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MICROENTERPRISE INNOVATION PROJECT (MICROSERVE)

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SINAPI ABA TRUST FOLLOW-ON ASSESSMENT

Delivery Order No. 7

by:
Peter Glibbery

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Introduction

This report is in three parts. The first section assesses progress made by Sinapi Aba Trust (SAT) since the previous assessment in April 2000. This part includes extracts from the original evaluation followed by related findings from this assessment. The second section analyzes whether the new management information system (MIS) overcomes the problems identified a year ago. The third section identifies performance indicators for the proposed IGP grant. These indicators and their targets were arrived at in consultation with SAT.

All financial figures in this report are from figures for the year ended December 31st, 2000. These figures were produced by the manual MIS; none were verifiable by the new MIS because of data-related problems.

Executive Summary
Key Findings and Recommendations

Sinapi Aba Trust (SAT) has made substantial progress in rectifying weaknesses identified in the April 2000 evaluation. It has introduced an impressive range of measures to reduce arrears, rebalance its loan portfolio, tighten loan management, improve internal audit capacity, and strengthen financial control.

With regards to MIS, SAT has installed the Temenos e-Merge banking system from Decentralized Banking Solutions (DBS). When fully operational, the new MIS will address a great many of the issues identified in the April 2000 evaluation. However, it is not yet fully operational in accordance with the recommendation made in that evaluation. Currently, the data in the system are extremely unreliable and cannot provide meaningful management information. The low quality of data is due to a variety of problems associated with migrating data from the manual to the computerized system. The problems that SAT has encountered are a reflection not on SAT itself, but on the complexity of the task undertaken.

SAT has undertaken a data cleanup exercise that is not yet completed. Once it is, e-Merge will provide the information SAT requires for management and operational loan control, including accurate and verifiable information for key financial indicators discussed in section III of this report.

Once SAT has had an opportunity to amend its data, which should be very soon, we recommend that USAID ask SAT to provide information on arrears and portfolio at risk. It will then be possible to evaluate whether the information provided by SAT's manual system is accurate and, if not, the magnitude of the variance.

The new MIS system will not give SAT adequate support for basic savings products (such as passbook savings or time deposits) when SAT becomes a savings and loan institution. This is because SAT is a single-site installation; it is not due to any inherent weakness in e-Merge itself.

In summary, SAT should be commended for implementing many of the recommendations of the previous evaluation. However, because the MIS system is not yet working, it has not been possible to independently verify the financial results of the improvements that SAT has made.

SECTION I

Progress since April 2000 Evaluation

A. Financial Control

The April 2000 evaluation team *"identified weaknesses in SAT's MIS and financial controls) in large part due to operating with a very basic and largely manual MIS and financial system. The most serious risk as a result of the weaknesses in the present system is its inability to provide timely information on individual loan arrearages."*

Tighter financial control was identified in April 2000 as a prerequisite to obtaining further grant funds. SAT has addressed the evaluation team's concerns by reviewing, improving, and formalizing many operational and financial procedures. In addition, it has introduced a new computerized MIS system that should overcome many of the weaknesses inherent in the manual-based system and provide timely, accurate information on all loan arrears. The new MIS is discussed more fully below in section II.

SAT now has a formal budgetary control procedure with monthly reporting to the board. The monthly report compares actual against budget figures, with analysis of variances. To improve financial control, SAT has purchased the Pastel accounting system, which gives it the ability to generate financial projections and statements. It is recommended that Pastel be used in conjunction with the e-Merge system (see section II).
Like many other microfinance institutions, a problem that SAT faces is the potential for fraud by loan officers collecting money from trust bank clients. For example, a loan officer took money from one of SAT's groups, but did not issue receipts and pocketed the money. The manual system was unable to provide information on the unintentional arrears quickly enough to recognize the problem. The fraud was identified three months later by the internal auditor when SAT notified the group that it considered them in arrears and a number of the clients complained they had already paid the loan officer. The e-Merge system will be able to highlight such a problem within two weeks.

The inertia inherent in the manual system means that trial balances and financial statements can only be calculated some two weeks after month-end; with the e-Merge system, trial balances and financial statements can be generated within minutes. This will allow SAT to exercise tighter financial control than has hitherto been the case.

Improved control will become increasingly necessary when SAT becomes a saving and loan that must balance mobilization of savings with the needs of outgoing loans and central bank regulatory requirements . However, financial reporting and control will also ease in many ways, as SAT will no longer have to reconcile account information being returned from banks that retain group deposits.

B. Reducing Arrears

The April 2000 evaluation stated: *"Arrears in the individual loan portfolio are notably high, as are desertion rates. . . . SAT and OI should provide to USAID no later than the end of May 2000 a plan for system improvement and a report of remedial actions completed to strengthen the monitoring of individual loan arrearages. New and more aggressive arrearage recovery actions may be required if loan arrearages are in fact high."*

In addition to introducing a new computer system to better monitor loans, SAT has put great deal of effort into reducing arrears. SAT's management met with members of staff to identify possible ways to prevent and manage arrears. These sessions yielded a number of approaches to tackle the problem:

- SAT established the "We Want Our Money Back" program. This intensified loan monitoring by dispatching credit officers, sometimes with police support, to visit recalcitrant clients at home on the weekend to encourage payment. During the week loan officers followed up delinquent clients who evaded SAT's weekend visits.

- SAT created the "Prevent Arrears, Control Arrears" (PACA) training module to sensitize staff to the reality that it is better to prevent arrears than control them once they have occurred.

- SAT set up a debt recovery unit to work with SAT's legal counsel to prosecute delinquent clients and their guarantors. In February 2001 294 client cases were in litigation, compared with 159 in April 2000.

- SAT has improved client orientation, emphasizing the need for timely repayment. Staff now highlight the administrative and financial penalties that will accrue should clients go into arrears, and the legal measures that will be taken in case of non-payment or partial payment.

- To reduce risk further, SAT now asks potential borrowers for guarantors of higher financial standing than had previously been the case. SAT requires a guarantor to be a respected member of the community, typically a doctor, lawyer, business person, or senior civil servant. As a further precaution, SAT will not allow anyone to guarantee a loan that is more than 50 percent of the guarantor's monthly salary.

- Before installing the computerized system, SAT sought to improve day-to-day administrative control of loan officers by standardizing loan ledger books. Previously, loan officers had used a myriad of locally procured notebooks, with loan officers recording whatever information they regarded as pertinent to a particular loan. The lack of standardization impeded control. Now managers can scrutinize the standardized loan ledgers and apply management controls whenever necessary. This control has proven effective; it is an encouraging sign of what can be expected when computerized reporting is introduced at the branch level.

- SAT has introduced incentives for loan officers and branches to further reduce arrears. In addition to the incentive carrot, SAT also uses a stick in the form of sanctions against loan officers who have high numbers of delinquent clients. These sanctions typically limit or forbid approval of new loans, withhold 10 percent of salary, and reduce recapitalization.

These measures are prudent. They send a clear message to SAT's clients that arrears will no longer be tolerated. SAT estimates that since these measures have been introduced arrears on individual loans went down from 15 percent of the portfolio value in April 2000 to 12.5 percent at the end of 2000.

While a portfolio at risk (PAR) of 12.5 percent is still unacceptably high, it should be noted that there are loans still on the books that have been in arrears since 1997 and 1998. Realistically, the great majority of these long-term debts are unrecoverable. SAT has recognized this for some time and made suitable financial provision for bad debt as early as late 1999. As a matter of normal banking business practice, it would be expected that SAT would officially write the arrears off. However, SAT did not do so because the manual MIS made the process too cumbersome.

Early in 2001, the SAT board decided to implement a write-off policy to clean the books. The computerized e-Merge system provided the catalyst because it considerably simplifies the mechanics of write-offs. Once it becomes fully operational, the 12.5 percent PAR on individual loans should decrease. The manual MIS reports that the group loans PAR with arrears greater than 30 days is 1.6 percent and the overall PAR greater than 30 days is 6.7 percent. SAT aims to bring down overall PAR to 5 percent by June 2003.

C. Emphasis on Group rather than Individual Loans

As recently as 1997, individual clients outnumbered group loan clients by two to one. As it expands outside the urban area of Kumasi, Sinapi is making a concerted effort to focus on group loans. Senior management now view the core business of SAT as group loans, which have proven consistently more profitable than individual loans.

D. Individual Lending

The April 2000 evaluation recognized *"a need to strengthen individual loan methods and procedures at SAT as well as staff training of credit officers in individual loan methods"*

Senior SAT management is giving top priority to reducing arrears in the individual loan portfolio. The first item on the staff training and development plan for 2001 is arrears management. SAT has introduced several measures:

- The manager of the individual loans department has been replaced by someone that SAT believes will be more effective. The new manager formerly managed the audit unit.

- SAT has appointed a training coordinator to standardize training for loan officers across SAT, with priority to be given to individual lending .

- SAT has introduced collateral-based lending to secure Tier 2 individual loans, which are of relatively high value. Typically, such collateral will be the deeds of a property. SAT now also allows dual guarantors to spread the risk.

- In order to standardize loan operations, a comprehensive *Credit Policy and Manual* has been published . This 91-page publication now forms the basis for all client training conducted by loan officers. It supports a degree of standardization that was not present in SAT at the time of the previous evaluation. The manual addresses policies and procedures for loan disbursement, monitoring, and recovery, and allows for their replication throughout the branches. It also details how existing clients can graduate to larger loans.

D.1 Increased Control of Individual Loans

The April 2000 evaluation commented, *"The team recommends that SAT limit individual loans to repeat customers until such time as the new MIS is fully operational and reporting on loan arrearages and PAR is completed in a timely manner."*

SAT has taken active steps to limit individual loans to repeat customers. In April 2000 individual loans made up 51 percent of the value of the loan portfolio. By year-end, SAT estimates, this had been reduced to 40 percent. In 2001 the target is to maintain this percentage. Around 5 percent of the total portfolio has been fresh loans to new customers. The majority of individual loans are being granted from the Kumasi head office, where SAT can maintain control. As a further refinement, client orientation is carried out by a senior officer or manager from Kumasi rather than a branch officer.

D.2 Individual Loan Arrears

"Available figures indicate that arrears in the portfolio hover around 10–15 percent, but these figures are highly unreliable. Preliminary analysis of the individual loan portfolio indicated figures exceeding 30 percent portfolio at risk. The arrears control situation is so critical at Sinapi that the institution is not aware of the repayment records of even its most recent loans."

SAT estimate that the PAR for individual loans at the end of 2000 was 12.5 percent. As we will discuss in section II, the data on the e-Merge system were not clean enough to conduct a computerized audit to verify this figure.

Historically, SAT has managed its loan portfolio (and thus the organization) based on a standard PAR greater than 30 days. The organization had little choice but to accept this standard when portfolio reports were all produced by a manual MIS that took 14 to 21 days to obtain the data needed. While the 'greater than 30 days' standard may be acceptable for an NGO using grant funds, it is strongly recommended that, in preparation for the move into a commercial organization, SAT start managing based on a PAR of one day late or greater. This is a commercial bank standard. Using it SAT will gain much greater control over clients, loan officers, and branches and support a culture of zero tolerance for arrears. The e-Merge system will report PAR as one day late or greater.

PAR for individual loans is 12.5 percent and for group loans 1.6 percent. At the end of 2000, SAT estimates, the overall PAR greater than 30 days was 6.7 percent. The target for 2001 is 6.5 percent, moving down to 5 percent by 2003. However, these are figures drawn from the existing manual system, which was based on hand-prepared monthly field office reports and hand-prepared loan collection reports based on cash receipts. Often updated improperly, the system provided little or no timely information for management. The obvious concern is that this may mean that there are errors in the PAR and arrears figures.

D.3 Retention of Individual Borrowers

The April 2000 evaluation commented: *"SAT management identified plans to transfer individual loan clients to SAT's commercial bank partners in order to free funds for Trust Banks. . . . The assessment team recommends a balanced portfolio among products to meet client needs and strong efforts to retain all types of good loan clients. SAT should work to retain individual loan clients and not transfer them to another institution."*

At the time of the previous evaluation, SAT lacked funds to lend. Typically, the larger, more successful (and most profitable) clients wanted significantly larger loans than the average borrower. Because SAT had to maintain sufficient funds for its priority poor clients, it was unable to service these successful individuals and so was thinking of "graduating" these clients to commercial banks.

By June 2000, the funding situation had eased and SAT abandoned its proposal to transfer these profitable clients to commercial banks. SAT has since created a collateral-based loan product for these important clients.

E. Loan Approval Process

The April 2000 evaluation commented: *"The loan approval process at Sinapi is slow, as an average loan requires approximately 3-4 weeks to disburse."*

Previously all loan approvals were carried out at head office. However, in July 2000 loan supervisors and assistant managers were introduced to decentralize the loan approval process. Now most average-size loans are approved in around seven days, as is international microfinance best practice.

In decentralizing loan approval, SAT has set the following limits of authority:

- Loan supervisors: Up to Cedis 3m
- Sector Managers: Up to Cedis 5m
- Senior Managers: Up to Cedis 7m
- Executive Director/Credit Committee: Cedis 7m and above

The e-Merge system incorporates these approval levels; approvals can only be authorized by the appropriate person. To prevent fraud the e-Merge system also maintains the audit trail for approvals.

A system of feedback provides warning should a decision not be taken on a loan application by a certain time. This will allow SAT to monitor the throughput of loan applications, identify any that are delayed, and thus reduce the time taken for approval.

F. Internal Audit

The April 2000 evaluation recommended: *"The new internal audit unit should be further strengthened through staff training and TA on audit operations."*

The previous internal audit manager, despite training, was unable to grow into the job to the satisfaction of senior management; he now heads the individual loans department, a role for which he is well suited. SAT is recruiting an experienced internal auditor. To improve corporate governance, the new internal audit manager will report directly to the board instead of to the executive director.

G. Setting Interest Rates

The April 2000 evaluation remarked: *"Facts require that SAT closely monitor the interest rates that it charges for its lending. Adjustments upward are needed in the present environment. The inter-bank lending rate stands at 42 percent. SAT's present rate is a flat 3.34 percent per month, which along with fees provided a portfolio yield in 1999 of 43 percent. Sinapi's portfolio yield thus declined from 52 percent in 1998. . . . The present yield barely covers the cost of operations. . . . . Moreover, in order for Sinapi to make the necessary transition into a commercial financial intermediary, its portfolio yield must cover not only its operating costs and portfolio losses but also the cost of commercial borrowing. At current portfolio yields, Sinapi cannot seriously consider affording commercial borrowing."*

It also stated: *"Sinapi has three loan products: trust banks, group loans and individual lending. Interest rates are similar for all three—a flat 40 percent (3.34 percent per month)—with some individual loan clients getting a slightly lower rate."*

In 1999 SAT reduced its interest rate in response to the decline in central bank rates from 40 to 35 percent. SAT competes with other providers who had reduced their interest rates; SAT had little choice but to follow suit. In 2000, SAT raised interest rates for group loans back up to 40 percent, again in line with actions of the central bank.

H. Portfolio Yield

Since April 2000, SAT has introduced a number of measures to improve yield:

- Previously SAT used the same rate for all loans. Now SAT applies separate rates to different products:40 percent for group loans, 41 percent for individual loans. and 42 percent for agricultural loans.

- Application and training fees have been revised upwards, increasing the effective interest rate.

- SAT has removed the two-week grace period at the start of loans, increasing the effective yield, because clients now pay interest for those two weeks.

- Penalty fees have risen from 5 percent per month to 6 percent. This will improve SAT's income position.

- SAT's management is eager to begin transferring idle donor funds between branches. The problem is that donor funds are often targeted at specific geographical areas. SAT also wishes to introduce fund transfers between the individual and the group department to increase portfolio yield.

- The e-Merge system will allow SAT to track the use of separate donor funds. SAT also plans to identify interest income received on geographically-directed funds, which may be moved outside the nominated geographical area. The e-Merge system is not yet capable of identifying this interest but can be modified to produce the information automatically.

SAT report that yield had improved from 43 percent to 52 percent at the end of 2000. These measures should help SAT reach its 2001 target of 55 percent.

I. Improved Efficiency

The April 2000 evaluation stated, *"A reduction in SAT operational costs of lending to close to 25 percent of the average portfolio should be the target at the end of the grant."*

In December 2000 SAT's operating cost ratio stood at 25 percent—the target set by the previous evaluation team. The ratio is on target to fall to 21 percent by June 2001.

J. Incentive Scheme

The April 2000 evaluation commented: *"The assessment team strongly recommends that SAT move quickly to design and implement a bonus system based on individual performance. The productivity of the loan officers is the main driver of growth and efficiency, so a bonus system at SAT to encourage their productivity is essential."*

In May 2000 a new incentive system was introduced for loan officers and branch staff. The system is closely aligned with organizational objectives. It applies the following weights:

- Portfolio quality (PAR and arrears) 30%
- Sustainability 20%
- Number of clients 15%
- Transformation (impact measurement) 15%
- Management (branch records) 10%

- Returns deadlines 5%
- Returns quality 5%

Staff are evaluated every quarter; those who score above 70 percent get quarterly bonuses of between Cedis 150,000 and Cedis 200,000.

K. Growth and Expansion

The April 2000 evaluation stated: "*Sinapi Aba Trust now has operations in all ten regions of the country and a total of 14 branches. USAID MED staff has expressed concern as Sinapi expanded to all regions that a more cost-effective way to reach the poor and achieve sustainability would be to concentrate on a select set of markets, deepening the penetration to increase the number of clients per officer and office.*"

SAT has completed its expansion to 16 branches—two more than the 14 referred to in the April 2000 evaluation. The Wa branch officially opened in September 2000 and the Obuasi branch officially opened in January 2001. Because SAT already had two-person teams working in Obuasi and Wa at the time of the previous evaluation, the decision to establish branches was little more than a formalization of what were informal branches .

By the time SAT received the previous evaluation, SAT plans for opening these two branches were already well advanced. These additions have been made at a low cost: Each "branch" consists of a single loan officer, with a clerk and office infrastructure added only after a minimum number of trust banks have been established. The major reason SAT opened these two branches was to enable it to secure area-targeted donor funds. The EU directed funds to Wa and the African Development Foundation supports a convict credit program in Obwasi. Without access to commercial funding, SAT relies on donor funds to meet its corporate growth objectives.

The 2001 Corporate Plan for SAT states clearly that it will not open additional branches and will concentrate its efforts on deepening the penetration of its existing branches.

The April 2000 evaluation also commented: "*The assessment team strongly endorses these plans for growth through deepening coverage. Deepening coverage around existing operations is the right plan but SAT still needs to watch carefully its costs and efficiency.*"

The tables below demonstrate the success SAT has had in increasing the penetration of group and individual loans:

Table 1. Numbers of Clients Participating in Group Loans		
Branch	**April 2000**	**December 2000**
Accra	735	1,897
Akumadan	248	612
Bolgatanga	388	640
Cape Coast	216	420
Koforidua	676	844
Tamale	638	1,258
Techiman	403	930
Sunyani	373	718
Mampong	178	274
Kasei	101	208
Ho	199	450
Offinso	426	488
Takoradi	251	583
Kumasi	1,250	2,701
Wa	Nil (new branch)	206
Obuasi	232	405
Total	**6,314**	**12,634**

Table 2. Individual Loan Clients		
Branch	**April 2000**	**December 2000**
Bolgatanga	7	15
Tamale	12	26
Kasei	63	84
Offinso	5	22
Kumasi	4,032	4,960
Total	**4,119**	**5,107**

SAT's long-term deepening of its penetration of existing markets hinges on its change into a savings and loans. S&L status will give SAT access to low-cost funds from depositors and the central bank window. SAT aims to scale up to over 93,000 clients by 2004 from 18,000 at year-end 2000.

L. Commercialization

Regarding SAT's plans to convert to a bank, the April 2000 evaluation noted: *"This will require major efforts, including the development of new products (saving being only one of many) and procedures that come with the new status as a bank. Other institutions in Africa have taken over two years just to complete the structural transformation. A realistic timeframe linked to the institutional goals of efficiency, financial sustainability, and outreach to the poor needs to be set. The assessment team believes that a two-year timeline will be required at a minimum."*

SAT's original plan was to become a microfinance bank, but banking law does not allow microfinance banks. SAT took the alternative of becoming a savings and Loans. SAT plans to completed the conversion by February 2002.

M. Commercial Borrowing

The April 2000 evaluation commented: "*One of the first steps in the transformation of the Trust to a more commercial operation is to tap into the Ghanaian banking sector to borrow the loan capital needed to expand operations. . . . Further to the assessment team's view, commercial borrowing should not be undertaken until strong controls and MIS are put in place in line with the recommendations of this assessment.*"

SAT has indeed delayed accessing commercial funds until the new MIS is fully operational. It is currently negotiating with three potential commercial loan provider. (SAT does not wish to rely on a single supplier.) SAT plans to borrow Cedis 1.5bn to Cedis 2.0bn to support credit operations. SAT needs to borrow because (1) donor funds are not keeping up with loan demand, and (2) it is preparing for its conversion into a formal financial institution.

The April 2000 evaluation further noted: "*Given the difficulty of capturing additional donor grant funds for its expanding credit demand, SAT borrowing from the SSB Bank (its principal banking partner) or others should be a priority for the short term. The cost may be high compared to grant funds, but once a relationship and practice are established, the funding is predictable and readily available.*"

SAT are holding discussions with the SSB bank, the Prudential Bank (which has a microfinance facility), the Agricultural Development Bank, and the U.S.-based Peoples Investment Fund for Africa (PIFA). All possibilities are being pursued, although none will be actualized until the MIS is fully operational.

N. Future Savings/Deposit Products

The April 2000 evaluation noted: "*The cost of savings and the institutional capacity needed to run savings programs well are significant. Building that capacity and planning for the introduction of this significantly new product should not be underestimated in the business plan. A phased approach is best, given the complexity of savings programs. SAT will need to better understand savings.*"

SAT plans to introduce savings at five branches—Accra, Tamale, Techiman, Takoradi, and Kumasi. In 2001, SAT is designing new products in anticipation of its conversion into an S&L. The new products will encompass health insurance, savings, micro-leasing, and hire-purchase. SAT has conducted market research into the demands of its microfinance clients with the intention of using it to identify products that meet the needs of clients. Transformation and impact measurement will be integrated into product development. In September 2001 a consultant from Microsave will be assisting SAT in the development of these products.

O. Impact Studies

The April 2000 evaluation recommended: "*Better understanding of its clients and the impact of its credit on poor households are central to achieving SAT's objectives. The team recommends the use of AIMS tools and perhaps collaboration with AIMS staff to improve SAT understanding of its clients and to strengthen its capacity to assess impact.*"

SAT personnel attended an orientation for the AIMS toolset in October 2000. However, SAT is not currently using the AIMS methodology. Another team of SAT managers will attend AIMS training in August 2001. SAT intends to implement the following five tools no later than the last quarter of 2001.

- Impact survey
- Exit survey
- Client empowerment
- Client satisfaction
- Loan use and savings.

P. Organizational Focus

The April 2000 evaluation commented: *"One final concern of the assessment team is for Sinapi to keep its focus on its core product lines but with appropriate experimentation to add new products in the near term. . . . Funding support to the Trust comes from seven different donors, excluding USAID. The program and donor support are not bad for Sinapi per se, but their number and divergent goals and requirements need to be considered in relation to SAT's own core objectives and management capacity. The SAT board and management need to ensure that it remains focused on its key objectives of poverty alleviation and sustainability in the crucial expansion period of the next three years."*

SAT ensures that while collaborating with these organizations there is no departure from its "core business" of alleviating poverty. One of the conditions for collaboration is that each institution must conform to SAT's methodology, goals, and objectives.

Q. Needs Assessment

The April 2000 evaluation commented: *"It is rare to turn down a client because of high income or wealth. The cost in loan officer and management time is high for the means testing and dropping it may offer an opportunity to increase efficiency without much loss in impact."*

SAT strongly believe that needs assessment is a worthwhile exercise to ensure that credit is directed to the right areas and that needs assessment is the simplest and most efficient project assessment methodology.

R. Loan Size

The April 2000 evaluation commented *"Sinapi is quite productive by comparative standards. The small average loan size, however, places a special burden on cost-effectiveness."*

SAT has reviewed loans sizes and to improve cost-effectiveness plans to increase loan sizes in real terms from an average of $89 in 2000 to $131 in 2004.

SECTION II

Evaluation of New MIS

A. Background

SAT is currently implementing the Temenos eMerge banking system from Decentralized Banking Solutions (DBS), which is based in South Africa. E-Merge is a micro-banking system that consists of a loans management module, a savings administration module, and a general ledger. Because loans and deposits are linked with the general ledger, the system gives SAT a complete financial picture of the organization from loan operations through to financial accounting.

With e-Merge installed at its head office in Kumasi, SAT and is currently working to make the system operational. To improve management control (and in accordance with the April 2000 recommendations), , since February 1, 2001, SAT has mandated that each branch fax information every day on loan applications and repayments to head office, where it is keyed into the e-Merge system. In March, SAT plans to automate the consolidation of branch data by means of e-mail. The benefit of this is that e-mail data are in electronic form, making loading into the central e-Merge database quick and easy. This will also reduce human intervention, preventing the errors that typically occur whenever figures are re-keyed.

An alternative that was discounted as too ambitious would have been to establish a real-time link between the computer at the head office and branch in Kumasi and all 15 outlying branch computers. Each branch would have been connected online to the central e-Merge system. This would have provided the branches with real-time access to data, reporting, and the progress of loan applications at head office. It would also offer SAT the prospect of branch-wide savings management.

However, financial and technical factors militated against this alternative. It would have required adding 15 users licenses to the eight SAT already possessed, at an estimated additional cost of $75,000. It would also have required that all the branches be online throughout the day. The Ghanaian telecommunications infrastructure is not yet sufficiently robust to support this the more remote areas.

B. Reconciling Data between the Old and the New MIS

SAT has been unable to reconcile the closing balances on the manual system with the opening balances on the new. One reason is that much data on the new system are inaccurate, for reasons discussed in part II.C. Another is that a clean cutoff date could not be established. The cutoff date allows end-of-period balances to be determined and matched against information transferred to the new system. Unfortunately, the manual system was regularly a month out of date, which meant that it would be only a month later that SAT would know the financial position as of the cutoff date. To avoid this SAT would have had to suspend all lending operations for one month to six weeks to allow the manual system to catch up with reality. Clearly this was not practical,

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so the formal establishment and verification of closing balances and opening balances was never an achievable goal. This has implications for a number of financial reports.

SAT has therefore taken a pragmatic approach to close the month-long gap in the data between the manual and automated system. SAT has conducted a rolling migration, taking on data over three months. Staff have been entering loans onto the new system some weeks after the loans have been released, gradually getting more current with the data in the manual system.

On February 1, 2001, SAT began entering new transactions directly onto the automated system rather than first via the manual system. However, once the system is up to date, it will still not be practical to unpick each of the transactions that occurred in January to reach closing balances for the notional December 31, 2000 cutoff date.

E-Merge is a real-time system. Every transaction has the potential to alter other records in the system, and interest and penalty calculations are made every night, with figures in the general ledger being updated accordingly. Thousands of transactions will have taken place since January 1, 2001. SAT should therefore accept that it will never be able to balance the manual system with the new MIS perfectly, although it should aim for a near approximation. SAT should also recognize that the inaccuracy will affect the first-quarter and year-2001 balance sheets and profit and loss statements.

C. Data Inaccuracy

The main challenge facing SAT in the successful use of the e-Merge MIS is the paucity of accurate data on the system. SAT migrated data from its manual system to the e-Merge system between October 2000 and January 2001. Effective data migration is time-consuming, resource intensive, and painstaking . SAT has suffered from its inexperience with working with computer systems; the result is a very high number of inaccuracies in the data now on the e-Merge system. A number of sources of inaccuracies were identified:

- The same loan account information may have been entered onto the new system more than once.
- Data encoders may have mistyped information into the system. This would not be surprising given the volume of data migrated.
- Manual system documentation such as slip books for principal and interest from some branches were incomplete or not available when data were entered, so this information is not in the system.
- Data were entered onto the system in accordance with records of the manual system that were themselves incorrect . The computer system has been unforgiving and highlighted these as errors. For example, loan officers using the manual system have incorrectly calculated repayment dates; correct payments made on the wrong days affected the arrears and PAR indicators.

- The manual system is based on cash-based accounting, with interest generated from loan arrears not considered part of the capital. The e-Merge system uses accrual-based accounting, with interest on loan arrears becoming part of the capital, which can in turn generate interest. DBS has modified e-Merge to allow SAT to continue using cash-based accounting for existing loans, though new loans will use accrual-based rules. This is a practical solution, but some existing loans may have been missed or recalculated incorrectly.

- The manual loan system for weekly and biweekly repayments bases its loans schedule on a 28-day month and e-Merge on a 30-day month. SAT has agreed to use a 30-day month for all new loans; DBS is helping to hand-modify existing loans to reflect the 28-day month. The modification involved a change in the interest calculation that introduced inaccuracies.

- Historically, SAT's loan officers used different methods to calculate loan interest, some using a 48-week year and others a 50-week year . Loan officers also had different policies for rounding, with some rounding repayments to the nearest 100 Cedis and others to the nearest 10 Cedis. Similarly, there was no standard formula for calculating interest. Of the two calculations in general use, one yielded 40.08 percent and the other 41.23 percent. As a compromise, data migration used the average of 40.15 percent. It seems highly probable that the conversion missed many records. The new system will for greater standardization.

Because of these old and new data inaccuracies , the data currently on the e-Merge system are far too inaccurate to be useful for management reporting. The data have thrown up a number of inconsistencies. For example, e-Merge reported that arrears on individual loan accounts are far less than the arrears on trust bank and solidarity loans. This contradicts the findings of the April 2000 evaluation and SAT's own understanding of its portfolio. In another case, a loan officer at Kumasi was reported by e-Merge to PAR greater than 30 days of 52 percent, while investigation of the manual records showed the actual PAR of this loan officer at zero.

To remedy the situation, it is recommended that SAT conduct a data cleaning exercise. It should take SAT about one month to review and correct all sources of error.

It is recommended that the accounts department lead the exercise. The department has been advised to scan all loan records to determine which may require further investigation. To do this the accounts department should use e-Merge's built-in reports to review all the draw-down accounts for money building up that is not being deducted to pay loan payments. This indicates (a) a loan in place, (b) the client making regular payments into the draw-down account, (c) a loan contract that has not been correctly registered on the system, and (d) system's failure to automatically deduct repayments from the draw-down account.

It is recommended that USAID review copies of 'Summary of Portfolio at Risk by Loan Officer' (report C4) and the 'Summary of Portfolio at Risk by Branch and Product' (report C5) to determine the actual past due and PAR before the grant was awarded. These reports will provide USAID with a much clearer picture of SAT's financial health than is yet available.

D. Information Types

A computerized MIS system can provide three types of information: strategic, management, and operational.

Strategic information is not recorded in the e-Merge system, as is usual for this type of system , where virtually all management and operational data are generated from internal sources such as accounting records, credit files, and staff reports. The more strategic the use, the more information must be drawn from external sources, such as inflation rates, growth trends, and pending legislation, which e-Merge does not record The system is thus not able to provide strategic reports.

Management information is required primarily by the executive director, his deputy, the financial controller, and sector and branch managers. Managers need to know what resources are available and whether or not they are being used as planned. Financial and activity reports that compare actual performance with budgets and annual objectives fulfill this need. Decision-makers also need information to control SAT's activities and performance. For example, monthly portfolio quality reports enable senior management to react to warning signs. The e-Merge system can provide this type of information.

As was highlighted in the April 2000 evaluation, staff responsible for day-to-day activities need *operational* information to enable them to accomplish such tasks as disbursing loans, collecting payments, carrying out training programs, or paying bills. Operational information enables the user to take action: A delinquent-client report identifies which clients need to be visited. A delinquent-loan follow-up report enables a supervisor to ensure that corrective action is being taken. Operational information focuses on immediate priorities; the e-Merge system can provide this type of information.

E. Loan Application Management

The e-Merge feedback mechanism will provide a warning if there is no decision on a loan application within a defined period of time, allowing SAT to monitor the throughput of loan applications to identify any that are delayed. This will help SAT identify and address bottlenecks and reduce the average length of time spent in approval. The system also monitors the approval process, providing an audit trail to assist in fraud prevention.

F. Security Levels

The e-Merge system can assign security access levels for directors, operation managers, the credit committee, sector managers, and supervisors. The system will enforce stages of the approval process in conformance with the new decentralization structures, ensuring that staff abide by SAT credit policy and providing an audit trail of approvals .

Although e-Merge offers a wide range of user security levels, these have not yet been defined for SAT. At the moment all SAT users have the same system access. For example, loans of Cedis 7m can be authorized by a low-ranking teller, though this amount falls outside a teller's level of authority. SAT management need to work together with the transition manager to define suitable user access levels within the system.

G. Loan Products

SAT now has seven loan products, three more than it had in April 2000. The group loan products are trust bank, solidarity, and inventory credit. The individual loan products are micro-loans, tier II loans, ex-convicts, and agricultural finance. The e-Merge system can handle all seven without difficulty.

With group loans, it is SAT policy that repayments are tracked by group, not individual. This was true of the manual system and is true of the automated system. This means that individual records for members are not available. It is recommended that SAT reconsider this policy . Tracking borrowers at the individual level will give SAT a much clearer understanding of the overall performance of its groups and make fraud by loan officers more difficult to conceal. Although e-Merge can manage the graduation of individuals from trust loans to solidarity loans and then to individual loans, it will not be able to do this if the individuals are not on the system in the first instance. E-Merge also allows loans to be tracked by loan cycle.

Technically, e-Merge can track individual savings for trust banks. However, as individual savings are held in commercial banks and no details of these amounts are recorded centrally, e-Merge will not be able to track these for SAT.

H. Microfinance Reporting

To improve the microfinance capability of e-Merge, Opportunity International has contracted DBS to add 27 reports recommended by the CGAPs MIS publication.

During the course of this assessment, a consultant from DBS installed and tested the 27 CGAP reports. The CGAP reporting model provides a structured flow of information throughout the microfinance organization. As a result, SAT now has access to a full set of integrated reports that will help it address many of the issues raised in the April 2000 evaluation. These reports encompass savings management, loan and portfolio management, and financial reports.

I. Savings Management Reports

E-Merge now incorporates the following CGAP savings management reports:

A1. Savings account activity
A2. Teller savings A3. Active savings accounts
A4. Dormant savings accounts
A5. Upcoming maturing time deposits
A6. Savings concentration

Because SAT is currently not licensed to hold savings, it SAT requires clients to deposit compulsory savings in local commercial banks. That is why there is no saving information recorded on the e-Merge system and reports A1 to A6 cannot be used.

J. Loan Management Reports

E-Merge incorporates the following CGAP loan management reports:

B1. Loan repayment schedule
B2. Loan account activity
B3. Customer status
B4. Group membership
B5. Teller loans
B6. Active loans by loan officer
B7. Pending loans by loan officer
B8. Daily payments
B9. Portfolio concentration

These are the key reports that SAT will use daily or weekly to manage its clients, loan officers, and branch managers. The reports on individual loans can be used to communicate to clients the status of their accounts. The routine management reports allow loan officers to improve the efficiency and effectiveness of their day-to-day activities.

K. Portfolio Management Reports

E-Merge incorporates the following CGAP portfolio management reports:

C1. Detailed aging of portfolio at risk
C2. Delinquent loans by loan officer
C3. Delinquent loans by branch and product
C4. Summary of portfolio at risk by loan officer
C5. Summary of portfolio at risk by branch and product
C6. Detailed delinquent loan history
C7. Loan write-off and recuperation
C8. Aging of loans and calculation of reserves
C9. Staff Incentives

These reports can help branch and senior management control portfolio risk. They focus on such portfolio quality indicators such as PAR, loan aging, and delinquency rates. Several provide detailed information on single loans or single clients, some provide information on a single loan officer's portfolio, and others cover individual branch offices. Most provide information on delinquent loan status and PAR aging .

L. Income Statement and Balance Sheet Reports

E-Merge incorporates the following CGAP financial reports:

D1. Summary income statement
D2. Detailed income statement
E1. Summary balance sheet

While these reports provide basic financial information, it is recommended that SAT use the Pastel system to get a more detailed picture. Pastel is discussed in detail below.

M. Information Integrity across Reports

As a number of the CGAP reports were delivered late in the assessment, only limited cross-checking of data across reports was possible. However, this review suggests that related reports are indeed producing the same data values (although, as is discussed below, much of the data remain inaccurate).

N. Treatment of PAR

When an account goes into arrears e-Merge immediately regards the outstanding loan amount as a loan at risk of default and adds this amount to the PAR. Currently SAT focuses on PAR greater than 30 days because branch returns in the manual system were often late and sometimes incomplete. SAT should take advantage of the finer tolerances offered by e-Merge to improve its control of branches and loan officers by managing to a PAR of one day or greater.

PAR greater than 30 days is currently reported by the manual system as 6.7 percent. It was not possible to confirm this figure on the computer system.

O. Financial Reporting

The e-Merge general ledger uses its own default chart of accounts, which has not been customized to match SAT's existing chart of accounts. DBS recommended that SAT remain with the standard e-Merge chart of accounts, because changing it would have an impact throughout the e-Merge system that would be expensive for SAT . SAT has accordingly modified its financial reporting codes to accommodate the e-Merge chart of accounts. SAT and DBS together carried out a series of gap analysis workshops in October and December 2000 to identify areas of overlap and areas requiring change. This exercise appears to have been successful.

In late February 2001 SAT began working with the DBS consultant to transfer account balances from SAT's manual chart of accounts to e-Merge . Because this process was still underway at the conclusion of my visit, it was not possible to review the financial reporting capabilities of e-Merge in anything other than a rudimentary manner. The general ledger of the e-Merge system is linked with the loans and deposits elements of the system. This utilitarian general ledger module will allow the production of a balance sheet, profit and loss statement, and trial balances. However, e-Merge cannot compare budget with actual figures. Nor can it provide cross-year comparisons . SAT's management demands more sophisticated financial information than is available with e-Merge.

For more advanced reporting, it is recommended that SAT extend its current use of the Pastel financial system. Pastel is designed with the accountant in mind and is written to Association of Chartered Certified Accountants (ACCA) standards. It has strong budgetary control facilities (budget v. actual expenditure), allows cross year comparisons, and automatically generates bank reconciliation statements. It can also carry out exchange rate conversions automatically. In summary, Pastel is a more effective tool for financial control than e-Merge.

As a further incentive to use Pastel, DBS is now writing an interface between e-Merge and Pastel for the Reserve Bank of Zimbabwe, which was scheduled to be completed by April 30, 2001. DBS is willing to provide the interface to SAT free of charge . SAT will have some work to do to map the e-Merge chart of accounts to the Pastel chart, but once this is done, the interface offers the prospect of easy and rapid transfer of data.

The accounts department has successfully carried across the imputed balances for acquired assets and payment of liabilities from the manual accounts system to e-Merge. The department plans to run the manual system for expenses, acquired assets, and payment of liabilities in parallel with the new system for six months. This is excessive and uneconomical in terms of management and staff time, as it effectively doubles the workload of the department for this period. Three months for a parallel run should be more than adequate.

P. Data Flow between Head Office and Branches

Since February 1, 2001, SAT has mandated that all branches fax with daily information on loan applications and loan payments to the head office. This has permitted SAT to update the automated data daily and impose discipline on the branches regarding the importance of daily reporting. SAT's management now has access to information that is no more than a day late—a considerable improvement over the month it took to get information from the manual system .

Opportunity International has funded the development of a simple program, e-Merge Branch Utility, to be installed on the laptop computer issued to each branch. Branch staff will use the program to capture loan applications and cash payment information from their clients; it will then be transmitted to head office by e-mail at the end of the each working day, to facilitate organization-wide management reporting.

The only problem with this approach is that it depends on a reliable telephone line . During the assessment I requested tests of the branch system at three of the most technically challenging branch locations (Offinso, Akumadan and Techiman) on the theory that if the system worked at these three remote locations, it would work at the others. In the tests data were passed in both directions between branch and head office .

The tests were successful in Offinso and Techiman, but at Akumadan the telephone landline passes through a VHF radio station. The VHF link proved unable to pass the quantity of data needed to make e-mail a workable proposition. Accordingly, SAT plans to make arrangements for the Akumadan branch to use a landline in a neighboring town. Once branch laptops with the e-Merge Branch Utility are in place at the end of March 2001 faxing will be replaced by e-mail returns.

The Branch Utility, however, has two significant limitations:

- It has been designed to transfer data only in one direction, from branch to head office.
- It cannot generate management or operational control reports for branch personnel.

While collecting information at branch level and moving it to the head office will clearly give the head office the information it needs to manage the organization, this one way flow does not support the day-to-day management of the branches as a two-way flow would.

It is recommended that two-way information flow be implemented. To address the Branch Utility limitations, it is further recommended that SAT assign a person at head office to generate three pertinent daily reports for each branch, to be sent to each branch by e-mail. The branch would download the e-mail, print the attached reports, and distribute them to the appropriate members of staff. This will require that each branch be supplied with a printer.

The daily reports sent should be :

- PAR by branch
- Loan officer performance
- Forthcoming payments

These reports will help loan officers and branch managers prioritize their caseload every day. Timely, relevant information will allow branches to work to prevent problems before they require the intervention of senior management.

Q. Rollout of Branch Utility to Branches

SAT has trained branch staff in use of the e-Merge Branch Utility system. It is planned that all 16 branches would go live on the same day.

The difficulty with this approach is SAT is open to problems if the training proves inadequate. The risk is the four-person SAT MIS department could be swamped by calls. To avoid this, it is recommended that SAT adopt a phased approach, rolling out Branch Utility to no more than four branches at a time. This will allow an experienced MIS person to be on hand at each branch for two days in the case of difficulty or misunderstanding. The rollout of the Branch Utility to the branches is planned to take place by the end of March.

R. Loan Supervisor Access to e-Merge

SAT has decentralized much of the loan approval process to six loan supervisors located throughout Ghana. Senior management expect loan supervisors to access the e-Merge system online so that they can review, approve or decline, or escalate loan applications in a timely manner.

During the consultancy visit it was established that the e-Merge installation at head office can be accessed remotely by loan supervisors from their laptops. However, this approach has costs. SAT currently has an eight-user e-Merge software license. If loan supervisors are to have access, SAT will need a total of 14 user licenses; each additional license costs an average of $5,000. SAT must decide whether to:

- acquire six additional licenses at a cost of $30,000, or
- buy one additional license and restrict loan supervisors to specific timeslots for access, or
- recentralize the loan approval process, or
- have loan supervisors review applications and give their decisions via fax.

If it is decided to proceed with remote access, the e-Merge installation must be reconfigured to accommodate this access. In addition SAT will need to acquire terminal server software for each loan supervisor's laptop.

S. Incentive Scheme

SAT has developed an incentive scheme based on the criteria it believes important to motivate its loan staff. Although the incentive scheme does have parallels with that suggested by CGAP, it does not entirely follow the CGAP model. As a result, it will not be possible for SAT to use the CGAP report provided by e-Merge to automatically generate performance results. However, e-Merge does record enough information on loan officers to support SAT's own incentive system, although the information will have to be consolidated by hand.

T. Savings Administration

SAT plan to convert to a savings and loan by February 2002. It is proposed that once the S&L conversion is complete, SAT will open savings operations at its branches in Accra, Tamale, Techiman, Takoradi, and Kumasi.

The e-Merge deposits management module will allow the system to administer savings that the Kumasi branch can use, because e-Merge is physically located in Kumasi. However, the other four branches cannot directly access e-Merge online. This will prevent them from using e-Merge for deposits administration.

Given the lack of reliable low-cost telephone communications, if each branch were equipped with its own copy of the e-Merge system with which to manage savings accounts, savings information could then be consolidated at head office on a weekly basis for organization-wide reporting. However, the significant additional investment in software this would require may make this arrangement cost prohibitive. The alternatives are for SAT to:

- provide branches with a computerized system less costly than e-Merge to track savings, with data sent weekly to the central e-Merge system

- provide manual savings ledgers, with all their problems

While this is not yet an issue for SAT it must be taken into account before SAT becomes an S&L.
It is not yet clear exactly what reports the central bank will require SAT to provide when it becomes an S&L. SAT must find out the number and nature of the central bank's mandatory reports and then work with DBS to determine which can cost-effectively be computerized.

U. Training

A capable computer system is just half of an effective MIS; the other half is personnel staff willing and able to extract pertinent information from the system and act on it . While operational users of e-Merge have become familiar with the system, senior managers have not yet had much hands-on experience. SAT managers need raining of a business rather than a technical nature in order to use the system to its full advantage.

SAT plans to have the transition manager conduct business user training, but it is not clear that this manager has a broad enough business background to enable him to present a course that would explain how to link information between reports to allow managers to plan a course of action.

While many of SAT's other operational users are comfortable with e-Merge, this does not extend to the accounts department. This is undoubtedly due to the fact that DBS has focused on training users of the loans module and MIS technical personnel. The type of training that the accounts department needs is more specialized and sophisticated than that required by operational staff. SAT and DBS have discussed the need for such training and DBS may provide a course in Cape Town at the end of March. It is recommended that the financial controller and the accountant in charge of the general ledger attend this training.

V. MIS Staffing

Over time, SAT will place increasing reliance on the e-Merge system. With reliance comes a degree of vulnerability, as SAT will become increasingly dependent on its computer technical staff. Currently SAT relies for MIS support on Aaron Rex Opoku-Ahene and Lumus Kendrick (on a one-year internship sponsored by USAID). Lumas Kendrick, currently head of MIS and a capable individual, will be returning to the United States in September 2001. Aaron Opoku-Ahene as transition manager is the primary point of contact between SAT and DBS on technical issues associated with e-Merge. His great expertise is a clear asset to SAT, but it also represents a threat to the organization if he were to seek employment elsewhere. No one else within SAT has as much training or experience of the e-Merge system.

It is recommended that SAT intensifies its training of other personnel to assist Mr. Opoku-Ahene. These could then to provide SAT with backup in the event of his and provide technical cover for him during vacations and periods of illness, or training.

W. System Support and Maintenance

System support and maintenance is important for any computer system. It is as yet unclear exactly how SAT's e-Merge system will be supported. It is believed that all technical queries will be routed through OI's Africa technical representative, who would then speak with DBS on SAT's behalf. Actual support would be handled by Inlaks, which is based in Nigeria and plans to open an office in Ghana within the next six months.

The line of communications is long and somewhat convoluted and the support infrastructure may not be as responsive to SAT as it should be. Recognizing that SAT is dependent upon OI for support arrangements, it is recommended that SAT clarify support and maintenance arrangements with OI as soon as possible.

SECTION III

Key Performance Indicators

The following key performance indicators have been selected to promote outreach, reduce costs, and improve efficiency—which in turn will contribute to operational and financial sustainability. The indicators concern loan portfolio management, cost management, deposit mobilization and savings. The targets are challenging but achievable over the life of the proposed IGP grant.

The indicators and targets were discussed in detail with and agreed on by senior SAT managers. They are practical and easily understandable .

Once these indicators were chosen, the computer system was evaluated to find out whether e-Merge could supply the information they require. For many of them it can. The e-Merge system will produce data for indicators: 1, 2, 3, 4, 5, 6, and 11, and partial data for indicators: 7 and 8. It not produce data for indicators: 9, 10, 12, 13, 14, 15, 16, 17, 18, and 19.

Table 3. Key Performance Indicators for IGP Grant

Indicator	Baseline (09/00)	06/01	06/02	06/03	End of Grant (06/04)
1. Average loan size[1]	$89	$113	$115	$123	$132
2. Number of loans over previous 12 months	18,500	27,750	41,625	62,437	93,656
3. Value of loans over previous 12 months	$1.66m	$3.15m	$4.77m	$7.68m	$12.4m
4. Number of active clients (end of period)	15,170	22,755	34,132	51,198	76,798
5. Loans outstanding (end of period)	$770,946	$1,271,604	$2,388,669	$3,470,574	$5,086,815
6. Portfolio at risk > 30 days	6.7%	6.5%	6%	5%	5%
7. Portfolio yield[2]	52%	55%	60%	62%	65%
8. Operational sustainability[3]	130%	155%	180%	200%	220%
9. Financial sustainability[4]	74%	100%	105%	110%	115%
10. Amount of commercial borrowing	Nil	$175,000	$220,000	$220,000	$220,000
11. Loans per credit officer	400	380	360	350	350
12. Operating cost ratio[5]	30%	21%	20%	20%	20%
13. Percentage of cost per Cedi loaned[6]	16%	15%	12%	12 %	12%
14. Salary expense to assets ratio[7, 9]	9%	10%	12%	11%	10%
15. Total administrative expense ratio[8, 9]	4%	4%	6%	6%	4%
16. Number of savers	N/A	N/A	20,250	30,375	45,562
17. Percentage of female savers	N/A	N/A	70%	70%	70%
18. Value of savings	N/A	N/A	$250,000	$380,000	$630,000
19. Percentage of savings used for lending	N/A	N/A	50%	60%	65%

Notes:

[1]Average Loan Size = Total amount disbursed loans made

[2]Portfolio yield = Interest and fee income /Average loan portfolio

[3]Operational sustainability = Operating income/Operating costs + Loan loss provision

[4]Financial sustainability = Operating income/Operating costs + Loan loss provision + Imputed cost of capital.

[5]Operating cost ratio = Operating expenses/(Average total assets/Turnover)

[6]Percentage of cost per Cedi loaned = Operating expenses/Total amount disbursed x 100

[7]Salary expense to assets ratio = Staff salaries/(Average total assets/Turnover)

[8]Total administrative expense ratio = Administrative expenses/(Average total assets/Turnover)

[9]The salary expense ratio (14) and total administrative expense ratio (15) are expected to increase in 2002 and 2003 to accommodate the conversion of SAT to a S&L.

Table 4. Assumed exchange rate

Year	Cedis per US Dollar
2000	7,000
2001	8,500
2002	9,000
2003	9,500
2004	10,000