless households have access to alternative cash sources which are not related to agricultural seasonality. There has been a similar lack of interest in and development of micro-insurance services and products, and there appears to be very little in the literature on financial transmission services.

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RURAL AND FARMER FINANCE: AN INTERNATIONAL PERSPECTIVE

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Introduction

This paper reviews current experience and issues in rural finance particularly as they relate to smallholder farmers' access to seasonal capital for crop production. We focus on seasonal crop finance because of its potential importance in addressing poverty in sub Saharan Africa:

- ◆ a little over 70% of the African poor are estimated to live in rural areas, where the extent and severity of rural poverty are greater than in urban areas¹.
- ◆ within rural areas, agriculture is often a key component of the local economy, and is particularly important in the livelihoods of the poor., notwithstanding increasing evidence that own account agriculture often contributes less than 50% to poor rural people's incomes (Bryceson, 2000)².
- ◆ the difficulty that poor farmers have in financing seasonal input purchases for food grain production is a major problem (but not the only problem) constraining agricultural growth in many parts of sub Saharan Africa (Gordon and Goodland, 2000; Govereh *et al.*, 1999; Al-Hassan *et al.*, 1999; Kherrallah *et al.*, 2000³; Reardon *et al.*, 1999; Poulton, 1998; Dorward *et al.*, 1998b; Bryceson, 1999a; Jayne *et al.*, 1997; Scoones and Toulmin, 1999, Brinn *et al.*, 1999)⁴.

Discussion of alternative mechanisms for financing seasonal inputs needs to be placed in the context first of smallholder farmers' broader needs for liquidity and second of specific problems in smallholder agricultural finance.

First, households need liquidity for three main purposes: to make productive investments, for consumption smoothing (where flows of income and consumption do not match), and to meet

¹ Poverty incidence in South Africa follows the same pattern, with 72% of the poor living in rural areas (DFID, 1998). Roberts and May, 2000, report that in KwaZulu-Natal the incidence and severity of poverty are much higher in rural areas than in urban areas.

² Leibbrandt *et al.*, 2000 argue that agriculture is relatively unimportant as an income source for the poor in South Africa: approximately 46% of poor households obtain income directly from own-account agriculture, but agriculture contributes on average only 7% of overall income. However, agricultural income is often underestimated (for example Shackleton *et al.*, 2000 review evidence that wild resources and livestock and crop production on communal lands are commonly substantially undervalued while Eskom, 1998 report that 88% of households raise crops or livestock only for domestic consumption) and agriculture may also play a more important if less direct roles in people's livelihoods than is suggested by simple average income shares. The potential for agriculture to contribute to reducing poverty and vulnerability also goes beyond simple measures of income share, as agricultural assets can provide some buffering against other income variability, and there is also potential for farm: non-farm linkages to generate multipliers within rural economies. Roberts and May, 2000, report that in KwaZulu Natal over 50% of the poor own land, and approximately 40% own livestock.

³ Mosley and Subasat, 1995 argue that the volume of credit for agriculture was one of the few significant variables explaining overall economic growth in African economies in early structural adjustment years.

⁴ An exception to the literature documenting increasing difficulties in crop finance is Kasekende and Atingi-Ego, 1999 who reports that resources allocated to crop finance in Uganda did not decline in real terms after liberalisation. However, no information is presented on smallholder share of this finance. Furthermore the lack of decline following liberalisation may also reflect very low levels of crop finance prior to liberalisation and smallholder difficulties in crop finance for cotton are reported by Gordon and Goodland, 2000.

demands for emergency expenditures. The liquidity required for purchases of seasonal inputs must therefore be seen in the context of the cash flows of other activities, of the ways that these and agricultural income relate to consumption flows (for regular consumption as well as seasonal or occasional expenditures for school fees or social commitments, for example), and of the need for access to funds for emergencies. Households then save up, borrow (or 'save down', to use the helpful terminology of Rutherford, 2000) and invest in insurance substitutes (or 'save through') to allow access to lump sums when needed.

For poorer households who spend a large amount of their income on basic commodities, the distinction between productive and consumption expenditure can often be blurred by their need to invest in minimum levels of consumption to maintain the household's human assets. Such households also have a greater need for insurance substitutes. It is important, then, in considering financial services for subsistence farmers that due attention is paid to a mix of services (saving, borrowing and insurance) and livelihood strategies (farm and non-farm) supporting consumption smoothing and insurance as well as productive investments (Matin, I. *et al.*, 1999).

Second, lending to smallholder farmers to finance purchases of seasonal inputs poses further well known difficulties to potential lenders:

1. Small scale loans lead to very high transaction costs per unit lent (in searching, screening, monitoring and enforcement)
2. These are exacerbated by the dispersion of rural populations and poor communications infrastructure
3. Agriculture is risky and insurance markets are usually non-existent (as they face similar problems to financial markets)
4. Small holder farmers generally lack collateral (in SSA few smallholders have freehold rights over land)
5. Small holder farmers generally lack records and valuations of past income, or future income estimates, or of assets
6. Lending to agriculture in an area faces covariant risks from adverse weather or prices affecting large numbers of farmers in similar ways
7. The seasonal characteristics of agriculture lead to lumpy demands for finance at the start of a season, a period of several months without income (during which it may be difficult to make interest or principal repayments) and then a concentrated period after harvest when both interest and principal payments can be made
8. The seasonal characteristics of agriculture leads to simultaneous patterns of lumpy demand and repayment by all farmers
9. Financial intermediaries operating in rural areas may face a further difficulty in mobilising savings if agriculture is the dominant economic activity, as savers are likely to withdraw their savings at the time of greatest demand from borrowers.
10. The activities of state and donor sponsored agricultural credit agencies in the past have led to a climate of 'strategic default' among farmers in many areas (Poulton *et al.*, 1998) whereby farmers have no incentive to repay loans as a result of past experience of 'getting away with' loan default without any penalties of enforced loan recoveries or even reduced access to future credit opportunities
11. There are particular problems in financing inputs for subsistence crop production as by definition the financed inputs will not directly lead to an increased cash flow from which repayments can be made and although cross financing with other household activities may

generate cash for repayments, this requires that borrowers can (a) engage in activities generating sufficient cash income, and (b) match the timing of such income streams with the repayment requirements.

These various difficulties reinforce each other, for example high risks in agriculture (3, 5) increase the need for searching, screening and monitoring and hence transaction costs, but these are exacerbated by small scale and dispersed borrowers without collateral (1, 2, 4). Large organisations spanning different rural and urban areas may overcome seasonal and covariant risk problems in agricultural lending (5, 6, and 7) but they face particular difficulties dealing with small and dispersed transactions (1 and 2) not backed by collateral (4). For smaller, rural based intermediaries, however, the seasonal and covariant risk problems (5, 6 and 7) tend to be particularly serious, but they are better placed to address problems arising from small and dispersed transactions without collateral (1, 2 and 4).

Application of the New Institutional Economics (NIE) to these issues (and to the general temporal problems of lenders enforcing borrowers' payments, of interest and principle, to provide a secure return to earlier loans) is particularly helpful (Von Pischke, 1999), with its emphasis on analysis of transaction risks and costs and of the role of institutions (see Poulton *et al.*, 1998 for a summary of the application of NIE to these issues). Two key and related concepts that emerge from this approach are *asymmetric information* (whereby lenders do not have as much information as borrowers about the latter's financial situation and repayment intentions) and *adverse selection* (whereby those borrowers most likely to default are those most interested to seek out loans and accept high interest rates, with high interest rates increasing adverse selection as not only will they not deter intending defaulters – and may indeed increase incentives to default and hence *moral hazard* – but they will also reduce lending to low risk/ low return activities and lead to portfolios with a disproportionate number of loans for high risk/ high return activities). As a result lenders need to incur transaction costs (searching for and screening potential borrowers, then monitoring and enforcing contracts) to reduce the risks of transaction failure and loss of both interest and capital. Transaction risks and costs, however, are strongly affected by the nature of the good or service transacted, by the technical and economic environment, and by institutions (defined as 'the rules of the game', North, 1990). Institutions may be further considered in terms of the institutional environment and institutional arrangements (Davis and North, 1971), with institutional arrangements being concerned with parties structuring contracts to reduce their transaction costs and risks (Williamson, 1985, Dorward, 2001), in this case to provide incentives for borrowers to repay.

We now turn to consider alternative means by which the 'frontier' (Von Pischke, 1993) for smallholder farmers financing seasonal inputs may be extended⁵. We structure discussion using the distinction that Rutherford, 2000, makes between three alternative mechanisms by which households may access lump sums when needed: saving up, borrowing (or 'saving down'), and insurance (or 'saving through'). This structure is helpful, but the distinctions are by no means always clear: saving and borrowing are often closely linked, in determining both the liquidity of financial markets and institutions (which need savers to supply liquidity for borrowers to access) and individuals' access to loans (access is often linked to prior savings). The distinction between savings and insurance is also often blurred. We also describe means by which the poor 'save' in terms of the informal, semi-formal and formal sectors (Rutherford *et al.*, 1999). Again, these categories can overlap, as informal mechanisms link with or evolve into semi-formal mechanisms, which also link with or evolve into formal mechanisms.

⁵ Von Pischke, 1993 describes the 'frontier of the formal financial system' as a boundary limiting the operation of formal intermediaries. Beyond this boundary they cannot operate, and personalised, non-formal transactions predominate. We discuss this concept further later in the paper.

Financing seasonal inputs: Savings

Informal ‘saving up’ mechanisms include saving alone, without involving anyone else, either by putting away and accumulating small sums when spending or by allocating and setting aside particular income streams or parts of income streams to finance particular lumpy expenditures. Since regular saving of small amounts of money can be very difficult and risky (in terms of self discipline and protection of savings from theft, accidental loss or calls from family and friends), many people use informal mechanisms to enforce their savings, with savings clubs, ‘money guards’, and fee and deposit (or *susu*) collectors or ‘mobile bankers’. The latter are very common and an important financial institution in West Africa, but are much more rare in East Africa (Rutherford *et al.*, 1999).

Pure ‘saving up’ mechanisms are most commonly found in the informal sector (as savings with semi-formal or formal organisations commonly, but not always, also give some access to credit, as discussed later). The volume of such saving by poor households can be very significant, and Rutherford *et al.*, 1999, and Goldstein and Barro, 1999 argue that in both East and West Africa there is an urgent need for the semi-formal sector to develop a greater range of savings ‘products’ for the poor – and particularly in East Africa where neither deposit collectors nor SACCOs are widespread.

There are, however, significant difficulties for poorer households relying on such savings or ‘autofinance’ for purchase of seasonal inputs as they need to either (a) rely on some regular income source to support consumption (and precautionary) needs through the ‘hungry gap’ period (without jeopardising labour for the crop) or (b) accumulate sufficient savings to support consumption (and precautionary) needs through the ‘hungry gap’ as well as the input purchase. Thus although cross investment from cash crops, local non-farm income, migrant labour and remittances is an important means of financing food and cash crop input purchases for some farmers (e.g. Govereh *et al.*, 1999; Reardon, 1997; Reardon *et al.*, 1999, Jayne, 1994, Savadogo *et al.*, 1998), common patterns of livelihood diversification and relationships between farm and non farm income (where high farm income and non-farm incomes are often correlated: e.g. Reardon *et al.*, 1999, Reardon *et al.*, 2000 Barrett *et al.*, 2000, Toulmin *et al.*, 2000) suggest that this is likely to work only for a limited proportion of generally less poor rural households: households able to grow cash crops (and thus in areas where cash crops are grown), households with significant local non -farm incomes (and thus in areas with a reasonable non-farm economy), and households with members able to engage in migrant or more permanent labour markets elsewhere and able and willing to send remit income, “leaving the mass of semi-subsistence holders to extensify, intensify unsustainably, or exit from agriculture.” (Reardon *et al.*, 1999, p 383). These concerns are very challenging and demand attention to development of financial markets offering low cost savings opportunities for the poor, (for example by lowering transaction costs and price and other risks in holding non-financial assets such as small livestock), and by increasing access of the poor to low cost means of borrowing, to which we now turn.

Financing seasonal inputs: borrowing or ‘saving down’

Informal lending institutions in rural areas include moneylenders and traders offering credit to customers. These appear to be much less common in Africa as compared with Asia (Rutherford *et al.*, 1999). People may also belong to Rotating Savings and Credit Associations (ROSCAs) and Accumulating Savings and Credit Associations (ASCAs) (both very common in East Africa) although in the terminology of Rutherford *et al.*, 1999 these are ‘saving through’ rather than ‘saving down’ institutions. All these institutions rely on local knowledge to screen and monitor borrowers, with loan repayment enforced through peer pressure, social norms and threats to deny access to future financial services. However, they have a limited capital base and repayment incentive structures mean that they often prefer lending for short term and consumption loans and

(with the exception of interlocking transactions by agricultural traders, discussed below) are not keen to lend for agriculture and natural resource based enterprises (Jones *et al.*, 1999). Informal lending institutions often have problems in accessing wider financial services, due to remoteness from these and due to informational and administrative incompatibilities. The lack of linkage between banks and informal organisations prevents the latter from expanding lending beyond their own limited capital base, and may also increase risks to depositors. However, as compared with formal organisations, they tend to have much greater access to local information and institutional arrangements that lower transaction risks and costs. There may therefore be potential for establishing links with formal organisations that allow them to access more funds and thus increase the volume and spread of their activity, allowing wider access by the poor on more favourable terms (Seibel, H.D., 1999b). However, there will still be a challenge in encouraging greater involvement in seasonal crop finance (Jones *et al.*, 1999).

Interlocking transactions (Poulton *et al.*, 1998) are an institutional arrangement whereby buyers of a crop provide inputs on credit at the beginning of a season and recover the input and credit costs when subsequently purchasing the crop. Conditions under which interlocking transactions will provide a sustainable and equitable means of input financing are quite restrictive (Dorward *et al.*, 1998a, p257-259): strong incentives for traders to increase the volume that they process; competition between traders to protect farmers' bargaining positions; high returns to seasonal input use (compared to alternative activities, to provide strong incentives for farmers to continue in interlocking relations); some form of restricted competition or information sharing between traders that allows them to penalise defaulting borrowers by denying them access to credit from other possible lenders; and some minimum scale of transactions (suggesting relations with larger scale farmers, with local assembly agents or with farmer groups). In liberalised markets such conditions are normally found only with cash crops with significant economies of scale in marketing or processing, and traders may also be credit constrained themselves (although cash crop traders are often better placed to access formal sources of working capital). However, in the past some parastatals used this method effectively in financing food crop inputs (Kydd *et al.*, 2001), but this required a monopsony in maize purchases and possibly monopolistic and rationed input supply as well. Cash crop traders or processors may also provide inputs for food crop production as a service to attract and support farmers producing cash crops (e.g. Govereh *et al.*, 1999, Poulton, 1998). As with informal lenders, traders offering interlocking contracts have been more common in Asia than in Africa, and it is often associated with concerns about the equitability of the relationship between farmers and traders (e.g. Harris White and Janakarajan, 1997, Rajeev and Deb, 1998,⁶ and see Dorward *et al.*, 1998b, Govereh *et al.*, 1999, Rusike *et al.*, 2000 and Gordon and Goodland, 2000 for further discussion on this topic).

Another institutional arrangement along these lines is the development of supplier credit relationships between input wholesalers and local traders. In Zimbabwe CARE has worked with local traders and input wholesalers to develop systems and bilateral relationships of trust allowing traders to stock fertilisers and other seasonal inputs on credit, and some traders have begun to offer some inputs to farmers on credit (Rusike *et al.*, 2000; IFAD, 2001). This works best when traders are involved in both farm input and output marketing.

Turning to consider formal sector lending institutions, commercial banks have historically played virtually no part in providing seasonal credit to smallholder farmers. Partly as a consequence of that, prior to the 1970s, concern about smallholder farmers' access to seasonal finance led to large investments under the "old credit policy" (Ellis, 1992). This addressed (naively, with subsidised systems) some of the inherent problems in providing rural credit, but exacerbated others and fell

⁶ Harriss, 1983 and Stockbridge *et al.*, 1998 provide more positive Asian examples.

out of fashion in the course of the 1980s. The model's problems are widely recognised, with high costs (for both lenders and borrowers), political patronage, limited outreach and rationing, financial repression, and lack of savings mobilisation making them ineffective, expensive and unsustainable (Von Pischke *et al.*, 1983b; Adams, Dale W. *et al.*, 1984; Adams, Dale W. and Vogel, 1986; Braverman and Guasch, 1986; Yaron *et al.*, 1998, Matin, I. *et al.*, 1999). Recognition of these failings has led to them being largely discredited, and attention of donors and governments has turned elsewhere, although the original critique recognised that they had worked in some situations (eg Braverman and Guasch, 1986) and writers on agricultural development often mention state support in the provision of seasonal finance as an important and widespread ingredient in government support to successful agricultural modernisation (e.g. Eicher and Kupfuma, 1998; Morris and Byerlee, 1998; Kirsten and van Zyl, 1996)⁷. There are also occasional examples of highly successful agricultural development banks serving smallholder farmers, notably (and almost uniquely) BAAC in Thailand and BRI in Indonesia⁸. BAAC reaches over 80% of Thailand's smallholder farmers, using both group and individual loans. It uses funds from both rural depositors and outside sources (whereas BRI's deposits exceed its loans) and currently charges an average of only 11% on loans (this would need to be raised to 15% to eliminate subsidies) and its operating costs are only 3.5%. BRI makes only individual loans and has higher operating costs, but it charges higher interest rates and earns the highest rate spread, and in 1995 could have reduced its yield on its loan portfolio from 31.6 to 16.3% and remained free of subsidy (Meyer, 2000). Meyer, 2000 identifies the systemic features of success in BAAC and BRI (and the Grameen Bank) as a policy environment that allows them to set their own interest rates and select their own clients⁹, a legal and regulatory framework that allows them to mobilise deposits, effective organisational information systems, and continuing institutional development of products, services, repayment incentives, management skills, staff incentives, and human capital.

However, there are examples of organisations continuing to provide subsidised agricultural credit. An example of this approach continuing in Africa with some modifications and some success comes from a programme supported by Sasakawa Global 2000 and the Ethiopian Government. In a recent review of this Howard *et al.*, 1999, reported that although the technical and credit programme had been financially profitable for farmers, economic analysis suggested that its wider viability depended on the overall maize situation in the country: viability of production for export was dubious, but if incremental production substituted for imports then wider economic gains exceeded costs even if extension and credit administration costs were allowed for. However, problems common to such programmes were noted with regard to high credit administration and extension costs and constraints on the supply of finance (with competition for limited funds between alternative uses as the programme has no savings component, relying on revolving donor and government funds, and charging interest rates of between 10 and 15%). Default rates were

⁷ There are, however, considerable difficulties in empirically estimating the benefits from such support Von Pischke *et al.*, 1983a; Adams, Dale W., 1988

⁸ BRI (Bank Rakyat Indonesia) is widely cited as an example of a successful agricultural bank. However, although it operates very successfully in rural areas in both mobilising deposits and in extending loans, loan products are not designed for seasonal agricultural inputs and only 20% to 25% of lending is directly recorded as agricultural (Seibel, H. D. and Schmid, 1999. Nevertheless, in the context of the massive increase in lending by the Bank, this is a large increase over lending by BIMAS, the earlier subsidised 'old agricultural credit' organisation, and Seibel, H. D. and Schmid, 1999 argues that farmers are using BRI loans to finance non-farm activities, and autofinance with profits from these, together with trader credit, allows healthy funding of agricultural activities. The Agricultural Development Bank of Nepal (ADBN) may be another example of an agricultural development bank that is achieving significant success in outreach and sustainability (Seibel, H. D., 1999a).

⁹ BAAC still administers a small number of 'government mandated special programmes which grant subsidised agricultural credit to targeted beneficiaries... but the negative impact of these programmes on BAAC performance has led to a gradual reduction in their share of the overall loan portfolio' (Klein *et al.*, 1999 p 38)

reported as ‘acceptable’ but this had often required heavy handed recovery methods. These problems are likely to intensify as the programme scales up, expanding to include less favourable zones and poorer farmers, increasing risks to farmers, risks of default, competition for funds, and competition for limited funds and staff.

An alternative model for savings and lending institutions is provided by savings and credit cooperatives (SACCOs). Goldstein and Barro, 1999, classify financial organisations in West Africa as type 1 institutions, large cooperative networks with members’ credit needs almost entirely financed by members’ savings (including membership fees); type 2 institutions, medium-sized cooperative networks with a savings volume insufficient to finance credit needs and therefore using donor-financed credit lines or funds from specialized banks; and type 3 institutions, practicing a credit-first methodology, where saving is not a prerequisite for access to loans and lending is financed through external sources, although compulsory savings may serve as evidence of the ability to put aside money for repayments and to a lesser extent as a loan guarantee. This typology includes savings and credit cooperatives (SACCOs) under types 1 and 2, and micro finance institutions (MFIs) under type 3. Caisse Villageois and Village Banks are forms of client owned financial institution intermediate and evolving between these types (Outtara *et al.*, 1999, see Box 1 for a discussion of Caisse Villageois). This categorisation covers a huge range of different types of organisations and approaches, with varying governance and ownership structures, varying savings and loan products, and varying outreach and sustainability.

There are examples of SACCOs with wide rural outreach in Francophone Africa, where there is a long history of such mutual organisations (e.g. FCECAM in Benin, RCPB in Burkina Faso, Kafo Jiginew in Mali and FUCEC in Togo). These can be very effective in savings mobilisation, offering competitive and popular savings products. They can also offer a range of loan products, some structured for agricultural lending (with balloon repayment schedules), with a range of mechanisms promoting repayment – collateral, strong social ties, minimum savings balances (often 25 to 30% of the loan amount), and guarantees¹⁰. However, their requirement for membership fees, savings and collateral means that they often reach better off villages and individuals, and exclude poorer communities and individuals. Attempts to develop loan products that deepen outreach (for example bringing in poorer women) remove the savings, membership and collateral requirements and use a more conventional ‘Grameen’ type approach (with small short term loans through small solidarity groups and regular small repayments) and hence are not structured to be compatible with lending for seasonal agriculture unless these regular repayments can be funded either from other (informal) borrowing or from other income sources. SACCOs can also provide a route for expansion and ‘graduation’ of village banks and MFIs to become sustainable client owned financial intermediaries. However, rapid expansion of SACCOs as channels of credit from outside funding sources can lead to borrowers’ (short term) interests dominating management decisions and diluting members’ incentives for prudent management and protection of deposits, leading in turn to problems with loan and client screening, loan repayment, control of operating costs, and setting of interest rates paid to depositors and of interest rate spreads (Outtara *et al.*, 1999, Goldstein and Barro, 1999). However, without access to such funds their ability to meet demands for loans to members may be severely constrained, particularly in areas where economic activity is highly dependent on and dominated by agriculture¹¹. Experience with such organisations in East Africa has been much less positive, and they are much less common (Rutherford *et al.*, 1999).

¹⁰ Goldstein and Barro, 1999 suggest that members of these organisations are interested in their savings products primarily as a means of accessing loans, but this is not supported by Outtara *et al.*, 1999.

¹¹ Although if clients include, for example, input and output traders as well as farmers there may be some complementarity between patterns of withdrawals and deposits of these different groups. Goldstein and Barro, 1999 suggest that savings rates are higher among urban members of such organisations and where they have significant

presence in both urban and rural areas then urban deposits can be used to finance rural lending (e.g. RCPB in Burkina Faso). This requires a very strong national organisation linking local SACCOs.

Box 1 Caisse Villageois in the Pays Dogon in Mali

Following the development of the CVECA concept by a French NGO (CIDR), and initially successful but not completed pilot projects in Burkina Faso in the early 1980s, the Pays Dogon region in Mali was selected for a more sustained testing of the concept from 1985. The region is characterised by strong social cohesion within Dogon villages (which remained isolated and very traditional), low income levels (with no traditional cash crops) but nevertheless economic vitality shown by the presence of many markets, entrepreneurial spirit, and local savings capacity. The area has a serious lack of arable land but is an important millet growing region, and vegetable growing is important (using rain harvesting techniques). Population density is relatively high (18.4 persons per km², compared with 6.1 persons per km² for the whole of Mali). Infrastructure is very poorly developed, with many roads impassable during the rainy season and few telephone lines.

By December 1996 there were 52 CVECAs in the Pays Dogon region. These were set up in villages that met project criteria of minimum size (at least 500 inhabitants), social cohesion, market proximity, organisational vibrancy, savings capacity and credit demand. Bank structures are similar to existing traditional groups, and formation of a bank in a village required formal agreement and request from the village to the project. The project then provides training and a safe and book keeping documents, the village nominating a management committee and officers and constructing a building with local materials. Each bank has one to three tellers, with a 'controller' who checks the books every two weeks. A management committee is elected by the annual general assembly, which is composed of all village members (irrespective of their membership of the CVECA), and which also approves savings and lending rates and decides on how to allocate profits.

The CVECAs offer a range of savings and loan products. Savings products include current, term, deposit and savings plan accounts. Term deposits attract interest at around 21%. By far the majority of loans are short term loans which run from 1 month to a year and from US\$5 to US\$900 or more, with a single repayment. Loan interest rates in 1996 averaged 43% across the different CVECAs, (most banks had initially set higher rates in order to build up a capital base, and then lowered rates as the CVECAs became more profitable). Collateral is required for loans and although this may be of relatively low market value, loss of use value is an important incentive to repay, although social pressure within the village is probably the most important repayment incentive.

Other notable features of CVECAs in Pays Dogon concern membership, structure of members' savings and borrowings. Membership has expanded dramatically to over 21,000, representing 17% of the adult population of the region and 67% of the adult population in villages with CVECAs. Average bank membership doubled from 1993 to 1996. However, only about half of the membership is active in any one year. Non-members tend to be both the poorer and more wealthy village residents (non-members have a higher mean income but lower median income as compared with members). Members continue to use traditional forms of saving (traditional groups, tontines, or money keepers) to the extent that their cash savings in these and in CVECAs are roughly equal. However CVECAs are strongly preferred for borrowing, accounting for 90% of members loans. However, only about 40% of members take a loan each year. In 1996, 82% of loans were for trade purposes, with 13% for agriculture and stock raising (although these figures probably under report loans taken for consumption purposes). Many loans were very small, with about 60% under US\$50. However, loan sizes have been increasing. Although reported recovery rates are very high (at 99% in 1997), this is an over-estimate due to unreliable data and methods of calculation: in fact there are some CVECAs in a precarious position with delinquent loans approaching 40% of total outstanding loan volume. Loans have been increasingly financed using outside sources of funds, with donor funds channeled through the BNDA (Banque Nationale de Developpement Agricole) financing 55% of outstanding loans in 1996 (up from 32% in 1993). These funds are charged at 8% p.a. (the same rate as BNDA charges to its best agro-industrial clients).

Source: [Fruman, 1998 #347]

Many SACCOs in West Africa have programmes within them and links with what Goldstein and Barro, 1999, term ‘type 3 institutions’, identified as the ‘semi-formal sector’ by Rutherford *et al.*, 1999, but more generally known as Micro Finance Institutions (MFIs). Again, there is enormous variation in these regarding the lending and savings products they offer, their governance, and their outreach and sustainability, and some MFIs are now registering as banks. A characteristic shared by most MFIs is a focus on small short term loans associated with compulsory regular (weekly, fortnightly or monthly) savings and repayments. Many of them have a strong emphasis on lending (Rutherford *et al.*, 1999, Hulme *et al.*, 1999, Goldstein and Barro, 1999) with saving seen as a means of developing and demonstrating ability to make regular repayments and of building up individual and group funds to (a) act as loan collateral and (b) provide funds to meet emergencies. Many have used a group lending approach to reduce transaction costs for the MFI and to encourage peer group pressure for loan repayment, although Mosley and Hulme, 1998 report that there are no consistent differences in performance between programmes using individual and group loans. Other common characteristics are graduated access to increasing loan sizes and a wider range of loan products, high interest rates to cover costs, effective management information systems, low operational and fixed costs, and loan officers that are locationally and socially accessible to clients and have clear incentives and delegated authority.

Many of these characteristics are similar to those of successful formal sector institutions outlined earlier, but some of these characteristics are not conducive to lending in poor rural areas, or to lending for agriculture. The vast majority of successful MFIs operate either in urban areas or in densely populated rural areas with a strong non-agricultural economy and/or agriculture which has already started to ‘modernise’. Rutherford *et al.*, 1999 and Hulme *et al.*, 1999 report that in East Africa almost all MFIs are located in urban areas or in rural market centres located along major roads, and (with the exception of one or two MFIs) are also largely inactive in and absent from the poorest districts. Similarly, the vast majority of MFI clients tend to be small traders or micro entrepreneurs¹². However, the extent and nature of lending in agriculture is often difficult to determine, as (a) the nature of MFIs means that they often do not collect much information about the precise uses of loans, (b) fungibility makes it difficult to determine what contribution any particular source of liquidity makes to household activities, and (c) where loan uses are recorded, the term agriculture often covers a wide range of activities, and may include small stock rearing, vegetable production and small scale agricultural trading (all short term activities) in addition to seasonal finance for subsistence or cash crops.

There are examples of MFIs working in rural areas and offering loans for agricultural purposes. Some of these are well known and documented, for example Financiera Calpia in El Salvador (Klein *et al.*, 1999, Navajas and Gonzalez-Vega, 2000). Financiera Calpia, operating in one of the most densely populated countries in the Western Hemisphere (Navajas and Gonzalez-Vega, 2000), has extended its operations from a largely urban base to target rural areas as well, and has at the same time developed high levels of performance in terms of outreach (with both lending and deposit mobilisation), portfolio performance and profitability. In 1997 92% of its rural loans were

¹² These comments apply more widely, for example there are suggestions in Bangladesh that higher default rates may result from selection of ‘sparsely populated’ or ‘unproductive or strictly agricultural areas’ (ASA email from sharen@). Sharma and Zeller, 1999 find that branch placement across ASA, BRAC and PROSHIKA in Bangladesh tends to favour areas with better transport and communication infrastructure and lower risks of distress but with lower literacy rates. It is not, however, significantly affected by population density or the percentage of the population that is urban. For two of the NGOs, branch placement is also higher in areas with a higher proportion of marginal farms (with area less than 0.5 acres). Once a branch is established, however, rates of outreach and uptake tend to be higher in areas with higher risks of distress and in areas with a higher proportion of farms over 0.5 acres, but is not related to infrastructure. For two of the NGOs studied, rates of outreach and uptake were also positively related to market density.

allocated to agricultural lending, with loan write-offs of less than 0.7% (Klein *et al.*, 1999). Navajas and Gonzalez-Vega, 2000, identify key features of Financiera Calpia's success in

- a) recognition that the household/ farm is a financial unit integrating a variety of economic activities with expenditures and incomes, with an emphasis in lending decisions and monitoring on repayment capacity rather than funds utilisation;
- b) management of systemic risk in agriculture by three levels of diversification (household diversification across activities supports both risk control and cash flows for repayment, together with lending for a range of agricultural and non agricultural activities by rural branches, supported by diversification across rural and urban branches);
- c) promotion of benefits from long term relationships for both lender and borrowers;
- d) use of collateral, including non-traditional collateral from poorer households, which though it may not perform the function of reducing the lender's loss from default, signal the lenders' intentions to recover loans and strongly increase the borrower's incentive to repay;
- e) strong emphasis on delegated and decentralised decision making by well trained loan officers who can make prompt decisions about loan authorisation and disbursement;
- f) regular monitoring of clients' use of funds, not so much to control their use but to ensure that repayment capacity is not jeopardised, to encourage appropriate changes in use to match changes in opportunities, and to strengthen the borrower-lender relationship and signal the seriousness of the lenders' intentions; and
- g) an efficient MIS and a commitment to loan recovery (including seizure of collateral where necessary) to signal to other clients. A key element in Financiera Calpia's success is the performance of its loan officers. Most of these have a first degree in agricultural science, are experienced and well motivated.

Klein *et al.*, 1999 draws similar lessons from success in an examination of BAAC from Thailand, Financiera Calpia, and Credit Municipales de Ahorro y Credito (CMACs) in Peru. PRODEM is another organisation effectively serving farmers in Bolivia, with similar, if more flexible, products to Financiera Calpia, and similar strengths (Lee, 2000). A number of questions remain, however, about the broader applicability and sustainability of these models (see Table 1 below). While BAAC has very high operating efficiency and wide outreach, this is not the case for Financiera Calpia and CMACs, which were still small and incurring high loan administration costs. BAAC's lower loan administration costs are partly due to the extensive branch network (established with the support of government financed investments over many years), use of group loans, and large loan sizes, but Financiera Calpia, and CMACs (and PRODEM) also have large loan sizes in comparison with likely loan sizes for food crop producers in sub Saharan Africa. In addition, Financiera Calpia, and CMACs both place emphasis on diversified incomes of borrowers supporting cash flows for repayments (Klein *et al.*, 1999 report that most borrowers from Financiera Calpia possess farm assets with an approximate value of US\$7000, have diversified income sources, and live in areas with relatively good infrastructure and transport facilities, and PRODEM's clients appear to be similar, with significant assets and areas under cash crops such as coffee or soya beans). It is therefore doubtful that these models would transfer to many (poorer) areas in sub Saharan Africa (but lessons can nevertheless be learnt from these institutions regarding, for example, risk management and other aspects of good practice).

Table 1 Performance Indicators of BAAC, Calpiá and CMACs¹³

	BAAC	Calpiá	CMACs
No. of branches involved in agricultural lending (1996)	650 (850 field offices)	15 out of 68 loan officers, 10 branches	6 out of 12
No. of rural borrowers (1996)	2 435 836	5850	4 572
Outstanding loan portfolio to individual farmers (US\$ million) (1996)	5 589	42.2	7.3
Average Agric. Outstanding loan size per borrower (US\$) (1996, 1997 for Calpiá)	2 286	720	1 607
Outstanding rural loans per loan officer (1996)	400-500	390 (median)	325-583
Loan administration expenses as % of average outstanding loan portfolio (1996)	3.3%	20.4%	22.2%
Financial expenses as % of average outstanding loan portfolio (1996)	7.1%	9.1%	16.8%
Financial income as % of average outstanding loan portfolio (1996)	10.4%	39.4%	55.0%

In addition to the above examples of MFIs providing larger agricultural loans, there are also MFIs in Asia and Africa who are looking for ways to provide smaller loans to poorer rural households. Unfortunately it has not yet been possible to obtain detailed information about most of these (for example BIMAS in India, KREP and WEDCO in Kenya and the Centenary Bank in Uganda (P.Mosley, *pers.comm*)) or about less well known programmes within established MFIs¹⁴. Most of these, like Financiera Calpia, and CMACs, harness other, more regular income flows for the gradual repayment of seasonal agricultural loans and may also have lower seasonality of cash flows due to irrigation and/or bimodal rainfall patterns. Repayment of loans may also, of course, be paid for by borrowing (e.g, Matin, M., 1999, Sinha, 1998). Existing MFI lending technologies may therefore finance seasonal input purchases if households can in turn finance the regular repayments either from other income or from other borrowing. There may, however, be other ways to attempt to overcome the problems of high fixed costs in loan management for small loans for dispersed producers, as suggested by limited information available about ICRAF's activities in lending to small scale farmers in western Kenya (see Box 2).

¹³ Source: Klein *et al.*, 1999 page 42, data for 1996, except for Financiera Calpia on branches, borrowers and outstanding loans which are approximate estimates from medians per loan officer in 1998 made from Navajas and Gonzalez-Vega, 2000.

¹⁴ Matin, M., 1999, for example, reports that prior to 1992 the Grameen Bank in Bangladesh offered small fertiliser and irrigation loans with balloon repayments at harvest but that repayment performance on these loans was generally poor and they were replaced by 'seasonal loans' with similar maturity and repayment periods to general loans, although he suggests that these too have suffered from repayment problems as a result of over rapid credit deepening. These loans also do not follow the normal Grameen practice of group members taking it in turns to borrow as seasonal loans must all be granted at the same time, but a number of authors report that joint liability for loan repayment is seldom enforced in the Grameen Bank (Matin, M., 1999, Jain, 1996,).

Box 2: Lending Through Village Organisations in Western Kenya

Lack of phosphorus has been identified as a key constraint on agricultural performance in the smallholder production systems of the western Kenyan highlands. In 1998, as a way of promoting phosphate fertiliser use, ICRAF distributed small quantities of rock phosphate fertiliser free to communities with whom it had been working for several years. A positive farmer response to the fertiliser encouraged ICRAF to develop an informal credit scheme, operated by staff of its Maseno research base, to allow farmers to continue to access necessary phosphorus supplies.

Since 1999 the scheme has been operated in three sub-locations of Siaya District (comprising 28 villages). ICRAF delivers the rock phosphate, packaged in suitably small quantities, to sub-locational committees, which it originally helped to form as a vehicle for researching and promoting agroforestry technologies in the area. These then distribute the rock phosphate to village committees, who in turn distribute it to pre-existing groups (church, women's, youth). Groups decide which of their members should receive it.

The end borrowers take the rock phosphate as credit in kind and pay a full 10% interest per month on the value of their loans. Repayment of the principal is made via the village and sub-locational committees to ICRAF. The interest, however, has been distributed amongst the groups (50%), village committees (25%) and sub-locational committees (25%), as a way of funding them to conduct the other activities (e.g. technology dissemination) that they are encouraged to undertake in collaboration with ICRAF.

Lending takes place both during the main (long rains) agricultural season and the minor (short rains) one, although the number of borrowers during the latter is much lower. According to a draft ICRAF report on the scheme, in 2000 a total of 503 farmers received Rock P across the three sub-locations, taking on average 25kg each. During the 2001 long rains season this number rose to 1200. At Kshs 18 per kg, this amounts to a total sum loaned of around £5000. Repayment rates were somewhat disappointing in 1999, following the free distribution of fertiliser in 1998, but have since improved dramatically, as committee members have instilled into farmers' minds that loans have to be repaid.

ICRAF's aim now is to find a "good exit", with private input distributors taking over the provision of the rock phosphate (and other inputs in the area that farmers are interested in) and with financial institutions providing seasonal loans. Two established microcredit organisations have so far expressed an interest in exploring this possibility. The challenge is to find a way whereby the existing committee structures can reduce the screening, monitoring and loan collection costs incurred by the financial institutions in servicing these communities.

COLIN, COULD WE HAVE SOME COMMENT ABOUT (A) HOW THIS WORKS (EG HOW IS REPAYMENT SCHEDULED, AND (B) WHAT MAKES THIS INTERESTING? EG LOWER LOAN SIZES THAN LATIN AMERICA, WHAT YOU WERE SAYING ABOUT SHIFTING OF TRANSACTION COSTS, EFFECTIVE CROSS SUBSIDISATION DESCRIBED A LITTLE ABOVE BUT NOT EXPLORED– THIS IS A THEME THAT WE DO NOT CURRENTLY PICK UP IN THIS PAPER – PERHAPS WE SHOULD, I HAVE HINTED AT IT IN LATER DISCUSSION ABOUT EXTENDING THE FINANCIAL FRONTIER. HOWEVER IT IS A THEME WE MAY WELL WANT TO DEVELOP – EG IN THE PPAG PROJECT. – WHERE WE MIGHT ALSO WANT TO USE THE FINANCIAL FRONTIER DIAGRAM?).

From the evidence presented above it appears that the frequently cited success stories and examples tend:

- to be in higher population density areas, often where agricultural modernisation is already under way, with consequent diversified non-farm economy and non-farm incomes not found in poorer areas;
- to provide loans which are often not structured in ways that allow them to be used for financing seasonal crop inputs (for example with regular monthly repayment instalments) unless households' are able to use some other source of cash to finance loan repayments;
- seldom provide evidence that they are in fact financing seasonal crop inputs¹⁵ or where they are directly engaged in agricultural lending are often in higher population density areas and work with better off farmers with collateral and other sources of income (for guarantee purposes rather than repayment), offering larger scale loans (when compared either with the loan sizes under non-agricultural lending schemes, or with sums required by subsistence farmers to finance seasonal input purchases).

There are exceptions to these generalisations, and these require further study, but it appears that there are few if any current working models for extending the frontier for access to seasonal finance for poorer farmers in poorer rural areas. These observations allow us to suggest that the concept of the 'financial frontier' (Von Pischke, 1993) can be usefully extended to loosely consider the ways that population density, economic activity and wealth affect households' access to financial services (see figure 1 below).

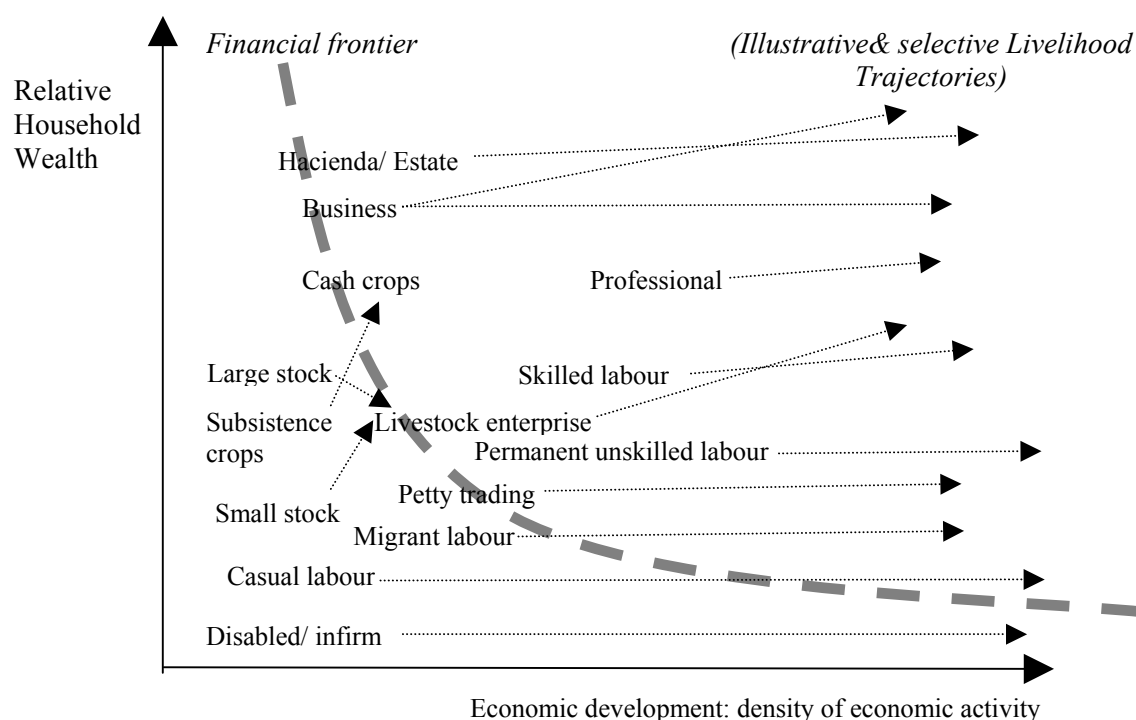


Figure 1: The Financial Frontier, Wealth and Development

¹⁵ Although problems of fungibility make it difficult to identify what any loan is financing, in the absence of access to equivalent cash sums (from savings, incomes or loans) from other sources, the options for fungibility are limited, demonstrating that either loans are not supporting agriculture directly or indirectly, or their effectiveness relies on a fairly high flows of cash in the household economy).

Figure 1 suggests, in a very broad and illustrative way, how the financial frontier may shift and access decline as one moves from greater to lower density of economic activity and from higher to lower relative household wealth. Many MFIs have been highly successful in shifting the financial frontier access downwards to households with lower wealth in areas of higher economic density: the challenge now is to either develop institutional arrangements and financial products that shift the frontier down in (poor rural) areas with lower density of economic activity, or to find other, sustainable, ways of shifting the frontier down, recognising the potential for longer term benefits of such a shift in increasing the density of economic activity, or the possibility of cross subsidisation with wider benefits (along the lines discussed in Box 2).

How then may institutional arrangements and financial products be developed to shift the frontier down in poor rural areas? A general lesson that emerges from this review (and it is not a new lesson) is that there are three broad necessary (but not sufficient) conditions for the frontier of access to be extended: a favourable environment, effective organisational management and low cost lending technologies that meet clients' demand. We briefly discuss each of these in turn.

Many aspects of the **environment** in which a financial organisation operates will be important to its activities and performance. We highlight the following aspects of particular importance:

- ◆ a political and regulatory environment that allows deposit mobilisation and independent setting of interest rates, client selection, and loan recovery enforcement (recent events in Bolivia provide a salutary reminder this);
- ◆ a reasonably stable economic (and institutional) environment that supports entrepreneurship by yielding returns to investment by borrowers; and
- ◆ a social environment that allows development of local information networks about borrowers and potential borrowers and, for group lending, some solidarity between group members. High population densities reduce the costs that lenders incur in screening, monitoring and enforcing transactions.

Important aspects of effective **organisational management** found in successful organisations (and missing from many failed organisations) were discussed earlier, and include independent professional managers, governance structures that protect the interests of depositors, well structured staff incentives and training programmes, efficient information systems, and continuing product development.

A major feature of the dramatic increase in MFI activity has been the development of lending technologies that both meet demand and are efficient in reducing transaction costs and risk for lending institutions and their clients. Table 2 presents some of the different elements in lending technologies reviewed in this section in terms of the way that they reduce costs or increase effectiveness in screening, monitoring and enforcing transactions. The final three columns ask how far these elements may be appropriate in lending products aimed at financing seasonal agricultural inputs, aimed at the rural poor, and aimed at seasonal financing for the poor. It is striking that a number of the key elements of lending technologies offered by MFIs are not suitable for agriculture (e.g. regular repayments and compulsory savings), and the alternative elements introduced to replace these (e.g. collateral, household budgets) are often not suitable for the poor. The table illustrates the difficulties and challenges that exist in designing lending technologies that can be implemented with sufficiently low transaction costs and risks to allow cost recovery from small, dispersed (and thus administratively expensive) loans.

Table 2 Features of lending technologies

	Effectiveness in reducing transaction costs/ or increasing performance in:					Suitability for:		
	Screening		Monitoring	Repayment		Agriculture	Poor	Poor agriculture
<i>Lending technology</i>	Self selection	Selection by Lender		Incentive	Enforcement			
Regular repayments	✓	✓	✓			? ¹⁶	✓	✗
Repeat / graduating loans				✓		✓	✓	✓
Compulsory Savings	✓	✓		✓	✓	? ¹⁷	?	?
Group lending	✓	✓	✓	✓	✓	? ¹⁸	✓	?
Collateral	✓	✓		✓	✓	✓ ¹⁹	✗	✗
Household budgets		✓				? ²⁰	✗	✗
Interlocking			✓	✓	✓	✓	?	?

¹⁶ Regular repayments will pose problems for poorer households without other large and reliable enough regular income sources

¹⁷ Savings may be difficult to maintain over the seasonal financing and hungry gap period without other sources of income or borrowing.

¹⁸ Covariant risk in agriculture may increase the likelihood of the ‘domino effect’ during repayments but benefits in screening remain.: groups may also exclude poorer, higher risk entrants.

¹⁹ Collateral requirements should not pose problems for the less poor, especially if non-traditional forms of collateral are used.

²⁰ Drawing up household budgets will be very expensive for lower loan sizes

Identification of these three conditions necessary for extending the frontier of access to seasonal finance leads to different strategic approaches to the development of financial services (see for example Seibel, H. D., 1999a): regulatory development (improving the policy and regulatory environment, including the framework of financial supervision); institutional development (improving the financial infrastructure and transforming roles and interactions of different players²¹); organisational development (improving the governance and management of financial organisations); and product development.

Our focus is on the last of these, product development, but this can only occur with and must be designed for an effective regulatory environment, working financial institutions, and a well managed organisation.

In addition to these conditions necessary for the supply of financial services to seasonal agriculture, there must also, of course, be demand for such services: this requires agricultural technologies, agro-ecological conditions and input and output markets that yield attractive and relatively low risk returns. In some areas where climatic risks are high, average returns in more intensive agriculture may just be too low to justify investments and risks. Elsewhere farmers need some sort of insurance mechanisms to guard against risks of enterprise failure, whether this be due to widespread problems such as drought or low output prices, or due to more specific problems of local flooding or hail, fire, or household problems such as acute or chronic sickness. We therefore turn now to consider farmers' access to insurance mechanisms.

Financing seasonal inputs: insurance or 'saving through'

Zeller and Sharma, 2000, argue that insurance is the 'missing third of micro- finance' and that an important part of financial services should be to enhance the poor's ability to bear risks. Provision of insurance services to the poor is not, however, an area that has enjoyed much prominence or success, and this is particularly true in agriculture. Mosley (*pers. comm.*) argues, however, that whereas many micro finance organisations lead with lending services, followed by saving services (with deposit taking often constrained by banking regulations), and are not involved in insurance at all, the requirements of the poor are first for insurance, then for saving (without minimum deposit or transaction constraints) , and then for borrowing.

Insurance in agriculture faces many similar problems as lending, with high transaction costs and risks as a result of asymmetric information, adverse selection, moral hazard, small insured amounts, and high monitoring costs. Informal insurance mechanisms include ROSCAs and membership of social networks (with both horizontal and vertical relations), and households may also engage in precautionary savings, for example investing in jewelry, livestock or savings accounts. These mechanisms may be effective for dealing with idiosyncratic risk (events that strike individual households in a locality) but (with the exception of financial savings²²) are much less effective in dealing with covariant risk (for example the effects of drought, adverse price changes, or a disease

²¹ An important aspect of institutional development that has not been explicitly discussed elsewhere in this review is the relationship between more local micro-finance institutions and banks. 'Linkage banking' is a concept being promoted within Africa (see for example Seibel, H.D., 1999b) and it would appear to offer opportunities for overcoming combining the strengths of both local and national institutions, with the involvement of the former allowing lower information and transaction costs while the latter reduces problems of covariant risk and seasonal cash flows, allows the benefits of financial intermediation across sectors and urban and rural areas, and can provide greater financial regulation and supervision in the microfinance sector. However, with moves by some banks to move into microfinance themselves, and by some microfinance NGOs to become banks, relationships between these institutions can also become competitive (Reinke, 2001).

²² And the effectiveness of savings is limited by the ability of a household to save up sufficiently, a particular problem for the poor.

epidemic). The amount that can be insured by precautionary savings is also constrained by the short term ability to save up sufficient volumes of savings to provide the desired cover. Insurance is, however, likely to be of particular concern for poor households looking to borrow for a productive investment, as an event that prevents them from realising a return from that investment may place them in the potentially disastrous situation of needing to finance the burden of future loan servicing and repayment without any increased assets or income.

This is of especial concern in agriculture where both idiosyncratic and covariant risks tend to be high. Here the needs for and difficulties with insurance are both very high. A number of large scale programmes in the 1960s and 70s failed, and the conventional wisdom has been that such large scale approaches should be approached with great caution (Hazell *et al.*, 1986). There may be scope, however, for agricultural insurance schemes that (a) confine themselves to insuring against covariant rather than idio-syncratic risk, (b) consequently use more regional or area rather than farm based assessments of risk, and (c) operate at a smaller scale with greater use of peer monitoring and other (local) incentives and information to address problems of information asymmetry, adverse selection, moral hazard and hence high transaction risks and costs. Mosley, 2000, reports three schemes adopting different combinations of these. These schemes are in their early stages of design or implementation, and their performance cannot yet be evaluated, but their innovative features hold promise, as does the increasing interest in delivering micro-insurance services to the poor. However, these feature tend to reduce the correlation between personal risk and insured losses, and thus reduce the effectiveness of the insurance (and indeed take on more of the characteristics of a lottery).

Transmission services

Transmission services, allowing clients to transfer funds from one area to another are given very little attention in the literature on micro finance services in sub Saharan Africa outside South Africa. This is surprising given the importance of internal and international migration in Francophone West Africa, and the increasing importance of remittances in rural livelihoods throughout the continent (Bryceson, 1999b). It also has important implications for seasonal financing of agricultural inputs as a number of authors report the use of remittances for agricultural investment (for example Govereh *et al.*, 1999). It poses important questions about the demand for such services and the ways that rural people currently transmit funds: for example what is the relative importance of formal and informal transfer mechanisms? what are the relative costs, risks and speed of transfer under these methods? and how does access to them vary for different client groups? This may be an area where there could be important benefits from linkages between commercial banks and microfinance and informal institutions.

Conclusions

Where does this review of agricultural finance for the rural poor lead us?

Formal lending to smallholders has often suffered from an unfavourable investment climate, politicisation, poor management, lack of emphasis on savings mobilisation, and unsustainable products. However, the collapse of formal lending programmes in sub Saharan Africa has left, and accentuated, a gap in seasonal finance particularly for grain crop production, a gap which has not been filled by farmer savings, interlocking credit, informal or semi formal institutions, or the new generation of MFIs which in sub Saharan Africa have tended to focus on urban areas or, where they do work in rural areas, less poor areas with better access and less dependence on seasonal agriculture. Examples of MFIs which lend directly for agriculture exist, particularly in Latin America, but for those reported in the literature average loan sizes are relatively large and lending technologies (for example use of collateral and of household budgets) are unlikely to be sustainable for smaller scale and more dispersed loans for subsistence crop production. A small number of

MFIs are currently experimenting with seasonal agricultural lending in Africa. Understandably these tend to be located in more favourable areas with lower climatic risk, less marked seasonality, and a range of crops, including both cereals and horticultural crops. Further information is needed about these MFIs, which both link repayments of seasonal loans to regular sources of non-farm income, and provide some flexibility in scheduling a greater proportion of repayment after harvest.

The current situation is summarised in table 3 which suggests possible approaches for increasing access to seasonal finance under different levels of agricultural and non-agricultural activity in an area.

Table 3. Options for Seasonal Crop Financing

		Agricultural activities in household	Level of agricultural activity in area	
			High	Low
Level of non-farm activity in area	High	Cash crop with or without subsistence crop	Interlocking? MFI (agric, standard)	Interlocking? MFI (standard)
		Subsistence crop only	MFI (standard)	MFI (standard)
	Low	Cash crop with or without subsistence crop	Interlocking? SACCOs? CVs?	Interlocking? SACCOs? CVs?
		Subsistence crop only	?	?

In areas with high levels of non-farm activity, some (better off) farmers may have access to sufficient alternative income streams to use standard (individual loan) MFIs to finance seasonal inputs, and specific agricultural lending (following the BAAC or Financial Calpeo models) may also be viable where households are growing cash crops. In areas without such non-farm activity, however, these are unlikely to work. Depending upon the nature of the cash crop and market structures, however, interlocking arrangements may be viable in cash crop production²³ (although if farmers have few alternative income sources and there are few traders, the traders may capture an undue share of the benefits of these transactions). Options for financing inputs for subsistence crops under these circumstances are, however, very limited. In areas with low agricultural potential, there may be insufficient returns or too high a risk to make seasonal borrowing and lending viable. Where, however, the agricultural potential could provide returns to seasonal inputs sufficient to justify investments in them, the challenge remains to push back the financial frontier by developing appropriate institutional models for sustainable financial service provision, with innovative saving, borrowing, insurance and transmission products and service mixes. Even here there will be many situations where the difficulties caused by the low levels of economic activity and service demand in poor rural areas, with associated high costs and risks for borrowers and lenders, means that although financial services may be financially non-viable. Under such circumstances public investments in technological and market development for crop production and/or in temporary institutional support to reduce or spread these costs and risks may be justified by wider and longer term economic and welfare benefits from 'kick start' markets and stimulating

²³ Interlocking arrangements for cash crop production may also support inputs for subsistence crops for the same farmers (Govereh *et al.*, 1999, Whiteside and Carr, 1997).

economic activity so that these costs and risks fall sufficiently to make formal financial services financially sustainable.

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