



Innovative Agricultural Financing Models

Gideon Onumah (NRI)

Gerdien Meijerink (LEI Wageningen UR)

AGRINATURA

November 2011

Lack of finance limits smallholders' productivity and income growth

Access to finance remains a major challenge for smallholder farmers in most developing countries. The problem often is seen in terms of limited access to **production credit** to buy and use farm inputs as well as pay for non-family farm labour and other farm maintenance costs. Because smallholder farmers cannot afford yield-enhancing inputs, farm productivity often remains low on smallholder farms despite available technology for achieving higher yields. However, smallholder farmers also face major difficulty in accessing **post-harvest credit**, leading to severe household liquidity constraints which often compel them to sell the bulk of their produce at harvest when prices are extremely low. Financial constraints also prevent them to condition produce to meet quality requirements in premium markets. This way they miss out on opportunities for higher household income. Furthermore, smallholders have limited access to formal savings facilities because there are few financial institutions that provide such services in rural communities. Consequently, smallholders tend to hold their wealth in non-liquid assets (e.g. livestock and household goods), risking loss through theft, fire or other perils. Insurance and price hedging instruments are almost non-existent because markets for these are missing or severely under-developed.

This brief reviews some of the advances being made in developing countries to address financing constraints in the rural/agricultural sector by identifying financial models that improve access to financial services to smallholders. It focuses particularly on sustainable models that are embedded in enduring transaction-based relations in agricultural value chains

Factors limiting access to finance by smallholder farmers

Smallholder farmers, who tend to be perceived as high risk, are often excluded from the credit market because of a number of reasons. Their household income is uncertain because of variability in output, which in turn is due to variation in the weather, which is becoming more acute as a result of climate change. Farm production is also affected by diseases, pests and other natural factors. Most smallholder farmers in developing countries are not able to insure themselves against these risks. Nor can they access effective instruments to hedge price risks to which they are highly vulnerable as a result of inefficiencies in marketing systems and/or *ad hoc* policy interventions. Due to low per capita rural income, most smallholders do not meet the minimum equity contributions that financial



intermediaries require from borrowers. Furthermore, smallholder usually lack assets considered as suitable collateral by financial intermediaries. In addition, factors such as high administration costs (because smallholders farmers are small and widely dispersed), poor and costly contract enforcement and acute information asymmetry problems further make smallholder farmers unattractive to formal financial intermediaries.

Past interventions in rural/agricultural finance: frustrating outcomes

In the past, particularly in the 1950-70s, governments and donors focused on increasing the supply of “affordable” finance to target farmers in the rural sector without particularly tackling underlying fundamental constraints in rural financial markets. The interventions included provision of input credit (often including subsidies on the cost of inputs as well as interest rates) through co-operatives promoted by governments. The supply of credit was sourced from donor funds, direct government budgetary allocations and credit quotas imposed by central banks. In many developing countries, agricultural development banks were established with the statutory mandate of providing agricultural credit. Most of these programmes proved ineffective and unsustainable on a global scale and contributed to significant distortions in financial markets in many developing countries¹.

Consequently, these supply-led interventions were abandoned in the 1980s as part of measures to liberalise financial sectors. As market-clearing interest rates were promoted and strict compliance with prudential regulations was enforced, financial intermediaries became more risk averse and reduced their exposure to agriculture and the rural economy. For instance, bank lending to agriculture in Africa was almost halved with the abolition of sectoral lending quotas while most commercial banks in Nigeria, for example, preferred paying penalties to complying with agricultural lending quota regulations².

By the 1990s, microfinance emerged as a potential panacea, prompted by the failure of both state-led credit programmes and financial liberalisation to improve supply of agricultural/rural finance. In this era, a number of NGOs converted into full-service micro-finance institutions (MFIs) targeting rural and micro-entrepreneurs replicating the Grameen model. The principal pillars of microfinance were more effective targeting of the poor (in both rural and urban areas), market-determined interest rates and better loan recovery through scheduling loan repayment in a manner that imposed minimum financial strain on poor households (basically requiring weekly repayment of very small amounts). The repayment schedules were closely monitored by MFI personnel as well as by peer groups which offered joint guarantee of borrowers. However, the farm sector has not benefited much from supply of microfinance³. This is largely because of the mismatch between the typical extremely short-term repayment schedules (monthly payments) and the structure of farm-related revenue flows with only a few harvest moments a year.

Is there light (or mirage) at end of the tunnel: innovations in agricultural finance?

It is apparent from the preceding section that promotion of efficient, sustainable and widely accessible agricultural finance systems remains a major development challenge in most developing countries. As lack of production credit often weakens demand for yield-enhancing inputs,

¹ Yaron J., McDonnald P. B., and Piprek G. L. (1997) “Rural finance: issues, design and best practices”, Environmentally and Socially Sustainable Development Studies Series No.14, The World Bank, Washington.

² Shepherd A. and Onumah G. E. (1997) “Liberalised agricultural markets in Ghana: the role and capacity of government”, *The Role of Government in Adjusting Economies Studies Paper 12*, University of Birmingham.

³ Murdoch J. (2000) “The microfinance schism”, *World Development*, Vol.28, No.4, pp.617-629.



governments are often under pressure to restore or maintain government-run subsidised input distribution programmes as is happening in many Eastern and Southern Africa countries (Malawi, Kenya). However, the emerging evidence suggests that this approach may neither cost-effective nor sustainable⁴. There is, therefore, the pressing need for innovations that will improve access to agricultural finance, especially for smallholders, a sector that dominates agricultural output in developing countries. We review some of the recent innovations in this section.

a. Expanding access to rural finance: by linking community-based financial organisations to larger formal financial intermediaries

Community-based financial organisations (CBFOs) are user-owned, user-operated intermediaries. Though some are informal – as they are not registered – many can be described as semi-formal because they are registered as associations which offer financial services but are not regulated. Examples include Rotating Savings and Credit Associations (ROSCAs) and Savings and Credit Cooperatives. CBFOs usually offer savings and credit facilities to members. They have several comparative advantages over formal financial intermediaries. Their lack of capital requirements and prudential banking regulations imply that CBFOs are relatively easy to set up and can enjoy considerable operational flexibility. Their operating procedures are rather simple and suited to the needs of a population that may be largely illiterate. Because they have intimate knowledge of their clients (members) CBFOs significantly reduce information asymmetry problems. However, principally because they are unregulated, they are not able to mobilise resources from non-members, thus limiting their intermediation capacity. It is for this reason that some CBFOs have forged mutually beneficial links with mainstream financial intermediaries, which can channel excess loanable funds through local intermediaries which are better able to enforce loan recovery. In Sri Lanka, a World Bank-supported programme is promoting links between rural banks and CBFOs “providing the banks with easy access to a large number of rural customers”⁵.

b. Expanding access to rural finance: promoting rural/community banking

Rural and community banks have been promoted in countries in Asia (e.g. Philippines) and Africa (e.g. Ghana) since the 1970s as regulated banking institutions with some of the informal features that characterise CBFOs. For instance, capital requirements are relatively low and community ownership is encouraged through floating low-priced shares. Their operating systems are quite simple and informal – for instance thumbprints and photos replace signatures in authenticating transactions – a feature that allows access by illiterate clients. Deposit accounts are also quite liquid – they are interest bearing but customers are not penalised for frequent withdrawals – doing away with some of the withdrawal restrictions that mainstreams impose on savings accounts. They are far less bureaucratic than mainstream banks, therefore, decision-making is pretty quick – they are able to do this because of the intimate knowledge they have of their clients as staff and managers reside in the communities in which the banks are cited.

Community-based banks have enhanced access to finance in rural communities but face considerable challenges in achieving financial sustainability mainly because of the small size of their

⁴ **Chisinga B (2010)** “Seeds and subsidies: political economy of input programmes in Malawi, Future Agricultures Working Paper 013, August 2010; **C. Nkonde, Mason N.M., Sitko N.J. and T.S. Jayne (2011)** “Who gained and who lost from Zambia’s 2010 maize marketing policies”, Food Security Research Project Working Paper No. 49, January 2011.

⁵ **Anne Ritchie (2010)** “Community-based financial organisations: access to finance for the poorest”, Focus 18 Brief 3, 2020 Vision for Food, Agriculture and the Environment, IFPRI/The World Bank.



markets⁶. Some have responded by extending their network into urban areas though their clients remain predominantly rural⁷. Uninsured farm risks also restrict delivery of farm credit and/or may adversely affect the quality of their assets, leading to solvency crisis, especially where enforcement of banking regulations is lax. Innovations to address these challenges include linking community-based banks to other financial institutions; and setting up quasi-regulatory structures dedicated to these banks. They can also improve their business prospects by extending the range of services they provide to include farm extension and agricultural insurance (retailing appropriate insurance products on behalf of mainstream insurance companies, thereby improving the risk profile of their clients⁸.

c. Innovative group-based, mutual credit guarantee schemes

Credit guarantee schemes (CGS) have been used by governments, donors and NGOs to promote credit delivery to smallholder farmers as well as micro, small and medium-scale enterprises (MSMEs). In theory, by reducing collateral requirements and sharing the risk of default, these schemes enable farmers and MSMEs to access credit otherwise not available to them – that is they foster *credit additionality*. However, the effectiveness of CGS funded by governments, donors and NGOs in improving access to finance has been questioned by a number of researchers⁹. Sustainability of most schemes have been in doubt largely because of *moral hazard* problems – where beneficiary borrowers appear to have incentives to default – as well as *adverse selection* problems – where lenders finance high risk borrowers with the assurance that losses will be covered in the event of borrowers default.

Mutual credit guarantee schemes (MCGS) appear to have the potential to overcome some of major shortcomings of the traditional CGS¹⁰. Under the MCGS, groups, including smallholder farmers' groups, set up funds to guarantee credit extended to members. The fund is established from contributions from members or levies on revenues generated through collective marketing. The *moral hazard* problem is reduced through peer screening and peer pressure from members. The funded guarantee is a more robust supply of finance to private operators because there is a readily available fund to cover loan default. In contrast, under the traditional group lending system, members only mobilised resources to cover the cost of default after the event.

d. Easing access to collateral in farm households

Smallholder farmers lack assets which can be collateralised, partly because valuation and liquidation of rural assets, especially land, can be frustrated by lack of effective legal/registration systems and missing markets for such assets¹¹. Even where suitable real estate in rural locations is mortgaged, there can be difficulties with liquidation as a result of culture-related opposition from the

⁶ Nair and Fissaha (2010) "Rural banking: the case of rural and community banks in Ghana", Agricultural and Rural Development Discussion Paper No.48, Washington, DC, World Bank, 2010.

⁷ G. van Empel (2010) "Rural banking in Africa: the Rabobank approach", Focus 18 Brief 4, 2020 Vision for Food, Agriculture and the Environment, IFPRI/The World Bank.

⁸ See discussions by Mahajan V. and K Vasumathi (2010) "Combining extension services with agricultural credit: the experience of BASIX India, Focus 18 Brief 13, 2020 Vision for Food, Agriculture and the Environment, IFPRI/The World Bank; and Campaigne J and T Rausch (2010) "Bundling development services with agricultural finance: the experience of DrumNet", Focus 18 Brief 13, 2020 Vision for Food, Agriculture and the Environment, IFPRI/The World Bank.

⁹ They include Meyer R and G. Nagarajan (1996) "Evaluating credit guarantee programmes in developing countries", Rural Finance Programme, Department of Agricultural Economics and Rural Sociology, Ohio State University, June 1996.

¹⁰ Discussed in Green A. (2003) "Credit guarantee schemes for small enterprises: an effective means to promote private-sector-led growth", UNIDO Working Paper No.10, August 2003.

¹¹ World Bank's World Development Report, 2001.



community¹². However, lenders can use stored commodities as collateral under warehouse receipt systems (WRS) or inventory credit systems. This form of collateral is more readily available to rural producers and may be less difficult to liquidate. For instance, availability risk associated with movable collateral can be reduced by the warehouse operator's guarantee of delivery from a stated location. The risk of loss of value of the collateral can be reduced by monitoring movements in its market value, as well as by margining and the use of price risk management instruments¹³. Foreclosure can be made simple and at low cost, without any resort to the courts depending on how the financing is structured. In many countries WRs are transferred to lenders under pledge, an arrangement whereby title to the goods remains with the borrower. However, it is also possible for full transfer of title under mortgage to be effected, allowing lenders to quickly realise the asset without risk of legal battles.

e. Delivering financial services via mobile technology

The development of mobile telephony has an important impact on transactions in rural communities. In the early 2000s it transformed access to market information disseminating price data and other market relevant information. In recent years it is also opening up access to financial services. It has been reported that the mobile phone has revolutionised payments systems in many African countries since the launch of M-PESA in Kenya in 2006¹⁴. The system facilitates money transfers (usual from urban dwellers to rural households); payment of bills, including school fees; payment of wages and salaries of rural-based workers and settlement of business bills. The system is gradually evolving into provision of other financial services with the recent introduction of M-KESHO which allows for deposits into and withdrawals from savings accounts. The initial uptakers were the previously "unbanked" clients but others who use mainstream banking facilities are increasingly relying on the system for transactions involving small amounts.

f. Value chain financing

Agricultural value chain financing is broad terminology that includes flows of funds and financial services to and among various links in an agricultural value chain. It encompasses **internal chain finance** occurring between parties in the chain – examples include credit extended by input suppliers to farmers; advances from traders to farmers and trade credit provided by producers to traders and from small to medium-scale traders to large-scale traders and processors.

Value chain financing also includes external chain finance – often involving provision of credit and other advances by financial intermediaries to players in agricultural value chains. These transactions are often based on or made possible as a result of the integrity of relationships between various players in the chain and the extent to which the links reduce default or non-performance risk. Examples of this form of financing are discussed below.

i. Local Purchase Order and receivables financing

Financing contracts and/or invoices issued for services provided or goods delivered is short-term (often less than six months) financing which is intended to meet the working capital needs of

¹² Onumah G.E. (2003) "Improving access to rural finance through regulated warehouse receipt systems". Paper presented at conference on "Paving the way forward for rural finance", Washington, 2-4 June 2003.

¹³ For detailed discussion on WRS see Coulter J. and Onumah G.E. (2002) "The role of warehouse receipt systems in enhanced commodity marketing and rural livelihoods in Africa", *Food Policy* Vol.27, pp.319-337.

¹⁴ S. Lonie (2010) "M-PESA: finding new ways to serve the unbanked in Kenya", Focus 18 Brief 8, 2020 Vision for Food, Agriculture and the Environment, IFPRI/The World Bank.



sellers/suppliers. This can be useful to farmers' organisations which undertake collective marketing to secure relatively low-cost finance for procuring commodities from their members. For instance, a Local Purchase Order (LPO) issued by a miller to a farmers' association can be presented to the bank which will provide credit for procuring grains from the members. The LPO is evaluated on the basis of the track record of the issuing buyer (miller). The financing contract will require that the buyer makes payments through the financing bank, enabling it to liquidate the facility granted. Invoice financing is another means by which suppliers or sellers can ease short-term liquidity constraints or cash flow problem. Similarly, confirmed invoices issued to credible procurers can be used to obtain finance, sometimes of up to 90% of the value of the invoice from commercial banks.

ii. Lead firm financing

This form of financing occurs where a major end-user – e.g. a processing company – is financed by a bank, enabling it to providing upstream financing to other players including producers and traders.

iii. Improving access to finance through third-party mitigation of risk

Guarantee of performance by credible third parties can mitigate credit risks and ease the flow of finance in agricultural value chains. For example, warehouse operators and collateral managers guarantee delivery of stored commodities, thereby making it possible to collateralise the inventories for financing purposes.

Forward contracts and over-the-counter put options which guarantee a floor price at a future date decrease price risks and makes inventory financing more attractive to lenders. They are normally issued by credible buyers (major trading companies or end-users) but it is possible for governments and relief agencies to use similar instruments with the goal to facilitate stockholding by farmers and farmers' organisations. Options traded by commodity exchanges serve the same risk management purpose, but are only marginally used and only allowed at the moment in South Africa.

Emerging conclusions

This review has shown that innovative tools exist or are emerging to enhance financing in agricultural value chains. It is apparent that those which have demonstrated potential to ensure sustainable delivery of finance to producers (including smallholder farmers) and other players in the value chain involve the use of various mechanisms to mitigate the production and post-harvest risks which are prevalent in the sector. Replication of these innovations, however, depends on whether the required enabling regulatory and policy environment can be created to support the development of sustainable market delivery. Some of these contextual issues are further explored in ongoing studies being undertaken under ESFIM.