AMK Cambodia – Have AMK loans helped its clients improve their overall wellbeing?
Results from a two-point, 5+ year client change study

Angkor Mikroheranhvatho Kampuchea Co., Ltd (AMK), one of Cambodia's largest microfinance institutions, recently released the results of a five year analysis of changes in client wellbeing. The analysis compares a sample of client and non-client households from 2006/7 and 2012 and indicates a clear correlation between AMK clients and improved well-being status.   More importantly, poorer client segments made bigger and faster gains than the comparable non-client group. In addition, the study identifies a small but noteworthy group whose vulnerability to health and climate events has increased even in the context of improved income levels.

The analysis compares detailed panel information from client and non-client households from 2006/07, revisited in 2012, covering a total of 416 revisited households (320 client households and 96 non-client households). The data was analyzed in the context of rapid growth in the Cambodian economy with significant progress being made on poverty alleviation at the macro level. During this period AMK's primary business was microcredit, so the conclusions of the study are interpreted in that context only.

Cambodian Economic Context and Poverty Dynamics

Cambodia is one of the poorest countries in Asia. GNI per capita was only USD 880 in 2012.[1] Approximately 4 million people live on less than $1.25 per day, and 37% of Cambodian children under the age of 5 suffer from chronic malnutrition.[2]

The Cambodian economy is quite concentrated in a small number of sectors. Historically agriculture has made up a large component of GDP and provided the largest source of employment in the country (55% in 2011[3]). Rice, the principal crop, is cultivated on 90 per cent of the total planted land area and mainly in the fertile, irrigated land of the Mekong River basin. Overall productivity is low because of low levels of technology, poor soils and recurrent floods and droughts. Food shortages are common in many areas. Since 2004, garments, construction, agriculture, and tourism have driven Cambodia's growth. The garment industry currently employs more than 400,000 people and accounts for about 70% of Cambodia's total exports. The tourism industry has continued to grow rapidly with foreign arrivals exceeding 2 million per year since 2007 and reaching over 3 million visitors in 2012.[4]

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[1] Atlas Method from http://data.worldbank.org/country/cambodia
[2] https://www.cia.gov/library/publications/the-world-factbook/geos/cb.html
[3] http://data.worldbank.org/country/cambodia
[4] https://www.cia.gov/library/publications/the-world-factbook/geos/cb.html

Cambodia's economic climate has changed significantly since 2006 following an overall positive trend. GDP growth has been fairly consistent at 6-7% annually, with the exception of 2009 (0.1%), while inflation has varied dramatically from 25% in 2008 to -0.7% in 2009. Inflation has however stabilized at 3-5% since 2010. Overall positive trends aside, three major shocks affected Cambodia during the study period: high food and fuel inflation in 2008, the effects of the global financial crisis (felt in Cambodia mostly in 2008 and 2009) and national flooding in 2008 and 2011.

Chart: Cambodia Real GDP Growth and Inflation[5]
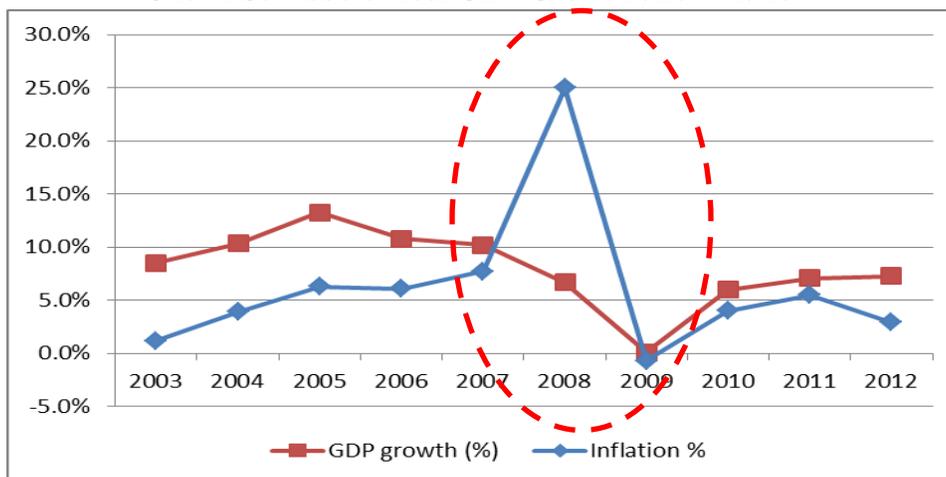
It is evident that 2008-9 were difficult years for many Cambodians, a period which also saw widespread economic uncertainty and reductions in levels of income and expenditure. Most MFIs, including AMK, were affected with reduced demand and capacity for credit and increased levels of non-performing loans.

**Microfinance – A Cambodian Success Story**

Ever since microfinance regulations were introduced by the National Bank of Cambodia in 2000-2001, microfinance in Cambodia has flourished with growth and client outreach consistently surpassing the banking sector. The Cambodian microfinance sector has frequently been recognized internationally by organizations such as CGAP and Microfinance Transparency. International NGOs who founded many of the larger MFIs did a commendable job of establishing the institutions, and the central bank played a vital enabling role by creating a regulatory framework that started in a simple manner and became more sophisticated as the sector grew and evolved.

After about a decade of exponential growth, MFIs in Cambodia were definitely impacted by the financial crisis of 2009-2010.

The industry's non-performing portfolio shot up to 2.86% during 2009, leading to increased write-offs in 2010. This portfolio quality deterioration caused a slowdown in portfolio growth

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[5] Source: WB 2013 World Development Indicators

across the sector as MFIs tightened lending policies and struggled to obtain funding on the international debts markets.
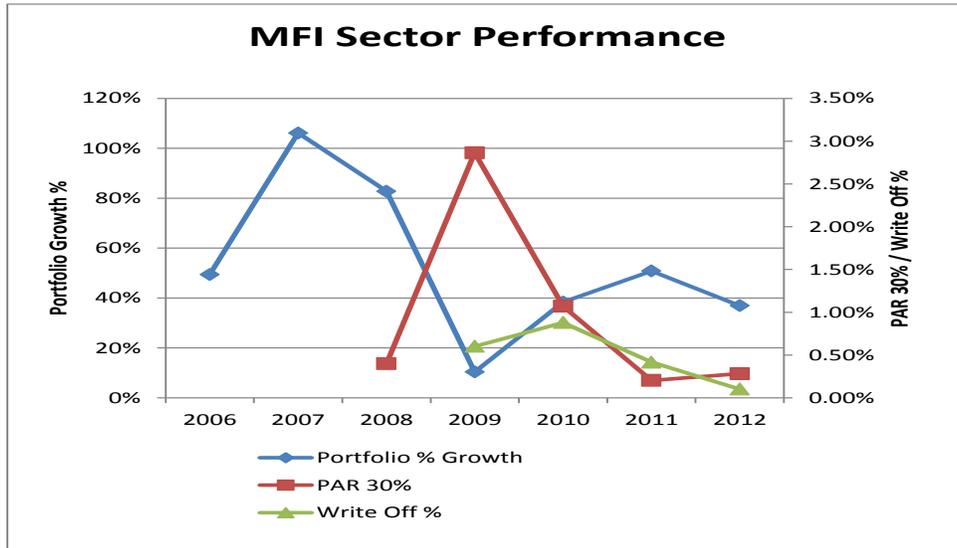
Similar trends were experienced by AMK's portfolio during the period, with a rapid growth in PAR during 2009 and a corresponding slow-down in portfolio growth.
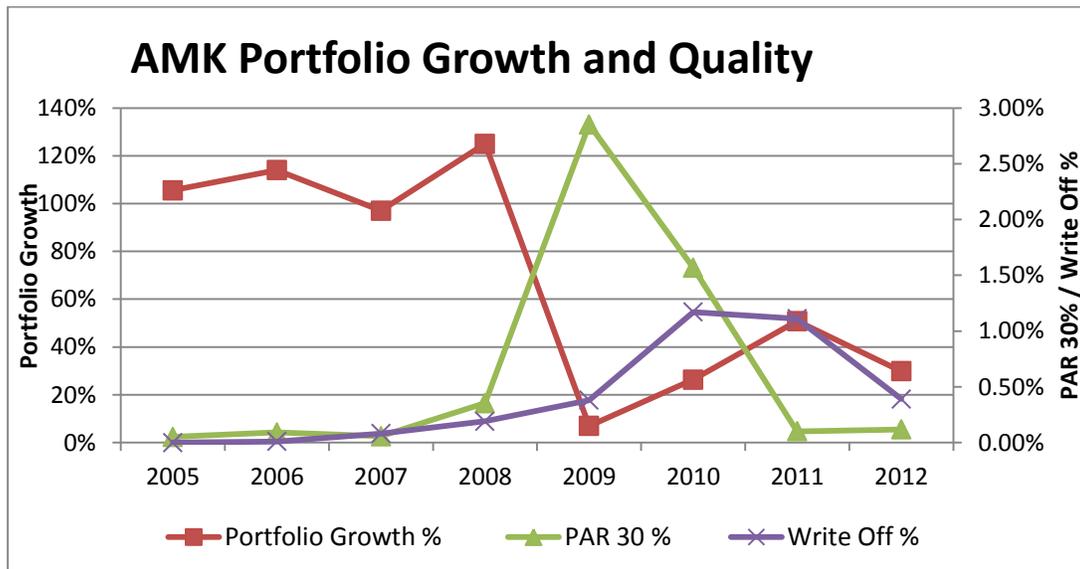
However, the microfinance industry as well as the overall economy rebounded in 2010/11, as reflected in increased portfolio growth and an improvement in portfolio quality. The sector has worked well together and launched various initiates aimed at mitigating credit and other risks, most notably the launching of the Credit Bureau of Cambodia in 2012.

AMK Background – Leader in Poverty Outreach and Innovation

With over 350,000 customers today, AMK is one of the largest microfinance institutions in Cambodia. Since its inception in 2003, AMK has been primarily a microcredit operation, entering the formal savings business only in 2010. Throughout its existence, AMK has always aimed to balance social and financial performance with a strong commitment to serving the poorest segments of the Cambodian society with the goal of helping them improve their livelihood options and overall wellbeing.

In its decade-long history, AMK has gone through several periods of distinct growth and has always sought to be innovative in its operational and product design strategies. From startup in 2003, AMK pursued a geographical expansion strategy focused on poverty outreach. Instead of targeting the more affluent communities in the towns and cities and near the national road network in Cambodia, AMK instead expanded to reach poorer, typically more rural communities first. This "outside-in" approach resulted in extremely high poverty outreach in AMK's early years. By 2008, as AMK reached all provinces in Cambodia, poverty outreach began to trend towards national averages. However AMK has always sought to ensure its poverty outreach is above the national norm.

Chart: Cambodia Poverty and AMK Poverty Outreach[6]
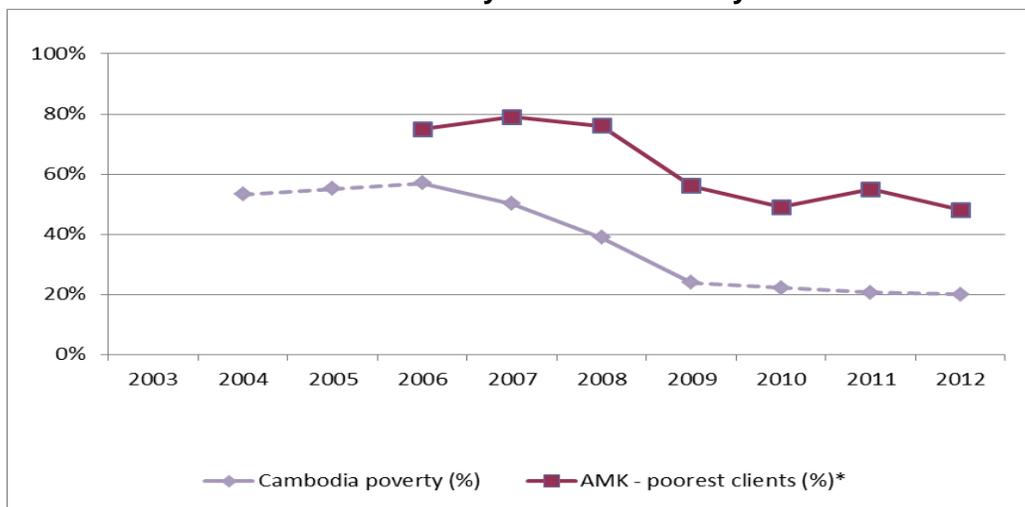
Such high levels of poverty outreach were achieved without any traditional poverty targeting at the individual client level. Instead AMK focuses its product design efforts on creating products

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[6] Cambodia poverty data is from World Bank, reported as % of people below the national poverty line. The broken lines are crude estimates for periods where there is no data reported.
"AMK - poorest clients" refers to the percentage of new group borrowers consuming less than the Rural Food Poverty Line. AMK data is not available prior to 2006.
Figures on the graph are not directly comparable but nevertheless clear trends are evident.

which serve the poorest members of society, in the belief that if products are designed appropriately, poorer clients will be attracted to them and conversely better off clients will self-select themselves out. Driving product design was a detailed understanding of client livelihoods, income flows, preferences and aspirations, underpinned by constant client research and sophisticated data analysis.

Early on in its existence, AMK realized that rural income streams in Cambodia do not follow a predictable pattern as in urban areas. Most rural income streams follow the agricultural growing seasons, which in turn follow the timing of the annual rainy season. This led AMK to focus primarily on end of term/balloon repayment loans, instead of regular installment repayment loans. Customer feedback quickly indicated that while such end of term loans were preferred over installment loans, the typical AMK clients' income stream is best described as "lumpy", with intermittent peaks and valleys over the course of a year. In such a scenario, a credit-line product, with flexible drawdown and repayment options, was the most appropriate product for many of its clients. Although considered highly risky by many microfinance advisors, AMK began offering this product in 2006 to third cycle clients. Over the next three years, as some clients graduated into the credit line product, AMK noticed that client satisfaction and client retention levels for this product were significantly higher than all other AMK products.

After several years of experience with the product, AMK realized that credit line drawdowns were greatly predictable, effectively following the agricultural cycle. And repayment rates for the credit line product were actually higher than repayment rates for the supposedly safer installment loan products.
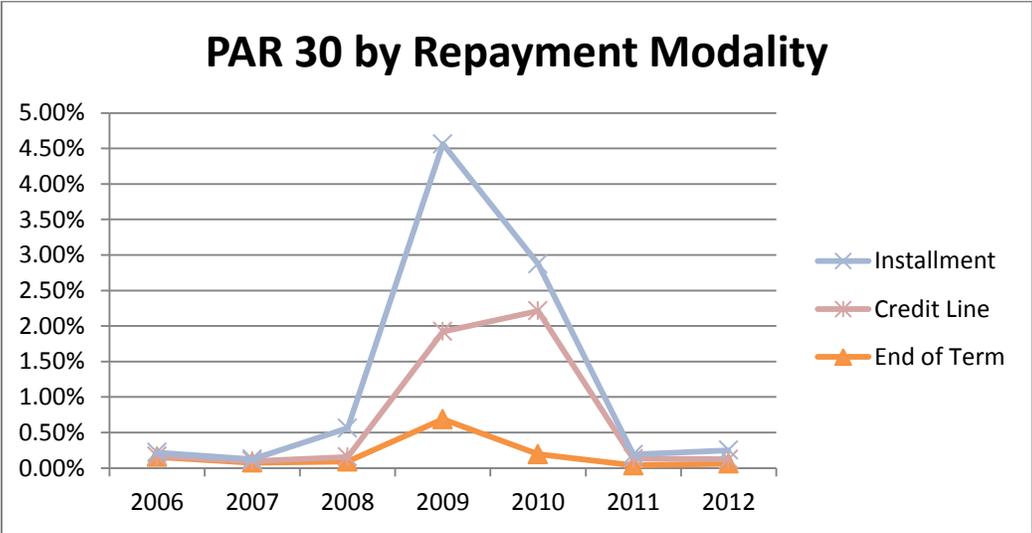
During the economic crisis of 2008 and 2009, AMK was not immune from the non-performing loan issue that challenged the entire microfinance sector in Cambodia. While clients struggled with reduced incomes, inflexible collection practices by some competitors impacted the sector's reputation. Instead of a standardized response, AMK maintained its customer-centric approach by categorizing overdue clients into distinct segments and tailoring responses that matched each segment's capacity and willingness to repay. The success of this approach can be seen in

an improvement in borrower satisfaction ratings especially during/after the period where the collection issue was being resolved.

PAR Resolution & Borrower Client Satisfaction
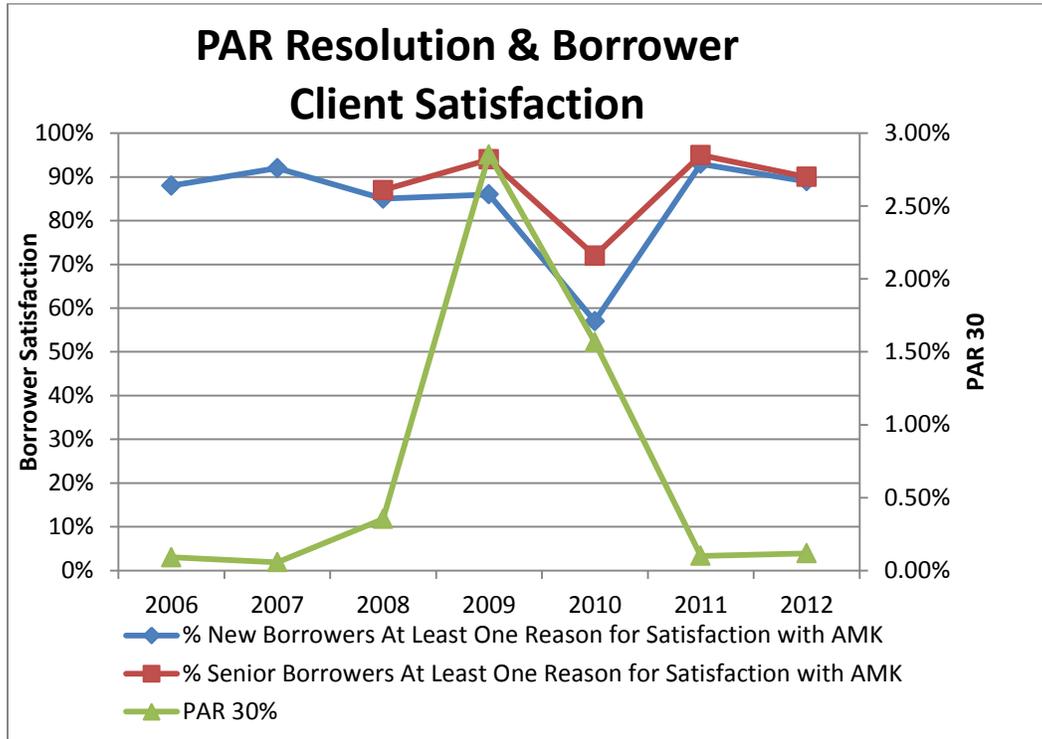
Even in fast moving emergency situations, AMK has sought to understand its clients' needs and their response preferences. Within two weeks of floods, which devastated half the country in 2011, AMK had formally surveyed flood victims and had an emergency flood response loan in place, which provided 1,631 clients with an emergency loan with very attractive terms that allowed them to replant late season rice crops. In addition, many thousands of AMK clients drew down on their credit-lines, without any additional paperwork, to address the flood challenges. Utilizing its national network, enhanced by newly installed mobile banking technology, AMK was also able to assist NGOs such as Save the Children and Concern Worldwide distribute emergency cash transfers to over 10,000 households.

Key Question - Are all these activities really helping AMK's clients?

As one of the largest MFIs in Cambodia in terms of client outreach, AMK covers over 70% of all villages in the country. Having resisted the national trend towards larger loans sizes, with an average outstanding loan size of USD 225 compared to the sector average of USD 763 (at March 31, 2013), there is little doubt that AMK has succeeded in the last decade in reaching the poor, women and other marginalized groups who historically have lacked access to mainstream financial institutions.

Overall, Cambodia's economy has shown strong positive growth throughout the period 2006 to 2012. AMK's survey results paint a picture of a rural population with increased spending power, who are focused on building assets and educating their children. Annual expenditure has increased across the board particularly on food, clothing, and footwear.

Critics however argue that, while microfinance may satisfy the unmet financial demands of the poor, the accrued gains in income and consumption may not suffice to affect poverty reduction or asset accumulation in a sustainable way. AMK has always conceded that this could be the case. Indeed it believes that if microcredit is priced or delivered inappropriately, it may have a detrimental effect on the poor. In order to ensure that AMK does not fall into this trap, the company has invested heavily in research capabilities and systems and put a long-term plan in place to ensure it has a positive impact on its clients' lives.

Good intentions, outreach, innovative product design and customer centric approach aside, the question key remains, are all these activities really helping AMK's clients?

> While reviewing the results of the change study carried out by AMK, a few factors are critical in the interpretation of the results.
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> - The study is not a comparison between microfinance and non-microfinance clients. Rather, it is a comparison between AMK loan clients and non-AMK loan clients. The comparison group contains clients of other MFIs, money lenders and people who use no microfinance or banking service. Approximately 30% of non-AMK client households surveyed had one or more loans outstanding with another lender. On average, there were four MFIs operating in the sampled villages in 2012.
> - The period under study saw significant shocks to the economy of Cambodia; global financial crisis, high inflation, serious national flooding, etc.
> - The study was not timed to capture the impact of these shocks and indeed the shocks have made the data more difficult to interpret with individual incomes largely following the macro-trends. If anything, the study data shows the resilience of both sample groups in the extent to which their conditions have improved despite these shocks.

Study Findings - Positive

Finding 1: AMK clients are generally better off than non-clients

AMK's study split each sample into relative poverty terciles, and looked at how these terciles moved over time, namely poorest, poor and less poor.   AMK clients show small gains on the relative poverty scale, with 5% moving out of the poorest and poor categories and 9% entering the less poor category over the five year period. Interestingly non-clients showed no significant movement on the relative poverty scale over the five year period.

| Poverty Grouping	Active Clients (n=111)		Non-Clients who Remain Non-Clients (n=87)	
	Wave1	Wave2 Trend	Wave1	Wave2 Trend
Poorest	41%	37%	31%	32%
Poor	37%	32%	36%	36%
Less Poor	22%	31%	33%	32%
Change (Wave 1 - Wave 2) Poorest	-5%		+1%	
Change (Wave 1 - Wave 2) Poor	-5%		0%	
Change (Wave 1 - Wave 2) Less Poor	+9%		-1%	

The survey indicates that the poorest AMK clients are the most upwardly mobile on the wellbeing scale. This 9-10% relative tercile upward movement demonstrates a faster pace of improvement for client households, during a period when the overall sample is experiencing an upward trend in absolute terms. Although AMK cannot claim causality, this is consistent with the belief that imperfections on the financial system are especially binding on the poorest and the provision of collateral free credit will be of great benefit to these people.

When the data is viewed natively, without the tercile designation, the results are consistent with 11% of the client group showing a more positive change than the non-client group.

AMK 2012 Change Study
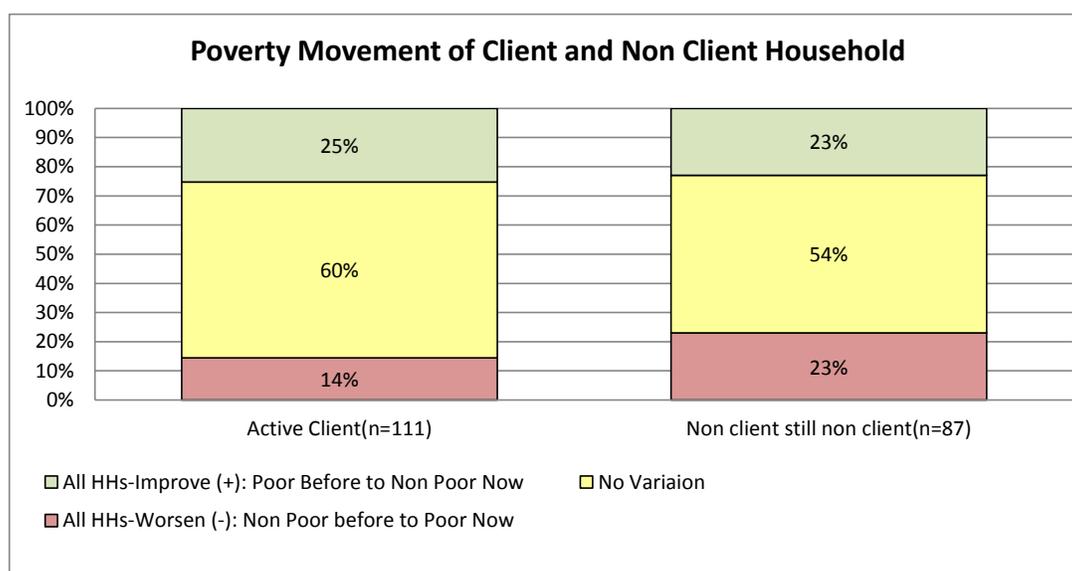
Most obviously, there is a considerable difference between the groups where conditions has worsened during the period. The client group seems to have done considerably better than the non-client group with only 14% of clients conditions worsening compared to 23% of non-clients. In fact, when comparing the dynamics in the poorest segment of the sample, the gap between the client and non-client group widens even further

On comparing the dynamics in the poorest segment of the sample, the gap between the client and non-client group widens even further, and it is difficult to explain this difference without some degree of attribution to the availability of capital within the client group.
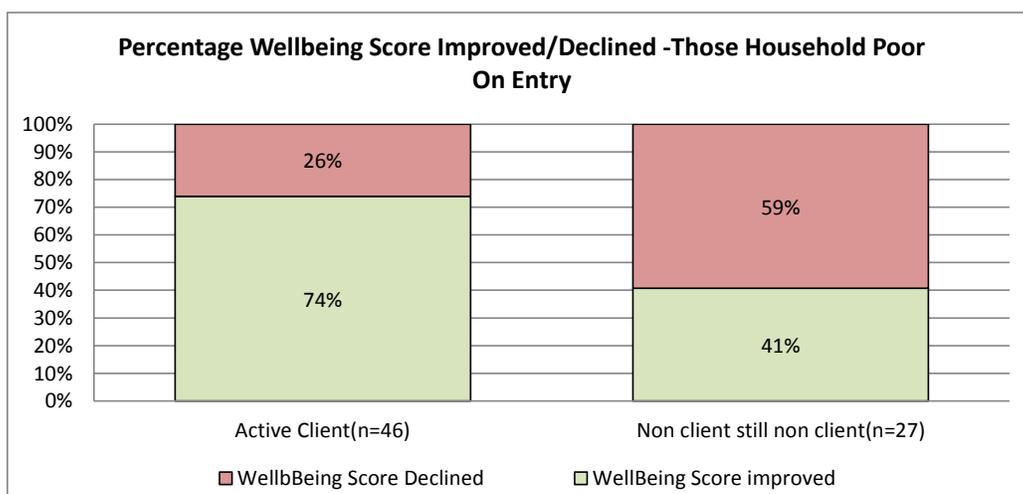
Finding 2: The main improvements to well-being are in the form of greater investment in the future (higher value assets, children's education, etc.)[7]

Significant improvements are evident in education levels, with over half of all respondents now expecting all children to complete secondary education, a significant jump from the baseline, even though a considerable increase is also seen in the non-client group. Higher numbers of children in education is consistent with a decrease in income earners per household across the entire sample.

Human Assets	Active Client(n=111)			Non-client(n=87)		
	Wave1	Wave2	Change (W2-W1)	Wave1	Wave2	Change (W2-W1)
Number of Income Earners	3.4	2.6	↓-0.8	3.5	3	↓-0.5
Education: Literacy head of HH	65%	74%	↑+9%	67%	69%	↑+2%
Education None of the children are expected to complete secondary education	17%	5%	↑-12%	17%	3%	↑-14%
Education All children expected to complete secondary education	17%	57%	↑+40%	18%	49%	↑+31%

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[7] ↑green arrows designate a proportional improvement in wellbeing over time and ↓ red arrows indicate a wellbeing decline

The greater ability of clients in affording large expenses points towards the same theme – that clients have greater stability and control over their finances. This increase in the client group is remarkable, since only 4% of clients had this ability at the beginning.

		Active Client(n=111)			Non-client(n=87)		
		Wave1	Wave2	Change (W2-W1)	Wave1	Wave2	Change (W2-W1)
☑	No difficulty affording large expenses [G9]	4%	24%	↑+20%	6%	17%	↑+11%

Overall the data indicates greater participation in the market economy and also an ability to undertake long-term investments in health, transport and communication, which should continue to yield significant livelihood dividends in the future.

Study Findings - Negative

Finding: Overall Vulnerability to Shocks, particularly Health Crisis Remain Unaddressed

Although improvements in income and consumption are very evident in the survey, we also see increased levels of vulnerability to external shocks where people are affected by climate events (both flooding and drought) and household health events.

Vulnerability & Health	Active Client(n=111)			Non-client(n=87)		
	Wave 1	Wave 2	Change (W2-W1)	Wave 1	Wave 2	Change (W2-W1)
Vulnerability: Household faced crisis/major event last year	33%	67%	↓ +34%	32%	68%	↓+36%
Health: Never borrow money or sell assets to pay for health care / medicine [G11].	48%	39%	↓-9%	66%	37%	↓-29%
Health: Often/Always borrow money or sell assets to pay for health care/medicine [G11].	13%	19%	↓+6%	6%	15%	↓+9%

These are issues which micro-credit is unable to address, but point to the widespread necessity for micro-insurance (both health and crop) in the rapidly changing Cambodian economy.

Overall Conclusion

In conclusion, it can be argued that the availability of capital does improve the chances of economic improvement in a household. Conclusive evidence of causality will never be possible for an MFI, but this study indicates a strong correlation. Even after periods of severe macro-economic crises, more households seem to have improved their condition. Therefore, while it is not possible to attribute such improvements to micro-credit alone, it is equally inconclusive to argue that access to credit did not play a role in this change.

It is heartening for AMK to note that more of its clients are now able to invest in longer-term household projects, both in terms of assets and education for their children. Both are likely to yield even higher dividends in the coming years.

In Cambodia's competitive microfinance environment, it is particularly noteworthy for AMK that its client households have outperformed non-client households, given the fact that about a third of the non-clients were actually clients of other MFIs. Therefore, the study also brings light on the particular performance of AMK loans over other competing loan providers.

Alongside these promising results, it is also worthwhile to note the less positive ones. The most crucial among these is the healthcare challenges faced by poor households especially in the context of poor health services and the unexpected nature of such expenses. Indeed, AMK micro-credit can do little to address this issue, but AMK expansion into micro-insurance is likely to address this client need.

Annex: Summary Methodology

Survey Sampling Approach: AMK began collecting detailed panel information from a representative (two-stage) sample of new borrowers and non-clients in 2006/07 (Wave 1); the same households was revisited in 2012 (Wave 2). Surveys were conducted in 45 randomly selected villages across nine provinces in Cambodia. Within each village, one non-client household was selected (systematic random walk) for every four client households. From the original 593 Wave 1 households, AMK was able to re-interview 416 households in Wave 2: 320 client households and 96 non-client households. Overall attrition rate was 30%: 29% of the client households and 32% of the non-client households. Of these 416 households: 111 households remained active clients, 52 dormant clients, 157 clients exited (137 voluntarily and 20 involuntarily), 87 non-clients remained non-clients, and 9 non-clients became AMK clients. Thus, the primary analysis of the change report focuses on the 111 active clients and the 87 non-client households that remain non-clients.

Poverty Measurement Approach: In order to understand client poverty levels, AMK estimates relative poverty using Principal Component Analysis (PCA) of key wellbeing indicators correlated with the benchmark indicator: food security. PCA is a multivariate statistical technique used to reduce the number of variables in a data set by extracting a linear combination which best describe the variables and transforming them into one index. The single index assigned to each sample household represents the household's poverty status at one point in time, which AMK calls the wellbeing score, with a lower wellbeing score indicating a poorer household. AMK applies tercile analysis to classify households into poverty groupings (defined as poorest, poor and less poor in this article). To determine the movement of the households between poverty groups, a poverty transition matrix was created. In order to answer the question of whether current clients are better-off or poorer than when they first joined AMK, the study analyzes poverty trends divided into 5 categories: Changes in Wellbeing Categories; Changes in Wellbeing Scores; Changes in Other Key Poverty Dimensions/Indicators; Self-assessment on Change; and Analysis of Poverty Levels for Exited Client Households.