



**Small-holder credit in Uganda: roles
of farmers, government and the
private sector**

**Report of field work conducted in Uganda during
September and November 1998**

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ABBREVIATIONS

ACE	Audit Control & Expertise
ADC	Agribusiness Development Centre
ATAIN	Agent Training and Input Network
BAT	British American Tobacco
BEC	Bugangaizi Export Commodities Limited
BOU	Bank of Uganda
CBP	Capacity Building Programme
CDO	Cotton Development Organisation
CSDP	Cotton Sub-sector Development Programme
DAO	District Agricultural Officer
DCDC	District Cotton Development Committees
DFD	Development Finance Department (Bank of Uganda)
DFID	Department for International Development, United Kingdom
IDA	International Development Association
IDEA	Investment in Developing Export Agriculture Project
IFAD	International Fund for Agricultural Development
LMB	Lint Marketing Board
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MFI	Micro-finance Institution
NGO	Non-Governmental Organisation
NRI	Natural Resources Institute
PAP	Poverty Alleviation Project
PCC	Parish Credit Committees
RFI	Rural Financial Institution
RFS	Rural Farmers' Scheme
ROSCA	Rotating Savings and Credit Association
UCB	Uganda Cooperative Bank
UGEA	Ugandan Ginners and Exporters Association
UNFA	Uganda National Farmers Association
UWFCT	Uganda Women's Finance and Credit Trust
VOCA	Volunteers in Overseas Cooperative Assistance

SUMMARY

Cotton smallholders in Uganda have a number of potential sources of credit, including government/donor driven projects (including both those targeted specifically at the cotton sector and those more generally aimed at smallholder production), commercial banks, micro-finance institutions (including NGOs) and informal sources. A review of these sources reveals that the smallholder sector is poorly served. Partly as a response to this, within the cotton sector a number of private non-financial sector approaches have been implemented in the past three seasons to improve the access to inputs for cotton smallholders.

The input credit schemes share similar characteristics to outgrower schemes, with input provision linked to output marketing. The experiences in the cotton sector have been mixed. The failure of the North Bukedi Cotton Company scheme provided useful lessons, especially with regard to the problem of strategic default (farmers selling to an alternative buyer). The approach in the 1998/99 season has seen the formation of a national association of ginners, who jointly take the liability for the provision of inputs on credit to smallholders. This approach overcomes the problem of strategic default, though may encounter significant inefficiencies which may not be apparent until the crop is harvested.

The analysis of the experiences in cotton and other sectors where the private non-financial sector has provided credit services (notably tobacco), enabled the identification of key determinants of success. These include: the non-fungibility of inputs; lack of alternative uses for outputs; the ability to ensure repayment; and the will and ability of the private sector to provide such a service.

A review of other crop sub-sectors in Uganda reveals further candidates for private sector led credit - but all are non-food cash crops. The problem associated with applying this approach to food crops is the alternative uses for the crop, which can be consumed within the household or traded at local markets, thus jeopardizing the repayment.

The research has highlighted the low input - low output nature of smallholder production in Uganda. Increased access to inputs is essential for increasing smallholder productivity. Provision of credit services only provides part of the solution. Other critical factors include: the development and multiplication of improved varieties; the local availability of inputs; and extension services to increase the effectiveness of input use.

PROJECT BACKGROUND.

The agricultural supply response to market liberalisation in sub-Saharan Africa has been extremely variable, but often disappointing – particularly for food crops. For some crops and regions, it seems that policy-makers over-estimated commercial willingness to become involved in the marketing of small-holder production. Perceived risk, poor information, and high transaction costs have contributed to an often weak commercial presence in the more marginal or remote areas. Yet the parastatals that formerly provided output and input marketing services, sometimes with a credit component, have been largely dismantled. For many small-holders, this leaves a critical gap in the provision of agricultural marketing and associated rural services.

Smallholder access to agricultural services (financial services, inputs, extension, output marketing) is recognised as a critical constraint to agricultural development in sub-Saharan Africa. State withdrawal puts the onus on the commercial sector to provide these services. In wishing to facilitate a greater commercial role in the provision of rural services, development agencies are particularly interested in partnership approaches, which build on the competences of commercial, non-governmental and public players.

The research reported here was conducted as part of a project whose purpose is to examine credit delivery models, where the commercial sector has been willing to provide credit to small-holders for production inputs. Such schemes usually link credit repayment to crop purchase. The initial research comprised a review of credit delivery schemes in the cotton sectors of Uganda and Zimbabwe, where private sector companies have taken the lead in providing credit to cotton small-holders. The intention is to identify key conditions for success, such that the models (or an adaptation) may be applied to other crops or situations. Stakeholder workshops are to be held in both countries in early 1999, to review the research results, and identify additional applications and priorities for further work on input supply and credit.

THE UGANDA STUDY

This report documents the findings of desk research and fieldwork conducted in Uganda. The purpose of the author's visit during September 1998 (and subsequent work by Ann Gordon in November 1998) was to review the current situation in the cotton sector, documenting the recent history in the provision of credit to smallholders. This required a brief overview of the cotton sector in Uganda, and an understanding of rural finance, in particular of small-holder access to credit. Key conditions relating to the operation and sustainability of input credit schemes were identified, in order to determine scope for adaptation of successful models to other commodity sectors or situations. The lessons learnt may shed some light on appropriate and/or necessary conditions for private sector involvement in the provision of credit to smallholders. Full Terms of Reference are attached at Annex II.

THE COTTON SECTOR IN UGANDA

Cotton has a long tradition in Uganda, stretching back to the start of the century. It has traditionally been grown by a large number of smallholders, frequently farming in marginal areas. Smallholders typically grow cotton alongside food crops which are either consumed within the household or marketed. Crops are usually grown in rotation, and cotton has an important role within this. Cotton is generally the first crop in the rotation, and by cultivating cotton the yields of the subsequent crop, normally millet, but also groundnuts, are enhanced. The harvesting time for cotton, and hence the time at which farmers receive cash from sales of seed cotton, coincides with the deadline for the payment of school fees (February/March). Money received is therefore often used directly for the payment of school fees, hence the claim by rural inhabitants that they were 'educated on cotton.' This demonstrates that even though cotton may not necessarily be the most profitable crop to cultivate (a study by Mark Versteeg, Soroti and Lira Districts Development Programme, concluded that cotton is one of the least profitable crops currently grown by small-holders¹), it has other attractions and indirect benefits.

Cotton cultivation in Uganda is labour intensive. Land is prepared for cotton by either using hand hoes, or by oxen and plough². Planting seed needs to be of uniform quality, from a single source, to be easily ginned and for quality of lint to be maximised. Seed is treated with fungicides at a dressing station before being released to the small-holders. To prevent insect damage, three or four applications of pesticides are required in each growing season. Fertilisers are rarely used. Weeding is performed manually around four times each season. Cotton is hand picked and sorted. Seed cotton yields vary significantly across the country – with yields of about 2,000 kilograms of seed cotton per hectare recorded in the south west of Uganda, but only 500 kilograms per hectare in the Tororo, Kumi and Soroti districts (Geresom Okecho-Ochwo, CDO, pers. com.).

In addition to the regular cotton crop, organic cotton is grown without pesticides, and is largely dependent upon black ants to prevent serious insect damage. Currently, organic cotton is grown only in small quantities – approximately 5,000 bales (400 pounds per bale) in two areas in the Lira district in northern Uganda, but numbers of certified organic cotton producers are increasing under a Dutch funded programme, with over 6,000 smallholders now participating (Jaap Blom, pers. com., Nov 98).

Input supply and marketing of cotton was controlled by the state from the 1960s. The 1964 Cotton Act required the owners of the ginneries (who were mostly Asian) to sell them to the co-operatives. The Cooperative Unions, in conjunction with the Lint Marketing Board, set prices and had a marketing monopoly. During the 1970s and 1980s

¹ Care should be taken when interpreting findings from such studies, which may not take a full account of the costs of production, indirect benefits from specific crop production, or give consideration to the marketing opportunities for specific commodities.

² The insurgency of the late 1980s and early 1990s led to the severe loss of draft animals in eastern Uganda, including traditional cotton growing areas.

production of cotton dropped substantially from a high of 429,000 bales of cotton lint in 1972/3 to just 12,000 bales in 1987/88.

Reasons for this dramatic decline included:

- inefficiently run ginneries by resource-poor cooperatives, with low investment levels leading to high ginning costs;
- delayed payment to farmers for their seed cotton – delays varied around the country, but in the worst areas, such as Soroti, farmers had to wait up to 2 years for payment, which by that time was severely eroded by inflation; farmers therefore lost confidence in the cotton industry and turned to alternative crops such as maize and beans;
- the decline in the world cotton market due to the growth in importance of synthetic fibres;
- a drop in quality of cotton lint, and consequently the lint value, due to the mixing of different types of planting seed; this was a result of restructuring the LMB which involved a transitional period when it did not meet all of its responsibilities, and the breakdown of the cotton research institutes, which were responsible for the development, multiplication and release of improved seed (in particular, the seed “wave” broke down, whereby new seed types are introduced each year in phased bands across the cotton growing areas);
- delays in the distribution of inputs (planting seed and pesticides) – these were supplied by the state and distributed by cooperative unions on credit (the cost of this operation was, in theory, captured in the price paid to farmers);
- breakdown of commercial operations in many areas as a result of prolonged political instability.

Liberalisation of the cotton sector began in 1994 with the enactment of the Cotton Development Statute to provide the legal and regulatory framework for the industry and the formation of the Cotton Development Organisation (CDO) to provide regulatory and promotional functions. The co-operative unions, which had accumulated debts over a 20 year period, were required to sell off excess ginning capacities (no single union was permitted to operate more than one ginners) and restructure operations of ginneries they opted to retain. This transaction was in exchange for debt relief offered by the Government on rehabilitation and working capital loans from the Lint Marketing Board, World Bank IDA and African Development Bank. To qualify for the debt relief, the unions had to come up with viable business plans acceptable to the Government and financial institutions. Many of the ginneries were sold (the proceeds helped pay for the debt relief), and few remained in the hands of with Cooperative Unions (by 1998/99 just 10-15 ginneries were run by the Co-operative Unions). Farmers were free to sell their seed cotton to anyone. Prices were freed: instead of issuing a fixed price for the purchase of seed cotton, the CDO now gave an indicative price to guide transactions, but with no obligation for ginneries to stick to this price.

SMALL-HOLDER ACCESS TO CREDIT IN THE COTTON SECTOR.

Prior to liberalisation, cotton small-holders received inputs (seed and pesticide) on credit from the state, which were distributed through the cooperatives. This system of input delivery created a dependency upon the state, and led small-holders to believe that they were receiving inputs free of charge, though in actual fact they were paying through lower farmgate prices. With the dismantling of the system, there has been concern that small-holders would be unable to access production inputs. This concern was possibly greatest among the ginnery owners who had invested in ginnery modernisation / rehabilitation, and were completely dependent upon the small-holder sector for the provision of raw material for their ginneries.

Private non-financial sector initiatives

Private non-financial sector initiatives are the most recent development in the attempts to provide credit to cotton smallholders. The development of private sector credit to smallholders comes as a response to a number of factors:

1. Access to land is a constraint to large scale commercial cotton cultivation - ginneries tend to be in relatively densely populated areas, where there is little 'free' land, but widespread small-holdings
2. Few or no other credit sources for small-holders, despite the many attempts to increase access to credit, there have been many failures and little sustained success; both the commercial sector, and the semi-formal sector (micro-finance institutions such as NGOs) have very little involvement in agricultural lending
3. Private sector investments in ginneries require sufficient throughput of seed cotton in order for costs to be recouped. With no commercial cultivation of cotton, the ginneries are reliant on small holders, and keen to encourage smallholder production.

In the 1996/7 season, the CDO stopped providing planting seed to farmers when project funds provided for this, on an interim basis, ran out. The seed was supplied to the ginneries, and they were expected to sell it to smallholders. However, the small holders were not accustomed to purchasing cotton seed and were unwilling to do so. To avert the potential disaster of no farmers growing cotton, ginners ended up giving out most of the seed free of charge. The following season, 1997/8, the North Bukedi Cotton Company launched a scheme to supply credit in kind to smallholders.

North Bukedi Cotton Company

The privatisation of seed delivery in 1996/7 switched the onus for input delivery from the state to the private sector. The North Bukedi Cotton Company is one of the largest ginners in the country with an annual demand for 15,000 tonnes of seed cotton (equivalent to the output from approximately 30,000 hectares). The reluctance (or inability) of smallholders to pay for inputs during the 1996/7 season prompted North Bukedi to consider alternative input delivery arrangements, and as a result inputs (seed

and pesticides) were provided on credit. During the 1997/8 season, some 78,000 smallholders across eastern Uganda received seed and pesticide on credit and under signed agreements to sell their produce to North Bukedi. The funds to operate this scheme were accessed from the World Bank's Cotton Sub-sector Development Programme (CSDP) credit component, via the Bank of Baroda. (For more details on the CSDP, see below).

The results of this were very disappointing, with a very low recovery rate, and the scheme has been discontinued. Small-holders failed to honour the agreements they had with North Bukedi. The system broke down due to two main factors:

- the price offered by North Bukedi for seed cotton was lowered so that the company could recover their outlay for inputs - other ginneries were able to offer higher prices and purchase from farmers in the scheme
- the weather in 1997/8 was extraordinary (due to the effects of El Nino) and particularly detrimental to cotton production, with a drought during the planting season and heavy rains during harvesting; initial tentative projections had suggested that the harvest might be between 150,000 and 200,000 bales of lint, but it was in fact 31,000 bales. Both the quantity and quality of seed cotton were badly affected, which meant that farmers were unable to repay loans. This may have also heightened the competition between ginneries to purchase the seed cotton that was available.

The lessons from the North Bukedi experience are:

1. agreements struck between the company and smallholders were virtually impossible to enforce - attempts to recover loans through the seizure of assets (such as bicycles) created hostility and bitterness and proved unworkable
2. screening and monitoring borrowers, and enforcing repayment, becomes increasingly expensive and problematic the larger the scale of operation - effective administration of a scheme involving 78,000 smallholders is problematic
3. as long as there are other buyers in the market who are able to offer higher prices, such interventions are prone to failure (in the absence of enforceable agreements).

Lonrho cotton

During the 1997/8 season, Lonrho Cotton (like North Bukedi, a foreign owned ginning and export company) also advanced credit, through a co-operative society, in an attempt to assure supplies of seed cotton. However, the funds were not passed on to the farmers so Lonrho was forced to pay again. The agreements struck with the intermediary were difficult to enforce – and they were also hit by the poor (El Nino year) harvest.

Uganda Ginners and Exporters Association (UGEA)

The bad experiences of both Lonrho and North Bukedi during the 1997/8 season resulted in both companies making losses on their credit schemes. Other ginners and exporters

also had poor years, in part due to the low harvest. The approach to private sector provision of inputs clearly was not working, due primarily to the difficulty of enforcement in a competitive market.

The response has been the establishment of the Uganda Ginners and Exporters Association, which has been registered as a limited company. All ginners and cotton exporters are members of the association. Working closely together, the Cotton Development Organisation and the UGEA have developed and implemented a new scheme aimed at providing inputs to small-holders. Using the CSDP funds, a loan of US\$5.6 million has been made to the UGEA for the provision of seed and pesticides on credit. The distribution of the inputs is being coordinated by the CDO in collaboration with the Ministry of Agriculture, Animal Industry and Fisheries. Seed has been distributed to around 300,000 farmers. CDO has taken steps to improve the quality and uniformity of planting seed. All ginners are required to provide 35% of their seed (or cash equivalent) to the CDO, which then dresses the seed and redistributes it to farmers. Pesticide distribution has also taken place, drawing on a network of CDO officers, extension agents, monitoris and local leaders.

The CDO/MAAIF conduct a survey to estimate the likely cotton harvest. Once completed, CDO can calculate the necessary deduction per tonne of lint to recapture the input loans. This is charged at the ginnery level, and will be passed on to farmers through lower prices. As all ginners are involved in the scheme and will be liable to pay for the scheme, the problem of 'free-riding' buyers is removed (though there is a risk of smuggling over international borders or direct sales to local spinners – a risk which CDO have sought to minimise by briefing the customs authorities and spinning plants).

The success of the scheme is largely dependent upon the monitoring of ginneries. ACE is an international company specialising in collateral management, which for the 97/98 season was contracted by CDO to monitor all ginneries to ensure that the 2% cess used to finance CDO was collected. ACE is playing an important role in monitoring the ginnery operations, and volumes of throughput, which will form the basis of the collection of the per tonne payment to cover the costs of the input provision scheme. ACE has a presence at every ginnery and provides regular updates on ginnery operations. ACE is also responsible for monitoring the distribution of seed and pesticides.

As of February 1999, with the first year's harvest not yet complete, it is too early to fully assess the performance of the operation. However, some possible constraints are evident:

1. A largest potential problem relates to how the scheme has been set up. Farmer inputs are provided on credit *to the ginners*, but the repayment is based on volume of output *by the ginners*, rather than volume of input *used by individual farmers*. The result of this is that smallholder incentives to use the inputs on the cotton, as intended, are weak. For example, a smallholder may take more pesticide than necessary for his/her holding, and find an alternative use for the remainder (used on other crops or sold). The individual farmer is not penalised for this behaviour, as the "repayment" is made via a flat rate deduction on the farmgate price of seed cotton, irrespective of how

much input was taken³. Ultimately, all farmers will share the burden of such behaviour as the cost (per unit of seed cotton produced) of operating the credit scheme, and therefore the per unit price reduction to recover costs, will increase. Evidence from Soroti district already shows some evidence of this. Despite the distribution of sufficient seed to plant 10,000 hectares, early estimates from the District Agricultural Officer indicate that only around 3,000 hectares have actually been sown.

2. The system is dependent upon timely distribution of inputs. Pesticide distribution only began in early September. The cotton crop requires spraying from about four weeks after sowing. Early planting of cotton took place this year in May, so pesticide application was overdue. However, the majority of the crop was sown in July/August, and so rapid distribution of the pesticide should have ensured that the crop was not too badly damaged by insects.
3. Smuggling over international borders to avoid the payment of the input cess is possible, especially to Kenya. However, it seems likely that if this does occur, it will only be only a small scale. Transporting cotton is expensive as it is a bulky commodity, so the potential gains from smuggling quickly diminish the further the seed cotton is transported, and covert transportation on a large scale is very difficult. Also, it is in the interests of all the ginners to prevent this from happening, so ginners will be monitoring the situation closely. In addition, the CDO is working with customs officers to prevent smuggling. Direct sales to Ugandan spinners may also occur – but again, this is being closely monitored by CDO and the ginners.
4. The scheme is vulnerable to covariate risk, for instance if climatic conditions led to widespread crop failure and consequent mass default by the gineries. In some areas the rains failed in November 1998 meaning that the 1998/99 harvest will almost certainly fall well short of the target 150,000 bales – which provided the basis for the calculation of the recovery rate per kilogram of seed cotton purchased from farmers.
5. The scheme is also dependent upon the efficient operation and management of gineries. If gineries run into financial difficulties, or aim for maximising short-term gains by strategically defaulting on the loan, full recovery will not be possible, or will require other gineries to make up the shortfall. The latter seems unlikely given that although a few large ginners are enthusiastic proponents of joint action on inputs, many of the smaller companies have only signed up reluctantly.
6. The long-term financial sustainability of the scheme is difficult to assess as currently the interest rates are below commercial market interest rates, and the loan is guaranteed by the Ugandan Government.

³ The most striking example of this is the production of organic cotton, representing about 5% of the Ugandan harvest in 1998/99. Organic farmers do not use pesticides and they receive a premium which relates to the world market premium for organic cotton. However, the ginner of the organic cotton (and hence the organic farmers) must nonetheless contribute to the input loan repayment on the same basis as the other ginners – therefore paying for cotton seed (which is used) and pesticides (which are not).

Alternative sources of credit for cotton smallholders

In addition to the private non-financial sector, there are several potential sources of credit for small-holders:

- (1) from initiatives/interventions taken by the public sector to target credit at cotton smallholders.
- (2) from initiatives taken by the public sector to target credit at smallholders in general
- (3) from the formal commercial banking and financial sector
- (4) from the semi-formal micro-finance sector, including NGOs
- (5) from the informal sector.

(1) Public sector led initiatives targeted at cotton small-holders

The Cotton Sub-sector Development Programme (CSDP): Credit Component

Liberalisation of the cotton sector was assisted by the World Bank funded Cotton Sub-sector Development Programme, designed as a holistic programme to develop the cotton sector. It began in 1994, and is expected to end in December 1999. The CSDP includes: the reform of the legal and regulatory framework in the cotton sector, including the liquidation of the Lint Marketing Board and the creation of the Cotton Development Organisation; restructuring of the cotton ginning industry, including the sale of ginneries by the Cooperative Unions and debt relief for the co-operative unions; the establishment of a ginning training school; support to cotton research; support to extension services and extension training; seed procurement, dressing and distribution for the first three years of the project, thereafter (from 1996/7 season) to be privatised; and a credit programme for small-holder cotton farmers.

The credit programme was intended to provide assistance to small-holders to acquire inputs including pesticides, farm tools and equipment, working capital and oxen for ploughing. These short and medium term loans were to be disbursed by the Development Finance Department (DFD) of the Bank of Uganda through accredited commercial banks. These banks were to carry the lending risk (neither the Government nor BOU were to carry any part of the risk). By September 1997 only US\$0.9 million had been utilised out of a total allocation of US\$8.8 million.

There were a number of reasons for the failure of the CSDP credit component:

- The funds were made available to banks which satisfied criteria stipulated by the Bank of Uganda and hence were accredited under the CSDP credit component. However, these accredited banks had no rural branch networks and were reluctant to lend to the agricultural sector, due to the perceived risks of agricultural production, and problems of screening potential borrowers and enforcing repayment. These banks are unwilling to accept even rural land titles as collateral – only property, land and assets close to Kampala are considered.

- The accredited banks consider the interest rate charged by the BOU too high, and this discourages their participation.
- No effective credit delivery mechanism was available. The project expected that the accredited banks would use risk reduction mechanisms such as group lending, or lending through local micro-finance intermediaries (such as NGOs, farmers groups, cotton ginners). In support of this, DFD were to provide a capacity building and training programme for the accredited banks and potential local intermediaries. This was never implemented. Even if it had been provided, it is unlikely that Kampala based banks would have on-lent to rural intermediaries without the capacity to effectively monitor and supervise the loans.
- Some US\$1 million has been disbursed, though 'those who extended credit to RFIs [Rural Financial Intermediaries] did so largely on the basis of their personal knowledge of the owners of those RFIs.' (CSDP Mid-term review: Credit Component, p5). This money rarely reached its intended target – cotton small-holders – the main beneficiaries being ginners and traders.
- The credit component was based on the false assumption that it was a lack of funds which was prohibiting the lending to the cotton sector. However, it is the general unwillingness to lend to the small-holder sector, rather than a lack of liquidity which is the major constraint to commercial bank lending.
- The time for processing applications was too long – an average of 66 days. The possible reason for this delay was the stringent requirements made by the IDA on the BOU. For instance, IDA required that the accredited banks attach details of all farmers to be provided with credit – thus increasing the time of loan application preparation and adding to costs.

The lessons learned from the CSDP credit component relate principally to the credit delivery mechanism. The model adopted assumed that the commercial banks would have the capacity to monitor and supervise loans granted to rural based financial and non-financial institutions, and would be willing to bear the risk for these loans. Also, it assumed that the commercial banks would develop innovative credit delivery mechanisms including the lending through these institutions, and that these institutions would have the capacity to operate credit schemes. Capacity building is vital to the success of such schemes. A Capacity Building Programme is to be launched in 1999 to provide support mainly to rural based micro-finance institutions (see below).

Smallholder Cotton Rehabilitation Programme (IFAD) – 1993-6

This IFAD supported programme had multiple objectives: to improve planting seed via support to research; seed multiplication; Integrated Pest Management; promotion of oxen based cultivation; and the provision of medium/long term credit for restocking and for sprayers, hoses and other equipment.

District Cotton Development Committees (DCDCs) were established to appraise applications for credit from smallholders. Funds were provided in the form of grants to local banks (the Uganda Cooperative Bank and the Uganda Women's Finance and Credit Trust), which operated the scheme in close association with the DCDCs. It was intended to be a revolving fund, with recovered loans being re-lent. It was also linked to savings, and applicants had to save a minimum of 10 percent of the value of the loan for which they applied. Loans were typically for oxen, which were provided in kind. Repayment arrangements included a 4-month grace period and a two-year repayment period. In 1996 the programme ended. Repayment rates were low, approximately 50 percent for UWFCT and less than 20 percent for UCB. Reasons for failure include insufficient funds to adequately staff the DCDCs, thereby limiting their role in the monitoring and supervision of loans; lack of provision for short term inputs (seed and pesticides); lack of capacity and inefficiencies in the banking sector (Charles Ebeng, DAO Soroti, personal communication).

(2) Public sector led initiatives aimed at improving credit to smallholders.

There have been a number of state-led attempts at providing credit to the smallholder sector in recent years. Not all of these were directed specifically at cotton small-holders, though the experiences gained from these initiatives provide lessons for future programmes.

Rural Farmers' Scheme

Of particular interest is the Rural Farmers' Scheme (RFS), dating from the late 1980s, and operated by the then state-owned Uganda Cooperative Bank (this has since been privatised). This scheme has been considered a failure (Matovu & Okumu, 1996). Loans were provided in the form of inputs, to be repaid after the produce had been sold. However, there were many problems with the implementation of the scheme:

- Loan processing and disbursement took too long for farmers to benefit from the inputs;
- The inputs were not always appropriate for the smallholders' production;
- Supervision and monitoring of loans was virtually non-existent, leading to a high default rate;
- Marketing structures were not in place to provide farmers with a good price for their produce. As inputs tended to influence farmers into growing specific crops, there was often an over-supply of these commodities on the market, thereby lowering prices. Households tended to consume the produce rather than sell, and therefore had no funds to repay the loans.

The RFS was a large, high profile scheme, and its well-publicised failure may have contributed to the reluctance of banks to engage in agricultural lending.

(3) The commercial banking and financial sector

Rural areas are generally poorly served by the commercial banking sector in Uganda, with only the state owned banks maintaining a presence in rural areas – though whether this will continue after these are privatised is questionable. These banks are generally very reluctant to provide financial services to agriculture. This is due to past bad experiences with schemes aimed at rural finance, and more general difficulties due to the perceived risks of agricultural production and risks of default (see CSDP above). Until recently, none of these banks have made serious attempts to service the agricultural sector. However, the Centenary Rural Development Bank has recently launched a programme to target smallholders.

Centenary Rural Development Bank

A pilot scheme started in August 1998 targeting financial services specifically at smallholders. The scheme is currently only at their Mbale branch, though if successful will be extended to all their branches (currently 12, though planned to increase to 24 by 2002).

The underpinning philosophy of the bank is that the emphasis should be on the ability of the borrower to repay a loan, rather than security of the loan. An emphasis on security has led to innovations like group lending where peer pressure substitutes for collateral. The purpose of other 'innovations' such as a regular and frequent repayment instalments is again basically to secure the loan (i.e. to make sure that it is repaid).

The Centenary approach places the emphasis on the ability to repay. Loans are made against a projected cash flow. Household budget analysis is key: after the initial approach by the applicant, a Bank Field Officer visits the household to carry out an analysis of household income and expenditure, based on income (on farm and off farm), and all household expenditures. From this, an estimate of household cash flow, with and without a loan, can be made. Loans are made when it is clear that the loan can be repaid. Repayment terms are then tailored to fit the cash flow analysis. The field officers are qualified agronomists who have received rural finance training. As such, they are able to recognise the agricultural potential of a farm, and judge the profitability of the activities which will contribute to loan repayment.

Although security is not the basis on which the loan is made, a variety of tools are used to at least partially secure the loan: guarantors; land titles (including those for customary tenure); post-dated cheques (it is a criminal offence to have a cheque bounced in Uganda); seizure of assets; and using standing crops as collateral.

(4) The semi-formal micro-finance sector

Partly as a response to the failure of state-led initiatives, and the reluctance of the formal banking sectors, a large number of micro-finance institutions have been set up in rural areas, many sponsored by donors and foreign NGOs. These institutions currently operate outside the formal banking sector, and as such are not registered by the Bank of Uganda (though the process of developing criteria and a regulatory framework for these institutions is ongoing in conjunction with the Capacity Building Programme- see below).

Many of these organisations/ schemes have attempted agricultural lending but with little success. Instead they have tended towards the now well accepted model for rural lending developed in south Asia (for example the Grameen Bank of Bangladesh), and include group lending innovations, with small repayment amounts often starting very soon after the loan has been made. This approach was not designed for seasonal crop production, and the loans made by these MFIs tend to be for other activities such as trading (Koen Wasmus, micro-finance consultant, pers. comm.).

Soroti and Lira Districts Development Programme

Supported by the Dutch Government, this NGO has established a credit programme, which after just over two years of operating has achieved reasonable recovery rates (around 80%). The system is based on local information. Parish Credit Committees are elected by local communities, and consist of five members per committee, which must be two men and three women. As with the Centenary Bank, loans are made to individuals. The PCCs receive applications for agricultural inputs – such as oxen. From their personal knowledge of the applicant, the PCCs assess the creditworthiness of the applicant, and the suitability of the loan. The loan is provided in kind. Each PCC maintains an account at the local Cooperative Bank. Extension advice, and in the case of oxen, veterinary support is provided. In the event of default, the PCC will assess on a case by case basis, sometimes seizing assets, or rescheduling the debt. As of late 1998, approximately 3000 loans have been made.

The Capacity Building Programme

This programme is a response to the failings of the CSDP (see above). It belongs in this section because the major beneficiaries of the programme will be semi-formal micro-finance institutions. Also, unlike the credit component of the CSDP, the CBP does not have a specific focus on the cotton sector, but seeks to support the rural financial sector in general.

The CBP aims to develop the capacity of MFIs to provide financial services to smallholders. This will be done in conjunction with the development of legislation which will for the first time officially recognise these institutions. Currently many are registered as NGOs, and are not allowed to mobilise and on-lend savings, thus they tend to be dependent upon external financing (normally from foreign NGOs and donors). The existing criteria used by the central bank for financial institutions are relatively stringent (for instance, recognised banks need to deposit some 500 million Uganda shillings at the BOU). It is not yet clear if the new legislation will make it any easier for NGOs to achieve MFI status.

The CBP will be co-ordinated by the DFD/BOU. The two year programme will provide training in financial operations, including group dynamics and savings mobilisation. The training is targeted at a broad range of local financial institutions: those dependent on donors for grant funds; those utilising money from their own capital bases (member donations, shares etc.); and those informal indigenous groups such as Rotating Savings and Credit Associations. In addition, support will be provided to fund equipment such as safes and transport (for example bicycles). The implementation of the programme will be

through identified 'promoters'. These are agencies which normally provide training support. Four have initially been identified, including the Uganda Cooperative Alliance, VOCA and CARE. There are plans to include Centenary Rural Development Bank and the Poverty Alleviation Project (PAP) of the Prime Minister's Office as promoters of the capacity building programme as well.

Once training is complete (it is due to start in October 1998), and the legislation recognising micro-financial institutions in place, those which become registered will be able to mobilise savings and access the remaining CSDP funds.

(5) Informal sources

Informal sources play an important role in rural economies in Uganda (see study by Obwono and Musinguzi (1998)). However, arrangements such as savings and credit groups (for example Rotating Savings and Credit Associations (ROSCAs)) are rarely appropriate for agricultural production lending, as they are unable to provide credit to all members at the same time. Loan periods also tend to be for short periods, and with relatively high interest rates.

Credit provision for cotton farmers: summary

A number of different sources of credit have been available to smallholder cotton producers since liberalisation of the sector. Although there have been some recent innovations in agricultural lending by the commercial banking and semi-formal micro-finance sectors, as of late 1998 these are currently still being developed and are only available in a few localities. This has meant that the private sector cotton ginneries have had to play a leading role in supplying credit. It is clear that cotton smallholders in Uganda are currently *highly dependent* on the private sector for the provision of inputs on credit. What is currently unclear is the most appropriate mechanism for the delivery and recovery of this credit. The determinants of successful private sector led credit is that firstly, the credit is put to appropriate use, and second, that the producers repay the loan. How can this be achieved given that agreements made between companies and smallholders seem to be very difficult to enforce in rural Uganda, even when collateral is provided?

The critical constraint in the provision of private sector credit is that when crop purchase monopolies do not exist, there is always potential for strategic default. In the absence of enforceable agreements between the small-holders and the company (enforcement has been a major problem in rural areas of Uganda), there is a heavy reliance on trust between the small-holder and the company. However, there is currently little indication of smallholder loyalty to ginning companies. This may be because:

- There has been too little time since cotton liberalisation for relationships and trust to develop between smallholders and ginners.
- Prior to liberalisation, farmers frequently experienced delayed or non-payment for their seed cotton, which has led to scepticism about the cotton sector in general.

- Farmers are not convinced of the need for purchased inputs and so any benefit from developing relationships with ginners has less value to them. This is particularly the case with pesticides, where farmers have become accustomed to not having timely access, so have not witnessed any benefits their appropriate use might bring.

Possible ways to overcome this include lending to groups – peer pressure may provide security in the absence of other collateral. Seizure of collateral in the event of default has proved extremely difficult and hazardous (see the experiences of North Bukedi Cotton Company above).

The alternative model now being used is to supply both seed and pesticide through a joint ginners/CDO mechanism. Ginners are responsible for the cost of supplying inputs on credit. The ginners themselves initiated this (though it was the larger players who were most proactive), having invested in plant and therefore having a keen interest in cotton production, since produce no seed cotton themselves and are therefore completely dependent on the smallholders. Ginners have sought to associate to remove the option of strategic default. As all ginners have collaborated to make a watertight system, smallholders can no longer sell to ginners outside of the scheme. Smallholders do not have a default option (in effect, the UGEA membership has a monopoly on seed cotton purchase, even though it is internally competitive).

This represents a pragmatic “stop-gap” response – given that there is an urgent need to boost production, and more sustainable approaches which build farmer confidence will take time. Close monitoring will be required to ensure that smallholders are using the inputs appropriately, and that the ginners accurately declare volumes of throughput (on which their input loan repayment rates are based). Certain features of the cotton sector appear to be favourable to the operation of the scheme. Farmers are dependent upon outside sources of planting seed, and the inputs required for cotton have limited alternative uses⁴. Similarly the output (seed cotton) has no value unless it is ginned – the only marketing channel is to ginners. These characteristics reduce the possibility that the crop or the inputs will be diverted to other uses. The cotton sector is also advantaged by the availability of funds (from the CSDP), to operate a credit programme, and support the considerable co-ordinating and logistical inputs provided by CDO.

The operation of a private sector credit system requires monitoring to ensure proper use of inputs, and possible extension advice to improve productivity. This would obviously be easier for smaller numbers of smallholders. Within the cotton sector of Uganda, with a large number of smallholders, many of whom are growing cotton on plots of less than 1 hectare, this monitoring is difficult, and possibly unworkable due to high costs. One possible solution to this would be the use of producer groups to facilitate distribution of inputs, monitoring, extension and seed cotton purchases.

⁴ Chemicals can be applied to other crops, though there is a strong extension effort to dissuade farmers of unsuitable use.

EXPERIENCES IN OTHER SECTORS

British and American Tobacco (BAT) - Uganda

BAT has been operating in Uganda since the 1950s (with a break between 1972 and 1984 when the industry was nationalised). The resumption of its activities in 1984 was on the condition that it entered into a ten-year agreement with the Government to operate through the cooperative system. In return, BAT had a monopoly on exports. The system entailed the supply of inputs to the cooperative unions, which then distributed them to the primary societies, which in turn supplied their individual members. The marketing of tobacco also operated through this channel. The system had its problems, especially the 'leakage' of money and goods as they passed up and down the chain.

When the 10 year agreement expired at the end of the 1995 season, BAT considered other options. In a survey of tobacco smallholders, some 98% of the farmers preferred an alternative approach to the cooperative system. The new scheme consists of all farmers having an account with BAT. Inputs are provided and debited from the accounts. Likewise, when the crop is harvested, the account is credited until the loan is paid off, thereafter farmers receive cash for additional tobacco. Each year the company announces pre-season prices for the different grades of tobacco leaf. If farmers are interested, they enter into a one-year agreement with BAT, under which BAT will provide inputs and the farmer will sell his tobacco to BAT. All inputs are supplied, including tools such as hand hoes. The amount of inputs supplied is restricted to roughly 30% of that farmer's expected crop value.

Inputs are distributed by BAT extension staff. A farmer requests inputs from the extension officer. This request is sent to Kampala, where the computerised accounts are held, to ensure that the farmer is not over his or her maximum credit allowance. The inputs are then supplied by the extension staff. The extension service also provides production advice. In addition, demonstration plots and 'master' farmers are spread across the production areas to demonstrate correct cultivation practices and to show farmers the potential gains from receiving BAT inputs. New farmers are vetted before joining the scheme. Criteria including farming ability, proximity to other farmers, available labour, quality of soils, and local character references are used to determine the suitability of applicants. After one year in the scheme, farmers are appraised according to their performance (with respect to yield, quality of tobacco). Poor performance will restrict the amount of credit available in the following year. After two consecutive poor years, farmers are de-registered.

The farmer harvests, cures and dries the leaves and transports them to a purchasing point. Here the leaves are graded and the value determined. This is credited to the farmer's account until 100% of the loan has been recovered. Only then will the farmer receive cash payments. At the end of the season (and paid just prior to Christmas) individual farmers receive a bonus (up to approximately 3% of the value of the harvest), based on the quality and volume of the tobacco that they produced that year.

There are two potential problems with the system:

1. Farmers may sell their tobacco through another registered farmer, thereby receiving money for the crop without having to repaying the loan. This problem is overcome partly by monitoring carried out by extension workers, who will become suspicious if one farmer is selling an excessive amount of tobacco. Also, defaulting farmers will be "de-registered" and therefore lose future benefits from the relationship with BAT.
2. Farmers sell to an alternative buyer.

This second potential problem has arisen since 1996 when BAT's monopoly was cancelled. The Government of Uganda invited the African company Mastermind to take over the cooperative system of tobacco production which BAT dropped at the end of its 10-year contract. The problem that Mastermind faced was that the vast majority of farmers were already in agreement with BAT. To overcome this they offered farmers higher prices for the tobacco and promised to cover the cost of inputs supplied by BAT. The payment was through the cooperative system, and it appears that not all of the money distributed by Mastermind actually reached the farmers. BAT incurred significant losses: around US\$200,000 of loans were not recovered.

The major development for the 1997 season was the enactment of an amendment to the Tobacco Law, which safeguards both farmer and companies entering into credit agreements. Basically, it commits the farmer to selling to the company which it has an agreement with, and commits the company to purchase all tobacco from that farmer. Both BAT and Mastermind sponsored a series of workshops to raise awareness of the new law, attended by local officials including MAAIF staff, police and administrators. The law has since worked very well. In 1997, BAT recovered 100% of their loans and some of the outstanding loans from 1996.

For 1998, BAT has entered into agreements with 48,000 smallholders who cultivate tobacco on an average of 0.3 hectares.

BAT's experience highlights the importance of a number of factors:

- Guaranteed prices announced before start of the season
- Law to safeguard farmers and company
- Trust between the company and smallholders built up over time
- Distribution system ensuring timely delivery of inputs and payment for produce
- Strong extension support

UVAN Ltd. and the Kojja Vanilla and Fruit Association.

UVAN works with groups of farmers organised into local producer associations, for the export of vanilla. One such association is the Kojja Vanilla and Fruit Association. There are no written agreements between the company and associations on sales. The company provides the smallholders with loans through the association. UVAN benefits from the association through being able to provide group training exercises to improve the quality of the vanilla, and also the bulking of vanilla at the association level. Loan applicants are

screened by the association. Loans can be in cash for household expenditures such as school fees, or inputs in kind. The loan may not exceed half the expected value of vanilla production. Repayment is made after harvest through a 'check-off' system. Recovery levels are high, due to the screening and monitoring of borrowers by other association members, and due to the incentive of retaining membership in the association, and therefore being able to benefit from the relationship with UVAN.

The basis for the success of this scheme is the close relationship and trust between the company and the association. With respect to the credit system, the transaction costs of screening and monitoring are lowered by their transfer to the association, which has the incentive to ensure that loans are repaid so as not to jeopardise the relationship with UVAN.

Uganda's Investment in Developing Export Agriculture (IDEA) Project of the Agribusiness Development Centre (ADC).

This project has sought to pilot a number of mechanisms to improve productivity in the agricultural sector. Its experience with outgrower schemes has been mixed. Crops with multiple-marketing channels have proved particularly problematic – since farmers can escape repayment of inputs loaned in-kind, by selling to an alternative buyer.

ADC launched an outgrowers programme in 1996 by arranging the supply of bean seed to the Uganda National Farmers Association (UNFA) in Kasese and white haricot beans to Bugangaizi Export Commodities Limited (BEC) in Kibale. ADC also provided training to some of the participating farmers, whilst UNFA and BEC had full responsibility for the distribution of seed and marketing. In Kasese the scheme has had some success in terms of outreach, farmer output and farmer incomes, and had reached 973 farmers by the end of 1997. The Kibale scheme was less successful, as BEC procured only 5% of the total output because of lack of funds.

In another ADC initiative an export company provided inputs for the production of navy beans. In return smallholders provided land and labour and were contracted to supply the harvested beans to the company. The scheme broke down when new buyers entered the market, and also consumers developed a taste for the bean, so beans were either consumed at the household level, or sold on local markets.

In Kibale district, villagers were organised into chilli associations. An export company provided inputs on credit under agreement to buy the chillies. However, in its first year, the company did not honour the agreement and the smallholders were left with chillies they could not sell. The trust between the company and the smallholders was broken, and the scheme collapsed.

IDEA is currently involved in an input supply project, ATAIN (Agent training and input network), which is developing input delivery channels. ATAIN seeks to bring inputs physically closer to farmers by providing support to distributors and retailers (training in product knowledge, safe use and handling, and business management – and acting as guarantor on inputs advanced by distributors to village-level stockists). The project does

not encourage stockists to provide credit to farmers, though they concede that this probably takes place on an informal basis. Implicit in this approach is that there is both a demand for inputs from smallholders, and that they are able to access funds to purchase the inputs.

Sugar.

There are three sugar companies in Uganda (Lugazi Sugar Estate, Kakira and Kinyara), each of which depend on a combination of estate production and outgrowers for their raw material, sugar cane (of the three, Lugazi Sugar Estate is the only one not operating an outgrowers scheme). The outgrowers tend to have farms of roughly 10 to 15 hectares in size. The companies are almost able to operate as geographical monopolies, as they are located relatively far apart from each other ('far apart' in the sense of transportation costs of raw sugar cane, a bulky commodity which is difficult and expensive to transport over long distances).

Oil Palm.

A proposal has been put forward for a vegetable oil development project, to be supported by IFAD. Its objective is to develop an oil palm industry with an emphasis on the involvement of smallholders and private processors. It includes the development of an outgrowers scheme. Under the proposal, smallholders will receive medium-long term financing to establish oil palm plantations at commercial interest rates. The assumption is that commercial banks will be interested in participating in the financing scheme. The banks would recover the loans and interest from the smallholders at the point of sale to the mills.

ACCESS TO CREDIT FOR SMALLHOLDERS – SOME LESSONS

The case study of the cotton sector in Uganda and the insights gained from other sectors can be used to characterise the type of agricultural commodity system which potentially lends itself to private non-financial sector provision of credit.

1. Low degree of transferability of credit.

The credit supplied must be put to the right use – i.e. for the production of the crop in question. To a certain extent, this can be achieved by providing the credit in kind: actually providing the input (for example seed, pesticides). Providing cash carries a large risk of being diverted to other expenditures. However, providing credit in kind does not guarantee that the input will be used for the prescribed purpose. If the input can be used for an alternative activity, unless a sophisticated monitoring system is in place, there is a chance that smallholders will use the inputs for other activities. This could include using pesticides on a different crop, or selling the inputs provided on credit. The initial distribution of cotton pesticides in 1998 was temporarily halted because of evidence that the pesticides were being resold in rural markets. However, the cotton pesticides have limited use outside the cotton sector. Similarly in the tobacco sector, the pesticides and fertiliser are tailored to tobacco farmer requirements, and would be less appropriate for other crops (though this in itself will not necessarily prevent their resale).

2. Lack of alternative uses for output.

If the output has any value other than to the processor or trader providing the credit, then there is a risk that not all of the produce will be available for purchase by the credit provider. This is particularly relevant to food crops which can be consumed at the household level or sold in food markets. In the cases of cotton, tobacco, vanilla and chilli, there is little value to the household other than selling to an exporter or processor. IDEA's experience with navy beans demonstrates the potential problem of food crops. It is impossible to prevent household consumption, and households will resort to this if they are dissatisfied with the price offered for the produce, or if they are food insecure, or if they believe they can escape penalty.

3. Mechanisms exist to ensure recovery of the credit

Strategic default or side marketing – when the smallholder decides to sell to a buyer other than the lender – is a common problem in implementing such credit schemes. In ensuring that small holders do not strategically default, three options are available:

1. *Enforcing repayment.* Recovery of loans can be enforced where agreements made between a private sector lender and the smallholder borrower are legally binding and taking legal action against defaulters is possible. Collateral can be used to secure loans, and may be seized. Enforcing repayment generally has not been possible in Uganda, though interestingly, it has occurred in the tobacco sector, where the tobacco companies took it upon themselves to propose new legislation which binds the smallholder and company into an agreement. The companies also sponsored workshops to sensitise relevant parties about the new legislation and have collaborated with the police to successfully enforce the law.
2. *Creating incentives for repayment.* If the borrower has a strong incentive to repay the loan, strategic default is less likely. The most common incentive to the smallholder will be the maintenance of a working relationship with the lender. If smallholders recognise the benefit of entering into an agreement with a specific private actor, then they have an incentive not to jeopardise the future benefits of maintaining that relationship. The chief concern of a smallholder household is to achieve a sustainable livelihood. For this, the household needs to ensure that it has access to sufficient food and other basic necessities. One part of a household's strategy may be to grow a cash crop. If so, and particularly if it is a non-food cash crop, they need to ensure that their produce will be purchased. In this respect, the arrangement of BAT, which guarantees legally binding prices before the start of the growing season, gives smallholders a strong incentive to maintain good relations with the company. Smallholders know that the tobacco scheme provides a safe and predictable income, and they can plan household expenditures with confidence. Also, the experiences of UVAN Ltd in the vanilla sector stress the importance of the relationship between the company and the smallholder (in this case associations of smallholders)
3. *Removing the option of strategic default.* Strategic default can only happen when there is more than one buyer in the market. Where there is a geographic monopoly, non-fungibility of inputs, and a lack of alternate uses for the output, then the potential exists for a credit scheme. However, especially after economic liberalisation, this is rarely the case. Unless a monopoly can be mimicked by cooperation between buyers,

strategic default is likely. This has been the approach in the cotton sector with the formation of the UGEA effectively removing the possibility of escaping repayment of the loan. The danger of any form of monopoly is the potential for exploitation of smallholders and the manipulation of prices in favour of the lenders. One safeguard against this is the ability of smallholders to switch production to other crops. This is possible for annual crops, though for perennial crops such as coffee, which takes 4 years to become productive, the investment could potentially tie the smallholder into an exploitative relationship with the lender.

4. Private sector has incentive and means to provide credit.

The private sector will only take the initiative to develop a smallholder credit scheme if there is a benefit in doing so. Certainly, if capital investments have been made (for instance in processing facilities) there is a strong incentive to provide credit as a means to acquire the crop – and hence assure utilisation of plant. This is the case for processors (for example in the cotton and tobacco sectors).

Sufficient liquidity is a pre-requisite: ie access to funds to make loans to smallholders. Larger, international companies have an advantage here, as they do not have to rely on domestic sources of financing, though if they did approach the banking sector for loans, they are far more likely to secure loans than smaller traders and processors. Lonrho and North Bukedi in the cotton sector, and BAT in the tobacco sector have been able to access loans for their credit programmes. Smaller companies, especially those which are rural-based may be hindered, though the development of the banking and micro-financial sector may improve their chances of accessing liquidity for credit schemes. The Kabale chilli scheme is a good example of the dangers of insufficient liquidity. The company involved was unable to pay smallholders for their produce, thus severing the relationship between it and the smallholders.

Facilitating conditions

The above four conditions appear to be essential for the success of private non-financial sector provision of credit, as deduced from the experiences in Uganda. In addition however, there is also a set of facilitating conditions which may enhance the potential success of this approach.

Monitoring systems and extension services

Efficient and effective use of the inputs provided will increase the chances of sufficient production to pay off the loan. Appropriate use of inputs can be ensured through monitoring of smallholders. Increasing the productivity of inputs can be enhanced through the provision of extension advice. BAT has invested heavily in their extension programme for outgrowers. They employ 170 extension workers and in addition they use demonstration plots and 'master' farmers to provide production advice.

Lowering transaction costs.

The transaction costs associated with the operation of an input credit scheme include the costs of screening smallholders, distributing inputs, monitoring the use of inputs, and collecting the produce. These costs are ultimately passed down to smallholders via lower

prices for their output, and if they can be reduced then theoretically smallholders stand to increase their incomes (though this will depend on their bargaining power), and therefore their incentive for participating in such a scheme. Activities such as screening and monitoring obviously require less manpower and fewer logistical problems the smaller the number of smallholders. However, as we have seen, the schemes often involve many thousands of smallholders (48,000 for tobacco, 100,000 for cotton), which implies that sophisticated and managed systems are necessary to perform these activities adequately.

Farmer groups and associations may have an important role in this respect, as they can take on responsibilities for screening, distribution, monitoring and bulking, and provide a contact point for group extension activities. Group activities do have a role in some of the commodity sectors examined, though this is normally only for training exercises (tobacco) or for information spreading and facilitating the distribution of inputs (the cotton sector still makes use of primary societies for these purposes). Only UVAN Ltd have realised the full potential of groups in operating its credit scheme, with the group taking responsibility for screening and monitoring borrowers, taking advantage of local information which would be costly for UVAN to obtain independently.

IMPLICATIONS FOR OTHER SUB-SECTORS

The above points must be considered when identifying other commodity systems which may be potential candidates for an input credit schemes. The most fundamental requirement is that there is private sector interest. The examples in the cotton and tobacco sectors have involved companies which are processors, and in some cases exporters, of the smallholder output. Companies which have invested in processing facilities and which are dependent upon smallholder production obviously have a strong incentive to ensure mechanisms are in place to provide sufficient access to raw material. Input credit schemes are one such mechanism. Companies involved solely in trade, whether domestic or export, have a similar motivation, and therefore may have an interest in input credit schemes, such as UVAN Ltd.

The other set of private sector actors which potentially have an interest in input credit schemes are those which will benefit from increased use of inputs by smallholders. Obvious candidates are input supply companies. The largest potential drawback is ensuring repayment when companies have no influence over the marketing of the output. Linkages with marketing companies and traders might help ease this constraint⁵ – but the ATAIN experience suggests that village retailers can provide inputs on credit, without this link, when they know their clients well and judge the risk to be acceptable.

Accessing funds for the operation of a credit scheme is another important consideration. Smaller traders may find it difficult to access funds from commercial sources, given the

⁵ In Zimbabwe, prior to the liberalisation of marketing parastatals, a 'stop-order' system used to operate. Input suppliers notified the marketing boards of the input loans provided to farmers, and the repayments on these loans were captured at the point of sale by the parastatal and transferred back to the input supplier.

reluctance of Ugandan banks to lend to agricultural enterprises. Even larger companies may face difficulties, as demonstrated by the IDEA project experiences.

Further considerations relate to the specific commodity. The following sections briefly explore different crops which are either currently grown by smallholders, or have potential for smallholder cultivation.

Food crops.

A wide variety of food crops are grown in Uganda, including maize, beans, sorghum, millet, rice, cassava, bananas (matooke), sweet potato, groundnuts and Irish potato. These are crops which are produced for household production and traded in local markets. Production is low input, with a heavy reliance on household labour. If processed, much of this is done at household level. Some of these commodities may be exported to regional markets, for example maize and beans.

Theoretically, traders could provide inputs, especially improved seed, on credit in return for access to the crop for marketing. Similarly, input suppliers could provide inputs on credit, with no direct linkage to output marketing, or perhaps indirectly by developing linkages with output purchasers. However there is very little evidence of this happening. IDEA report that some of village-level input stockists provide inputs on credit to farmers who are well known to them, though IDEA do not encourage this activity.

In Uganda, food crops do not appear to be good candidates for private non-financial sector credit:

- Food crops can be consumed in the household, or traded locally, therefore there is a significant risk for the trader of not recovering the crop/loan.
- There are many potential buyers, increasing the likelihood of strategic default.
- Traders, especially small scale local traders, who have the advantage of local information and monitoring, may not have access to finance, given the reluctance of the commercial banking sector to lend to the agricultural sector.
- Input usage is low – hence demand for credit may also be low.

Export crops

Coffee

Coffee exports reached 4.24 million bags (60kg) in the 1996/97 season, with a value of US\$355.2 million. Production is predominantly by smallholders – an estimated 500,000 smallholders account for a total coffee acreage of 270,000 hectares. Production is labour intensive with few external inputs, and as many of the coffee trees are old, overall productivity is relatively low. There is a potential demand for medium term credit to purchase seedlings, though with the relatively long time for these investments to mature, it is unlikely that the private sector would bear this risk.

The purchasing market for coffee in Uganda is fiercely competitive with 184 registered exporters in 1996 (though not all were active). There is evidence of advance buying of coffee – local agents are contracted by coffee processors and exporters to make advance purchases of coffee from smallholders. The money provided from the exporters and processors, via the local agents, could in theory be channelled to purchasing inputs and to pay for labour for harvesting (though there is no evidence of this happening). However, no extension advice is provided with the advance purchase, but the local agents maintain close contact with their smallholders to prevent farmers selling to other buyers.

The coffee is traditionally sun-dried on-farm, and the dried product is then dehulled at local factories. As there are no alternative uses for coffee, and processing is not done at the farm level, there is potential in the coffee sector for input credit schemes. Yields of coffee are low (below 500kg/ha) due to the age and condition of the trees and prevalence of various pests and diseases. Yields could be improved by replacing old trees or increasing the use of agro-chemicals. Credit may have a role to play in any programmes to increase productivity. The largest potential constraint to the involvement of processors and exporters would appear to be the fierce competition and large number of buyers, though as has been seen in the cotton sector, such constraints can be overcome.

Tea

Tea production consists of large and small estates, complemented by smallholder outgrowers with plots averaging less than 10 hectares (Agricultural Policy Committee, Report on Economics of Crops and Livestock Production 1997). Outgrowers' tea area under Uganda Tea Growers Corporation is about 9,440 hectares or 46% of the national planted area of about 20,500 hectares. Both production and yields have increased in recent years (production up from 55,300 tonnes in 1993 to 90,900 in 1997). The Agricultural Policy Committee attributes most of this production increase to improved yields from the greater use of fertilisers and improved crop management. There is no information on the role of the outgrower schemes in this improvement, but given their large share of production, it seems likely that smallholder outgrowers and estates alike make significant use of purchased inputs.

As with coffee, there are no significant alternative uses for the tea crop, and this is clearly important in the potential success of input credit schemes. Multiple buyers in the market is a potential problem: there is evidence that some of the estate factories have purchased from outgrowers to improve their capacity utilisation (ibid).

High value export crops

Recently, a number of high value crops (for example chilli, vanilla, ginger, roses) have emerged as potentially profitable smallholder crops. These generally require high levels of inputs, both labour and purchased inputs. The majority of these are grown for export markets, where there is the demand for high quality products. The high input requirements and the emphasis on quality (and hence the need for close crop monitoring and extension advice) suggests that smallholders would be unable to grow these crops

without the support of, or in partnership with, organisations with a strong interest in the crop, such as private processors or exporters (as has happened in the vanilla sub-sector).

There is considerable potential for outgrower schemes for these crops. Both smallholders and the companies involved stand to benefit from the schemes and therefore have incentives to make the schemes work. As with all input credit schemes, the problem of side-marketing has to be overcome, and UVAN Ltd have shown that this is possible (the close relationship between the company and outgrowers seems to be the key factor in their success).

Edible Oils

Apart from a small area of shea butter in the northern Uganda, vegetable oils have traditionally been derived from groundnut, sesame, cottonseed and more recently from sunflower and soya bean. From the late 1930s to the mid-1970s, cottonseed was the major of edible oil, but since the collapse of the cotton sub-sector, there has been a shortage of raw materials, and most vegetable oil in Uganda is currently imported. With cotton production increasing, it is likely that an increasing proportion of edible oil will come from cottonseed. Cottonseed is a by-product of the ginning process, so oil millers purchase directly from ginneries. The millers have a number of alternative sources of raw materials, and are not as dependent on smallholder cotton production as the ginneries.

There have been some initiatives to develop oil palm (see above). Other oilseeds may have some potential. Groundnuts are traditionally grown as a food crop, with relative little marketed or used for oil extraction. In addition, the price for the whole groundnuts is likely to exceed the value of the oil extracted. Similarly, sesame is used as a food crop. For both groundnuts and sesame, the problem of the diversion of the crop to household consumption is likely to rule them out as potential crops for input credit.

Sunflower may have more potential as a candidate for input credit. Interest in sunflower seed has increased since the decline of the cottonseed supply. In 1996, the area under sunflower was estimated at around 57,000 hectares. Efforts have been made to improve the sunflower sub-sector (for instance the National Sunflower Programme launched in 1988), which have included the introduction of varieties with a higher oil content. Sunflower has a lower food value than sesame or groundnut, and therefore greater potential for input credit schemes, though there is no evidence of this happening at present.

CONCLUSIONS

Market liberalisation and the provision of credit.

The use of purchased inputs by smallholders remains low in Uganda. Smallholders, who were previously dependent upon inefficient state systems for the provision of inputs, are now increasingly dependent upon the private sector. Credit has an important role to play in increasing access to inputs. The commercial banking sector may adjust to provide for agriculture, and then for small holders – but this will take time. Likewise for the semi-

formal micro-finance sector: in time they may return to the agricultural sector. Legislative support to recognise these institutions may help, plus the sharing of experiences. The removal of marketing monopolies and the introduction of competition place considerable strain on the operation of input supply-output marketing linkages, with the likely strategic default of farmers. However, these problems can be overcome.

Private non-financial sector credit versus alternative sources of credit.

The private non-financial sector has taken the lead in the provision of inputs in several sectors. Clearly though, this approach is not appropriate to all commodity systems, and the study has attempted to identify some key conditions that need to be in place for such an approach to work. Alternative sources of credit, notably the commercial banking sector and semi-formal micro-finance institutions, are currently reluctant to lend to agricultural activities, though there are some promising pilot schemes. However, these schemes (such as the Capacity Building Programme) are medium to long term programmes. Hopefully, they will lead to the creation of viable and sustainable delivery systems which will be applicable to the rural economy more widely, not just specific commodities.

However, the input credit schemes do have potential for the short term at least, and it may be possible to identify other sectors where the private non-financial sector approach could work. In these sectors there are considerable advantages over alternative sources:

- It is the interest of the lender to ensure that good quality inputs are used, and that these inputs are used so as to maximise their effectiveness. Credit may therefore be linked to monitoring and extension services (for example see tobacco and vanilla above) which serve to increase productivity and hence incomes for smallholders. These income-enhancing services are generally not available from alternative sources of credit.
- It is also in the interest of the lenders to deliver inputs on time; commercial bank loan application and disbursement procedures are often time-consuming and therefore have the risk of providing inputs too late.

Having said this, it may be more appropriate for specialist financial institutions to be involved in the provision of credit. When non-financial organisations provided credit, they need to be aware of the risks involved and the mechanisms for reducing these risks. If not, then they could incur significant losses (as did both Lonrho and the North Bukedi Cotton Company during the 1997/98 season).

Input credit schemes have potential role in several commodity systems in Uganda, though these are exclusively for non-food crops. The schemes both increase availability and access to inputs. Critical to the success of these schemes is:

- They can operate in a competitive market.

- Incentives exist to provide inputs on credit to smallholders and for smallholders to use those inputs efficiently.
- Screening, monitoring and enforcement issues are addressed using mechanisms which are effective and minimise transaction costs.

ANNEX 1

List of those consulted during fieldwork:

Mark Wood	Field Crops Production & Marketing Advisor, Agribusiness Development Centre, Uganda's Investment in Developing Export Agriculture (IDEA) Project
Y.B.K. Wadembere	Development Finance Department, Bank of Uganda
Joseph Kyamanywa	Principal Financial Analyst, Agricultural Policy Secretariat
Charles Owiny Okello	Development Finance Department, Bank of Uganda
Sarah Barlow	Enterprise Development Co-ordinator, DFID
Donal Brown	RNR Advisor, DFID
Lawrence Eтуру	Managing Director, Vinlaw Associates Limited
Anthony Rix	Regional General Manager, ACE (Audit Control & Enterprise)
Koen Wasmus	Economist, Internationale Projekt Consult GmbH
Okello Ocerо	Group Managing Director, Lira Millers Ltd.
Asaph Besigye	Business Advisory Specialist, Agribusiness Development Centre, Uganda's Investment in Developing Export Agriculture (IDEA) Project
William Kedrock	Agribusiness Development Centre, Uganda's Investment in Developing Export Agriculture (IDEA) Project
Mark Versteeg	Agricultural Advisor, Soroti & Lira Districts Development Programmes
Alan Scotwatson	Leaf Manager, British and American Tobacco (BAT)
Geresom Okecho-Ochwo	Principal Market Information and Monitoring Officer, Cotton Development Organisation
Bruce Robertson	Manager, North Bukedi Cotton Company
Willie Onyang Odwongo	Acting Deputy Director, Agricultural Policy Committee Secretariat.

Fred Opio	Head, Economic and Policy Research Centre, Makerere University
Glen Clark	Lonrho Cotton
Richard Nalele	Mbale Branch Manager, Centenary Rural Development Bank
Charles Ebeng	District Agricultural Officer, Soroti
Martin Wabwire	Soroti and Lira Districts Development Programmes.
Marios Obwona	Economic Policy Research Centre, Makerere University
Rosetti Nabbumba	Economic Policy Research Centre, Makerere University

ANNEX II

Small-holder credit: roles of farmers, government and the private sector Visit to Uganda by Andrew Goodland, 4th-18th September, 1998

TERMS OF REFERENCE

1. Review relevant literature, including reports from previous NRI research on inventory credit (N Novell and J Coulter) and farmer controlled enterprise (R Stringfellow).
2. Document the experiences of the North Bukedi Cotton Company in providing inputs on credit to smallholders – what they did? what went wrong? and what would have been needed for it to work?
3. Through review of relevant reports, statistics, and interviews with stakeholders including farmers, investigate the current status of credit in the cotton sector – (existing/proposed schemes, how they are to work, public/private roles, and sustainability).
4. From these reviews, draw lessons with respect to the provision of smallholder credit.
5. Using these lessons, investigate whether there are other important sectors (preferably small-holder non-export products) where there appears to be potential for private provision of credit (probably by processors or traders). Identify these sectors through discussions with key informants and review of other documents/data.
6. Initial preparations for workshop: identify a small group of people with relevant but varied experience who would be able to contribute substantively to a review of our results and proposals for further work at the Uganda workshop planned for early 1999.
7. Provide a report of the findings.

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