ROLE OF MICRO CREDIT IN FUEL WOOD CONSERVATION & LIVING STANDARD: A CASE STUDY OF CHITRAL GOL NATIONAL PARK CHITRAL, KPK (PAKISTAN)

Bilal Ahmad

47-SE/MS (MRD)-F09

Thesis submitted in partial fulfillment of the requirements for the Master of Science in Rural Development

Supervisor:

Dr. Atiq- ur- Rehman

INTERNATIONAL INSTITUTE OF ISLAMIC ECONOMICS

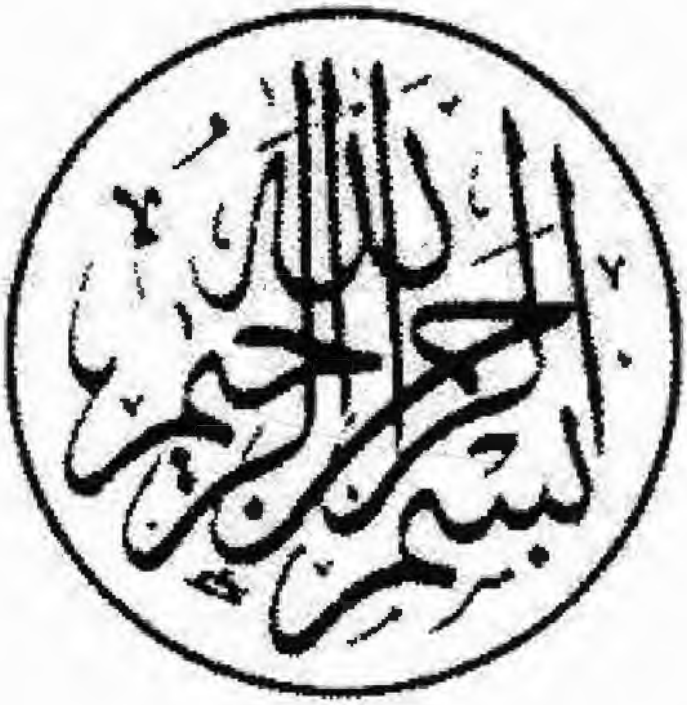
INTERNATIONAL ISLAMIC UNIVERSITY ISLAMABAD

Islamabad, February 2015

Loans

Microfinance.

Banks and banking – Loan.


بسم الله الرحمن الرحيم

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Bilal Ahmad

APPROVAL SHEET

ROLE OF MICRO CREDIT IN FUEL WOOD CONSERVATION AND LIVING STANDARDS
(A CASE STUDY OF CHITRAL GOL NATIONAL PARK KPK (PAKISTAN)

By
Bilal Ahmad
Reg. No: 47-SE/MS (RD)-F09

Accepted by International Institute of Islamic Economics, International Islamic University, Islamabad, as partial fulfillment of the requirement for the award of degree

Of

MASTER OF SCIENCE IN RURAL DEVELOPMENT

External Examiner:

Dr. Mehboob Ahmad
(Professor SZABIST)

Internal Examiner:

Dr. Faiz Ur Rahim
(Assistant Professor IIIE)

Supervisor:

Dr. Atiq -ur -Rehman
(Assistant Professor PIDE)

Dr. Arshad Ali Bhatti
(Head SOE)

Dr. Hafiz Muhammad Yasin
(Director General)

International Institute of Islamic Economics
International Islamic University, Islamabad

Acknowledgement

In the name of Allah (SWT), the Most Gracious and the Most Merciful. Peace and blessing of Allah (SWT) on his last Prophet Muhammad (SAW) who taught humanity to the human beings and guide them to the right path. Allah (SWT) gave me this precious opportunity with courage and patience to carry out this research work.

First and foremost I would like to thank my supervisor Dr. Atiq-ur-Rehman. He guided and always encouraged me during the whole process. This research would have not been possible without his patronage.

I am extremely grateful to Dr. Hafiz Muhammad Yasin, Director General, and Dr Arshad Ali Bhatti, HOD, International Institute of Islamic Economics, for providing us a research environment.

I am extremely thankful to my parents who sacrificed a lot for my studies. They had a dream which came true with the completion of this work. My brothers and sisters who supported and prayed for my success. My wife Shabnam Sahar who suffered a lot as I was unable to took her with me to Islamabad due to financial constraints.

I am very thankful to my fellows in International Islamic university Islamabad. I thank Mr. Abu Baker, FazalKhalique, Anees, Ijaz, Ihtisham and Sharif Nawaz for their hospitality and encouragement during the entire phase. My class fellows Muzakkir Shah, Tajir Hussain and Abid Hussain for their healthy discussions on different topics.

In the last I am very thankful for the cooperation of IIIE staff, especially Syed Niaz Ali Shah and Abdul Rehman.

DEDICATION

THIS RESEARCH WORK IS DEDICATED

T0

MY LATE GRAND MOTHER

WHO HAD GREAT PASSION FOR EDUCATION

ABSTRACT

This study analyzed the role of micro credit on fuel wood conservation and improving household living standard in the surrounding communities of Chitral Gol National Park. For this purpose 13 villages were selected and 286 respondents were interviewed, in which 143 were taken from recipients of micro credit households and 143 from non-recipient households through random sampling. Various statistical techniques including least square and multi nominal logit model was used for analysis. Empirical analysis of our study indicates that micro credit has a positive impact on fuel wood conservation and living standard. Loan recipient households have comparatively better standard of education, housing type and health. The consumption pattern of loan recipient households is also better than the non-recipient households. However the study reveals that there is very little contribution of female in the micro credit program. Also many loan takers have not invested the micro credit loan in any business activity and utilized it for meeting various household needs.

ACRONYMS

CGNP	Chitral Gol National Park
KPK	Khyber Pakhtunkhwa
FBS	Federal Bureau of Statistics (Pakistan)
FAO	Food and Agriculture organization
NGO	Non-Government Organization
UC	Union Council
%	Percent
SPSS	Statistical Package for the Social Sciences

Contents

CHAPTER 1

INTRODUCTION

1.1 Conservation and local livelihoods

Protected area is an area set aside principally for the purpose of conservation (IUCN)[1]. There are different types of protected areas like national park, wildlife sanctuary, and game reserves etc. which differ from each other in protection and governance limits. Protected areas have been vital in conserving the natural resources in the developed world. These play a pivotal role in conservation of forests which leads to environmental conservation. However in the developing world protected areas have failed to achieve the desired results like the developed world. These being the corner stone of conservation have been established to minimize the human intervention for the sustainable usage of natural resources. National parks are one of the types of protected areas where there is strict restrictions on any kind of intervention in the designated area. National parks are designated to protect the biodiversity of the area having significant environmental importance

Protected areas though play a significant role in conservation but deprive the local population from vital livelihood sources. The intervention of government for conservation by restricting community access to resources has led to a great conflict (Raees 2012). There has been an uneasy alliance between conservation and local livelihoods. The global environmentalists have been trying to introduce such policies which prevent communities from losing their livelihood sources in the way of conservation. One option has been the provision of micro credit.

[1] International Union for Conservation of Nature. IUCN is an international organization working in the field of nature conservation and sustainable use of natural resources.

In many developing countries, micro credit has been utilized as compensation for the local community residing near a protected area like Ghana, Pakistan and Madagascar (Tajuddin 2012). Global environment facility of World Bank launched a micro credit scheme of 2.5 million dollars in Ghana in 2004 for people living near 30 forest areas. The main aim of micro credit program in the protected areas is promotion of alternative livelihood to the community. Since the economic Empowerment of community should lead automatically to conservation.

1.2 Background of the Study

Micro credit has been an important financial tool used to alleviate poverty and empower the communities in different countries. However its role in conservation has been neglected by researchers and policy makers. In Pakistan forest land has been shrinking with rapid deforestation and if it continues with such speed it will lead to a disastrous situation in the near future. 2.52 percent of the land area of Pakistan was covered by forest in 2004 declined to 2.13 in 2010[1]. Development expert assert that 25 % of the land area of a country should be covered by the forest. The forest cover is shrinking because of heavy dependence on forest fuel and livelihood. The fuel wood consumption is higher in the rural areas where no other cheap source of fuel is available to the consumers. In most of the rural areas of Pakistan there is no access to gas where people completely depend on either the forest or not forest (wild lands & farmlands) for fuel wood. In Pakistan 61% of the rural household collect fuel wood from different sources (FAO)[2] . By providing micro credit to the forest dependent population to adopt alternate livelihood or fuel may be helpful in the efforts for conservation. Therefore in regions micro credit has been provided to communities living around the forest

Micro credit scheme has been one of the vital tools used by governmental and nongovernmental organizations to alleviate poverty. Micro credit is meant to provide loan for employment and income generating activities (Saleemuddin 2011).

[1] .www.tradingeconomics.com

[2] Food and agriculture organization is an agency of United Nations.

Micro credit plays an important role in creating livelihood options (Yeasmin 2012). The micro credit program in the surrounding of the protected area can be highly beneficial if implemented in a proper way. The objective should be to enable the poor people manage earning their livelihood through alternative sources of income and reduce their dependence on natural resources as far as possible. We aim to analyze the impact of micro credit on fuel wood conservation and living standard so that it could produce lesson other protected areas.

1.3 Micro credit Program in Chitral Gol National Park

Chitral is the biggest district of Khyber Pakhtunkhwa having 20% of the land mass of the province situated in the North of Pakistan. It has great attraction for tourists due to Unique Kalash culture and natural beauty. Chitral Gol National Park is situated in Town Chitral and its core zone has boundaries with eleven villages of Chitral town. It has got significance due to the presence of Pakistan National animal (*Markhor*) national bird (*Chakur*), national tree (Deodar) and national flower (*jasmine*). Chitral Gol forest has been a valuable source of livelihood for the local population. People have been collecting fuel wood, timber wood and rearing their cattle.

To protect the rich biodiversity, the Chitral Gol forest was designated as National park in 1984. At the beginning the watch and ward system was not that much strict and effective community intervention could not be stopped altogether as the community was using the resources since immemorial times. Secondly no measures were taken to compensate the local community until 2006 when Global environment facility awarded a micro credit program through the support of World Bank for the community. The program was launched in thirteen villages focusing on livelihood diversification to reduce pressure on Chitral Gol National Park. Micro credit program is still going under the patronage of Chitral Gol National Park wildlife division.

Since the initiation of micro credit program, great development in the conservation

of biodiversity has been observed. The Markhor population which was over 7 hundred at the start of program has almost doubled in six years same is the case with population of Chakur present.

Table 1.2 : Yearly population of Markhor& Chakur in Chitral Gol National Park

Year	Chakur	Markhor
2006	109	753
2007	240	759
2008	252	1033
2009	249	1146
2010	379	1072
2011	384	1160
2012	346	1364

Source: Annual survey report of Chitral Gol National park wildlife division Chitral

Although micro credit is a single major initiative of the government to compensate the local people its ways of implementation and resulting benefits to the community are not yet explored. The micro credit program was launched in 2006 and since then it has a noticeably positive impact on conservation. It has played a pivotal role in raising the living standard of the community. The communities have shown a great interest in the micro credit program and have been applying for loans since its inception. But since the initiation of the Micro credit program its different impacts have not been investigated.

1.4 Study Significance

This is the first empirical study in Pakistan to assess the impact of micro credit on fuel wood conservation and living standards of the communities living around a protected area. The previous studies in other countries have evaluated the micro credit impact in protected areas like Hooper (2005) and Tajuddin (2012). The study will hopefully provide meaningful policy implications for the management of protected areas nationally and internationally so far as efficient utilization of Micro credit as a source of conservation and living standard is concerned.

1.5 Research Objectives

The purpose of this study is to assess the role of micro credit on conservation and living standards in the communities living around Chitral Gol National Park.

The specific objectives are:

- To assess the role of micro credit on fuel wood collection.
- To assess the role of micro credit on assets ownership and consumption of durable goods pattern.
- To assess the role micro credit on household's health care education and fuel used.
- Recommend policy tools to micro credit program for efficient utilization as a source of conservation and living standard.

1.6 Organization of the Study

After the introduction, the rest of this study is divided into 5 chapters. In chapter 2 relevant literatures on micro credit role in conservation and living standard has been incorporated. Chapter 3 explains research methodology and econometric model. Data analysis is shown in chapter 4, Chapter 5 discusses the empirical results while conclusion and policy recommendations have been given in chapter 6. References are present at the end of the study.

The study area is native land of the researcher due to which it was easy to reach the sampled household's. However the roads of two villages in the buffer zone of Chitral Gol National Park (Shekhandeh Rumboor & Brun-Rumboor) were blocked due to flood in the survey time due to which survey became late. The list of loan recipients was taken from Chitral Gol National Park wildlife division office.

CHAPTER 2

LITERATURE REVIEW

Literature regarding the impact of micro credit on conservation is very limited however a bulk of literature is present on the impact of micro credit on different living standards. Literature review portion is divided into two parts. The first part discusses the work of researchers on conservation and the second part consists of past work on living standard.

2.1 Relationship of Micro Credit and Conservation

Various researchers have contributed in assessing the role of micro credit on conservation and most have been descriptive studies. The following descriptive studies have been carried out in different countries.

In Thailand Hooper (2005) studied the environmental protection society micro credit program. The society provided loans on the term with the community that they will not poach or log illegally. The results showed that reduction of 75% poaching and illegal activities has occurred in the Khaoyi National Park and the community which was previously poorly indebted got rid of the debts. Similar study was carried out by Vincent (2012) in North east India the study supports that micro credit program plays significant role in conservation in addition to better socio economic conditions.

In India Shristi (2012) assessed the impact of ATREE project micro credit program on average daily consumption of fuel wood and annual income of the local community. The results showed that the annual income of the local population has increased at 21 % and the average daily consumption of fuel wood decreased from 1440 to 160 KG.

In Nigeria Tajuddin (2012) investigated the impacts of Global environment facility project in Kainji Lake National park having the components of alternate livelihood and environmental protection. He found that local communities are satisfied with the GEF strategies and a great deal of shrink has occurred in the illegal activities in the National park.

In Bangladesh Jahangir (2008) examined the impact of participation in the social forestry program in Bangladesh on household forest conservation and environmental literacy of participating households using multivariate regression analysis. He found that participation in micro credit considerably enhances the awareness of households about the household forest conservation. It also increased the environmental literacy of participating household.

Brock (2013) studied the impact of micro credit on alternative livelihood sources in Indonesia and found that the microcredit program has been unable to control fishing in the island areas. Similar study was carried out by Emmanuel (2012) in Tanzania and found that micro credit program has contributed towards biodiversity conservation and improved livelihoods.

All of the above studies support a positive relation between micro credit and conservation initiatives. The provision of Micro credit has played a significant role in conservation of natural resources in these areas. However in Pakistan the impacts of micro credit on conservation efforts has not been carried out.

2.2 Relationship of Micro credit and Household Living Standard

Panjaitan et al (1999) conducted a research on micro credit initiatives, gender and self-employment in Indonesia. The research revealed that micro credit increases women participation in decision making, lessens fertility, improves household food intake and raises ambition for children's education. Similarly Bhuiyan (2013) studied the impact of micro credit on the borrower's literacy of children and empowerment. He found a

significant increase in the literacy of borrower's children and empowerment. Similarly

Mahindra (2005) studied the impact of micro credit on the health of poor women. The study found that Micro credit improved the health conditions of poor women and engaged them in productive activities.

Tilakaratna (2006) studied the impact of micro credit on household welfare characteristics. The finding reveled that micro credit impact on the asset building housing and income of higher and middle income people was significant while it was almost non-significant in case of poor people. Similarly Schroeder (2009) in Bangladesh estimated the impact of micro credit on household consumption. He found a positive and significant effect on per capita household consumption.

Jamal et al (2006) studied the impact of micro credit on the income of farmers and their wheat production in the barren areas of Khyber Pakhtunkhwa. The study revealed that 23% increase in wheat yield had occurred in addition to increase of 24% on the income of farmers.

Yeasmin (2012) studied the role of micro credit in livelihood creation and women empowerment in Bangladesh and found that the creation of more livelihood options reduces the vulnerability of the rural communities. While she found that the role of micro credit program on environmental sustainability haven't been assessed then.

Similar study by Al-Hasan in Ghana found that micro credit helped to improve the income generating capacity of women. In Pakistan the impact of micro credit on income generating activities was conducted by Mansoor (2010) in District Kotli and found that 33 % increase has occurred on the income of loan recipients. Chawan (2002) asserted less impact of micro credit on employment and income creation of the rural poor.

Abdullah (2011) examined the effect of micro credit on the employment in Peninsular Malaysia. The findings revealed that micro credit program increased income generating opportunities at household and community level. Similarly Kennedy (2010) studied the impact of micro credit in eliminating economic hardships of woman in Srilanka. The study revealed that a strong positive relationship exist between micro credit program and elimination of economic hardships of woman. Similarly in Punjab Pakistan. Waheed (2009) analyzed a significant impact of micro credit on income.

Chowdhury (2012) conducted a study to compare the efficiency of different micro finance projects launched by governmental and Nongovernmental organizations in improving the wellbeing of rural farmers in Bangladesh. The study revealed that non-governmental organizations were positively affecting the social aspects of well-being whereas government organizations were more efficient in improving the economic aspects of the rural farmers.

The results of the study also showed that government organization were performing better in improving the living standards of the poor as compared to the performance of non-governmental organizations which oppose the present literature of poverty reduction programs in developing countries.

Alam et all (2014) studied the impact of micro credit on the socio economic status of farmers in Pakistan. He found a positive impact on the socio economic conditions of farmers after getting loan. In a similar study Sivchouteng et all (2011) found a positive impact of micro credit on the living standards of loan takers from micro credit program in Cambodia.

CHAPTER 3

Overview of Study Area and Micro Credit Interventions

3.1 Study Area

The district Chitral lies to the extreme north of Khyber Pakhtunkhwa, Pakistan between 35° 12' – 36° 50' N Latitude and 71o 2' – 73° 53' E Longitude covering an area of 14,850 km^2. The elevation of Chitral varies from 1,200 m in Arandu to 7,780 m at Tirich Mir[4]. It has population of 414000[5]. Chitral is the biggest district of Khyber Pakhtunkhwa province having 20 % of the land mass of the province. Administratively Chitral is divided into two tehsils i.e. Tehsil Chitral and Tehsil Mastuj. Agriculture is the main source of livelihood while significant portion of the population are involved in business and service sector. Chitral is famous for its rich culture and ecological wealth and attracts large number of tourists every year. Chitral Gol National Park is one of the famous tourist spots in the district.

The Park is named after 'Chitral' town and the 'Gol' is the word for a stream or 'Nallah' in the local Khowar language. Chitral Gol emerges from the National Park and joins Chitral River in Chitral Town. CGNP was established in 1984 according to the IUCN Management Category II of the National Parks to protect the populations of Endangered Flare-horned Markhor (Capra falconerifalconeri) and the Snow Leopard (Unciauncia) and their significant habitats.

[4] Chitral Gol Community Development and Conservation Association Profile

[5] Benazir income Support program survey data

Chitral Gol National Park is situated in one of the side valleys of the main valley of Chitral, KPK, Pakistan. The Park is located at 3 km west of Chitral Town and the approximate geographical position of the Park is 35o 42' and 36o 01' N Latitude and 71o 36' and 71o 49' E Longitude. The boundaries of the CGNP as mentioned in the original notification of October 1984 are as under:

North: Ridge separating Lutkoh Tehsil and part of SingoorGol

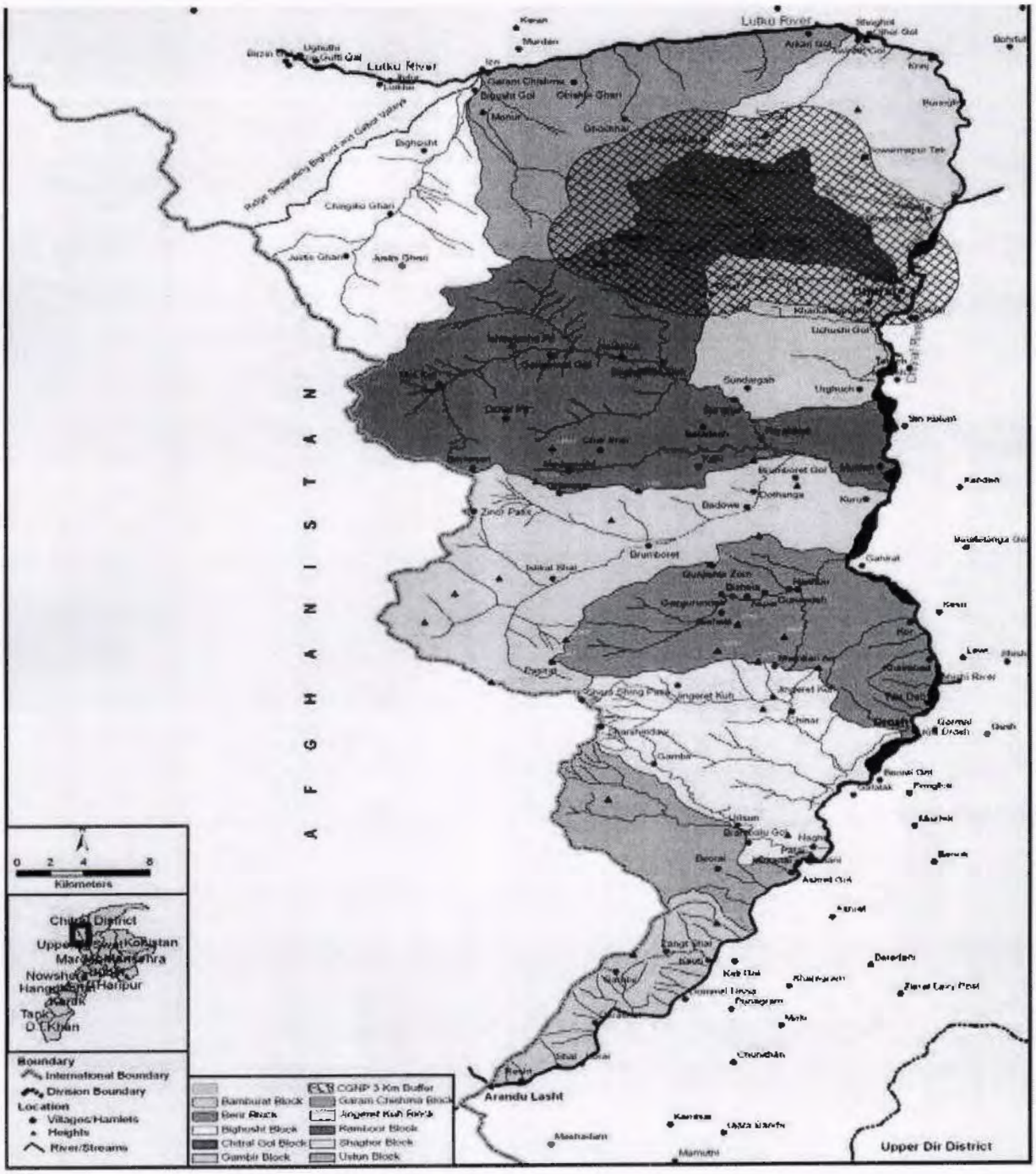
West: Lutkoh Tehsil and part of ChimersanGol

South: MoleenGol and ChimersanGol

East: Singoor and Chitral River

The National Park is a valley with an estimated area of 19150.7 acres and lies in the Hindukush Range. Chitral Gol National Park division has been established by the government which is working for conservation of park resources besides Chitral Gol Community Development and Conservation Association which is community based organization working for conservation of park resources and socio-economic development of Chitral Gol National Park communities.

Figure 1 : Map of Chitral Gol National Park



Source: Wildlife Division Chitral

The stakeholder communities of CGNP are concentrated in 11 villages, located in the immediate east of CGNP on the western bank of Chitral River. These villages consist of Zargarandeh, ShahmirandehSingoor, Chewdok, Thingshen, Dangrekandeh, Mughlandeh, Goldoor, Rehankot, Jang Bazaar, Shaldane and Balach. These villages have had traditional rights of use inside Chitral Gol granted and recognized by the erstwhile princely rulers of Chitral. These rights were partially curtailed when Chitral Gol was declared a National Park. As a result, these villages have been compelled to make adjustments to their livelihoods and daily subsistence needs because of the restrictions in place. Besides, the 11 core zone villages which are located in close proximity of the Park 18 villages located on the Right Bank of Lutkoh and Chitral in Northeast and Southeast of the Park respectively have also been considered as potential buffer areas to monitor trans-boundary movement of biodiversity and minimize indirect anthropogenic impacts on the park resources. Two village of Rumboor Valley, namely Sheikhandeh and Kalash Gram, which share a number of transitory routes to Chitral, in the immediate south west of the national park have been identified as a potential buffer zone.

From 1981 to 1998 the population of the custodian villages has gone up manifolds due to immigration from various parts of the district, high growth rate and rapid urbanization trends. According to the census report of 1998, the total population of the 11 core villages has reached almost 20,000. With this increase in population the pressure on the park resources have also increased. Coupled with the population increase, lack of alternate livelihoods, awareness and poor implementation of law have further worsened the situation.

3.2 Micro Credit interventions in the Study Area

Various organizations are providing the service of micro credit in the area. These are discussed below:

(a) Helping hand micro credit program

Helping hand is an international humanitarian organization working throughout Pakistan and started its operation in Chitral since 2010. It has launched micro credit program for individuals involved in local small businesses. However it has intervened in only two union councils of the district.

(b) Bank of Khyber

Bank of Khyber has recently started micro credit program focusing the technical graduates. The aim of this program is to increase employment and services in the area through employment of technical graduates. Bank of Khyber has geographical coverage in the whole district and every domiciled candidate of the district can avail loan if he/she has graduated from any technical institution.

(c) First Micro finance bank Limited

First Micro finance bank is also lending micro credit loan to business groups in Chitral district and has coverage in the whole district. To obtain loan an individual involved in business activity should be a member of a group to which a loan is disbursed.

(d) Village and women organizations

In Chitral District over fifteen hundred village organizations and women organizations have been established under the patronage of Non- Government organizations AKRSP and SRSP. Some of these organizations have considerable savings at the disposal and members of these organizations obtained micro credit loan to start small business at village level.

(e) Village Conservation Committees

In the study area Village Conservation Committees have been formed which manage the funds received through trophy hunting of *Markhor* animal. Local village members of these committees are also given micro credit loan to invest in a business

(f) Chitral Gol Micro credit Program

Chitral Gol Micro credit program has been initiated for Chitral Gol National Park communities only. It is run by Chitral Gol wildlife division in collaboration with local village conservation committees. This program was initiated through the support of World Bank in 2006.

Chapter 4

Research Methodology and Econometric Model

4.1 Sample

In this study all the thirteen villages located around the core zone and buffer zone of Chitral Gol National Park were included in the sample. From each of the thirteen villages twenty two respondents were selected randomly from which eleven belonged to loan recipients group and eleven from the non-loan recipients. The total sample size was 286 in which 143 respondents were loan- recipients and the same number were non – recipients. The list of the loan taker recipients household and non-recipient household was taken from Chitral Gol Wildlife division office Chitral which is currently running the micro credit program in the area.

4.2 Construction of Questionnaire

A simple unambiguous questionnaire was developed which contained several close and open ended questions. Interview was conducted in the entire sampled household personally in the native language (khowar). The respondents of the households were any adult present in the home at the time of interview.

4.3 Respondents and data collection

The main target of this study were the households who have obtained loans from the micro credit program and the household who haven't got loan from micro credit program in Chitral Gol National Park Micro Credit program.

Primary data was collected through a questionnaire. The data collected through this questionnaire was later analyzed.

4.4 Variables

In this research the following variables were used:

Dependent variables: Indicator of household role in conservation is fuel wood while indicators of household living standards are education, health , asset ownership, housing status and consumption of non-durable goods/.

Independent variable: Micro credit and household characteristics. The household characteristics include, household size, education of household head, total living rooms in the household.

4.5 Model and estimation

The study assessed the role of micro credit on conservation and living standard of communities living around Chitral Gol National Park .The quantity of fuel wood collected from the national park is indicator of the level of the conservation of the national park, while micro credit effectiveness in raising the living standard will lead to conservation through household participation in the program.

A household decision to participate in micro credit program is likely to be related to the outcome of interest which is collection of fuel wood from national park. We estimate the given equation.

$$Q_f = \beta x_i + \lambda MP_i + U_i$$

Where Q_f is wood collection by households, X is a vector of some control variables related to households characteristics and assumed to be exogenous (for example education of the household head, household size, land size etc.),

and MP is participation in micro credit Program, whereas Ui is the error term. The impact of micro credit on living standard was estimated by using the following econometric model.

$Y_i = \beta_0 + \beta_1 MP_i + \beta_3 X_i + \varepsilon$ ---------- (1)

Where

Y= measure of household living standard

The independent variable on the right side of the equation indicates MPi has been defined in equation 1.

β_0 is intercept

β_1, β_2, β_3 are the corresponding parameters of the independent variables.

X is a vector of other relevant household characteristics. Household characteristics (X) include educational level of the household, land size owned by the household and amount of loan.

ε is stochastic error.

Stochastic terms ε are assumed to be normally and independently distributed with variance σi. However, it is highly likely that there is cross-equation correlation.

Equation 1 was be estimated by ordinary least square with heteroscedasticity consistent standard errors. While equation 2 will estimated by least square for continuous variables (consumption, assets and education) and by multinomial logit model for the categorical variable (housing status).

Table 4.1 Variable specification

Variable	Specification
Fuel wood	Kg
Consumption	Consumption on non-durables (Pakistani Rupees per year)
Education	Household head Education level (year of schooling)
Assets	Total assets ownership of the household in Pakistani Rupees
Housing Status	Paved/ Semi paved/Thacthed
Land holding	size of land in Kanals

CHAPTER 5

Data Analysis

The study area is native land of the researcher due to which it was easy to reach the sampled household's. However the roads of two villages in the buffer zone of Chitral Gol National Park (Shekhandeh Rumboor & Brun-Rumboor) were blocked due to flood in the survey time due to which survey became late.

This chapter is divided into two sections. The first section analyzes different characteristics of loan recipients. While in the second section comparative analysis of different characteristics of loan recipients and non-recipients has been done.

5.1 Analysis of Loan recipients characteristics

A household survey was conducted in thirteen villages around Chitral Gol National Park where Micro credit program has been launched from two hundred and eighty six households. These included 143 household from each loan recipients and non-loan recipients. The analysis of loan recipient characteristics includes gender, age, relationship with household head, amount of loan, purpose of loan and yearly trend of loan taken.

5.1.1 Age Cohort of Loan recipients

Age distribution of loan recipients indicates that mostly loans have been mostly taken by individuals having older ages and youth have been marginalized in this case. The following table shows that the age group 20-30, 31-40, 41-50, 51-60, and 60+ accounted for 16%, 28%, and 24%, 20% and 12% respectively.

Table 5.1: Age Cohort of loan recipients

20-30	23	16
31-40	40	28
41-50	34	24
51-60	29	20
60+	17	12
Total	143	100

The table shows that 72 % of the respondents belong to age group 31-60 which is the age when a person is economically active. It is recommended that loan disbursement should also be enhanced to those persons having age less than 30 to make them economically active. Unemployment rate is high in the rural areas of Pakistan micro credit provision to youths will make them able to initiate business which will lessen the unemployment. Micro credit program in the surrounding communities of Chitral Gol National Park needs to increase the coverage to youth population who have been unable to start business due to lack of capital.

5.1.2 Gender distribution of loan recipients

Gender distribution for loan recipients shows that loans have been mostly taken by male members of the household with 93%. Only 7 % of females have taken loans from the Micro credit Program.

Table 5.2: Loan recipient's distribution by gender

1.	Male	133	93
2.	Female	10	7

This shows that females are less interested in taking loans from Micro credit program. Females should be encouraged to participate in the program. Female population in the rural areas have less job opportunities but female

Table 5.4 Loan recipient's distribution of actual usage of loan

S.No	Actual usage	No	%
1.	Business	20	14
2.	Education	2	1
3.	Health	9	6
4.	House expenses	24	17
5.	Pay off Loan	27	19
6.	Marriage expenses	3	2
7.	House repair	13	9
8.	House construction	4	3
9.	Ceremony	4	3
10.	Asset purchase	37	26

Micro credit is obtained on the declaration that it should be used for business purposes, however only 14 % of the micro credit loans have been used for the purpose of business. The investment of micro credit loan will lead to increase in profit for the business class. The results also show that 19 % of the loan has been used to pay off other loans by the loan recipients. While 26 % of the loan recipients have purchased assets through the micro credit. This might be one of the major reasons behind the lower impact of micro credit program. For optimal use of micro credit it should be insured that loan is used for the purpose declared in the application form.

5.1.5 Loan recipients profession

The distribution of loan recipients according to profession reveals that most of the loan recipients are self-employed (31%). Similarly 6% of the loan takers were Farmers while 40 % of government and private service holders had obtained micro credit loan from the program. There were 4 % teachers 9 % daily wage workers, 7% unemployed and 3%. Housewives loan takers in the given sample.

Table 5.5 Loan recipient's distribution according to Profession

S.No	Profession	Number	Percentage
1	Farmer	8	6
2	Government servant	29	20
3	Teacher	6	4
4	Private service	28	20
5	Daily wage worker	13	9
6	Self employed	45	31
7	unemployed	10	7
8	Housewife	4	3

The results in the table shows that most of the loans are forwarded to people already having employment. 31 % loan recipients are self-employed and 20 % each are engaged in private service and government service. While only 7 % unemployed are loan recipients. This implies that the benefits of micro credit go to the people who are already in stable financial position and very small amount of those who do not have a job are among the beneficiaries of its progress. The loan disbursement to unemployed and more self-employed individuals will provide the opportunities of income generation and employment generation respectively. This is will lead to reduce in unemployment in the area which will ultimately lead to less pressure on Chitral Gol National Park resources for livelihood. The conservation of the park resources can be ensured through employment and income generation.

5.1.6 Loan amount

Most of the loan recipient respondents have taken 80,000 loan amounts while loan recipients obtaining less than fifty thousand is very much less. The overall details are given in the following table.

Table 5.6 Loan recipients' distribution according to amount of Loan taken

S.No	Loan amount	Number	Percentage
1	20,000	7	5
2	30,000	6	4
3	35,000	1	1
4	40,000	19	13
5	45,000	1	1
6	50,000	30	21
7	60,000	28	20
8	70,000	11	8
9	80,000	40	28

The results of above table shows that 28 % of the loan recipients have taken RS 80,000 amount from the micro credit program. While 49 % loan recipients are in the category of RS 50,000-70,000. Only 9 % loan recipients have taken in the range of RS 20,000 -30,000. This shows that the disbursement amount is very high which needs to be lessen to increase the coverage. 80,000 could compensate need of 4 people if it is forwarded to people demanding loan of 20,000.

5.1.7 Problem in loan processing

The survey outcome shows that no considerable difficulty is faced by the clients in getting the micro credit. 13(9%) respondents responded that they faced problems in loan processing and 130 (91%) respondents responded that they had no problems in loan processing. 7 respondents had problem of late processing while 6 respondents had guarantor problem during the loan process.

5.2 Comparison of loan recipient and non-recipient households

Loan recipient and non-recipient households were compared on different household indicators which revealed different results which have been shown in the following tables and graphs.

5.2.1 Demographic indicator

This table compares the demographic indicators of loan recipients and non-recipients households.

Table 5.7 (a) Demographic indicator

Variable		Loan Recipient.	Non-Recipient	Mean Difference	P-value
Household size	Mean	6.78	5.8	-.923	.000
	Standard deviation	1.61	1.32		

The above table shows that average household size of Non recipient households is 5.86 whereas it is 6.78 for the loan recipient households. It means the loan taker households have more number of household members as compare to non-loan taker households. This is due to higher consumption pattern of loan recipients household where there are more family members.

5.2.2 Family systems

The below table shows family system of loan recipient households and non-recipient households.

Table 5.7 (b) Family system of loan recipient and non-recipient households

	Joint	Nuclear
Recipient	75 %	25 %
Non-recipient	34 %	66 %

Table 5.7 (b) shows that nuclear family system is dominant in the non-recipients case while joint family system occurs mostly in the case of loan recipients. The households having nuclear family system have less expenditure on various household items as compared to households having joint family system due to which loan taking is often less.

5.2.3 Fuel wood collection

The table presents comparison of fuel wood collection pattern among the recipients of micro credit program and the non-recipients households.

Table 5.8 Fuel wood collection: Comparison of loan recipient and non-recipient households.

Variable		Loan Recipient.	Non-Recipient	Mean Difference	P-value
Quantity of wood collected per week (in KG)	**Mean**	**4**	**18**	**14**	**0.000**
	Standard Deviation	**33**	**18**		

The average of fuel wood collection for non-recipients is very much higher for non-recipient households than the loan recipient households. The table shows that fuel wood collection for loan recipient households is less than one fourth of that of the non- recipient households. The difference is statistically significant with p value .000. This means loan recipients are less dependent on fuel wood for fuel purposes and use other sources of fuel like LPG and solar energy which is available in the area market. On the other hand high average value of fuel wood collection by non-recipients shows greater dependency on fuel wood of Chitral Gol National Park which is a threat to forest conservation. This observation indicates that micro credit program has been successful in achieving its prime objective i.e. the conservation of the national park forest. These findings support the study of Shristi (2002) in which he found a decrease in fuelwood consumption after participation in the micro credit program.

5.2.4 Land holding

Table 5.12 indicates comparison of loan recipients and non-recipients on the basis of land size of the households.

Table 5.9 comparison between loan recipients and non-recipients on land holding size

Variable		Loan Recipient.	Non-Recipient	Mean Difference	P-value
Landholding size (Kanals)	**Mean**	**0.4**	**0.8**	**0.4**	**0.008**
	Standard Deviation	**1.1**	**1.6**		

The table 4.9 shows the land holding size of the both loan recipients and non-loan recipients. The mean for non-loan taker households is .8 and for the loan recipient household is 0.4. It means non loan recipients have more land holdings than the loan recipients. Average land holding is less than 1 Kanal per family. This is so because of the land lords in the area. The lands are owned by the land lords which are only few in number and the remaining people have very small land holding. People have very less private land for agricultural purpose however they can do agricultural activities on the land owned by government and land lords.

5.2.5 Consumption/expenditure

The consumption/expenditure indicator tells us about household expenditures on non-durables and durables.

Table 5.10 (a): Comparison of loan recipients and non-recipients on the basis of consumption/expenditures on durable goods.

Variable		Loan Recipient.	Non-Recipient	Mean Difference	P-value
Pay Off Loan	**Mean**	**8860**	**6091**	**-2769**	**0.021**
	Standard Deviation	**10196**	**10034**		
House construction	**Mean**	**37832**	**57553**	**19720**	**0.274**
	Standard Deviation	**133623**	**168812**		
Maintenance and repair of house	**Mean**	**5434**	**7385**	**1951**	**0.274**
	Standard Deviation	**10419**	**18576**		

House extension	Mean	7692	10909	3217	0.299
	Standard Deviation	25111	27164		
Family Member marriage	Mean	4168	6037	1869	0.244
	Standard Deviation	16513	9727		
Community Development	Mean	1226	804	-422	0.018
	Standard Deviation	1902	952		
Motorcycle	Mean	1364	497	-867	0.219
	Standard Deviation	7603	3605		
Motor Car	Mean	6294	17133	10839	0.172
	Standard Deviation	53361	78297		
Television	Mean	448	147	-301	0.199
	Standard Deviation	2446	1348		
Computer	Mean	1378	455	-923	0.013
	Standard Deviation	3869	2062		
Cell Phone	Mean	2250	1000	-1250	0.017
	Standard Deviation	5224	3423		
Refrigerator	Mean	825	385	-441	0.306
	Standard Deviation	4390	2659		
Sewing Machine	Mean	147	42	-105	0.268
	Standard Deviation	1014	502		
Washing Machine	Mean	245	98	-147	0.257
	Standard Deviation	1301	833		
Jewellery	Mean	0	839	839	0.318
	Standard Deviation	0	10035		

The Table shows that loan recipients have consumed consume on average of 7603 for purchase of motorcycle whereas non recipients consumed on average only 497 on this item. Similarly loan recipients consumed 3869 on purchase of computers for which non-recipients consumed 455. This means loan recipient households have more expenditures on technology related items (cell phone, computer, refrigerator, washing machine etc.) that enhances living standard. While non-recipient households have more expenditure in house construction on average which they consumed 10909 in comparison to 7692 of the loan recipients. Non-recipient households have also more consumption in maintenance and repair of house with 7385 in comparison to 5434 of the recipient households. This shows that non-recipient households mostly spend on unhealthy competitions. Loan recipients also make greater contribution in community development initiatives as compare to non- recipient households.

Table 5.10 shows expenditures on non-durable goods for loan recipient households and non-recipient households.

Table 5.10 (b): Consumption on non-durables of loan-recipients and non-recipients

Variable		Loan Recipient.	Non-Recipient	Mean Difference	P-value
Food	Mean	14411.2	12545.5	-1865.7	0.000
	Standard Deviation	3299.2	3105.5		
Education	Mean	1601.4	958.0	-643.4	0.000
	Standard Deviation	1042.5	505.5		
Health	Mean	749.7	445.7	-303.9	0.000
	Standard Deviation	536.0	262.4		
Clothing	Mean	642.7	610.5	-32.2	0.400
	Standard Deviation	349.1	294.0		

The above table shows consumption and expenditure patterns on non-durables of the loan recipients and non-loan taker households. The average

consumption on food for the non-recipient households is 12545 whereas for loan recipient it is 14411. Similarly in case education the average consumption of loan recipients is also higher than the non-recipient households and both are also statistically significant. The average consumption on health for loan recipient households is 749 in comparison to 445 of the non-recipient households, which may be is due to availing better health facilities by the recipients group. Same is the case in the expenditures on clothing where loan recipients on average consume 642 and non-recipients consume 610. These results clearly depicts that loan recipient households have more expenditure pattern on non-durable goods than the non-recipients.

5.2.6 Health

Among the different indicators of health we have chosen two indicators i.e. average of family members falling ill in the last month and total number of visits to hospital in the last month. Table 5.11 compares health indicators for loan recipient and non-recipient households.

Table 5.11: comparison of loan recipients and non-recipients on health

Variable		Loan Recipient.	Non-Recipient	Mean Difference	P-value
Average of family members falling ill in the last month	Mean	0.2	0.5	0.3	0.000
	Standard Deviation	0.4	0.5		
Number of visits to hospital in the last month	Mean	0.3	0.8	0.5	0.000
	Standard Deviation	0.7	1.0		

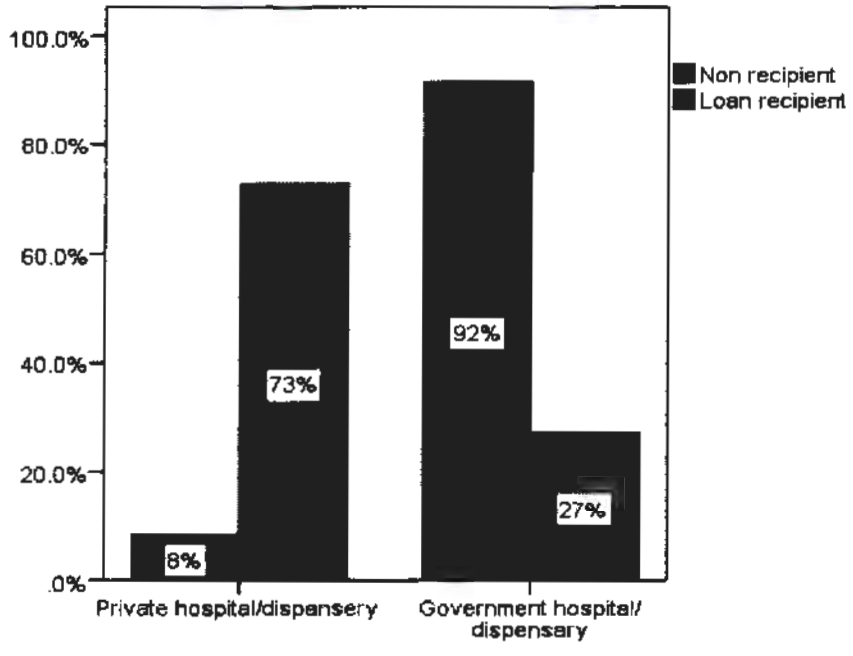
The results show the average illness and number of visits to hospital for treatment of the household members of both groups (Loan recipients & non loan recipients). The mean for non-loan recipients is greater in both the cases and statistically significant at .000 level. It means that more members of non-recipient households fall ill as a result they had to visit hospital more time than the member of the loan recipient households. It also shows that health

conditions of loan recipient households is healthier than non- recipients. These results are in consistent with the findings of Mahindra (2005) in which micro credit has positive impact on the health conditions of poor women.

5.2.7 Type of hospital for treatment

The below bar graph shows type of hospital/dispensary for treatment in the sample size.

Figure 1 : Type of hospital for treatment

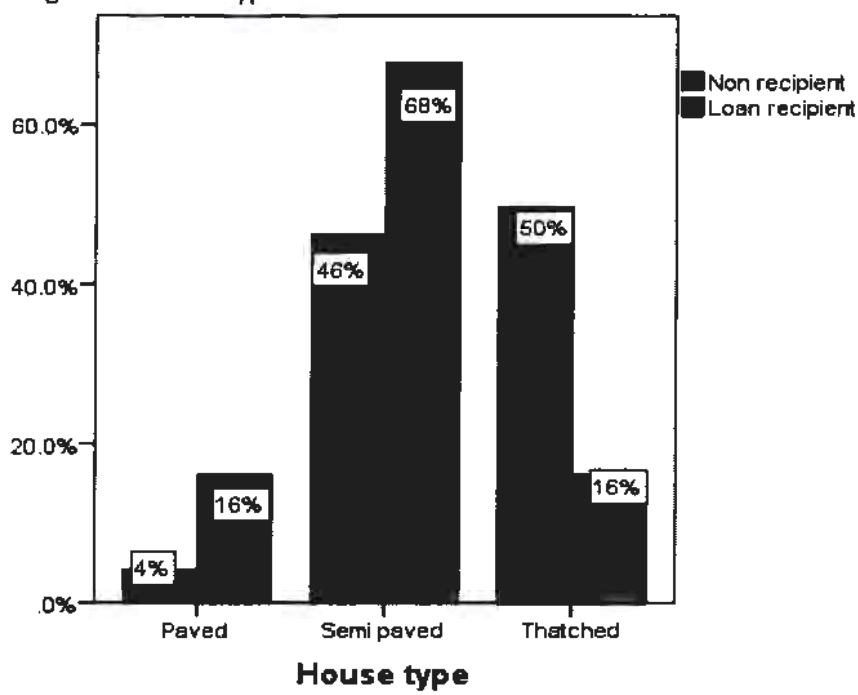


The above chart results show that loan recipient households visited mostly private hospital / dispensary for treatment with 73% in comparison to 8 % of the non- recipient households. Non loan recipients household have mostly visited government hospital/dispensary with 92 % as compare to 27 % of the loan taker takers household. This shows that loan recipient households are availing better facilities of health as compare to non- recipient households. Availing better facilities of health has increased the consumption of loan recipients on health which has been illustrated in Table 5.10

5.2.8 House type

Graph 3 compares the loan recipient non- recipient households on house type basis.

Figure 2 : House type



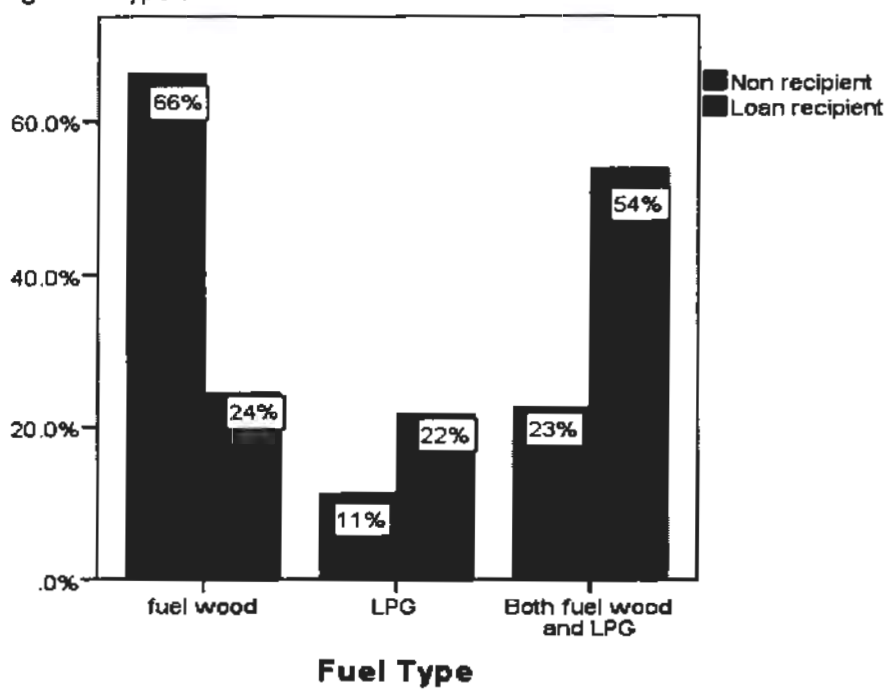
The results show that both groups prefer semi paved house type with loan recipient households 68% and non-recipient households 46%. While loan recipient households dominate in case of paved buildings with 16% as compare to 4 % of non-recipient households. 50% of the non-recipient households dwell in thatched houses as compare to 16% of the loan recipient households. It means loan recipient households have better housing standard than the non-recipient household as they have better proportion for paved buildings and lesser proportion for thatched buildings in comparison to non-recipient households. This is despite the fact that non-recipients consumed more on the housing (Table # 5.10 a). This could indicate two things: (I) the recipients have affective utilization on housing (ii) the loans are forwarded to people in better condition and less amount of micro credit is forwarded to

people in worse economic condition. Second is more likely. This points out deficiency in micro credit program that they do not focus poor's of poor.

5.2.9 Type of fuel

The following bar graph compares loan recipient and non-recipient households on the basis of fuel type usage.

Figure 3: Type of fuel

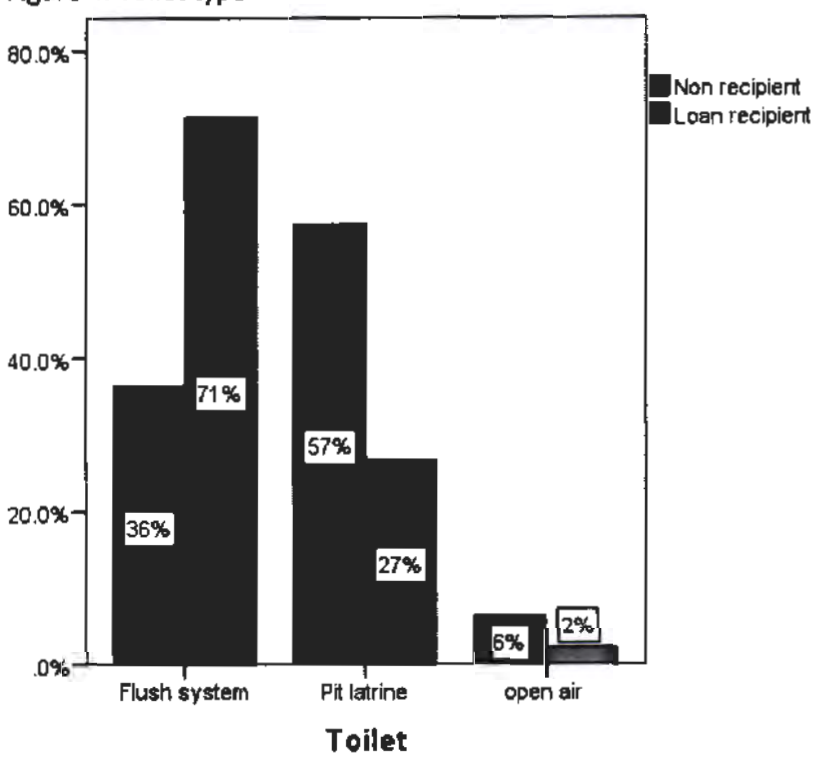


The results shows that non- recipient households mostly use fuel wood in their houses with 66 % as compare to 24 % of the loan recipient households. While the two groups use both fuel wood and LPG type of fuel with loan recipient households 54 % and non- recipient households 22 %. In case of LPG loan recipient households dominate with 22 % as compare to 11 % of the Non loan recipient households. This shows that non-recipient households mostly depends upon fuel wood for their fuel needs while loan recipients household mostly use environment friendly fuel.

5.2.10 Toilet type

This bar graph shows type of toilet used by the loan recipient and non-recipient households in the sample.

Figure 4: Toilet type



The results shows that loan recipients household mostly have flush system type with 71 % as compare to 36 % of the non- recipient households. Non-loan recipient households mostly have thatched toilet type (57 %) as compare to 27 % of the loan recipient households. It means loan recipient households have good standard of toilet type as compare to non-recipient households.

5.2.11 Livestock

In the surrounding communities of Chitral Gol National Park people keep three types of livestock in their homes which have been taken as livestock

indicator in the study. Table 5.12 compares the value of livestock possession by loan recipient and non-recipient households.

Table 5.12 Average value of livestock possession: comparison of loan recipients and non-recipient households.

Variable		Loan Recipient.	Non-Recipient	Mean Difference	P-value
Cow	Mean	19867	13415	-6452	0.102
	Standard Deviation	30664	35637		
Sheep & Goat	Mean	5797	2392	-3406	0.002
	Standard Deviation	11187	6113		
Poultry	Mean	1046	473	-573	0.000
	Standard Deviation	1314	773		

The results of the show that average value of cow in possession of the loan recipient households is 19867 whereas it is 13415 for non-recipient households. In case of sheep & goat possession loan recipient households have an average value of 5797 which is higher than 2392 of the non- recipient households and it is also statistically significant at 0.002 level. Similarly loan recipient households have higher average value (1046) for poultry than the non-recipient households (473) and it is also statistically significant. It means loan recipients have more livestock in their homes which are useful for fulfill various household needs.The results here also support the study of Tilkaratne (2006) in which he found a positive relation of micro credit with asset building and housing.

CHAPTER 6

Modelling effects of Micro Credit Program

This chapter presents the results of econometric model described in Chapter 3 to analyze the impact of micro credit program on the fuel wood conservation and household living standard. Section 5.1 gives the estimates of regression model for fuel wood collection and 5.2 gives model for the indicators of household living standard including consumption expenditures on non-durable goods, household assets household education and housing status. Impact of micro credit program on fuel wood collection was estimated using equation described in Chapter 3 which is as follow.

$$Q_f = \beta x_i + \lambda MP_i + U_i \quad \ldots\ldots (1)$$

6.1 Model for Fuel wood collection

Table 6.1 presents results of regression for fuelwood collection .The regression of fuel wood collection as dependent variable and amount of loan taken[6], household head education, number of total living rooms and house size as independent variables.

[6] Many of the loan recipients have invested the loan amount in some active business activity. The profit they earned were taken as independent variable.

Table 6.1 Regression estimates of model for fuel wood collection

Model	Unstandardized Coefficients		Standardized Coefficients	T Stat	Sig.
	B	Std. Error	Beta		
(Constant)	24.01	7.5		3.1	.002
Amount of Loan taken	-.16	.05	-.19	-3.0	.002
HH head education	-.66	.29	-.13	-2.2	.025
Number of total living rooms	-1.60	1.79	-.06	-.89	.371
Household Size	.64	1.16	.03	.55	.582

The results given in Table 6.1 shows that two independent variable loan amount & household head education have negative and significant relation with the fuel wood collection. While one independent variable (Number of living rooms) is insignificant and has negative coefficients and household size is insignificant and has positive coefficients. This means that as the educational level of the household head and loan amount increases fuel wood collection decreases. While the positive value of household size indicates that household with more number of family members have the possibility to be dependent on fuel wood collection is more. The negative coefficient of number of living rooms indicates that as the room number in the household increases there is less possibility of fuelwood collection in that household. Thus the results imply that micro credit is a very useful tool to reduce the fuel wood collection which in turn will improve environmental quality of the area.

As it is stated earlier that most of the loan recipients had consumed loan for various household needs. This significant impact of micro credit on fuel wood conservation is due to participation in the micro credit program where the loan recipients pledges to contribute towards conservation of national park resources. The other reason may be the availability of liquefied petroleum gas and fuel wood brought from other parts in Chitral which have lessened the consumption of fuel wood collection in Chitral Gol National Park area among the loan recipients.

The model was re estimated after excluding the insignificant variables and the results are shown in Table 6.2.

Table 6.2 Simplified Model for fuel wood collection

Model	Unstandardized Coefficients		Standardized Coefficients	T Stat	Sig.
	B	Std. Error	Beta		
(Constant)	22.70	3.11		7.2	.000
Amount of Loan taken	-.18	.05	-.20	-3.5	.000
HH head education	-.71	.29	-.14	-2.4	.014

The above estimation result shows the relationship between dependent variable (Fuel wood collection) and independent variables (Amount of Loan taken & Educational level of Household head).The independent variables Amount of Loan and household head education has negative and significant relation with fuel wood collection.

6.2 Impact of Micro credit program on household living standard

This section gives model for the following indicators of household living standard.

6.2.1 Model for consumption on non-durable goods

Regression was run by selecting monthly expenditures on non-durables as dependent variable while number of employees in the household, average monthly profit form micro credit loan and total land size as independent variables. The results are summarized in table 6.3.

Table 6.3 Regression model estimates of model for non-durable goods consumption

Model	Unstandardized Coefficients		Standardize D Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3676.838	386.455		9.514	.000
Amount of Loan taken	.002	.007	.033	.369	.713
Average Monthly Profit	.051	.028	.160	1.787	.076
Total size of land	-152.471	104.220	-.123	-1.463	.146

The results in Table 6.3 shows that two independent variables i.e. amount of loan taken and average monthly profit has positive and insignificant relation with consumption on non-durable goods. Whereas total land size has negative and insignificant relation with consumption on non-durable goods. It means if there is an increase in the amount of loan and average profit expenditures on non-durable goods will also increase. The results show that the amount of loan has no effect on the consumption of non-durable goods.

6.2.2 Model for Value of Asset holding

The regression was run by selecting approximate value of household assets as dependent variable and loan amount, average monthly profit and total land size of the household as independent which resulted in the following values given in table 6.4

Table 6.4 Model for the Asset holding

Model	Unstandardized Coefficients		Standardize D Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	5421.089	17135.513		.316	.752
Average monthly profit	-.134	1.257	-.010	-.107	.915
Total size of land	-2835.164	4621.131	-.053	-.614	.541
Amount of Loan taken	.161	.295	.050	.547	.586

The above estimated results show the relationship between dependent variable of assets of the household and independent variables loan amount, average monthly profit and total land size of the household. Results show that the amount of loan has positive and insignificant relation with value of household assets while total land size and average monthly profit has insignificant relation.

This implies that asset holding does not have strong dependence on the micro credit program.

6.2.3 Model for Household Education

Regression was run taking total years of education of household as dependent variable and loan amount, average monthly profit and total land size as independent variable the results of which are shown in Table 6.5

Table 6.5 Regression estimates of model for Household Education

Model	Unstandardized Coefficients		Standardized Coefficients	T Stat	Sig.
	B	Std. Error	Beta		
(Constant)	33.77	2.30		14.6	.000
Amount of Loan taken	3.79	1.25	.17	3.0	.003
Average Monthly Profit	.50	.29	.10	1.7	.090
Total size of land	-1.52	.70	-.12	-2.1	.033

The results in Table 6.5 show that loan amount has positive and significant relation with household education. The relation of average monthly profit has also positive and significant relation with the dependent variable. It means if loan amount and average monthly profit is increased household education years also increases. Land size has a negative and significant relation with household education. The members of households possessing large land size mostly depend upon agriculture for livelihoods and often less concentration on acquisition of education which may be the reason for negative relation in this case.

6.2.4 Impact on Housing Status

To measure the impact of micro credit program on the housing status of the households we used multinomial regression model. The model is used, when the dependent variable is categorical with multiple categories. The multinomial logistic regression finds the relative preferences of different categories, given the set of

Independent variables. By using multinomial logistic regression the housing status of loan recipient and non-recipients households is analyzed

Multinomial logistic model was estimated to analyze the impact of micro credit program on housing the results are given in table 5.6

Table 6.6 Estimates of multinomial regression

House type		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
Paved	Intercept	-5.666	1.235	21.036	1	.000			
	Total living room	.910	.250	13.269	1	.000	2.485	1.523	4.054
	[lo=0]	-.322	.527	.374	1	.541	.725	.258	2.034
	[lo=1]	0(b)	.	.	0	.	.	.	.
Thatched	Intercept	2.252	.706	10.188	1	.001			
	Total living room	-.970	.184	27.800	1	.000	.379	.264	.544
	[lo=0]	1.045	.313	11.167	1	.001	2.844	1.541	5.249
	[lo=1]	0(b)	.	.	0	.	.	.	.

a. The reference category is: semi paved.

Model	Model Fitting Criteria	Likelihood Ratio Tests			Pseudo R-Square
	-2 Log Likelihood	Chi-Square	df	Sig.	McFadden
Intercept Only	159.829				
Final	60.466	99.363	4	.000	.189

b. This parameter is set to zero because it is redundant.

The reference category used in multinomial logistic regression is 'semi paved'. Two independent variables are number of living rooms and participant in micro credit

Program. The participation in micro credit program is dummy taking value 1 for the households participating in the micro credit program.

The top panel of table 6.6 compares preferences of 'paved' housing with the reference category. The coefficient of variable total living rooms is positive indicating that preference of paved housing increase by increasing total living rooms. On the other hand the coefficient of loan 0 which is the value of dummy for non-recipients is negative, indicating that for the person taking no loan preference of paved housing decreases compared to semi paved.

The second panel of the table compares preferences of thatched housing with the reference category. The coefficient of total living room variable is negative indicating that preference is thatched building by decreasing total living rooms. On the other hand the coefficient for non-recipient is positive indicating that for the person taking no loan, preference of thatched building increases compared to semi paved.

Chapter 7

Conclusion and Recommendations

7.1 Summary

The purpose of this study was to investigate the impacts of micro credit on fuel wood conservation and household living standards in the communities living around Chitral Gol National Park. For this purpose, a comparison approach (target and control group) is used. With this approach we compared both loan 'recipient households' and non-recipient households' and showed how the target group is different from control group by demonstrating different demographic, income, consumption, health, education, assets ownership and housing status indicators. Questionnaire based survey was conducted to collect data from the households. The results showed that micro credit has been disbursed to mostly economically active people and its usage is mostly for the purpose of meeting various needs of life. Only 14 % of the respondent had invested the loan in business. The amount of loan mostly disbursed is above fifty thousand while small ranging from twenty thousand to fifty thousand can increase the coverage to more people. The fuel wood collection for loan recipient was found to be one fourth that of the non-recipient households. The loan recipient households mostly make expenditures on technology related items and the non-recipient households spends on house construction and house repairing. The loan recipient enjoy good health conditions in comparison to non-recipients by availing better health facilities. The housing status of loan recipients is also better than the non-recipients. Loan recipients in their households mostly use environment friendly fuel whereas non - recipients depend mostly on fuel wood.

The results of regression analysis revealed that micro credit had a significant negative impact on fuel wood collection. The results of regression on micro credit and assets and non-durable goods found that micro credit has no effect both these variables. Micro credit has also positive impact on the housing status of the loan recipients.

7.2 Conclusion

The results show that micro credit program has been successful in the efforts for conservation. Those who avail micro credit consume significantly small amount of fuel wood. The reduction in fuel wood collection reduces the deforestation, soil erosion and indoor air pollution. The reduction in deforestation has also positive impacts on the wildlife and efforts for conservation of wildlife.

On the other hand, micro credit also helps the recipients to improve their living standard. The results show that loan recipients have better standard of living in terms of education, health and consumption. The approximate value of assets is also high for loan recipients while land holding size is dominated by the non-recipients.

The education of household head , over all education , amount of loan taken , average monthly profit from micro credit loan have a negative relation with fuel wood collection .While household size is positively related with fuel wood collection of the household. The land size possessed by the household has negative relation with fuel wood collection. However very few number of women have availed loan from the micro credit program which shows that the program has less contribution towards women employment of the area. Loans have been disbursed to on job people which could have been forwarded to local entrepreneurs seeking capital to start up a business.

7.3 Recommendations

Since the micro credit program is successful in conservation it is recommended that outreach and average disbursement should be increased. Increasing the outreach will

motivate more people to participate in the efforts for conservation. Women should also be encouraged like men to participate in the program. The program should focus on loan disbursement to unemployed youth planning to start a business.

Secondly, during the survey it was observed that many of the loans are consumed in the activities not related to income generation, which is declared purpose of taking loan. Therefore it is recommended that the monitoring of the loans should be made more stringent and it should be insured that loan is consumed for the declared purpose only.

Thirdly, the study finds that by declaring the area to be protected, the population of wildlife increased significantly therefore the areas where rare species are found could be protected to save wildlife and micro credit could be provided than as alternate livelihood option.

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ANNEXURE 1

Questionnaire

Study on Micro credit role in Fuel wood conservation and living standard

Name & Signature: _____

Union Council: _____ Village: _____ Date: _____

Q.1 Respondent's Data

Sex a) Male _____ b) Female _____

Age of respondent _____

Marital status a) Single _____ b) Married _____

Household type a) Joint_____ b) Nuclear _____

Household Size: _____

Nature of Job a) Farmer ___ b) Govt. Servant ___ c) Teacher___
d) Private Services___ e) Daily Wage Worker___ f) Student___
g) Self Employed___ h) Unemployed___ i) Housewife

Q.2 Household Composition

IDC	Members of family who usually reside together and eat together	Gender	Residential Status	Relationship with the Family head	Age	Marital Status	Activity Status
1	Head						
2							
3							
4							
5							
6							

Q 3 Information about Micro Credit Loan

1	How many loans you have get?	
2	What is the amount of last loan (in Rupees)?	
3	Apart from you is anyone else from your family has obtained loan?	
4	Apart from you, how many members of your family take loan?	
5	How much loan has been taken by these family members (Rupees)?	

g. Use of loan provided by Micro credit Program

6	Loan	Purpose mentioned in the application form	Actual use
7	1st loan		
8	Last loan		

What is the amount of average monthly profit you take from Micro credit Program?	
Did you feel any problem in process of micro credit loan?	Yes /No
If yes	
N. what is that problem?	
o. How can the micro credit program more useful?	

Q: No 4 Information about fuel wood

Did you collect wood from Chitral Gol National Park?	Yes/ No if yes
How many times you visit it in a week?	
How much wood you collect in one visit?	Kg
Do your other family members collect wood from CGNP?	Yes / No If yes
How many other family members go to CGNP for wood collection?	
How often they go there for wood collection?	
How much wood they collect in one visit?	Kg

c) What is your household's average monthly total expenditure? (Rs _____)

IDC	Items	App. Expenditure (Rs)
1	Food	
2	Education	
3	Clothing	
4	Health	
5	Other	

Q.6 Household's Education:

		For Adults		For children			Reasons	
IDC	Members in the family household	1. Was ever admitted in any school or educational institution?	2. What maximum education achieved?	3. Is he/she studying in any institution at present? 1= yes 2= no If No then go to Q. No. 7	4. In which class he/she is studying these days?	5. In which type of educational institution, he/she is going?	6. What was the reason not going to school?	7. What was the reasons for not continuing the studies
1	Head							
2								
3								
4								
5								

Q.7 Household's Health

IDC	Particulars	No 1	No.2	No.3	No.4
1	Was any member of household fall ill in last month? (Yes, NO) If yes then go to Q.No 2				
2	Did he/she visit doctor for treatment? (Private Hospital/Dispensary, Govt. Hospital/Dispensary, Hakeem, etc)				

Q. 8 Assets ownership Data

a) How much agricultural land do you have?

Land	Size of land holding	Approx. expenditure (Rs)
Cultivated land	(Kanal)	
Uncultivated land	(Kanal)	
Total	(Kanal)	

b) Do you have any kind of livestock?

Kinds of livestock	App. Value(Rs)
Cow	
Buffalo	
Sheep / Goats	
Oxen	
Poultry	

c) Which type of property do you have?

Type of property	App. Value (Rs)
Residential Plot	
Shop/Commercial building	
Purchase / Construction of house	
House for rent purpose	
Business	
Car ownership	

a) Do you have any bank balance, shares and other deposit?

Deposit	App. Value (Rs)
Bank balance	
Shares	
Gold	

Q 9 Housing Status

House Types *a) Earthquake resistant building b) Metallic roof c) Kacha*

Type of fuel *a) Wood b) Gas c) Both*

Total living rooms: _____

Number of bath rooms _____

Is it (Wash rooms) a) FlushSystem /Pacca b) Kacha c) Open air