



## Micro-Finance Rating - Risk Assessment

### Hattha Kaksekar Limited (HKL)

Phnom Penh (Cambodia)

|  |   |   |
|--|---|---|
| <b>Rating grade</b>  | <b><math>\alpha</math>—</b> alpha minus | <b>Assessment:</b><br>Recommended reasonable safety, good systems |
| <b>Visit dates:</b> 20-23 September, 2004 <b>Operational head:</b> Mr Hout Ieng Tong |   |   |
| <b>Maximum validity of rating*:</b> till September 2005                              |   |   |

#### Rating

Hattha Kaksekar Limited (HKL) has reasonable performance on governance and management and good performance on financial parameters. The good financial performance of the organisation results mainly from reasonable portfolio quality and high profitability as well as capital adequacy. Poor geographical concentration of operations and weak internal audit has affected its otherwise good performance on governance and strategy.

**In M-CRIL's view**, on account of the profitability and sustainability of the organisation as well as its high capital adequacy, HKL can absorb – from all sources – loan funds of US\$1.1 million over the next one year for on-lending to its borrowers. Given, however, the weak internal audit, M-CRIL strongly recommends that any flow of funds beyond one year should be contingent on the results of a fresh rating.

A rating update after one year is suggested to ascertain changes in the creditworthiness and absorptive potential of the institution. **This rating is valid, subject to no other substantial inflows of loan funds into the organisation beyond the limits specified here** and to no other significant changes in the organisational structure and external operating environment.

for Micro-Credit Ratings International Ltd

Sanjay Sinha, Managing Director

**\*Validity** This rating is valid till the next loan proposal made by the MFI to any financial institution or till any other significant change in the structure of the loan programme or in its external environment. A **rating update** (comprehensive repeat rating) is recommended whenever such changes take place or at the end of **six months** from the date of the initial assessment, whichever is earlier. Any substantial additional information that becomes available could also result in a rating update or a rating review (revision of rating grade based on a desk analysis).

**Liability** The rating assigned is a professional opinion of the assessors and M-CRIL does not guarantee the information and cannot accept any legal responsibility for actions arising out of the recommendations made.



### Category wise rating

| <u>Category</u>                | <u>Rating grade<sup>1</sup></u> |
|--------------------------------|---------------------------------|
| A <i>Governance aspects</i>    | β+                              |
| B <i>Managerial factors</i>    | β+                              |
| C <i>Financial performance</i> | α                               |
| <b>Overall</b>                 | α–                              |

### Key Risk Factors

- Weak internal audit:** HKL has made a number of policy, procedural and organisational changes in the past couple of years to improve its internal control environment, but the internal audit system of the organisation still remains weak. The internal audit checks a very small number of transactions (10-12%). This is inadequate considering particularly the previous experience of the organisation with problems relating to portfolio quality as well as fraud and misappropriation. In the absence of a comprehensive internal audit system, the internal control environment remains prone to misappropriation and may result in portfolio quality problems in the future.
- Geographical concentration:** The geographical concentration of the operations of HKL is very poor. Not only are the branches dispersed geographically; the clients within the branches are also very widely dispersed. This has already led to very high operating expenses and will have a major impact on profitability and sustainability in the future. Widely dispersed operations may also frustrate the attempts of HKL to improve the internal control environment of the organisation.

### Key Programme Strengths

| <b>Governance, experience and strategy</b>   | <b>Management and operations</b>  | <b>Financial</b>   |
|--|---|--|
| <ol style="list-style-type: none"> <li>1 Focused operations</li> <li>2 Clear organisational structure</li> </ol> | <ol style="list-style-type: none"> <li>1 Good accounting system and MIS</li> <li>2 Effective system for tracking overdues</li> <li>3 Qualified and experienced staff</li> </ol> | <ol style="list-style-type: none"> <li>1 Very good capital adequacy</li> <li>2 Reasonably good portfolio quality</li> <li>3 Reasonably good performance on profitability and sustainability</li> </ol> |

<sup>1</sup> M-CRIL’s grading sheet is attached at the end of the report.



### Organisational Profile

| Legal form   | Years of m-f Operation | Number of        |       |          |                                   |
|--------------|------------------------|------------------|-------|----------|-----------------------------------|
|              |                        | Active borrowers | Staff | Branches | Active borrowers/<br>Staff member |
| Licensed MFI | 8 years                | 5,986            | 115   | 5        | 52                                |

### Microfinance programme: Operational highlights

| Outstanding Savings (US\$) | Outstanding borrowings of MFI (US\$) | Loan portfolio of MFI (US\$) | Loans disbursed by MFI during last one year (US\$) | Average loan size from MFI to borrowers (US\$) |
|----------------------------|--------------------------------------|------------------------------|--|--|
| 76,749                     | 516,667                              | 1.8 million                  | 3.1 million  | 420  |

### Key financial ratios

|                                      |  |                                      |                                |                            |
|--------------------------------------|--|--------------------------------------|--------------------------------|----------------------------|
| Portfolio at risk (>=30 days)        | Current repayment rate                 | Risk weighted capital adequacy ratio | Weighted average cost of funds | Yield to APR ratio         |
| 4.3%                                 | 92.0%                                  | 65.6%                                | 6.3%                           | 98.0%                      |
| Yield on portfolio                   | Other income to average portfolio      | Financial cost ratio                 | Loan loss provisioning ratio   | Operating expense ratio    |
| 31.3%                                | 3.0%                                   | 1.8%                                 | 0.0%                           | 30.9%                      |
| Total income to average total assets | Total expenses to average total assets | Return on average total assets       | Operational self sufficiency   | Financial self sufficiency |
| 29.3%                                | 28.3%                                  | 1.1%                                 | 103.8%                         | 90.0%                      |

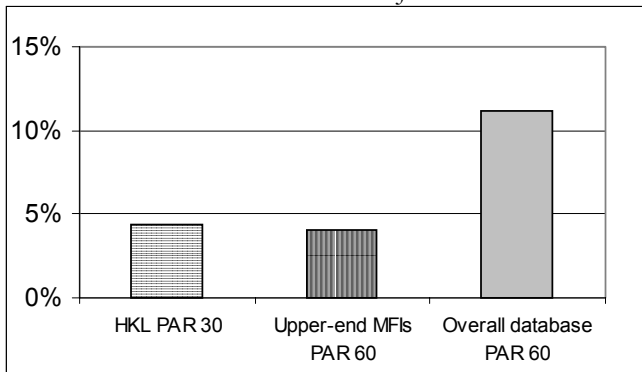
#### Notes

- All figures are for the organisation’s microfinance programme as on 30 June 2004.
- HKL follows the individual banking model of microfinance and works in four provinces of Cambodia through its five branches and 15 sub-branches. Sub-branches are attached to branches and each sub-branch has two staff – one teller and one Credit Officer.
- Savings include compulsory (loan linked) as well as voluntary savings. As on 30 June 2004, the proportion of voluntary saving to total savings was 4.4%.
- Other income includes recovery of written off loans.
- PAR<sub>30</sub> and current repayment rate have been calculated from the MIS reports of HKL. The rating team has verified the accuracy of the MIS reports through a sample check. The current repayment rate has been calculated without considering written off amounts as due during the year. If write offs during the year are treated as due but not paid, the current repayment rate comes to 78.2%.
- Loans written off during the year have been 3.3% of the average portfolio. The financial statements prepared by HKL have more reserves (9.6%) than is required, considering its portfolio quality. M-CRIL has, therefore, not made any fresh provisions during the year and has written back excess provisions made by HKL. (Details given in the financial statements p15-16). After the write-back, the proportion of loan loss reserves is 3.7% of the gross loan outstanding as on 30 June 2004.

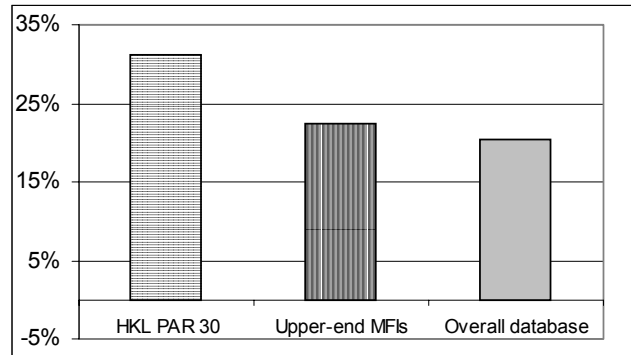


## HKL – financial overview

Portfolio at risk: 30 June 2004.



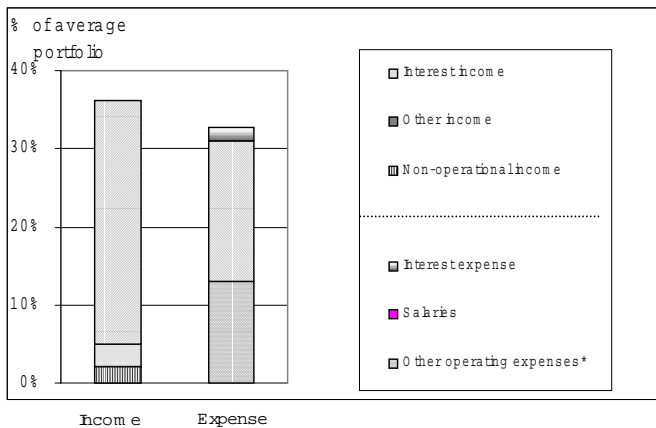
Operating expense ratio: 1 July 2003-30 June 2004



- Note:** 1.  $n_{upper-end} = 10$       $n_{database} = 110$ ; Database updated as on 30 June 2003.  
 2. Outliers and rated NGOs with no direct lending have been removed for analysis. Upper-end figures reflect MFIs with top 10% scores.  
 3. The upper-end MFIs and overall database ratios represent simple averages for their respective samples.  
 4. The performance of either the Upper-end MFIs or all MFIs (overall database), do not necessarily reflect M-CRIL's rating standards.

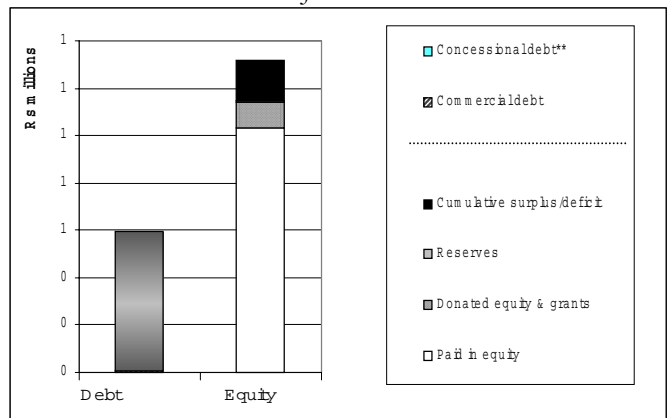
Income and expense distribution:

1 July 2002-30 June 2004



Debt and equity composition:

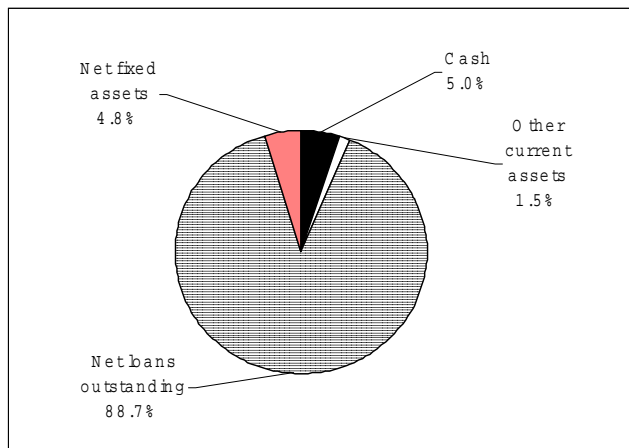
30 June 2004



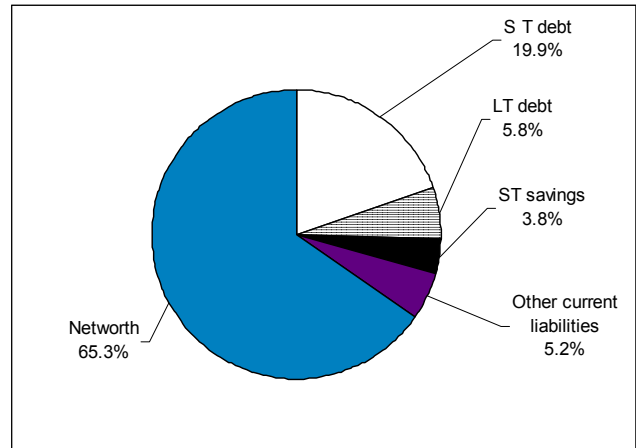
\* Other operating expenses include travel, depreciation and administrative expenses

\*\* Concessional debt is borrowing+comp.savings taken at < Bank PLR +50 basis points, & voluntary savings taken at < bank deposit rates

Asset composition: 30 June 2004



Liability & net worth composition: 30 June 2004





## Country Profile

Cambodia lies at the heart of the Indochina peninsula, bordered by Thailand to the west, Laos to the north and Viet Nam to the east. Cambodia is a Khmer speaking Buddhist country, which is governed by a parliamentary democracy and a constitutional monarchy. It is one of the poorest countries in the world (ranks 130 out of 173 countries on the human development ranking of the United Nations Development Programme). Subsistence farming employs 75% of the workforce, with the Mekong River providing fertile, irrigated fields for rice production. Well over half of Cambodia is forested. Cambodia has suffered a long period of political and economic upheavals during the 1970s and 1980s, and it was only in the 1990s that some semblance of peace and economic stability returned to the region.

After the period of political turmoil, the revival of Cambodia's economy was heavily dependent on international institutions – the Asian Development Bank, the World Bank, the European Union and others have been the largest contributors to the country's development. With the exception of one year, Cambodia's overall economic and financial performance, since the late 1980s has been generally positive. The economy grew by an average of 7.6% annually from 1987 until 1993 and then by about 4.5% annually during 1994-99. Economic growth in recent years has been supported by the continued expansion of exports, especially of the garments sector (15%), tourism (41% increase in visitors) and agriculture (5% growth of rice production and 6% for other crops). The exchange rate has been fairly stable, averaging around 4,000 Riels to US\$1 over the last three years.

The improvement of the overall economic situation also reflects changes in the weight of different contributing sectors. The services sector leads the way with 43% of the national GDP, while agriculture has gone down to 37% and industry has increased to 20%. The garment industry alone now employs some 100,000 workers, mainly young women. The informal sector, especially small enterprise trade and services, has expanded significantly, allowing for the employment of a large labour force that the formal market could not absorb. It is expected that this favourable outlook will continue to benefit microfinance as the economy tries to catch up with its ASEAN neighbours.

In this scenario, microfinance is one of the areas that have attracted the attention of policy makers and the country has made significant progress in microfinance policy and regulation. The National Bank of Cambodia – the central bank – has been instrumental in bringing about regulatory changes that include the provision of a separate license for microfinance institutions. This has increased the incentive for MFIs to become professionally managed and operated, sustainable institutions.



### 1 Organisational background

Hattha Kaksekar, registered as an NGO, started its microfinance programme in November 1996 in the Pursat province of Cambodia, with the objective of providing financial services to the poor. By February 2000, operations of Hattha Kaksekar (NGO) expanded to four provinces through its five branches. In order to comply with the regulation issued by the National Bank of Cambodia on licensing of Microfinance Institutions (MFIs), Hattha Kaksekar established Hattha Kaksekar Limited (HKL), a limited liability company in 2001. On 27 April 2001, the microfinance operations of Hattha Kaksekar (NGO) were taken over by HKL – all assets and liabilities, as well as all employment contracts, conditions, obligations and benefits were transferred to HKL on that date.

HKL has a seven-member Board of Directors. The General Manager (GM) of HKL is the representative of Hattha Kaksekar (NGO) and the Deputy General Manager (DGM) is the representative of the HKL Staff Association which is also a shareholder. While the GM and the DGM are involved in day-to-day operations of HKL other members are not. The Board of Directors meet once every six months to review operations and to take policy decisions.

### 2 Microfinance operations

#### 2.1 Background of microfinance operations

At the time of the rating visit in September 2004, HKL was working in four provinces – Pursat, Kampong Thom, Siem Reap and Banteay Meanchey – through its five branches. As on 30 June 2004, HKL had an outreach of nearly six thousand clients in 956 villages.

The organisation is led by its General Manager who was also the promoter of Hattha Kakasekar (NGO). At the Head Office, he is assisted by a Deputy General Manger (DGM), a Credit Manager and an HR Manager. The DGM is responsible for accounting, finance and MIS functions and reports to the GM.

Branches are led by Branch Managers, who report directly to the General Manager. Each branch has two major units – Credit and Treasury. The Credit Unit is led by a Chief of Credit Unit and deals mainly with field operations – sourcing of business and follow up on loans. The Credit Unit has five-ten Credit Officers and one-two bad debt collectors. While the Credit Officers do the sourcing of business and follow up on the current loans, the bad debt collectors are responsible for follow-up on overdues, as well as written-off loans. The Treasury Unit is responsible for handling cash at the branches – disbursement of loans, as well as collection of instalments. The branches also have one Accountant and one Branch Administrator. The Accountant is responsible for the preparation of financial statements and the Branch Administrator is responsible for the preparation of MIS reports. Each branch has a Credit Committee consisting of the Branch Manager, the Chief of Credit Unit and the Accountant. This Committee has the authority to sanction loans up to certain amounts (US\$500 in some branches and US\$1,000 in other branches).



## Hattha Kaksekar Limited (HKL) – Assessment

For its operations, HKL has been mainly using the capital contribution from its shareholders. The shareholding pattern is presented in the following table:

| Shareholders                | Total shareholding<br>(US\$) | Proportion of ownership<br>% |
|-----------------------------|------------------------------|------------------------------|
| Hattha Kaksekar (NGO)       | 128,550                      | 49.86                        |
| SIDI                        | 51,450                       | 19.96                        |
| Cordaid                     | 50,010                       | 19.39                        |
| HKL Staff Association       | 25,320                       | 9.82                         |
| Mr Dy Davuth (Board Member) | 2,520                        | 0.97                         |
| <b>Total</b>                | <b>257,850</b>               | <b>100.00</b>                |

Apart from the equity shareholding, Hattha Kaksekar (NGO) and the Ministry of Economy and Finance of Cambodia have provided loan funds of US\$464,065 and US\$313,576 respectively to HKL. As per the loan agreements, these loans will not be repayable to the lenders, unless HKL ceases to provide credit to its clients or it decides to repay all or part of the loan. Accordingly, these loans have been classified as Subordinated Debt and are treated as Tier II Capital for capital adequacy calculations, as per the regulations of the National Bank of Cambodia

HKL has recently obtained loan funds from the Rural Development Bank (funded by the Asian Development Bank) and Cordaid. Terms and condition of these loans are as follows.

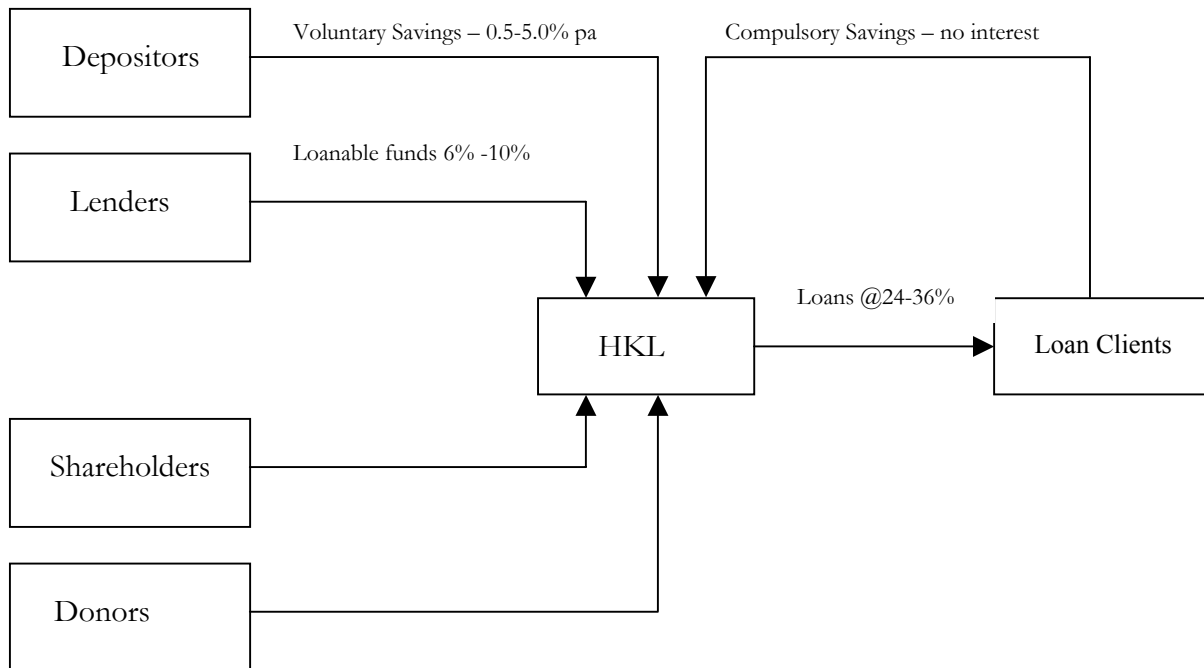
| Source       | Outstanding as on<br>30 June 2004, US\$ | Rate of Interest                  | Sanctioned amount<br>US\$  |
|--------------|---|-----------------------------------|--|
| ADB-RDB      | 400,000                                 | 6-month LIBOR plus<br>4% per year | 1,000,000 for a term<br>of three years starting<br>January 2002 <sup>1</sup> |
| Cordaid      | 116,667                                 | 6% per year                       | 260,080 for a period<br>of five years, starting<br>January 2003              |
| <b>Total</b> | <b>516,667</b>                          |                                   | <b>1,260,080</b>   |

1. Only US\$400,000 has been withdrawn from the sanctioned amount and the loan term comes to an end in early 2005.

In September 2004, HKL obtained approval of US\$250,000 loan from the Microfinance Alliance Fund based in the Philippines. Of the loan amount, 50% is to be drawn in Khmer Riel and the other 50% in Thai Baht. The rate of interest on this loan is 11.63% per annum (including withholding tax). The term loan will mature in three years from the date of respective draw-downs.



The flow of funds in HKL’s microfinance programme is depicted in the following diagram



## 2.2 Microfinance policies

HKL follows the individual banking model of microfinance – collateralised loans are given to individual clients. Sourcing of business is done by the Credit Officers, who look for prospective clients in their designated operational area. Once a client, with requirement of loans is identified, the Credit Officer helps the client to apply for the loan. The completed loan applications are submitted to the Branch Offices. The primary appraisal of the loan applications is done by the Branch Credit Committee. In case the loan amount is within the sanctioning powers of the Branch: US\$500 for two Branches and US\$1,000 for the remaining ones, it is sanctioned by the Branch. In case the loan amount is above the sanction limit, the application is sent to the Head Office, along with the primary approval and recommendation of the Branch.

Approved loans are disbursed to the clients at the Branch Office by tellers. At the time of disbursement, the documents supporting collateral are also kept by the Branch Offices. Clients come to the branches to repay loan instalments.

### Savings

Compulsory savings: The borrowers of HKL have to deposit US\$1-US\$5 per month along with the loan instalment. These deposits are refunded to the borrowers at the time of closing the loan. No interest is paid on these deposits.

Voluntary Savings: The clients of HKL can open voluntary savings accounts with it. Interest @



0.5%-5% per annum is paid to the clients, depending upon the size of monthly balances in the account. As on 30 June 2004, there are only 340 depositors using this product, with a total outstanding balance of only US\$3,355.

**Loan products**

All loans from HKL to its clients are secured – by physical collateral and one guarantee. Physical collateral can be some land or other property and should be a minimum of 200% of the value of the loan. The guarantor should be a close relative of the client and should ideally be a salaried employee.

The following is a description of loan products offered by HKL.

General Loans: This is the most popular loan product of HKL. Loans are repayable in equal monthly instalments along with interest. The rate of interest and the loan term depends on the size of the loan, as described in the following table.

| Loan Size       | Interest rate | Loan-term   | As on 30 June 2004       |                    |
|-----------------|---------------|-------------|--------------------------|--------------------|
|                 |               |             | No. of loans outstanding | Amount outstanding |
| US\$50-1,000    | 36% pa        | 1-10 months | 5,132                    | 1,000,530          |
| US\$1,100-2,500 | 30% pa        | 1-18 months | 673                      | 445,541            |
| US\$2,600-3,000 | 24% pa        | 1-24 months | 181                      | 395,052            |

If the loans are given in Khmer Riel or Thai Baht, the rate of interest rate is 12% more for all categories of loan products. The interest rate is higher on Khmer Riel and Thai Baht loans because of exchange rate fluctuations of these currencies against the US Dollar.

Agriculture Loans: These loans are given for agriculture purposes. The maximum loan size on these loans is US\$1,000. The maximum loan term is 12 months and loans are repayable as bullet repayments at the end of the loan term.

Special Loans: Loans with sizes higher than US\$3,000 are categorised as Special Loans. Before 2002, HKL had the policy of giving loans up to US\$7,000. Special Loans are given only to the older clients, with good track record. These loans are payable in a maximum of 24 months and carry an interest rate of 24%pa, on a declining balance basis.

**3 Observations**

**3.1 Governance & strategy**

HKL has reasonable performance on governance with a rating grade of β+. The organisation has good focus on microfinance, with a separate and clear organisational structure. It also has done well to streamline its operations, after detecting flaws in its strategies and management systems. The expansion strategy, as well as the strategy of the organisation on geographical concentration, however, is weak.

➤ Strategic focus



## Hattha Kaksekar Limited (HKL) – Assessment

HKL has highly focused microfinance operations. Though it started as an NGO, responding to the regulation of the National Bank of Cambodia (NBC), it formalised its microfinance programme, by obtaining a license to operate as an MFI. Hattha Kaksekar (NGO) also exists, but it has a very limited role. HKL also has a clear organisational structure for microfinance at the branches as well as at the Head Office.

Problems relating to portfolio quality, misappropriation and fraud came to light following an inspection of the National Bank of Cambodia in 2002. HKL has now done well to streamline its operations by changing policies and procedures as well by improving internal controls. HKL has now stopped disbursement as well as collection of loans in the field. This is now done at the Branch and Sub-branch offices. The appraisal process of loans has been streamlined, as also the tracking system for overdues. It has now strengthened the management capacity of the Head Office, by separating functions and appointing new and capable staff for effective monitoring and control of operations.

### ➤ Geographical concentration

The five branches of HKL have been located far apart, geographically. Historically, this has been the result of the insistence of donors who wanted Hattha Kaksekar to work in a particular area. Geographically dispersed operations, on the one hand, increase the cost of operations and, on the other, make effective control of operations difficult. The physical concentration of clients in the branch areas is also poor. In some branches, the maximum distance of the client's residence from the Branch Office is as high as 60 kilometres. Clients at a distance of 30-40 kilometres from the Branch Offices are common in almost all the branches. The average number of clients at each branch is also very low – about six per village. The average number of clients per outlet (taking each Branch and Sub-branch as an outlet) at about 300 also points to poor concentration. With clients having to come to the branches for collection of loans, as well as repayment of loan instalments, large distances would add to the transaction costs incurred by the clients and would put HKL at a disadvantage relative to its competitors, including the local moneylenders in the villages. It would also have implications for cost and monitoring as well as the control of operations.

While HKL has made elaborate business plans based on the comprehensive market study conducted by it, it is apparent that effective operational strategies have not been put in place for expansion and geographical concentration. It was observed by the rating team that less staff was deployed in one geographical area where the market potential was relatively high as compared to another geographical area, where the market potential was lower.

### ➤ Market segmentation and competitive strategy

The market segment that HKL has been operating in is very wide in terms of loan size – US\$50-US\$3,000. (Special Loans, with loan sizes more than US\$3,000, are very few). Different components of this market segment would have different demand and supply characteristics. HKL has not been able to make effective operational strategies, keeping in view the mission of the organisation, on the one hand, and growth, on the other. Evidence of this is the fact that during the past year most of the branches have been able to achieve their targets in terms of the amount of loans disbursed, but they have been way below target in terms of the number of loans disbursed. This clearly shows that the branches have met their targets by increasing average loan sizes. Even within branches, different Credit



Officers have widely different loan sizes. Failure of the organisation clearly to segment its market by loan size and adopt different operational strategies for different segments will have a negative impact on its ability to cope with competition and meet its growth targets.

The average loan outstanding per client of HKL at US\$308 is very high as compared to other MFIs in Cambodia (US\$93 for six leading MFIs). This may be an indication of mission drift in the organisation given its stated objective of reaching “women and poor families” in the rural areas of Cambodia.

Increasing competition from other MFIs in Cambodia, particularly in the Banteay Meanchey branch, which has the highest concentration of loan portfolio (28%) of HKL, is an issue of concern. Too many suppliers of loan funds chasing a limited number of borrowers may lead to clients taking loans beyond their absorption capacity which, in turn, may lead to problems in portfolio quality. Increasing competition may also impact the growth plans of the organisation unless suitable strategies are put in place to deal with it.

➤ Experience of the Board of Directors

The members of the Board of Directors of HKL represent the respective institutional shareholders. The members have diverse backgrounds in development and finance, with international as well as experienced local perspectives. While two members of the Board (the GM and the DGM of HKL) are involved in the day-to-day operations of the organisation, the remaining members also take an active interest in operations.

### **3.2 Managerial factors**

HKL displays reasonable performance on managerial factors, with a grade of  $\beta+$ . The accounting and the MIS of the organisation is reasonable, but the internal audit system is weak.

➤ Human resource quality and management

HKL has highly qualified and professional managerial staff. Most of the staff at the Head Office are professionals, with prior microfinance or banking experience. The staff at the branches is also qualified and has good understanding of policies and procedures. Most of the staff has obtained training on various technical aspects of microfinance from a number of domestic and international training institutes.

The varying level of staff efficiency within the branches, as well as across the branches, is an issue of concern. This mainly results from lack of effective criteria to measure staff performance and lack of an incentive system. This may have implications for the growth and profitability of the organisation. HKL is in the process of introducing an incentive system for its staff.

➤ Accounting and MIS

HKL has a reasonable accounting system, both at the Head Office and at the Branches. The tellers are responsible for disbursement of loans and collection of instalments. On the basis of vouchers submitted by the tellers, the accountants prepare cash-books and other ledger accounts. The system of collection of cash and its recording in books of accounts by



separate persons serves as a useful check on fraud, as well as accounting errors. Trial balance, profit and loss account and the income statement are prepared by the branches on a monthly basis. The branches provide for cost of funds as well as loan losses, while preparing their financial statements, but the overheads of the Head Office are not allocated in order to understand true profitability of the Branches. The financial statements of the branches, as well as that of the Head Office, are consolidated on a monthly basis. Provisions for loan losses are made on the basis of classification of overdue loans, as per the guidelines of the National Bank of Cambodia. Decisions regarding write-off of bad loans are made individually for each loan and require the approval of the Board of Directors.

The MIS of HKL is good. Consolidated MIS reports are prepared by the Branches every month and contain very useful information about the operations of the organisation. This includes information about the number and amount of loans disbursed as well as collected, savings collected as well as withdrawn, outreach in terms of number of provinces and villages covered and ageing analysis of loans.

HKL is now in the process of identifying appropriate software for its accounting system and MIS. It will, most probably, purchase the 'Microbanker' software and begin installation in the next year.

➤ Tracking system for overdues

HKL has very good systems for tracking overdues. The Branch Administrator provides a list of daily maturities to the tellers on a monthly basis. A list of late clients is prepared by the tellers on a daily basis, which is communicated to the concerned Credit Officer, who follows up on the loans immediately. In the case of past due loans and written off loans, the follow up is done by the Bad Debt Collectors.

➤ Financial planning and control systems

HKL has reasonable financial planning and control systems. It has prepared a three-year business plan (from 2004 to 2006). The business plan is very comprehensive in terms of its analysis of the market, as well as detailing out operational and financial plans for individual branches. On the basis of the plan, targets for the branches have been set, against which the performance of the branches is measured.

With the objective of improving internal control, HKL introduced internal audit in 2002 when it was undertaking major operational and procedural changes in the organisation. While the internal audit process is comprehensive in terms of its scope (it checks the books of accounts, looks at the processes followed and meets the clients), the coverage of the audit is low, as only 10-12% of the transactions are checked. Absence of proper reference to the vouchers in the books of accounts makes the process of effective internal audit difficult. The weak internal audit remains an issue of concern, as far as the internal control environment in HKL is concerned, though the organisation has undertaken a number of steps to improve the internal control environment of the organisation such as disbursement and collection of cash at the branches and separation of recording and collection functions with respect to cash at the branches. HKL is aware of its weaknesses on the internal audit front and has been undertaking steps to strengthen it. Two new staff have been trained and inducted in the team in order to increase the frequency and scope of the internal audit.



➤ Infrastructure

HKL has an infrastructure base of US\$95,866, as on 30 June 2004. This includes computer hardware and software, vehicles, furniture and fixtures at the branches and at the head office. The infrastructure is sufficient considering the current level of operations and planned growth in the future.

### 3.3 Financial performance

The financial performance grade of HKL is good with a rating grade of  $\alpha$ . This results mainly from profitable operations and reasonably good portfolio quality.

➤ Credit performance and asset quality

HKL has reasonable credit performance. Its current repayment rate for the 12 months ended 30 June 2004 is 92% and the PAR<sub>30</sub> is 4.3% as on 30 June 2004. The portfolio quality of HKL has improved significantly over the past one year – PAR<sub>30</sub> declining from 12.7%, as on 30 June 2003, to 4.3% on 30 June 2004. This improvement is partly attributed to loan write-off and partly to improvement in internal controls. During the past one year, 3.3% of the average loan portfolio has been written off.

Due to weak internal controls, HKL had witnessed massive defaults and some fraud, which resulted in a fall in the portfolio quality. It has taken steps to improve portfolio quality and it has not only succeeded in improving the performance of current loans but has also succeeded in recovering a significant proportion of written off loans as shown in the following table

| Year         | Amount written off<br>(US\$) | Amount recovered<br>(US\$) |
|--------------|------------------------------|----------------------------|
| 2001         | 76,550                       | 13,684                     |
| 2002         | 150,929                      | 31,443                     |
| 2003         | 44,986                       | 61,587                     |
| 2004         | Nil*                         | 26,786                     |
| <b>Total</b> | <b>272,465</b>               | <b>138,965</b>             |

\*Write-off for 2004 has not yet been determined, as HKL writes off its loans towards the end of the calendar year.

The loan loss reserves stands at 9.6% of the loans outstanding as on 30 June 2004 as per the accounts maintained by HKL. The actual reserves required by the organisation as per NBC regulations are only 3.7%. Excess reserves have not been written back by HKL but have been, notionally, written back by M-CRIL while preparing financial statements for HKL (see pages 15-16).

➤ Mobilisation of funds

HKL has been very successful in mobilising equity from diverse sources – Hattha Kaksekar (NGO) being the largest shareholder. Its ability to mobilise equity from other international agencies like SIDI and Cordaid is also commendable. Subordinated debt from Hattha



Kaksekar (NGO) and MoEF are, more or less, permanent investment in the organisation. Equity capital as well as subordinate debt makes the capital adequacy position of the organisation quite comfortable and will help the organisation to mobilise loan funds and achieve its planned growth rates.

As far as loan funds are concerned, HKL had a sanction of US\$1 million from RDB, but due to the reorganisation necessary during 2002 and 2003, it slowed down expansion and consequently was not able to draw the entire limit. It has been able to withdraw only US\$0.4 million till now and the term of the sanction comes to an end in early 2005 while the amounts outstanding will have to be repaid by March 2005.

HKL has obtained sanction of nearly US\$260,000 from Cordaid and drawn US\$116,000 from this. In September 2004, it obtained sanction of US\$250,000 from the Microfinance Alliance Fund based in the Philippines.

➤ Asset, liability and equity composition

HKL has utilised its assets well, with about 88% deployed in loans. The organisation has also minimised idle funds with cash (in hand and bank) being as low as 5%. On the liability side, the organisation has relied mainly on external debt for loan funds. The proportion of savings is very low (4% of total liabilities and net worth), mainly due to low confidence of the public in the banking sector. The proportion of voluntary savings in the total liabilities and net worth is almost negligible.

The risk weighted capital adequacy ratio of the organisation is very good at 65.6%. This reflects the fact that HKL has been able to mobilise large amounts of equity capital and subordinated debt from diverse sources.

➤ Profitability and Sustainability

The organisation has good performance on profitability and sustainability, despite having to slow down the growth, write-off of bad loans and expenses incurred on reorganisation efforts. In terms of profitability, the organisation has a positive RoA of 1.1%, for the year ended 30 June 2004. A very low Financial Cost Ratio of 1.8% has also contributed to this performance. Low Financial Cost Ratio, in turn, results from a large proportion of equity in the total funds of the organisation. The Operating Expense Ratio (OER) of 30.9%, though comparable with other MFIs in Cambodia, is very high as compared to MFIs of similar size following the Individual Banking Model in other parts of the world. This results from the large operational area, varying levels of efficiency of the staff and unused capacity at the branches. Reorganisation efforts of the organisation, which has resulted in the creation of several new departments in the Branches, as well as at the Head Office, and separation of different components of activities has also resulted in some excess staff capacity in some functions. This is also partly responsible for very high OER. With HKL planning to obtain commercial funds at high interest rates in the near future, it will become difficult for it to maintain profitable operations, unless conscious steps are taken to reduce costs and improve efficiency.



## 4 Conclusions

| Strengths  | Weaknesses  |
|--|---|
| <p><u>Organisational</u></p> <ul style="list-style-type: none"><li>✓ Focused operations</li><li>✓ Clear organisational structure</li><li>✓ Focus on sustainability</li></ul> <p><u>Managerial</u></p> <ul style="list-style-type: none"><li>✓ Professionally trained managerial cadre</li><li>✓ Good accounting system and MIS</li><li>✓ Efficient tracking system for overdues</li></ul> <p><u>Financial</u></p> <ul style="list-style-type: none"><li>✓ Very strong capital adequacy</li><li>✓ Reasonably good portfolio quality</li><li>✓ Profitable operations</li></ul> | <p><u>Organisational</u></p> <ul style="list-style-type: none"><li>✗ Poor geographical concentration</li><li>✗ Unclear market segmentation</li></ul> <p><u>Managerial</u></p> <ul style="list-style-type: none"><li>✗ Weak internal audit</li><li>✗ Varying level of productivity of staff</li></ul> <p><u>Financial</u></p> <ul style="list-style-type: none"><li>✗ Very high operating expenses</li></ul> |



## 5 Creditworthiness

HKL has achieved a rating grade of *alpha minus (α-)*.<sup>2</sup> In terms of creditworthiness, this implies **reasonable safety**. HKL's performance on governance and management is reasonable and its financial performance is good. In the past, HKL had faced problems relating to portfolio quality as well as fraud and misappropriation. It is now trying to streamline its operational procedures and strengthen internal controls, though continuing weaknesses in the internal audit system is a cause of concern. Poor concentration of operations, varying levels of staff efficiency and excess capacities in some of the functions has resulted in very high OER and has affected otherwise very good financial performance. The rating grade of the organisation can improve in the future, with an increase in the concentration of operations, improvement in capacity utilisation, a general increase in the scale of operations and an improvement in the internal audit system.

**In M-CRIL's view**, on account of good performance of the organisation on profitability and sustainability as well very good capital adequacy, HKL can absorb – from all sources – loan funds of US\$1.1 million over the next one year for on-lending to its borrowers. Given, however, the weak internal audit, it is strongly recommended that any flow of funds beyond one year should be contingent on the results of a fresh rating.

A rating update after one year is suggested to ascertain changes in the creditworthiness and absorptive potential of the institution. **This rating is valid, subject to no other substantial inflows of loan funds into the organisation beyond the limits specified here** and to no other significant changes in the organisational structure and external operating environment.

<sup>2</sup> The Rating Grade given measures performance on the rigorous standards established by M-CRIL. The assessment uses an instrument designed specifically for the conditions and nature of MFIs operating in Asia and is comparable with other ratings done by M-CRIL in this region.



**Financial statements for HKL’s microfinance operations**

**Balance Sheet - as on**

| 30 June 2003<br>US\$ | <u>Assets</u>                          | 30 June 2004<br>US\$ | US\$ |
|----------------------|--|----------------------|------|
|                      | <b><u>Current assets</u></b>           |                      |      |
| 92,418               | Cash in hand and bank                  | 100,360              |      |
| 140,000              | Fixed deposits                         |                      |      |
| 58,816               | Other current assets                   | 30,671               |      |
|                      | <b><u>Loans outstanding</u></b>        |                      |      |
| 1,037,038            | Current                                | 1,771,640            |      |
| 96,479               | Past due                               | 69,133               |      |
| 12,339               | Restructured/refinanced                | 350                  |      |
| 1,145,856            | Gross loans outstanding                | 1,841,123            |      |
| -131,015             | (Loan loss reserve)                    | (68,499)             |      |
| 1,014,841            | Net loans outstanding                  | 1,772,624            |      |
| <b>1,306,075</b>     | <b>Total current assets</b>            | <b>1,903,655</b>     |      |
|                      | <b><u>Long term assets</u></b>         |                      |      |
| 91,863               | Net property and equipment             | 95,866               |      |
| <b>91,863</b>        | <b>Total long term assets</b>          | <b>95,866</b>        |      |
| <b>1,397,938</b>     | <b>Total Assets</b>                    | <b>1,999,521</b>     |      |
|                      | <b><u>Liabilities and Networth</u></b> |                      |      |
|                      | <b><u>Current liabilities</u></b>      |                      |      |
| 4,091                | Client savings - voluntary             | 3,355                |      |
| 54,192               | Client savings - compulsory            | 73,394               |      |
| 123,257              | Other current liabilities              | 105,336              |      |
|                      | <b><u>Short term debt</u></b>          |                      |      |
|                      | ADB RDB                                | 400,000              |      |
|                      | Total short term debt                  | 400,000              |      |
| <b>181,540</b>       | <b>Total current liabilities</b>       | <b>582,085</b>       |      |
|                      | <b><u>Long term liabilities</u></b>    |                      |      |
|                      | <b><u>Long term debt</u></b>           |                      |      |
|                      | CORDAID                                | 116,667              |      |
|                      | Total long term debt                   | 116,667              |      |
|                      | <b>Total long term liabilities</b>     | <b>116,667</b>       |      |
|                      | <b><u>Net worth</u></b>                |                      |      |
| 257,850              | Paid up equity                         | 257,850              |      |
| 464,066              | Subordinated debt HKNGO                | 464,065              |      |
| 313,576              | Subordinated debt MOEF-AFD             | 313,576              |      |
| 2,110                | Statutory reserve                      | 4,030                |      |
| 76,172               | Donated equity                         | 106,315              |      |
| 102,624              | Retained net surplus/(deficit)         | 138,534              |      |
| 0                    | Current net surplus/(deficit)          | 16,399               |      |
| 1,216,398            | <b>Total net worth</b>                 | <b>1,300,769</b>     |      |
| <b>1,397,938</b>     | <b>Total Liabilities and Net Worth</b> | <b>1,999,521</b>     |      |



**Income Statement – for the year ending 30 June 2004**

| <u>Income</u>                                       | <u>US\$</u> | <u>US\$</u>    |
|---|-------------|----------------|
| Interest and fees on loans                          | 455,376     |                |
| Interest on investments                             | 2,042       |                |
| Other income*                                       | 41,086      |                |
| <b>Total income</b>                                 |             | <b>498,504</b> |
| <b><u>Financial costs</u></b>                       |             |                |
| Interest on borrowings                              | 20,828      |                |
| Interest on member savings                          | 136         |                |
| Other financial costs                               | 5,177       |                |
| <b>Gross financial margin</b>                       |             | <b>472,363</b> |
| Provision for loan losses                           | Nil         |                |
| <b>Net financial margin</b>                         |             | <b>472,363</b> |
| <b><u>Operating expenses</u></b>                    |             |                |
| Salaries  | 259,920     |                |
| Travel  | 25,381      |                |
| Depreciation  | 29,258      |                |
| Administrative/office expenses                      | 134,905     |                |
| <b>Total Operating expenses</b>                     |             | <b>449,464</b> |
| <b>Net Operational Surplus before taxes</b>         |             | <b>22,899</b>  |
| Taxes on operating profits                          |             | 4,580          |
| <b>Net Operational Surplus after taxes</b>          |             | <b>18,319</b>  |
| Grant for operations (net of taxes)                 |             | 30,143         |
| Excess provision written back                       |             | 35,910         |
| <b>Consolidated net profit</b>                      |             | <b>84,373</b>  |
| <b><u>Appropriation of consolidated Profits</u></b> |             |                |
| Donated Equity                                      |             | 30,143         |
| Statutory Reserves                                  |             | 1,920          |
| Retained Earnings                                   |             | 35,910         |
| Current Year Surplus                                |             | 16,399         |

\*Other Income include recovery of written of loans



## Notes to the financial statements

1. The Financial Statements have been estimated for the microfinance operations and represent an approximate picture only. This has involved appropriate modifications to the existing financial statements using data gathered and assumptions made during the rating exercise. Such modifications can result in differences between the income statement and balance sheet prepared by the organization itself and the statements presented above.
2. Income includes interest income, fees and earnings from other microfinance related services offered by the MFI rated. All loan portfolio related income is recognised only when it is actually received (**cash basis**). Grants allocated to the organisation's microfinance programme are treated as donated equity in the balance sheet (and not regarded as operational income).
3. Financial costs (interest on borrowings and savings, if any) and operating costs are calculated on an **accrual basis**. Loan loss provisioning expense and the corresponding balance sheet entry (loan loss reserve) has been computed based on the quality of the portfolio.

## Glossary

1. Current repayment rate  
Ratio of principal recovered (net of pre-payments) to the principal due in the year of measurement. Written off loans are treated as due but not received.
2. Portfolio at risk (PAR<sub>60</sub>)  
Ratio of the principal balance outstanding on all loans with overdues greater than or equal to 60 days to the total loans outstanding on a given date.
3. Yield on portfolio  
The interest income on loans divided by the average loan portfolio for the year.
4. Other income to average portfolio  
Total income other than from the interest on loans divided by average portfolio.
5. Financial cost ratio  
Total interest expense for the year divided by the average portfolio.
6. Loan loss provisioning ratio  
Total loan loss provisioning expense for the year divided by the average portfolio.
7. Operating expense ratio  
Ratio of salaries, travel, administrative costs and depreciation expenses to the average loan portfolio.
8. Average loan portfolio  
This represents the average loan outstanding for the year computed on a monthly basis.
9. Average total assets  
This represents the average total assets for the year calculated on an annual basis.
10. Operational Self-Sufficiency  
Ratio of total income to total costs for the year.
11. Financial Self-Sufficiency  
Ratio of total income to total adjusted expenses for the year. Adjustments have been made for subsidised cost of funds (w.r.t. market interest rate), equity (w.r.t. inflation) and in-kind donations.
12. Risk weighted capital adequacy ratio  
Ratio of networth to risk weighted assets (Risk weights: 100% for all assets except the following: fixed assets & interest bearing deposits: 50%; cash 0%).



## Projected Cash Flows and Financial Statements for five years

- The following assumptions and projections - derived from the limited information available from the organisation on its future financial projections – are tentative in nature. These **should not be viewed in isolation nor be regarded as a basis for investing in the future** - only the main risk rating report provides an opinion on investments.
- All assumptions are based on the data gathered during the rating exercise and the savings and credit methodology used by the organisation.

### 1 Basic Assumptions

(see also Notes to Cash Flow Projections below)

| <b>For the year ending:</b>    | <b>Jun-04</b> | <b>Jun-05</b> | <b>Jun-06</b> | <b>Jul-07</b> | <b>Jun-08</b> | <b>Jun-09</b> |
|--------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Active loans                   | 5,986         | 7,483         | 9,428         | 11,785        | 14,731        | 18,414        |
| Savings per client/year        | 4             | 4             | 4             | 4             | 5             | 5             |
| Yield on average portfolio     | 31.3%         | 31.5%         | 31.5%         | 31.5%         | 31.5%         | 31.5%         |
| Interest paid on savings       | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Cost of external funds         | 7.9%          | 8.5%          | 8.2%          | 8.2%          | 8.4%          | 8.3%          |
| Repayment rate from groups     | 92.0%         | 94.0%         | 95.0%         | 95.0%         | 95.0%         | 95.0%         |
| Loan loss reserve ratio        | 3.7%          | 2.8%          | 2.5%          | 2.5%          | 2.5%          | 2.5%          |
| Number of loans disbursed      |               | 8,979         | 11,314        | 14,142        | 17,677        | 22,097        |
| Average loan size to borrowers | 420           | 441           | 463           | 486           | 511           | 536           |



2 Projected balance sheets

US\$ in thousands

| As on:                                 | Jun-05       | Jun-06       | Jul-07       | Jun-08       | Jun-09       |
|--|--------------|--------------|--------------|--------------|--------------|
| <b>Assets</b>                          |              |              |              |              |              |
| Cash balance                           | 155          | 240          | 275          | 381          | 535          |
| Loans outstanding                      | 2,699        | 3,465        | 4,527        | 5,943        | 7,802        |
| Loan loss reserve                      | -74          | -87          | -113         | -149         | -195         |
| Net loans outstanding                  | 2,625        | 3,379        | 4,414        | 5,795        | 7,607        |
| Other assets                           | 45           | 58           | 75           | 95           | 130          |
| Net fixed assets                       | 88           | 76           | 74           | 73           | 72           |
| <b>Total Assets</b>                    | <b>2,913</b> | <b>3,752</b> | <b>4,837</b> | <b>6,344</b> | <b>8,343</b> |
| <b>Liabilities and Net Worth</b>       |              |              |              |              |              |
| External borrowings                    | 1,276        | 1,914        | 2,695        | 3,781        | 5,186        |
| Member savings                         | 103          | 139          | 185          | 245          | 325          |
| Other liabilities                      | 155          | 200          | 255          | 330          | 430          |
| Donations and equity                   | 1,196        | 1,246        | 1,296        | 1,346        | 1,396        |
| Retained surplus/deficit               | 155          | 182          | 253          | 407          | 642          |
| Current surplus/deficit                | 27           | 71           | 153          | 235          | 365          |
| Net worth                              | 1,378        | 1,499        | 1,702        | 1,988        | 2,402        |
| <b>Total Liabilities and Net Worth</b> | <b>2,913</b> | <b>3,752</b> | <b>4,837</b> | <b>6,344</b> | <b>8,343</b> |

3 Projected Income Statements

US\$ in thousands

| For the year ending:                | Jun-05     | Jun-06     | Jul-07       | Jun-08       | Jun-09       |
|-------------------------------------|------------|------------|--------------|--------------|--------------|
| <b>Income</b>                       |            |            |              |              |              |
| Interest                            | 715        | 971        | 1,259        | 1,649        | 2,165        |
| Other income                        | 22         | 16         | 12           | 9            | 7            |
| <b>Total Income</b>                 | <b>737</b> | <b>987</b> | <b>1,271</b> | <b>1,658</b> | <b>2,172</b> |
| <b>Cost</b>                         |            |            |              |              |              |
| Financial                           | 87         | 139        | 201          | 288          | 394          |
| Loan loss provision                 | 6          | 12         | 27           | 35           | 46           |
| Depreciation                        | 38         | 32         | 32           | 31           | 31           |
| Operating expenses (excl. depr.)    | 572        | 714        | 821          | 1,010        | 1,245        |
| <b>Total Cost</b>                   | <b>703</b> | <b>898</b> | <b>1,080</b> | <b>1,364</b> | <b>1,716</b> |
| <b>Surplus/Deficit before taxes</b> | <b>34</b>  | <b>89</b>  | <b>191</b>   | <b>294</b>   | <b>456</b>   |
| Tax                                 | 7          | 18         | 38           | 59           | 91           |
| <b>Surplus after tax</b>            | <b>27</b>  | <b>71</b>  | <b>153</b>   | <b>235</b>   | <b>365</b>   |



4 Projected Cash Flow Statements

US\$ in thousands

| For the year ending:                        | Jun-05       | Jun-06       | Jul-07       | Jun-08        | Jun-09        |
|---|--------------|--------------|--------------|---------------|---------------|
| <b>Inflows</b>                              |              |              |              |               |               |
| Opening cash                                | 100          | 155          | 240          | 275           | 381           |
| External borrowings                         | 1,200        | 1,000        | 1,300        | 2,200         | 2,700         |
| Repayments from members                     | 3,102        | 4,472        | 5,814        | 7,608         | 9,986         |
| Grants                                      | 50           | 50           | 50           | 50            | 50            |
| Member savings deposits                     | 30           | 39           | 51           | 67            | 88            |
| Interest income                             | 715          | 971          | 1,259        | 1,649         | 2,165         |
| Other income                                | 22           | 16           | 12           | 9             | 7             |
| <b>Total Inflow</b>                         | <b>5,218</b> | <b>6,704</b> | <b>8,726</b> | <b>11,859</b> | <b>15,378</b> |
| <b>Outflows</b>                             |              |              |              |               |               |
| Disbursement                                | 3,960        | 5,239        | 6,876        | 9,025         | 11,845        |
| Repayments to lenders                       | 441          | 362          | 519          | 1,115         | 1,295         |
| Withdrawals of savings deposits             | 3            | 4            | 5            | 7             | 9             |
| Operating expenses (excl. depr.)            | 572          | 714          | 821          | 1,010         | 1,245         |
| Interest paid on borrowings                 | 87           | 139          | 201          | 288           | 394           |
| Net changes in other assets and liabilities | -36          | -32          | -38          | -55           | -65           |
| Taxes                                       | 7            | 18           | 38           | 59            | 91            |
| Fixed assets purchase                       | 30           | 20           | 30           | 30            | 30            |
| <b>Total Outflow</b>                        | <b>5,063</b> | <b>6,464</b> | <b>8,451</b> | <b>11,477</b> | <b>14,843</b> |
| <b>Net cash balance</b>                     | <b>155</b>   | <b>240</b>   | <b>275</b>   | <b>381</b>    | <b>535</b>    |

5 Key projected performance ratios

| For the year ending:                 | Jun-05 | Jun-06 | Jul-07 | Jun-08 | Jun-09 |
|--------------------------------------|--------|--------|--------|--------|--------|
| Operational self-sufficiency         | 103.8% | 107.8% | 113.7% | 116.5% | 120.2% |
| Return on average assets             | 1.1%   | 2.1%   | 3.6%   | 4.2%   | 5.0%   |
| Operating expense ratio              | 26.9%  | 24.2%  | 21.3%  | 19.9%  | 18.6%  |
| Average outstanding/borrower (US\$)  | 308    | 361    | 368    | 384    | 403    |
| Portfolio growth rate                | 46.6%  | 28.4%  | 30.6%  | 31.3%  | 31.3%  |
| Savings to total assets              | 3.5%   | 3.7%   | 3.8%   | 3.9%   | 3.9%   |
| Risk weighted capital adequacy ratio | 50.8%  | 43.2%  | 37.6%  | 33.5%  | 30.9%  |



## 6 Notes to the projections

1. The Operating expense ratio is based on current levels and is projected based on changes in overall productivity and growth in staff, branches and portfolio.
2. Estimated external borrowings are subject strictly to performance based on the findings of this microfinance capacity assessment (credit rating).
3. It is estimated that every year US\$50,000 of grants and equity will be received.
4. Average loan size to members increases by 5% per year for the period of projection.
5. Interest on savings is assumed to be zero considering negligible proportion of the savings in the total savings.
6. Interest income is taken as [yield on portfolio\*average portfolio for the year]. Yield movements are projected to increase gradually with assumed improvement in the portfolio quality.
7. Other income mainly consists of income on recovery of written off loans and are presumed to decline over the years.
8. Disbursements are taken as the [number of loans disbursed during the year\*average loan size to borrowers].
9. Estimates on growth in outreach and demand for loans from the organisation have been made based on current growth levels and future expansion potential and capacity. Increase in clients is taken at rates between 25-30% per year.
10. Repayments to lenders is based on the current repayment schedules on the current loans and the projected liability structure.
11. Interest paid is taken as the [average cost of external funds \* the average external borrowing liability figure].
12. In the projections the net worth figure includes donations and equity, retained surpluses and current surplus.



## M-CRIL’s Microfinance Rating Symbols

| M-CRIL Grade                     | Description  |
|----------------------------------|--|
| $\alpha+++$<br>alpha triple plus | Highest safety, excellent systems<br>➤ most highly recommended                               |
| $\alpha++$<br>alpha double plus  | Highest safety, very good systems<br>➤ most highly recommended                               |
| $\alpha+$<br>alpha single plus   | Very high safety, good systems<br>➤ highly recommended                                       |
| $\alpha$<br>alpha                | High safety, good systems<br>➤ highly recommended  |
| $\alpha-$<br>alpha minus         | Reasonable safety, good systems<br>➤ recommended   |
| $\beta+$<br>beta plus            | Reasonable safety, reasonable systems<br>➤ recommended, needs monitoring                     |
| $\beta$<br>beta                  | Moderate safety, moderate systems<br>➤ acceptable, needs improvement to handle large volumes |
| $\beta-$<br>beta minus           | Significant risk, poor to moderate systems<br>➤ acceptable only after improvement            |
| $\gamma+$<br>gamma plus          | Substantial risk, poor systems<br>➤ needs considerable improvement                           |
| $\gamma$<br>gamma                | Highest risk, poor systems<br>➤ not worth considering  |