



## Impacts of Micro-credit on Household Economics

**SIVCHOU TENG**

*University of Battambang, Battambang, Cambodia*

*Email: sivchouteng@yahoo.com*

**SOKHAK PRIEN**

*University of Battambang, Battambang, Cambodia*

**NARA MAO**

*Royal University of Agriculture, Phnom Penh, Cambodia*

**BUNHOR LENG**

*Royal University of Agriculture, Phnom Penh, Cambodia*

Received 17 December 2010      Accepted 25 January 2011

**Abstract** This research was conducted to investigate the impacts of micro-credit on local household economics in Prek Norin Commune by focusing on people who took a loan from microfinance institutions and continue to use it. This study mainly focuses on three objectives, socio-economic factors of households using credit, the status of using micro-credit and effects of micro-credit on household economics. Data were collected via survey, using face to face interviews with a hundred and forty two household heads. Simple random sampling method was used to select the samples from two villages (Prektachreng and Prek Krouch) in Prek Norin Commune, Ek Phnom district, Battambang province. Therefore, the accuracy of the analysis heavily relies on the data provided by interviewees. The result of this study revealed that those using micro-credit have better living standards than before because of income and asset growth. In addition, using micro-credit also creates more job opportunities and variety of economic activities, provides more jobs for women, and improves household education, women's status, and family welfare. It also reduces income inequality in the villages. However, micro-credit has negative impacts on people's feeling because most people are more concerned about paying back the loan.

**Keywords** impacts, micro-credit, economics

### INTRODUCTION

Microfinance is a development program related to the provision of financial services to people with low incomes; these services are credit, saving and insurance (Khan and Rahaman, 2007; Wanchoo, 2007 and Bakhtiari, 2006). Microfinance is recognized as the most essential tool for poverty alleviation in many developing countries (Brandsma and Chaouli, 1998; ADB, 2000; Emilia, 2005; Posner, 2007 and Shastri, 2009), and microfinance is an effective instrument that can improve on most important things for poor people such as households' welfare, education, economics, people's living standards and empowerment of women (Felix, 2007 and Singh, 2004). Even though some of the studies showed that microfinance can reduce poverty, people who used credit did not know how microfinance could help to alleviate poverty (Khan and Rahaman, 2007).

Most of the research studies showed that microfinance could provide a lot of positive results on peoples household economy such as creating more job opportunities, increasing household incomes, building up women's abilities, improving household education and family welfare; however, microfinance could also be a heavy responsibility for people too. When people used financial service, they could increase household income more easily than before, buy more household's assets, and improve their living standards. Especially the group of poor households who have used microfinance to change their daily livelihood by preparing their future plans such,

as household investment and income, building and fixing their houses, improving family welfare and education (Bakhtiari, 2006 and Felix, 2007).

In Cambodia, the number of Microfinance institutions (MFIs) has increased significantly, especially in this last decade. A number of people borrowed funds from those MFIs to set up their economic activities, but up until now there has been no research study that shows how micro-credit affects people's lives. Therefore, this study was conducted to find out the impacts of micro-credit on people's living status. According to this research objective, a hypothesis was set that micro-credit provided positive results to the people's way of living.

## **METHODOLOGY**

Quantitative research was applied, so that structured interviews were used to interview a hundred and forty two households heads by selecting them from two villages, Prek Tachreng and Prek Krouch, in Prek Norin Commune, Ek Phnom District, Battambang Province.

This study relied on two types of data; primary data and secondary data. Primary data which were collected from people through questionnaires was used as the most important data in this research. Therefore, the questionnaires were pre-tested in order to correct some difficult questions. A lot of documents such as the last research thesis, journal, and paper were used as secondary data to compare with the similar research all over the world.

The sample size was defined by using non-probability sampling method, selecting only the people who took a loan from institutions and continue to use it. Purposive sampling method was used to select the research location and the simple random sampling method was used to select household heads using credit from the list given by both village chiefs.

Data collected from interviewees was coded and entered into Ms Excel and SPSS for analysis. The data were analyzed in two ways, qualitative and quantitative data analysis. Descriptive and inferential statistics were used in data analysis, which were Time Series Regression, ANOVA, Chi-square Test, Gini Coefficient, Lorenz Curves, Graphic and Charts.

## **RESULTS AND DISCUSSION**

### **Profiles of households using micro-credit**

Interview status was focused on gender, age, marital status, education and time duration of living in this study area and the main annual income of every household using micro-credit. The results in Table 1 showed that 93 percent of families using credit were women, and only 7 percent were men. The majority of credit borrowers were over thirty years old; besides this, they were in the age group of eighteen to thirty years old. Among all borrowers, most of them did not have high education, which 17 percent never having gone to school, 59 percent studied in primary school, 23 percent studied in secondary school, and only 1 percent studied in high school.

In addition, the result showed that 23.50 percent of seventy-one households were the families having a main job as doing business, 23.50 percent selling labor, 14.70 percent feeding animals, 10.30 percent rice farmers, and 11.80 percent having other jobs. The result of this study also illustrated that 41 percent of household using micro-credit could earn incomes between 15 to 10 million riels in a year, and only 7 percent could earn incomes over 20 million riels per year from households' main jobs.

### **Income distribution during 2008-2009**

Fig. 1 indicated that household income distribution curve in 2008 moved away from the perfect equality; it means that income distribution of people in 2008 had inequality between group of people having high incomes and low incomes. Whereas, the Lorenz curve represented for income

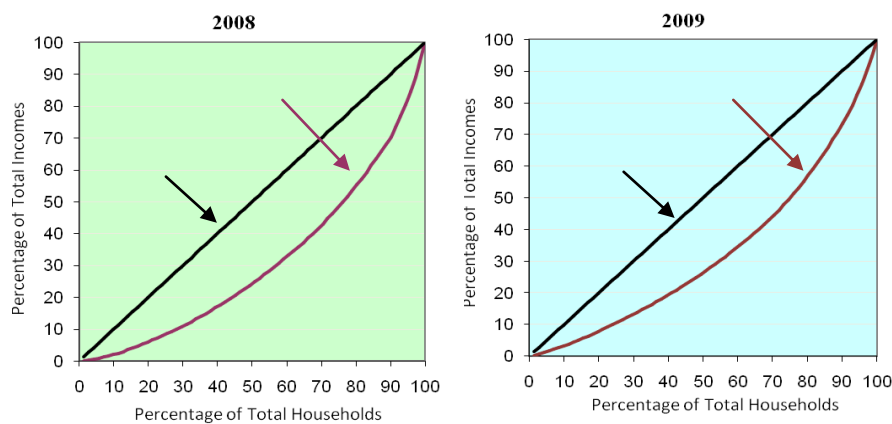
distribution in 2009 had moved toward the perfect equality line than in 2008; it showed that income inequality of each household in 2009 was in low level. Moreover, Gini coefficient of incomes in 2009 (Gini=0.3484) fell down by comparing with 2008 (Gini=0.3847). This fall also illustrated that income inequality in 2009 was better than the last year, so micro-credit could help to reduce income inequality of people living in this study area.

**Table 1 General status of interviews**

Variables	Categories	Percentage
Gender (n=71)	Male	7.00
	Female	93.00
Age	18 to 30 years old	20.00
	31 to 40 years old	21.00
	Over 40 years old	59.00
Education	Illiteracy	17.00
	Primary school	59.00
	Secondary school	23.00
	High school	1.00
	Doing Business	38.00
Main jobs in family	Farmer	28.00
	Labor selling	11.00
	Animal feeding	10.00
	Other jobs	13.00
Annual Incomes (Main jobs)	1 to 5 million riels	38.00
	5,000,001 to 10,000,000 riels	41.00
	10,000,001 to 20,000,000 riels	14.00
	Over 20,000,000 riels	7.00

### Income distribution during 2008-2009

The Fig. 1 represented that households income distribution curve in 2008 moved away from the perfect equality; it means that income distribution of people in 2008 had inequality between group of people having high incomes and low incomes. Whereas, the Lorenz curve represented for income distribution in 2009 had moved toward the perfect equality line than in 2008; it showed that income inequality of each household in 2009 was in low level. Moreover, Gini coefficient of incomes in 2009 (Gini=0.3484) fell down if comparing with 2008 (Gini=0.3847). This fall also illustrated that income inequality in 2009 was better than the last year, so micro-credit could help to reduce income inequality of people living in this study area.



**Fig. 1 Income inequality between 2008 and 2009**

### Status of using micro-credit

The Fig. 2 indicated that the total loan size of those borrowers in this area had increased from 2005 to 2009 according to the function of time series regression:  $y = 23,240,000x - 46,581,806,000$ , which  $x$  demoted the year, and  $y$  represented the total loan size in year  $x$ . The result displayed that the total loan size had grown up 23,240,000 riels per year, and this loan size had related to the year significantly (ANOVA:  $p = 0.0066^{**}$ ), which this model could be used to forecast the total loan size of sampling households to be 130,594,000 riels in 2010.

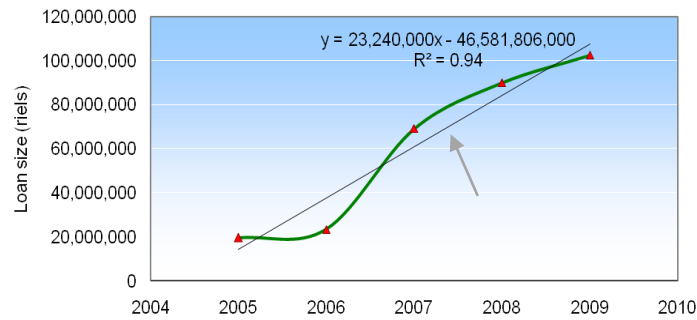


Fig. 2 Comparison of total loan size from 2005 to 2009

### Impact on household's incomes

The study on impact of micro-credit on incomes was observed by the different important types of main jobs such as doing business, agriculture, labor selling and other jobs from 2006 to 2009. It indicated that the mean of households' incomes increased consequently during this period (Fig. 3).

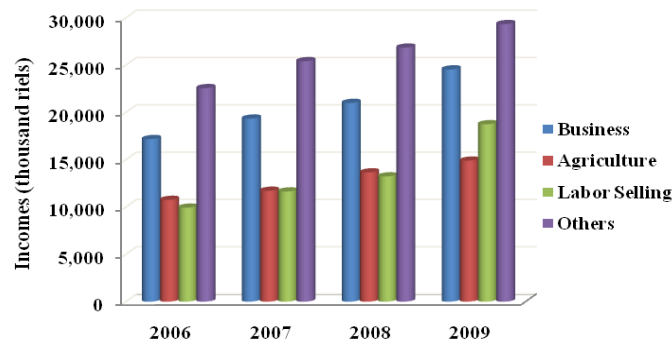


Fig. 3 Increase of income in different job sectors from 2006 to 2009

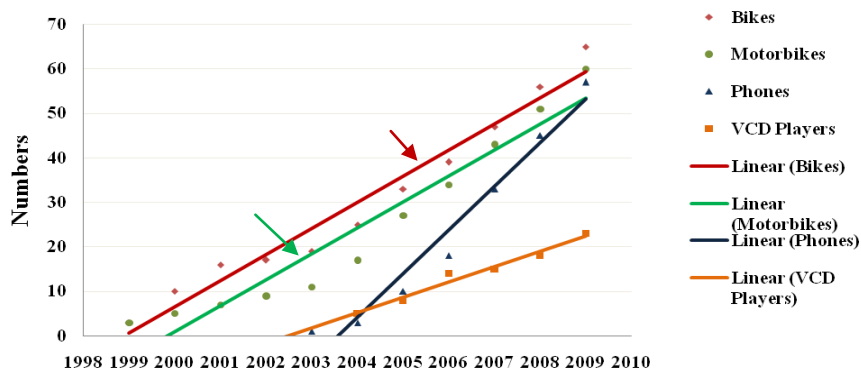


Fig. 4 Time series regression of increasing assets

### Impact on household's assets

The study on households' asset status in this area was focused only on the important assets such as TV, motorbikes, bicycles and telephones and the other assets. According to the time series regression analysis of asset growth, it showed that the amount of households' assets in this study area had increased after using micro-finance until now. Through the function of time series regression analysis on households' asset, it could be estimated that the asset growth in 2010, which TV would increase to 53, motorbikes to 60, bicycles to 65 and telephones to 63 (Fig.4).

### Impact on household's job opportunities

The result in Table 2 showed that the job opportunities had changed a lot, starting from having only one job to more jobs in each household after using micro-credit. In fact, during 2006 most of people had one job, and only a few people had two jobs in their families. However, in 2009 the majority of households had two jobs in the family, and the minority households had three jobs.

**Table 2 Comparison of job opportunities of people from 2006 to 2009**

Year	Percentage of households		
	One Job	Two Jobs	Three Jobs
2006	70	25	5
2007	56	36	8
2008	41	49	10
2009	21	62	17

### Impact on women, education and welfare

This study had shown that most of people using micro-credit were women who had right to make decision on households' problems. In addition, all of those women had a lot of job opportunities, and had been involved in income generating activities for households' living.

The result also proved that using micro-credit could empower the level of education through borrowing loans to pay children's school fees and earning incomes for sending their children to school. Surely, 72 percent of households brought up children to school and left opportunities for them to get training. Furthermore, women also had more ability to supply food and nutrition for households' daily living. Therefore, using micro-credit could not only helped to increase households' income, assets and job opportunities, but it could help to empower women to be involved in society, provide household members' educational opportunities and make family's welfare better, too.

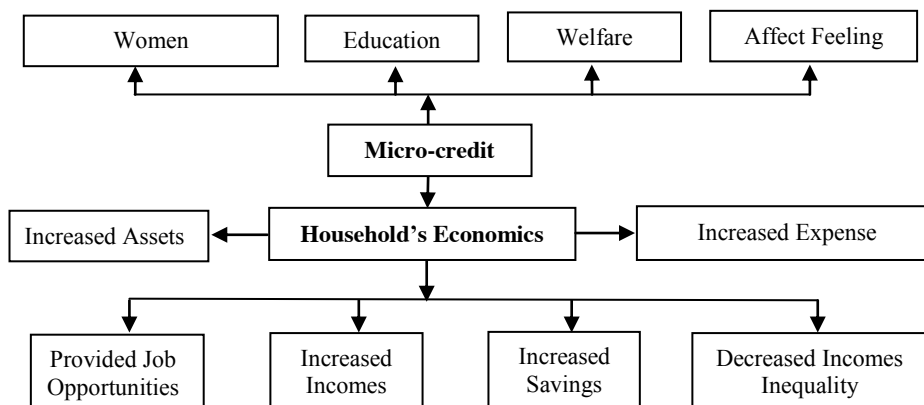
### Impact on feeling

According to the results of interviews, the interviewees had observed that 34 percent of them were concerned about repayment the loan such as, paying late and having not enough money on the due date of the capital repayment. Some households were worried about confiscation of their lands, houses and assets by microfinance institutions they borrowed from. Some of other household were concerned about getting sue by institutions when they had no abilities to pay the loan in order to receive their mortgage-able things back. Moreover, most of those people did not want to be embarrassed or loss of reputation. All the above reasons revealed some negative impacts on people's feeling using micro-credit.

According to the result of hypothesis testing through ANOVA analysis on annual incomes, the means of those household's annual incomes had increased consequently from 2006 to 2009 in the level of significant testing at 10 percent, which  $p=0.086^*$ . This result indicated that using micro-credit could help people to increase their incomes as the same as result of last researchers such as Dieckman, (2007); World Bank, (1998); Yunus, (2006); Yunus, (1999); Doocy *et al.*, (2003);

Goldberg, (2005); Ottogenghi, (2008); Shetty, (2006); Rahman *et al.*, (2009); Ghalib, (2007); Pathirange, (2005); Rajat, (2007); Hassan, (2006).

The testing on household’s assets by using time series regression model focused on only the very important assets of people using micro-credits. The result of analysis showed that the amount of televisions, motorbikes, bicycles and telephones increased strongly in statistic at  $p=0.000***<0.001$ , which means that the increase of all above assets had strong correlation with the year when those assets were bought. This revealed that after using micro-credits, household’s assets could increase, and it was the same as the findings of some last researchers such as ADB, (2007); Kaboki and Townsend, (2002); Zaman, (2000).



**Fig. 5 Summary diagram of impact of micro-credit on household’s economics**

Furthermore, the study showed that using credit could improve households’ living and other expenditure abilities such as spending on medical treatment to be healthier, and this study was the same as the result of Datar *et al.*,(2008), which indicated that microfinance had positive impacts on livelihoods and welfare when income increased. Additionally, micro-credit also helped to provide job opportunities for women, empowered women and provided educational opportunities for children, that was similar with the findings of Sayasene (2007); and Maldonado (2002).

**CONCLUSION**

According to the overall results of this study, it can be concluded that micro-credit was strongly related to the improvement of household’s economics. In addition, micro-credit had improved household’s living to be better, because it could increase household’s incomes, assets, job opportunities, the empowerment of women, education and family welfare to those people using microcredit. However, data also showed that micro-credit created some negative impact such as the stress of borrowing. Despite this, we can say that microfinance is an effective tool for poverty alleviation in Cambodia.

**ACKNOWLEDGEMENTS**

We would like to give our regards to local authorities. The Prek Norin Commune leader, Prek Tachreng village leader and Prek Krouch chiefs, who gave a lot of information and documents related to people using micro-credit in this study area. Especially, we would like to say thanks to the people using micro-credit in both villages who had spent their value time to give interviews for our study.

**REFERENCES**

ADB (2000) Finance for the poor: Microfinance development strategy. [www.adb.org/documents/policies/microfinance/financepolicy.pdf](http://www.adb.org/documents/policies/microfinance/financepolicy.pdf).

- ADB (2007) Effect of microfinance operations on poor rural households and the status of women. <http://www.adb.org/Documents/Evaluation/Management-Response/SES/MR-SES-Microfinance-perations.pdf>
- Bakhtiari, S. (2006) Microfinance and poverty reduction: Some international evidence. (IBER), 1-5.
- Brandsma, J. and Chaouli, R. (1998) Making microfinance work in the Middle East and North Africa. <http://Worldbank.org/document/research/library>.
- Datar, M.S., Epstein, M.J. and Yuthas, K. (2008) In microfinance, clients must come first. Stanford social innovation review. Leland Stanford Jr. University.
- Dieckmann, R. (2007) Microfinance: An emerging investment to opportunity. Deutsche bank research. Uniting social investment and financial returns, Germany. [http://www.dbresearch.com/PROD/DBR\\_Internet\\_EN-PROD/PROD000000000269174.pdf](http://www.dbresearch.com/PROD/DBR_Internet_EN-PROD/PROD000000000269174.pdf).
- Doocy, S., Norell, D., Teffera, S. and Burnham, G. (2003) Outcomes of an Ethiopian microfinance program and management actions to improve services. *Journal of Microfinance*, 1-7, 84-87.
- Emilia, L. (2005) Fighting poverty with microfinance: The democratisation of finance–future directions for microfinance: *Utsikt motutveckling* 25, Uppsala Universitet, 16.
- Felix, O.O. (2007) Social and economic impact of Fondo Minga microcredit program. Master thesis, Universidad Austral de Chile, Chile.
- Ghalib, A.K. (2007) Measuring the impact of microfinance intervention, A conceptual framework of social impactaAssessment. The Singapore economic review conference, 1-2.
- Goldberg, N. (2005) Measuring the impact of microfinance, Taking stock of what we know. Grameen foundation USA publication series. <http://www.gfusa.org>.
- Hassan, M. (2006) Institutional transformation of poverty-focused microfinance institutes in Bangladesh, Nepal and Malaysia. *Universiti Sains Malaysia*, 2-15, Malaysia.
- Kaboski, J.P. and Townsend, R.M. (2005) Policies and impact, An analysis of village-level microfinance institutions. *Journal of European Economic Association*, 3-1, Thailand.
- Khan, M.A. and Rahaman, M.A. (2007) Impact of microfinance on living standards, empowerment and poverty alleviation of poor, A case study on microfinance in the Chittagong district of Bangladesh. Umea School of Business, Department of Business Administration, Sweden.
- Maldonado, J.H. (2002) The influence of microfinance on human capital formation: Evidence from Bolivia. The Ohio State University, USA.
- Ottolenghi, D. (2008) The economic and impact of microfinance: Options for the mediterranean. 4th FEMIP conference. [www.eib.org/attachments/general/.pdf](http://www.eib.org/attachments/general/.pdf).
- Pathirana, T.D. (2005) Role of micro-finance in improving living conditions - A case study of Samurdhi bank societies in SriLanka. Graduate school of regional development studies, Sri Lanka.
- Posner, A.V. (2007) Green microfinance, A blueprint for advancing social equality and environmental sustainability in the United States. Master thesis, Brown University, USA.
- Rahman, S., Rafiq, R.B. and Momen, M.A. (2009) Impact of micro-credit programs on higher income borrowers: Evidence from Bangladesh. *Int'l. Business & Economics Research Journal (IBER)*, 119-123.
- Rajat, W. (2007) Micro-finance in India: The changing face of microcredit schemes. MPRA paper, India.
- Sayasene, C. (2007) Assessing credit needs of the rural poor in Lao PDR: A case study of two villages in Thakhek district. Master research, School of Environment. ARCMDG Publication.
- Shastri, R.K. (2009) Micro finance and poverty reduction in India (a comparative study with Asian countries). *African Journal of Business Management*, 3-4. <http://www.academicjournals.org/ajbm/abstracts/abstracts/abstracts2009/April/Shastri.html>.
- Shetty, N.K. (2006) The microfinance promise in financial inclusion and welfare of the poor: Evidence from India. Research scholar centre for economic studies and policy institute for social and economic change, India, 1-10.
- Singh, S.K. (2004) Microfinance and empowerment of scheduled caste women, An impact study of SHGs in Uttar Pradesh and Uttaranchal. BL centre for development research and action, India.
- Wanchoo, R. (2007) Microfinance in India: The changing face of micro-credit schemes. UNSPE CIFIED, 2.
- World Bank (1998) Using microcredit to advance women. PREM (poverty reduction and economic management) notes. <http://www.worldbank.org/documents/research>.
- Yunus, M. (1999) Banker to the poor, Micro-lending and the battle against world poverty. Public affairs, USA. [http://nobelprize.org/nobel\\_prizes/peace/yunus-lecture-en.html](http://nobelprize.org/nobel_prizes/peace/yunus-lecture-en.html).
- Yunus, M. (2006) Nobel lecture. Norway. [http://nobelprize.org/nobel\\_prizes/peace/yunus-lecture-en.html](http://nobelprize.org/nobel_prizes/peace/yunus-lecture-en.html).
- Zaman, H. (2000) Assessing the poverty and vulnerability impact of micro-credit in Bangladesh: A case study of BRAC. Office of the chief economist and senior vice-president (DECVP), World Bank. <http://www.worldbank.org/library/poverty>.