

**EFFECTIVENESS OF MICRO-CREDIT FOR POVERTY ALLEVIATION
UNDER AGRICULTURAL INTENSIFICATION PROJECTS IN
BANGLADESH**

KAZI TANVIR MAHMUD

**DOCTOR OF PHILOSOPHY
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By

KAZI TANVIR MAHMUD

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfilment of the Requirement for the Degree of Doctor of Philosophy**

October 2006

Dedicated

To

**My Beloved Father and Mother,
My Beloved Wife Tithy,
My Two Aunties Misty and Mony,
All the Poor People in Bangladesh.**

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

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Chairman : Associate Professor Zainal Abidin Mohamed , PhD

Faculty : Agriculture

The rural poor generally have low income to sustain their livelihood. They do not have the capacity to start any income generating activities due to lack of financial capital. They also have very limited access to the formal financial institutions because of the inability to fulfill the collateral requirements. Thus, in order to widen the rural poor's access to finance, microcredit programs have been launched which require no collateral to obtain loans. The major goal of the microcredit program is to provide financial capital to the rural poor in order to engage them in income generating activities for alleviating their poverty. The main objective of this study is to assess the effectiveness of microcredit program in alleviating poverty among rural borrowers in Bangladesh.

Primary data were collected from three local Non-Governmental Organizations (NGOs) and a government agricultural project. Eight hundred borrowers were

selected through simple random sampling technique. Data were collected from those borrowers who took loan for the first time in 2003 and were involved in agricultural activities.

A conditional demand equation on household income, household expenditure and borrower's saving was estimated using the Weighted Two Stage Least Square (WTLS) technique. Logit model was used to examine whether the microcredit program benefited the borrowers.

Household income was found to increase significantly due to the influence of loaned money. The study results also showed that the amount of credit taken by the borrowers had positive influence on the households' food expenditure and borrower's saving. Nevertheless, microcredit was found to have no influence on the households' total expenditure due to the fact that the majority of the borrowers were poor and they could not even fulfill their basic needs like food. Thus, they had to spend more on food items as compared to other non-food items.

Results of the logit analysis revealed that six variables had significant and positive influence on the binary dependent variable 'Borrower well-being'. The significant variables were educational level, per day time spending on income generating activities by the family members, number of training received, expenditure on health care and share of food expenditure to total expenditure and mobility of the borrowers. Increase level of these six variables would provide higher probability for improving their well-being.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doctor Falsafah

**KEBERKESANAN MIKRO-KREDIT DALAM PEMBASMIAN
KEMISKINAN DIBAWAH PROJEK INTENSIFIKASI PERTANIAN DI
BANGLADESH**

Oleh

KAZI TANVIR MAHMUD

Oktober 2006

Pengerusi : Profesor Madya Zainal Abidin Mohamed , PhD

Fakulti : Pertanian

Penduduk Luar Bandar pada amnya berpendapatan rendah dalam meneruskan kehidupan mereka. Mereka tiada keupayaan untuk memulakan sebarang aktiviti yang menambahkan pendapatan kerana ketiadaan modal kewangan. Mereka juga terhad dalam pencapaian kepada institusi kewangan formal kerana ketidakupayaan memenuhi keperluan cagaran bank. Oleh kerana itu, program pinjaman mikrocredit yang tidak memerlukan cagaran telah dilancarkan demi meluaskan peluang penduduk luar bandar ini mendapatkan modal. Tujuan utama program mikrocredit ialah menyediakan modal untuk mereka menjalankan aktiviti menambahkan pendapatan supaya tahap kemiskinan mereka dapat dikurangkan. Objektif utama kajian ini ialah untuk mengkaji keberkesanan program mikrocredit dalam pembasmian kemiskinan di antara peminjam luar bandar di Bangladesh.

Data primer dipungut dari tiga badan bukan kerajaan (NGO) dan dari projek pertanian kerajaan. Untuk kajian ini, 800 peminjam dipilih dari empat daerah tersebut melalui kaedah persampelan rawak berstrata. Data dipungut dari peminjam yang mengambil pinjaman untuk pertama kali dalam 2003 dan terlibat dalam aktiviti pertanian.

Kajian ini menganggar persamaan permintaan kondisional yang bergantung kepada beberapa keadaan seperti pendapatan isirumah, perbelanjaan isirumah dan simpanan peminjam dengan menggunakan teknik ‘ Dua Tahap Wajaran Kuasa Dua Terkecil (Weighted Two Stage Least Square). Model logit digunakan untuk menilai sama ada program mikro Kredit memberi faedah atau sebaliknya kepada peminjam.

Kajian ini mendapati pendapatan isirumah meningkat hasil dari pinjaman yang diberikan. Keputusan kajian menunjukkan jumlah kredit yang diperolehi oleh peminjam secara positifnya mempengaruhi perbelanjaan makanan oleh isirumah dan simpanan peminjam. Tetapi, mikro Kredit didapati tidak mempengaruhi perbelanjaan keseluruhan isirumah disebabkan oleh kebanyakan peminjam terlalu miskin dan mereka masih lagi tidak dapat memenuhi keperluan asas seperti makanan. Oleh itu mereka terpaksa, mereka membelanjakan lebih terhadap barangan makanan berbanding dengan barangan bukan makanan.

Keputusan dari analisis logit menunjukkan bahawa terdapat enam pemboleh ubah yang signifikan dan berhubung secara positif terhadap pemboleh ubah bersandar binary ‘ taraf-hidup peminjam’. Pemboleh ubah yang signifikan adalah tahap pendidikan, pendapatan sehari, bilangan latihan yang diterima, perbelanjaan untuk

kesihatan dan perbelanjaan makanan dari perbelanjaan keseluruhan dan juga mobiliti peminjam. Peningkatan tahap enam pembolehubah ini akan menyebabkan peningkatan kebarangkalian dalam peningkatan taraf hidup.

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Finally, my sincere appreciation goes to my wife Tithy, my sister Juni, my brother in law Mithu for their constant encouragement to complete this research work.

I certify that an Examination Committee met on 17th October, 2006 to conduct the final examination of Kazi Tanvir Mahmud on his Doctor of Philosophy thesis entitled “Effectiveness of Micro-credit For Poverty Alleviation Under Agricultural Intensification Projects in Bangladesh” in accordance with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree) Regulations 1981. The Committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

Mohd. Ghazali Mohayidin, PhD

Professor
Faculty of Agriculture
Universiti Putra Malaysia
(Chairman)

Md. Ariff Hussein, PhD

Professor
Faculty of Agriculture
Universiti Putra Malaysia
(Internal Examiner)

Norsida Man, PhD

Lecturer
Faculty of Agriculture
Universiti Putra Malaysia
(Internal Examiner)

Pazim @ Fadzim Othman, PhD

Professor
Faculty of Economics and Administration
Universiti Putra Malaysia
(External Examiner)

HASANAH MOHD.GHAZALI, PhD

Professor/Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date:

This thesis submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee are as follows:

Zainal Abidin Mohmed, PhD

Associate Professor
Faculty of Agriculture
Universiti Putra Malaysia
(Chairman)

Mad Nasir Shamsudin, PhD

Professor
Faculty of Agriculture
Universiti Putra Malaysia
(Member)

Mohd. Mansor Ismail , PhD

Associate Professor
Faculty of Agriculture
Universiti Putra Malaysia
(Member)

AINI IDERIS, PhD

Professor/Dean
School of Graduate Studies
Universiti Putra Malaysia

Date:16-01-2007

DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations, which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UPM or other institutions.

KAZI TANVIR MAHMUD

Date: 30-11-2006

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LIST OF ABBREVIATIONS

ADBP	Agricultural Development Bank of Pakistan
ADIP	Agricultural Diversification and Intensification Project
ASA	Association for Social Advancement
BKB	Bangladesh Krishi Bank
BRAC	Bangladesh Rural Advancement Committee
BRDB	Bangladesh Rural Development Board
BSB	Bangladesh Shilpa Bank
BSRS	Bangladesh Shilpa Rin Sangstha
CARD	Center for Agriculture and Rural Development
CDD	Center for Diarrhoeal Disease
DAE	Department of Agricultural Extension
ELES	Extended Linear Expenditure System
EPI	Extended Program of Immunization
GB	Grameen Bank
GOB	Government of Bangladesh
IGAs	Income Generating Activities
IGVGD	Income Generating and Vulnerable Group Development
ILS	Indirect Least Square
IRDP	Integrated Rural Development Programme

LDCs	Least Developing Countries
LFS	Labor Force Survey
LP	Linear Programming
MFI	Microfinance Institutions
NABARD	National Bank for Agriculture and Rural Development
NAEP	New Agricultural Extension Policy
NCBs	Nationalized Commercial Banks
NGOs	Non-Governmental Organizations
OLS	Ordinary Least Square
PEM	Protein-Energy–Malnutrition
PKSF	Palli Karma Sahayak Foundation
PMUK	Padakhep Manobik Unnayan Kendra
RAKUB	Rajshahi Krishi Unnayan Bank
RDRS	Rangpur, Dinajpur Rural Service
RNFG	Rural Non-Farm Growth
SAIP	Smallholder Agricultural Improvement Project
SCIs	Small-scale Cottage Industries
SDF	Social Development Foundation
SHGs	Self Help Groups
SUR	Seemingly Unrelated Regression

3-SLS	Three Stage Least Square
TSLs	Two Stage Least Square
UNMDG	UN Millennium Development Goal
USA	United States of America
VWU	Vietnam Women's Union
WLS	Weighted Least Square
WTSLs	Weighted Two Stage Least Square