

OUTREACH AND SUSTAINABILITY OF INVENTORY CREDIT PROGRAMME IN GHANA

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Abstract: The study examined the outreach and sustainability of the inventory credit programme (ICP) in Ghana using both qualitative and quantitative data between 1996 and 2003. The findings revealed that the outreach of the ICP reached the poor with a depth of 25-47% (nationwide) measured in terms of loan size/GNP per capita. The outreach measured in terms of percentage of female clients served was initially 20%, but fairly increased to 59% over the study period. However, a comparative analysis with two successful MFIs in Ghana and standardised performance benchmarks indicate that the ICP did not perform well in reaching the very poor. The results of the financial performance indicate that the ICP was operationally and financially sustainable. Further, the study showed that the ICP had high loan recovery rate which underlies its profitability. However, the ICP operated with a low efficiency measured in terms of adjusted operational expenses ratio. Based on these findings the study concludes that there is a trade-off between outreach to the poorest and a financial sustainability of the ICP which can be mitigated by the enhanced credit allocation through lower cost structures.

Key words: outreach, sustainability, inventory credit programme.

Introduction

Sustainable provision of credit and general financial services to farmers and rural inhabitants in developing countries has proved to be a difficult task and remains a major development challenge in most African countries. With about three quarters of the world's 1.2 billion extremely poor people living and working in rural areas and the high incidence of rural poverty, improved rural financial intermediation services will be an impetus to the achievement of pro-poor growth and poverty reduction goals (Klein et al., 1999).

Although numerous new or reformed financial institutions have emerged, a

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substantial gap persists in many rural financial markets. Efforts to reduce the gap have often centred on supply-led interventions, including the government and donor targeted credit programmes of 1950-60s, the global failure of which is well outlined (Yaron et al., 1997). Liberalisation of the financial markets which allowed privatisation of the banking sector, bank restructuring and recapitalisation, strengthening of bank regulation and supervision in the 1980s was interventionist. However, it became unsustainable due to lack of macroeconomic stabilisation and prudential reforms (Akiyama et al., 2001).

These failures along with general domestic and international mistrust of Government interventions unlocked the opportunities for non-governmental organisations (NGOs) to enter this field. However, the NGOs were not the definitive answer to the lack of access to credit in view of their weak institutional design. They served as means for intensive experimentation in new lending technologies. A number of these NGOs converted into full service Microfinance Institutions (MFIs) during the 1990s targeting rural and micro entrepreneurs. Morduch (1999) noted that several of the MFIs are not financially sustainable and scepticism is growing about their role in mobilising rural savings and in providing agricultural finance.

Formal Financial Institutions (FFIs) have become more risk averse and reduced their exposure to agriculture and rural economy. Among banks, there is a general reluctance to lend to farmers in non-tradable agricultural commodities due to deficient marketing channels, poor prices, and high transaction cost in loan procurement (Berg and Kent, 1991). In view of this, many rural people still rely on informal financial arrangements. Informal transactions may be beneficial in some respect but cannot be a substitute for effective banking services.

One of the main limitations of banks lending to farmers is the requirement of conventional guarantees. In developed countries like the United States and the United Kingdom, stored produce is widely accepted as collateral for lending and banks can advance a farmer or trader 80% of the market value, for instance, of grain which is stored in an authorised warehouse and duly insured against losses from fire, theft and damage (Coulter and Shepherd, 1995). Such a financial system is not common in Ghana and the main form of collateral is real estate. Real estate in most rural areas has no market value and is unsuitable for this purpose. Even in urban areas, traders have little or no assets which are acceptable to banks as collateral.

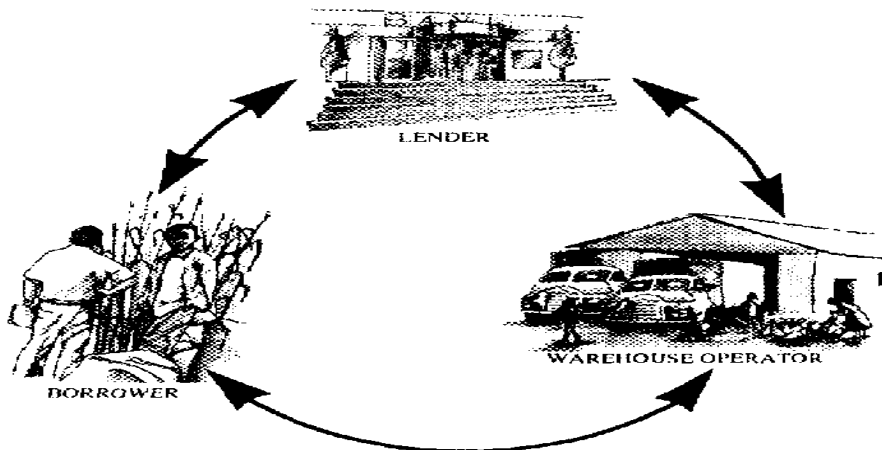
To overcome these problems, the Inventory Credit Programme (ICP) also known as warehouse receipt or collateralised commodity credit, was identified by Technoserve-Ghana (A private non-profit organisation that improves the economic and social well-being of low income people in rural areas of the developing world) in collaboration with Agricultural Development Bank (ADB) as a possible means of increasing financial support to the agricultural industry by; reducing risk for

banks which are sceptical of lending in rural areas; creating opportunity for farmers to take advantage of seasonal price swings; and enhancing food security for farmers who can redeem their produce from storage rather than selling it cheap at harvest and buying back at high prevailing market prices (Londner et al., 1999). However, after several years of the TNS/ADB ICP in Ghana, there has not been any comprehensive study to analyse its performance. This prompts the following research questions: does the inventory credit programme reach the poor? and is the inventory credit programme operationally and financially sustainable?

Against this background, this study seeks to determine the outreach and sustainability as key performance measure of the inventory credit programme in Ghana. Specifically, the study investigates the breadth and depth of outreach of the ICP. Additionally, it analyses the operational sustainability, financial sustainability, operational efficiency and profitability. The rest of the paper is divided into four sections. Section two highlights the concept of the ICP. Section three discusses the materials and methods. Results and discussion are presented in section four, whilst conclusion and policy recommendations are outlined in section five.

Concept of the inventory credit programme

The inventory credit programme (ICP) is the use of securely stored goods/produce as collateral for commercial loan. As noted by Coulter and Shepherd (1995), the ICP is concerned with a tripartite arrangement (Figure 1) involving a lender (bank), a borrower (who could be a trader, a miller, a large farmer, a group of farmers), and a warehouse operator (an organisation which is specialised in this field but does not trade in the produce stored).



Source: Coulter and Shepherd (1995).

Figure 1. Essential parties involved in the inventory credit programme.

The ICP is used in financing the procurement and storage of durable agricultural produce including; a) cash crop destined for export markets; b) import produce usually held in bond for which the importer needs finance during disposal and c) domestic food and feed crops particularly grains subject to seasonal gluts.

This study is however concerned with the last use. As applied to small-scale agriculture, the participating members form various groups of typically 20 to 50 to store their produce between harvest times and 'lean season' when prices are about 75 to 250 per cent above harvest time prices (Londner et al., 1999). After storage over a period, the farmers maintain the flexibility to either sell their produce through the group using the proceeds to repay the bank (principal and interest) or buy back their own produce from the group to use as food (paying back the bank loan and storage costs) yet saving a substantial amount by avoiding high season market price. While the application of the ICP often results in greater food availability in the area, reduction in post harvest losses, stability of food prices and more stable local markets, the primary objective of the programme is to increase farmers' income through access to bank loans.

The inventory credit was first launched in Ghana on a pilot base in 1989 by Technoserve. By 1999, the ICP had covered a greater part of the country with participating groups classified into southern (Kumasi and Techiman) sub-zones and northern (Wa, Temale and Bolga) sub-zones. The rationale behind the programme was to create an opportunity for small-scale farmers to take advantage of seasonal price swings, enhance food security and reduce risk of banks, which were sceptical of lending in rural areas (Londner et al., 1999). In Ghana, the ICP is primarily applied to maize. Prior to harvest, Technoserve staff interact with community group members to find out the number of interested participants in the programme. This is followed by an arrangement of credit facility with a bank (Agricultural Development Bank-ADB). After harvest, the borrower deposits grain meeting specific standard in a cooperatively owned and managed warehouse under the dual key system, with the cooperative holding one key and Technoserve or ADB holding the other key. A receipt is issued to the borrower by the storage collateral manager to be presented to the lender for release of the loan. The amount of credit provided by the bank is normally pegged to a proportion of the harvest time market value of the stored grain, usually about 70 per cent of the prevailing market price. This limits the lenders risk if the price does not rise as anticipated. The credit is distributed on a pro-rata basis among group members according to individual grain stored. A viable inventory credit programme requires diligent monitoring of stored goods, price fluctuation and market supply trends (Coulter, 1994). Technoserve provides contacts, technical assistance, critical market intelligence such as tracking prices in several key markets and providing information on grain imports or other market distorting events. Technoserve builds the capacity of participating farmer groups and their affiliated associations to enable them, over time, to carry out these functions on their own.

During the sale of the stored produce, group leaders are guided by staff of Technoserve in setting a sales strategy for the stored grain. Generally, a minimum 'trigger' price at which the group is willing to sell the stored grain is set. Technoserve attempts to establish the linkage between its client groups and large scale purchasers to buy the grain in bulk as means of developing reliable markets, reducing transport costs and other transaction cost and obtaining higher prices. However, a phased selling approach could be adopted by selling the stored grain in two or three batches as prices begin to peak rather than at perceived maximum price. Overall profit may be lower but this is balanced by the reduced risk of incurring a major loss which may result from attempting to 'time' the market. Accordingly, no payments are made to group members until all the grain has been sold. During the final sales payment, the loan (plus accumulated interest) and any assessed fees or charges are deducted and outstanding loan repaid to the bank before the group members receive the final payment for grain sales.

Material and Methods

Evaluation of the performance measure of microfinance institutions

The microfinance movement is characterised by both agreement on broad objectives and multiple rifts on key issues. Though the movement itself shares a commitment to the provision of microfinance services for small enterprise formation and growth, it is also bound together by a common rhetoric of concern for the poor. As a result, the movement has come to be divided by two opposing camps: the institutionist approach or 'sustainability camp' and the welfarist approach or 'poverty camp', referred to as the microfinance schism (Morduch, 1998). The institutionist approach focuses on achieving financial self-reliance, viability and eschews subsidy of any kind. They charge high interest rates, because of high lending costs. The objective is not only to reach large number of the poor, but also to do it in a sustainable manner. Breadth of outreach (numbers of clients reached) takes precedence over depth of outreach (level of the poor reached) and assumes positive client impact (Yaron and Charitonenko, 1998). Welfarists on the other hand, emphasise depth of outreach and are quite explicit in their focus on immediately improving the well-being of participants. The objective is both to reach greater number of the very poor and provide them with financial services at a low cost. Though they do not shun profitability, they do not as well eschew subsidy. Like the institutionists, welfarists have assumed more impact than they actually have been able to document.

The schism is also characterised by the method of evaluating the performance of the Microfinance Institutions (MFIs). Institutionalists are interested in market

variables, such as the repayment rate, transaction cost, the degree of financial self-reliance etc. The welfarists object to the institutionalists because of their failure to take into account the outreach performance as well as effect on the poor. They in turn propose other performance criteria including the number of savings accounts or the number of loans, the improvements in productivity, incomes, capital accumulation, food expenditures and social services (education, health, housing, etc.). The outcome of the ensuing debate between the two camps today is that there is no agreement upon performance measure of MFIs. However, since scholars, donors and practitioners have increasingly recognised the significance of sustainable provision of financial services to the poor and other sectors of the population as a useful tool in poverty alleviation, enterprise development and financial sector deepening, this research adopts an approach based on both performance criteria proposed in Yaron (1992) and Christen et al. (1995). These authors suggest two key criteria to evaluate the performance of MFIs: outreach and sustainability.

Outreach

Outreach measures are designed to capture the number of people served as well as information on their level of poverty. Schreiner et al. (2005) noted that the measure of poverty outreach rely on indicators such as lending method (group borrowers are assumed to be poorer than individual borrowers), client gender (women are assumed to be poorer than men), branch location (rural dwellers are assumed to be poorer than urban dwellers), and loan size (poor people are assumed to take a small amount of loans). Schreiner (2002) considers outreach in terms of depth, worth to users, cost to users, breadth, length and scope. However, this study considers outreach in terms of breadth (extent) and depth of outreach as noted by Zeller and Meyer (2002).

Sustainability

Sustainability is permanence and concerns viability of an institution. Zeller and Meyer (2002) distinguish operational sustainability and financial sustainability. Operational sustainability measures the degree to which operational income covers operational cost. Financial sustainability refers to the extent to which an institution not only covers its operational cost but also preserves the value of its resource by accounting for subsidies and adjusting for the effect of inflation on equity and non-performing loans (Microbanking Bulletin, 2002). Hulme and Mosley (1996) assert that sustainable financial institutions should be able to reduce transaction cost, allocate resources efficiently, manage risk and also make their resources grow dynamically.

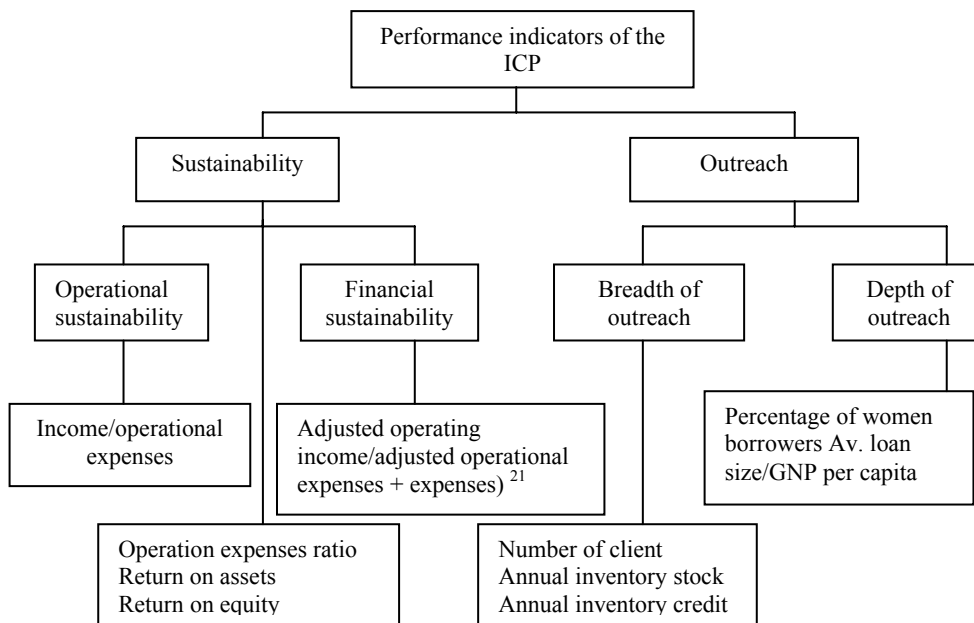
Outreach versus sustainability

The primary manifestation of the debate about the nature of association between social return and financial return in the microfinance institutions has led to the ongoing controversy concerning the nature of relationship between depths of outreach and institutional sustainability. Zeller and Meyer (2002) note a trade-off between improving outreach (reaching the poorest of the poor) and achieving financial sustainability. The trade-off is attributed to the high transaction cost resulting from obtaining information about credit worthiness of the poor clients (Zeller et al., 1997). This belief recognises the inherent difficulties in lending to the very poor people particularly those living in rural or marginal areas. Their view was also supported by Woller and Schreiner (2004) that lending to the very poor entails higher per-unit administrative costs, lower per-unit revenue and greater risk (absence of physical collateral) but none of which bode well for long-term institutional sustainability. Nevertheless, Woller and Schreiner (2004) further reveal that the existence of trade-off between depth of outreach and sustainability is not to assert that the two are mutually exclusive, only that achieving the former makes it difficult to achieve the latter.

The conceptual framework

This paper is guided by a conceptual framework which emphasises institutional sustainability and outreach as key performance measures of the ICP (Otero and Rhyne, 1994) (Figure 2). Indicators of breadth of outreach of the ICP include: number of clients served, annual loan volume and annual deposit volume in the form of inventory stock. Depth of outreach indicators includes percentage of women reached and average loan size (Schreiner, 2002). The average loan size is defined as the ratio of average gross loan portfolio to the number of active borrowers (Microbanking Bulletin, 2002). Smaller loans are generally taken to indicate greater depth of outreach. Adjusting the average loan size per GNP per capita normalises the variable for different price and income levels found in different countries thereby making cross-country comparisons more valid. Dunford (2002) notes that an underlying assumption in microfinance is that borrowing increases a person's earnings and so reduces poverty. If loan size increases as poverty is reduced (this certainly is the implication of using loan size as a poverty proxy) and if borrowing has a real positive impact on poverty, then the size of a borrower's first loan from a microfinance institution is the loan size most reflective of the institution's depth of outreach to the poor. Though more micro lenders use poverty scorecards that add up a few weighted client-level indicators to produce a score that is assumed to be associated with a poverty status as notes by Zeller (2004), the strength of the correlation of these indicators and scores with poverty is unknown and the procedure is often difficult and expensive.

This study measures operational sustainability of the ICP as the ratio of operating income to operating expenses (Microbanking Bulletin, 2002). Operating income includes income generated from interest earned, fees, and commissions on gross loan portfolio and other payments generated by financial assets other than the gross loan portfolio. Operating expenses involve personnel expense such as staff salaries, bonuses, and benefits, as well as employment taxes incurred and administrative expense such as depreciation, rent, utilities, supplies, transportation, advertising, communication and consulting fees. Financial sustainability is measured as the ratio of adjusted operating income to adjusted operating expenses. Adjusted operating income (income from loan portfolio + income from investments), adjusted operating expenses (administrative expense, including in-kind donation + adjusted total interest expense + provision expense). Adjusted total interest expense (interest and fee expense + exchange rate depreciation expense + other financial expense including inflation expense + subsidy expense).



Source: Draws on Zeller and Meyer (2002) and Microbanking Bulletin (2002).

Figure 2. Measuring the performance of the ICP.

Other performance indicators of the ICP include adjusted return on equity (the ratio of adjusted net operating income to average total equity. It measures the ability of an institution to maintain and increase its net worth through earnings from operations), and adjusted return on assets (the ratio of adjusted net operating income to average

total assets. It measures how well the MFI's assets are utilised, or the institution's ability to generate earnings with a given asset base). The adjusted return on equity (RoE) and the adjusted return on asset (RoA) are adopted to take into account the effect of inflation, and any other in-kind subsidies such as technical assistance. However, the fact that a MFI has high RoE or RoA says little about why it is so (Abate et al., 2003). To understand why an institution achieves its profit (or loss), the analysis also takes into account other indicators that illustrate operational efficiency such as operating expenses ratio. It is calculated by dividing all expenses related to the operation of an institution (administration, salary expenses, depreciation but not interest and provision expenses) by the period average gross portfolio. The ratio measures the institutional cost of delivering loan services. It is regularly assumed that the lower the operating expenses ratio, the higher the efficiency of an institution.

Data collection and data analysis

The study adopts both qualitative and quantitative research methods. The Quantitative phase of the study collects secondary data from Technoserve (TNS) and Agricultural Development Bank (ADB). The data gathered consist of outreach and financial information over a period of eight years (1996-2003). Detailed information includes number of ICP participants, gender of participating members, inventory loan disbursed, and volume of inventory crop stored, operating income, operating expenses, total assets, and total equity. This was undertaken on the basis of analysis of project documents and use of structured questionnaires. The qualitative aspect of the study considers the use of unstructured in-depth interviews with project staff and participating members at project sites. Information obtained consists of how the ICP works and its benefits on the participating members. The TNS/ADB ICP was chosen for the study because of its distinguished consistency and outreach to a greater number of people across the entire country.

Analysis of the data is executed using SPSS. A combination of descriptive statistics, comparative analysis and financial ratios is adopted. Descriptive analysis is used to present observed trends and facts. This is enhanced through the use of tables, graphs, histograms, percentages and ratios. Comparative analyses using financial ratios standardised for performance appraisal of MFIs are also adopted.

Results and Discussion

The performance of the inventory credit programme (ICP) is discussed in terms of outreach and sustainability. The breadth and depth as a measure of ICP's outreach are examined. Financial analysis considers operational sustainability, financial sustainability, operational efficiency and profitability in terms of return on asset and return on equity. Finally, benchmarking analysis of the ICP's performance with two successful MFIs in Ghana is discussed.

Outreach

The outreach performance is distinguished into the northern and southern zones to reflect a more accurate impression of how the ICP affects different geographical groups between 1996 and 2003. Crops stored in the north include maize (about 92%), cowpea, groundnut, millet and sorghum (add up to about 8%), whilst maize is the only grain stored in the south.

Figure 3 describes the growth of participants over the study periods. The number of clients increased from 684 to 4,840 which is about 0.32 % of clients reached by Ghana's formal and semiformal MFIs and about 8.07% of clients reached by micro-credit non-governmental organisations (Steel et al., 2004). Lack of proper grain drying and storage facilities at the community levels is a major constraint to the low outreach performance of the inventory credit programme.

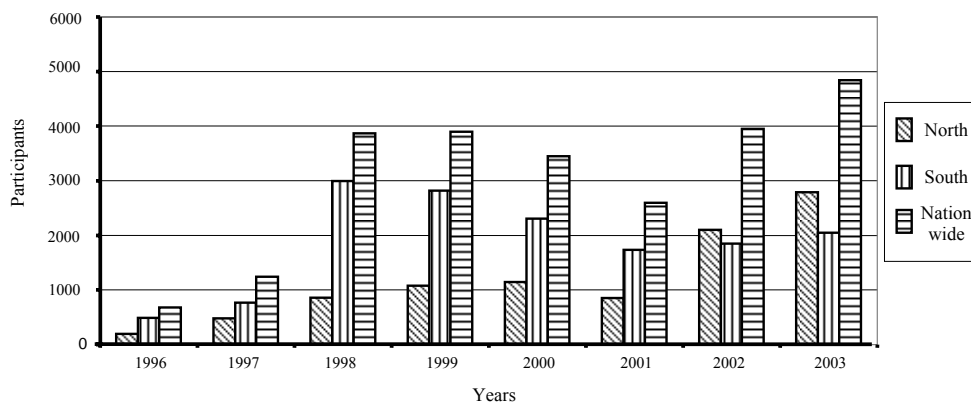


Figure 3. Growth of participating farmers/traders.

During the period between 1996 and 2001, the number of participants is seen to be greater in the south than in the north. This is attributed to the adoption of inventory credit model by banks lending to large scale maize traders that have flooded the market. These factors have been more in evidence in the south where there is a highly developed commercial grain market than in the north. However, the trend changed between 2002 and 2003 when participating members grew stronger in the north especially among farmers through better awareness programmes of the inventory credit scheme.

The volume of crop stored nationwide during the study period increased considerably from 859 tonnes to 12,560 tonnes with about 66% of the inventory stock coming from the south (Figure 4). Notwithstanding the fact that there were more participants in the north than in the south in 2002 and 2003, northern farmers stored only about 40% compared to their southern counterparts. In the north, all the stored crops are produced by participating group members and in every case

inventory credit has been taken for them. In the south, however, stored grains fall under three categories: a) maize produced by participating group members for which inventory credit is claimed; b) maize purchased by groups from non-participating farmers to meet the full credit allocation made by financial institutions – this is called buy/sell; and c) maize produced by participating members but for which credit is not claimed – this is called simple storage. Simple storage began not long ago but has never accounted for more than 6% of total maize stored as noted by Londner et al. (1999).

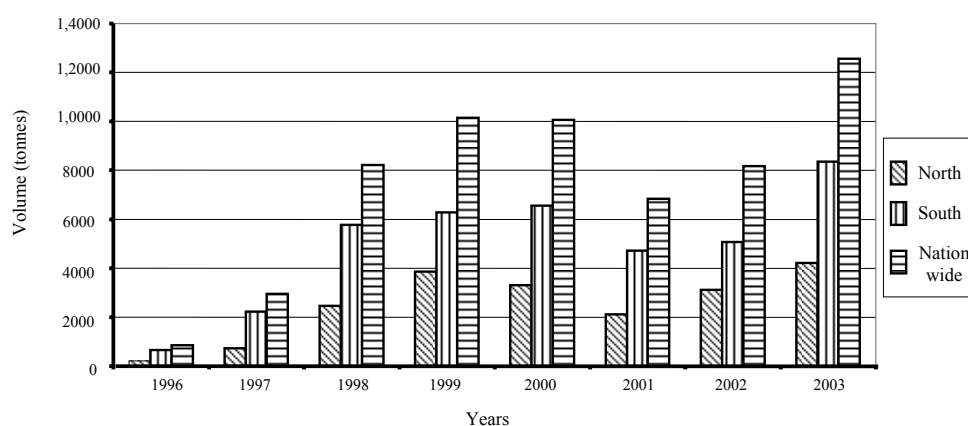


Figure 4. Inventory stock.

Table 1 demonstrates a sharp difference between the north and south of the country in terms of how stored grains are utilised. In the north, a significant proportion of maize is redeemed. Much of this is consumed by the household, whilst a small amount is redeemed for sale to meet immediate cash requirements. The pattern is different in the south where usually all stored maize is sold cooperatively. Cooperative sales result in higher profit margin (Coulter and Shepherd, 1995). This explains the assertion that the net benefit from the ICP accruing to participants is less in the north than in the south (Londner et al., 1999).

Table 1. Outreach analysis.

	Percentage of stock sold/redeemed							
	1996	1997	1998	1999	2000	2001	2002	2003
North	74/26	80/20	78/22	79/21	76/24	42/58	84/16	90/10
South	100/0	93/7	100/0	100/0	96/4	86/14	100/0	100/0
	Depth of outreach (%) (Average loan size/GNP per capita)							
North	21	18	32	36	42	41	36	32
South	26	30	24	24	42	36	51	68
Nationwide	25	26	26	31	42	39	43	47

Inventory credit disbursed

Trends in the volume of credit accessed by participating members can be seen from Figure 5 to mirror the patterns in the growth of the size of the programme described in Figure 3. Portfolio growth reflected an expansion from about US \$ 64,564 in 1996 to about US \$ 729,193 in 2003. The volume of inventory loan disbursed increased by a growth rate of 98.70% in 1997 and by 205.15% in 1998. Loan growth increased with a decreasing growth rate of 23.54% and 5.0% in 1999 and 2000 respectively and declined in 2001. This reduction of growth appears to be due to declining aggregate demand as a result of potential borrowers' uncertainty about prices and inflation and poor harvest in 2001. However, in 2002 and 2003, loan growth increased with a growth rate of 68.80% and 51.66%, respectively. As demonstrated in Figure 5, the volume of loan disbursed during the study period is higher in the south than in the north. A high incidence of poverty in the north as noted by Aryeetey and Steel (1992) is reflected in their level of maize production and corresponding small amount of grain for storage. Hence, the small amount of inventory loan that is accessed by participants in the north.

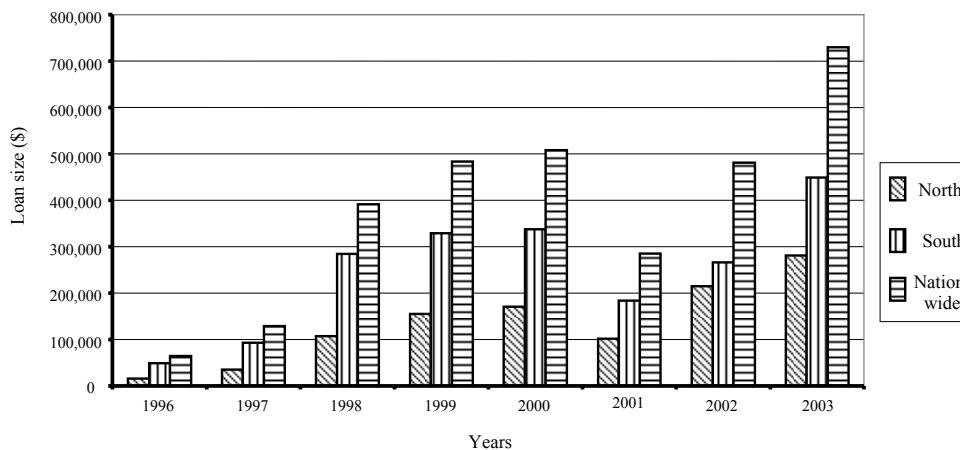


Figure 5. Inventory credit.

Depth of outreach reflects the success in overcoming difficulties to reach the vulnerable like the poor. These difficulties can be interpreted by the poverty of the clients. According to the Microfinance Information Exchange, 'deep reaching' MFIs are those that have an average loan size/GNP per capita of less than 20%. From this perspective, the depth of outreach of the ICP measured by the average loan size/GNP per capita (Table 1) is still shallow. The ICP addressed broad-end clientele with an average loan size/GNP per capita of between 21% and 68%.

Table 1 further reveals that a greater number of the very poor were reached by

the programme in the early years of the study period (1996-1998) compared to the period between 1999 and 2003. The increase in the average loan size of the ICP during the study period has been associated with a drift from the targeted clientele of the rural poor. The drift may be as a result of high transaction cost associated with financial services to the widely dispersed poor clients who normally take a small amount of loan. Depth of outreach of the ICP in the north ranged between 21% and 41% of GNP per capita during the study period compared to 26%-68% in the south. This implies that the ICP performed comparatively better in reaching the very poor in the north than in the south. This finding reflects that measure of poverty outreach should not be based on portfolio analysis alone but on portfolio analysis relative to the distribution of poverty in the operational area.

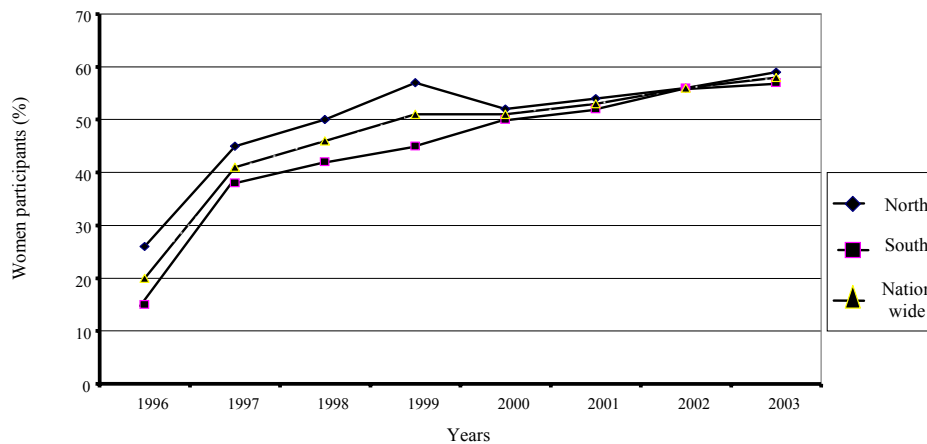


Figure 6. Women participants.

Depth of outreach in terms of percentage of women reached by the inventory credit programme is demonstrated in Figure 6. The concentration of women in the ICP portfolio is associated with concentration of loans for farming and petty trading (buy/sell). Figure 6 demonstrates that few women were recorded as participants in the early years of the programme. This could be attributed to the control of household resources including grain produced by men as observed by Seguino (2002). Women became more active in the programme and correspondingly stored more grains under their own names. Women participants increased from 20% in 1996 to 58% (nationwide). However, using the percentage of women as proxy for depth of outreach, the ICP was not successful in reaching the poor as drawn from Table 4. The analysis of the depth of outreach of the ICP in terms of average loan size/GNP per capita and the percentage of women reached thus accepts the hypothesis that the ICP does not reach the poor.

Sustainability

Table 2 shows the operational and financial sustainability of the ICP during the study period. As demonstrated in Table 2, income from the ICP covered the operational cost. The operational sustainability ratio fluctuated between 127% in 1996 and 149% in 2003. The decline from 141% in 2000 to 129% in 2001 was due to addition of new branches and bad weather which resulted in low participation by members. Financial sustainability ratio grew from 79% in 1996 to 117% in 2003. This implies that after adjusting for the effect of inflation and subsidy on equity and non-performing loans, the ICP generated sufficient income to cover cost of operation. The years which could not register full financial sustainability (1996-1998) had a corresponding greater depth of outreach measured by loan size/GNP per capita (Figure 7). The lowest financial sustainability ratio (79%) was recorded in 1996 with the corresponding greatest depth of outreach of 25% of GNP per capita while the largest sustainability ratio of 117% is in sight for 2003 with the corresponding lowest depth of outreach of 47%. These findings run similar to the intuitively compelling and widely held belief that providing small loans to the poor, structurally disadvantaged, relatively hard to reach and high-risk clientele is associated at the margin with lower financial sustainability.

Table 2. Financial analysis.

Operational and financial sustainability								
Item	1996	1997	1998	1999	2000	2001	2002	2003
OPSS (%)	127	138	129	128	141	129	137	149
FSS (%)	79	99	95	106	107	101	110	117
Adjusted return on assets and equity								
ARoA (%)	-4.70	-0.26	-0.97	1.15	1.24	0.79	1.61	2.78
ARoE (%)	-16.4	-0.80	-3.46	4.43	4.58	3.47	5.96	9.28
Operating efficiency								
OER (%)	50	45	42	36	37	41	34	38

The observation supports the assertion that there is a trade-off between outreach to the poorest and financial sustainability as noted by Hulme and Mosely (1996). Zeller and Meyer (2002) in explaining the trade-off assert that MFI's outreach to the poor is associated with high transaction cost which results from obtaining information on credit worthiness of the poor clients. Transaction cost of the ICP is associated with promoting, training and administering loan to participating members, and monitoring and selling of inventory stock. Higher transaction costs are a major impediment for catering financial services to the poor (Zeller et al., 1997). It is thus imperative that the ICP emphasises an innovative approach to increasing cohesion and lowering transaction cost for participants.

Return on assets and return on equity are both negative between 1996 and 1998, respectively (Table 2). This implies that the programme incurred losses between 1996 and 1998 but matured into profitable financial intermediary between 1999 and 2003. The positive value between these periods implies that the programme utilised its assets well to generate earnings without losing money when advancing loans to its clients. One factor that explains the high returns on equity is the low ratio of equity to assets in the ICP. If the ICP was to become an independent microfinance intermediary, it would have to maintain a significantly higher equity to assets ratio. Under these circumstances, the return on assets offers a more meaningful indicator by which to gauge the ICP's performance. Charitonenko et al. (1998) note that a 1% to 1.5% return on assets is considered a basic indication of good financial performance for a financial institution. Thus, RoA between 1999 and 2003 indicates that the ICP was performing well to ensure generation of profit to maintain a minimum capital adequacy. This was achieved through screening mechanism, incentives to increase repayment and reduction of risk through equity participation.

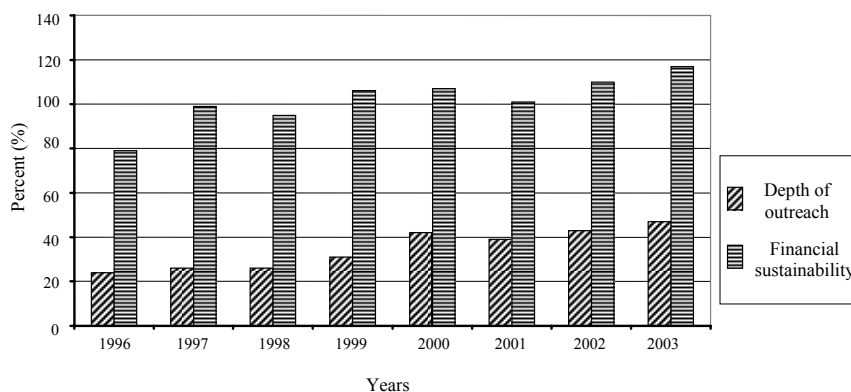


Figure 7. Depth of outreach versus financial sustainability.

According to secondary data from the case study institution, loan recovery rates on the inventory credit have generally been steady between 95% and 100% to maintain a high portfolio quality and this contributed to the profitability and sustainability of the programme. The high repayment rate was the result of strictness of the programme to delinquency management by adhering to financial discipline and applying efficient operating procedures in screening, monitoring and enforcing loan collection. Marketing arrangement for inventory stock with the help of institution staff facilitated quick and efficient sales of inventory stock and this enhanced loan recovery. Additionally, during the final sales payment of inventory stock, the loan (plus accumulated interest) and any assessed fees or charges are deducted and outstanding loan repaid to the bank before the group members received the final payment for grain sales.

Operational efficiency of the ICP measured by adjusted operating expense ratio ranged between 50% in 1996 to 38% in 2003 (Table 2). According to Abate et al. (2003), operating expenses are usually above 40% of average gross portfolio for village banking institutions where average loan size is often US\$100 or below. On this basis, it is clear that the adjusted operating expenses ratio of the ICP is quite high. The high ratios indicate high cost of delivering loan services by the ICP. This could be attributed to considerably smaller loan size which did not provide the necessary economics of scale to optimise on operating cost. In an attempt to improve operational efficiency by lowering cost of operation (1999-2003), the ICP charged higher interest rate to compensate for higher cost of dealing with small loan amounts and widely dispersed clients.

Benchmarking comparison of the performance of the ICP with other MFIs

Whereas performance measurement is done on an absolute basis, benchmarking puts performance in context by comparing it to similar organisations. Comparative analysis of institutional performance is thus imperative to facilitate improvement in rural finance. Comparing the outreach performance of the ICP with two successful MFIs in Ghana (Sinapi Aba Trust-SAT and Kraban Support Foundation-KSF), it is evident that improvement in the performance of the ICP remains imperative. Using the generally accepted method for evaluating the depth of outreach (average loan size/GNP per capita and percentage of women reached), the ICP did not perform well in reaching the very poor (Table 4). Whereas KSF improved on their financial services to reach the very poor (a depth of 28% of GNP per capita in 2001 to 16% of GNP per capita in 2003), the provision of financial services by the ICP was associated with a drift from the targeted clientele of the rural poor. According to Table 3, the ICP addressed the broad-end clientele with average loan size / GNP capita between 20% and 149%. However, a comparative analysis of financial performance of the ICP with the two successful MFIs and drawing on international performance standards and benchmarking (Table 3) indicate that the ICP was operationally and financially sustainable.

Table 3. Standardised indicators and performance benchmarks.

Performance criteria	Indicator	Performance standard
Sustainability	Operational sustainability	Min. 120%
	Financial sustainability	Min. 100%
Depth of outreach	Av. Loan size/ GNP capita (%)	<20% OR Av. Loan size <US\$ 150
Low-end	Av. Loan size/ GNP capita (%)	
Broad-end	Av. Loan size/ GNP capita (%)	20% to 149%
High-end	Av. Loan size/ GNP capita (%)	150% to 249%
Small business	Av. Loan size/ GNP capita (%)	250%

Source: (MicroBanking Bulletin, 2002).

Table 4. Performance of Sinapi Aba Trust (SAT) and Kraban Support Foundation (KSF).

		2001	2002	2003	2004
Number of clients	SAT	24,396	26,615	41,803	53,029
	KSF	1,456	3,120	6,300	6,517
Percentage of women	SAT	90%	93%	92%	92%
	KSF	100%	100%	100%	96%
Loan size (US\$)	SAT	-	75	75	80
	KSF	-	81	46	51
Loan size/GNP per capita	SAT	-	23	26	26
	KSF	-	28	16	16
Operational sustainability	SAT	139%	199%	-	-
	KSF	87%	119%	112%	113%
Financial sustainability	SAT	103%	140%	-	-
	KSF				
Operational expense ratio	SAT	-	-	30%	38%
	KSF	18%	23%	20%	18%
Loan repayment rate	SAT	97.4%	96.3%	-	-
	KSF				
RoA	SAT	-	-	6.56%	0.49%
	KSF	4.60%	2.52%	2.50%	-
RoE	SAT	-	-	9.85%	0.73%
	KSF	26.77%	9.71%	7.15%	-

Source: Aryeetey and Steel (1992).

Table 4 further reveals that the ICP had a high loan recovery rate which underlies its profitability measured by RoA and RoE, nevertheless, the ICP operated with low efficiency.

Conclusion

The study assessed the performance of the inventory credit programme in Ghana between 1996 and 2003 in terms of outreach and sustainability, using Technoserve Ghana/Agricultural Development Bank as a case study. The breadth and depth were considered as measures of ICP's outreach whilst financial analysis specified as a measure of sustainability includes operational and financial sustainability, operational efficiency and profitability in terms of return on asset and return on equity.

The breadth of outreach of the ICP indicates that it reached the poor with a depth of 25% to 47% (nationwide) measured in terms of loan size/GNP per capita. Depth of outreach measured in terms of percentage of female clients served fairly increased over the study period from 20% to 59%. However, using these two

indicators as a measure of depth of outreach, comparative analysis with two successful MFIs in Ghana and standardised performance benchmarks indicate that the ICP did not perform well in reaching the very poor. The results of the financial performance indicate that the ICP was operationally and financially sustainable, implying that after adjusting for the effect of inflation and subsidy on equity and non-performing loans, the ICP generated sufficient income to cover cost of operation. These observations support the assertion that there is a trade-off between outreach to the poorest and financial sustainability which is noted to be associated with high transaction cost of obtaining information about credit worthiness of the widely dispersed poor clients. Findings further show that the ICP has a high loan recovery rate which underlies its profitability. However, the ICP operates with low efficiency measured in terms of adjusted operational expenses ratio.

Based on these findings it is important to note that the trade-off between outreach to the poorest and financial sustainability of the ICP can be mitigated by an enhanced credit allocation through lower cost structures.

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DOSTUPNOST I ODRŽIVOST PROGRAMA ZA KREDITIRANJE
ZALIHA U GANI

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R e z i m e

Rad se bavi ispitivanjem usluga i održivosti programa za kreditiranje zaliha (ICP) u Gani korišćenjem kvalitativnih i kvantitativnih podataka u periodu između 1996. i 2003. godine. Rezultati su pokazali da je pružanje usluga ICPT-a doseglo do najsiromašnijih sa dubinom od 25-47% (širok zemlje) mereno u pogledu veličine kredita/GNP-a po glavi stanovnika. Usluge koje su pružane ženskim klijentima mereno u procentima iznosile su 20% na početku, ali su se povećale na 59% tokom perioda istraživanja. Međutim, komparativna analiza sa dva uspešna MFI-a u Gani i standardizovani pokazatelji učinka ukazuju da se ICP nije dobro pokazao u smislu dostupnosti najsiromašnijima. Rezultati finansijskog učinka ukazuju da je ICP bio operativno i finansijski održiv. S tim u vezi, istraživanje je pokazalo da ICP ima visoku stopu vraćenih kredita što ukazuje na njegovu profitabilnost. Ipak, ICP je funkcionisao sa niskom efikasnošću merenoj prema prilagođenoj stopi pokrivanja poslovnih rashoda. Na osnovu ovih rezultata istraživanjem se dolazi do zaključka da postoji vaganje između dosezanja do najsiromašnijih i finansijske održivosti ICT-a koje se može ublažiti povećanim dodelama kredita putem nižih struktura troškova.

Ključne reči: dostupnost, održivost, program za kreditiranje zaliha.

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