

**MEASURING POVERTY USING MULTIDIMENSIONAL POVERTY
INDEX: A CASE STUDY OF PUTIMARI UNION, NILPHAMARI**

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INDEX: A CASE STUDY OF PUTIMARI UNION, NILPHAMARI**

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CERTIFICATE

This is to certify that thesis entitled, “**MEASURING POVERTY USING MULTIDIMENSIONAL POVERTY INDEX: A CASE STUDY OF PUTIMARI UNION, NILPHAMARI**” submitted to the Department of Development and Poverty Studies, Sher-e-Bangla Agricultural University, Dhaka-1207, in partial fulfillment of the requirements for the degree of **MASTER OF SCIENCE IN Development and Poverty Studies**, embodies the result of a piece of bona fide research work carried out **MD. SAIED ABUL ALA MOUDUDI**, Registration No. **15-06714** under my supervision and guidance. No part of the thesis has been submitted for any other degree or diploma.

I further certify that such help or source of information, as has been availed of during the course of this investigation has duly been acknowledged.

Dated:
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DEDICATED

TO

MY BELOVED PARENTS

ABSTRACT

This study is designed to measure poverty from the multidimensional poverty index perspective. As the targets under the first goal of SDGs: the end of poverty in all its forms everywhere emphasize poverty reduction at different magnitudes by the year 2030, poverty alleviation has become a key area to work on. The multidimensional poverty index (MPI) approach can be the best measure of monitoring the target of the first goal of the SDG. This study considered the Putimari union of Nilphamari district in Bangladesh because of their high poverty level. The unidimensional measure of poverty, like the headcount index, does not show the severity of poverty. To address this fact, this paper intends to measure a multidimensional poverty index for measuring acute poverty. The quantitative research approach has been adopted and this study have selected a total of 60 households as a sample size. The questionnaire survey was used to collect household data which was collected in the Putimari union of Nilphamari district. To construct MPI, 20 indicators have been considered under five major dimensions as education, health, standard of living, financial and political aspects. The household-based approach has been used and a household is considered multi-dimensionally poor when it is found to be deprived in more than or equal to one-third of total dimensions. The result found that 127 people and 33 households, or 57.21 percent of the population, are not categorized as multi-dimensionally or severely poor (i.e., those with poverty scores between 0 and 20). Also, the vulnerable group, which comprises 43 people from 11 households and may be at danger of becoming poor in the future (i.e., those with poverty scores between 20 and 33). Based on the MPI tool, 23.42% of the total population – 52 individuals from 16 households – are classified as MPI poor.

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Table of Content

CHAPTER	TITLE	PAGE NO
	ABSTRACT	i
	ACKNOWLEDGEMENT	ii
	CONTENTS	iii
CHAPTER I	INTRODUCTION	1-6
	1.1 Background of the Study	1
	1.2 Poverty in Bangladesh	2
	1.2.1 Poverty and extreme poverty position in Bangladesh	2
	1.2.2 Poverty rate by division	3
	1.2.3 Upazila level poverty rate in Nilphamari district	4
	1.3 Justification of the Study	5
	1.4 Objective of the Study	6
CHAPTER II	REVIEW OF LITERATURE	7-13
CHAPTER III	METHODOLOGY	14-21
	3.1 Introduction	14
	3.2 Selection of the study area	14
	3.3 Sampling technique and sample size	16
	3.4 Data collection	16
	3.4.1 Questionnaire design	17
	3.4.2 Pre-testing the questionnaire	17
	3.4.3 Finalization of the questionnaire & method of data Collection	17
	3.4.4 Data editing and coding	18
	3.5 Data processing	18
	3.6 Tabulation of data	18
	3.7 Indicator selection for MPI	18
	3.8 Construction of MPI	20
	3.8.1 Deprivation cut off	20
	3.8.2 Indicator's weight	20
	3.8.3 Poverty cut-off	20
	3.8.4 Computing the MPI	21

CHAPTER IV	SOCIO-ECONOMIC PROFILE OF THE RESPONDENTS	22-33
	4.1 Age	22
	4.2 Education	23
	4.3 Marital Status	24
	4.4 Source of Income	25
	4.5 Dwelling	25
	4.6 Housing	26
	4.7 Toilet	27
	4.8 Food coping strategies	27
	4.9 Income and expenditure	30
	4.10 Availability of computer and ICT training	30
	4.11 Number of mobile phone user by age	31
	4.12 Number of android phone user by age	32
CHAPTER V	MPI RESULT AND DEPRIVATION SCORE ACROSS DIFFERENT POVERTY CUT OFF	34-35
	5.1 Multidimensional poverty index result	34
	5.2 Deprivation score across different poverty cut-off	35
CHAPTER VI	SUMMARY, CONCLUSION AND RECOMMENDATION	36-39
	6.1 Summary	36
	6.2 Conclusion	37
	6.3 Recommendation	38
	6.4 Limitations of the study	39
REFERENCES		40-43
APPENDIX		44-47

LIST OF TABLES	PAGE
Table 1.1 Poverty and Extreme Poverty Position in Bangladesh	3
Table 1.2 Upazila Level Poverty Rate in Nilphamari District	5
Table 3.1 Different Indicator for MPI	19
Table 4.1 Source of Income of The Respondents by Study Area	25
Table 4.2 Dwelling of the Respondents by Study Area	26
Table 4.3 Housing of The Respondents by Study Area	26
Table 4.4 Toilet of The Respondents by Study Area	27

Table 4.5 Food Coping Strategies	29
Table 4.6 Availability of Computer and ICT Training of Households	31
Table 5.1 MPI Summary of The Study Area	34
Table 5.2 Deprivation Score Across Different Poverty Cut-off	35

LIST OF FIGURES	PAGE
Figure 1.1 Poverty Rate by Division	4
Figure 3.1 The Study Area Showing Putimari Union of Kishoreganj	15
Figure 4.1 Age of The Respondent by Study Area	22
Figure 4.2 Education Level of The Respondents by Study Area	23
Figure 4.3 Marital Status of The Respondents by Study Area	24
Figure 4.4 Household yearly Income and Expenditure	30
Figure 4.5 Number of Mobile Phone Users by Age	32
Figure 4.6 Number of Android Phone Users by Age	33

CHAPTER I

INTRODUCTION

1.1. Background of the Study

Bangladesh, with a land area of 1,47,000 sq. km and an estimated population of Bangladesh is 171,186,372, which increased by 1.08% from 2021. The population of Bangladesh in 2021 was 169,356,251, which is a 1.16% increase from 2020 (BBS, 2022). The country is also on track to reach the first Sustainable Development Goal of eradicating extreme poverty by 2030 (UNDP 2018). Poverty is the oldest and the most resistant virus that brings about a devastating disease in the third world called under development. It is a constant companion of most of the people of Bangladesh due to some specific reasons for which the rich are becoming richer and the poor are becoming poorer. Bangladesh is considered one of the poorest countries in the world and faces three major crises namely economic, political, and environmental. A survey by Dhaka-based South Asian Network on Economic Modeling revealed that Due to the economic fallout from the COVID-19 pandemic, Bangladesh's poverty rate has increased from 21.6% in 2018 to 42% in 2020. Poverty remains a global concern for the last few decades. Its nature and dimension are much more complex in rural areas. Poverty eradication issues were given the highest emphasis in the Millennium Development Goals (MDGs) and subsequently, these have been kept as the priorities in the Sustainable Development Goals (SDGs). Poverty –Being poor is related to a wide range of factors including income, health, education, access to goods, geographical location, gender, ethnic origin, and family circumstances (World Bank 1997:2) Poverty is defined as a complex phenomenon that generally refers to inadequacy of resources and deprivation of choices that would enable people to enjoy decent living conditions. While Yunus (1994) defines it as the denial of human rights relating to the fulfillment of basic human needs. Poverty restrains economic growth and sustainable development. The social, economic, demographic, cultural and other significant contributing factors for poverty reduction have implications on the economic development and policy interventions (World Bank, 2014). Poverty in Bangladesh has declined remarkably since the early 2000s, as result decades of accelerated economic growth. The remarkable progress in poverty alleviation has been recognized by

international institutions. The causes of poverty in Bangladesh are tough to tackle, but the country has nonetheless shown impressive improvements and resilience over the years. For instance, the country has made remarkable progress in poverty reduction in the last couple of decades: according to the (World Bank, 2011), Bangladesh managed to reduce its poverty rate defined as the percentage of the population living below \$1.90 a day from 44.2 % in 1991 to 18.5 % in 2010. Women taking part in the economy is crucial: according to research published in The Atlantic, gender inequality and poverty are closely intertwined; tackling the former means mitigating the latter. Some factors that hinder women from working include the lack of reliable and affordable transportation, the absence of child care, and cultural biases against women from working in the same spaces as men. Although dealing with the causes of poverty in Bangladesh is complex, the country has made extraordinary developments since the time of its independence in 1971.

1.2. Poverty in Bangladesh

The concept of poverty is often interpreted as a state of being –poor or not poor. However, identifying one population as poor and everyone else as non-poor oversimplifies the economic circumstances individuals and families face over the year. A poor is an individual who does not have the minimum essential necessities of life. The poor people maintain few assets and live in kutcha huts with walls built of baked mud and roofs built of grass, bamboo, thatch, and wood. Starvation and hunger are the principal characteristics of poverty struck families. Non poor means people who are not poor and have sufficient money or material possessions.

1.2.1. Poverty and extreme poverty position in Bangladesh

The GDP growth rate in 2015-2016 was 7.11 percent, and it has gradually increased since then. GDP growth rate in 2018-2019 was 8.15 percent. In 2015-2016, per capita real GDP was 55259 USD, which increased to 66795 USD in 2018-2019. In 2015-2016, the growth rate per capita real GDP was 5.77, and it has gradually increased. In 2018-2019, the per capita real GDP growth rate was 6.91. Poverty and extreme poverty decreased gradually the following year. In 2015-2016, the poverty rate was 24.30, but it has since dropped to

20.50 in 2018-2019. Extreme poverty was 12.90 in 2015-2016, but has since dropped to 10.50 in 2018-2019. In 2016-2017 and 2017-2018, the extreme poverty rate was 12.10 and 11.30, respectively.

Table 1.1: Poverty status in Bangladesh between 2015 and 2019

Items	2015-2016	2016-2017	2017-2018	2018-2019
GDP growth rate	7.11	7.28	7.86	8.15
Per capita real GDP	55259 USD	58603 USD	62477 USD	66795 USD
Growth rate per capita real GDP	5.77	6.05	6.61	6.91
Poverty	24.30	23.10	21.80	20.50
Extreme poverty	12.90	12.10	11.30	10.50

Source: BBS, 2021

1.2.2. Poverty rate by division

Figure 1.1. describe the poverty percentage of different division in Bangladesh. In Rangpur division the rate of poverty is highest (47.23%). Lowest rate of poverty in Dhaka division which is 16%. The rate of poverty in Sylhet, Rajshahi, Mymensingh, Khulna, Chattagram, Barishal is respectively 16.23%, 28.93%, 32.77%, 27.48%, 18.43%, 26.49%. Overall, the poverty rate in Bangladesh is 24.30% (BBS, 2022).

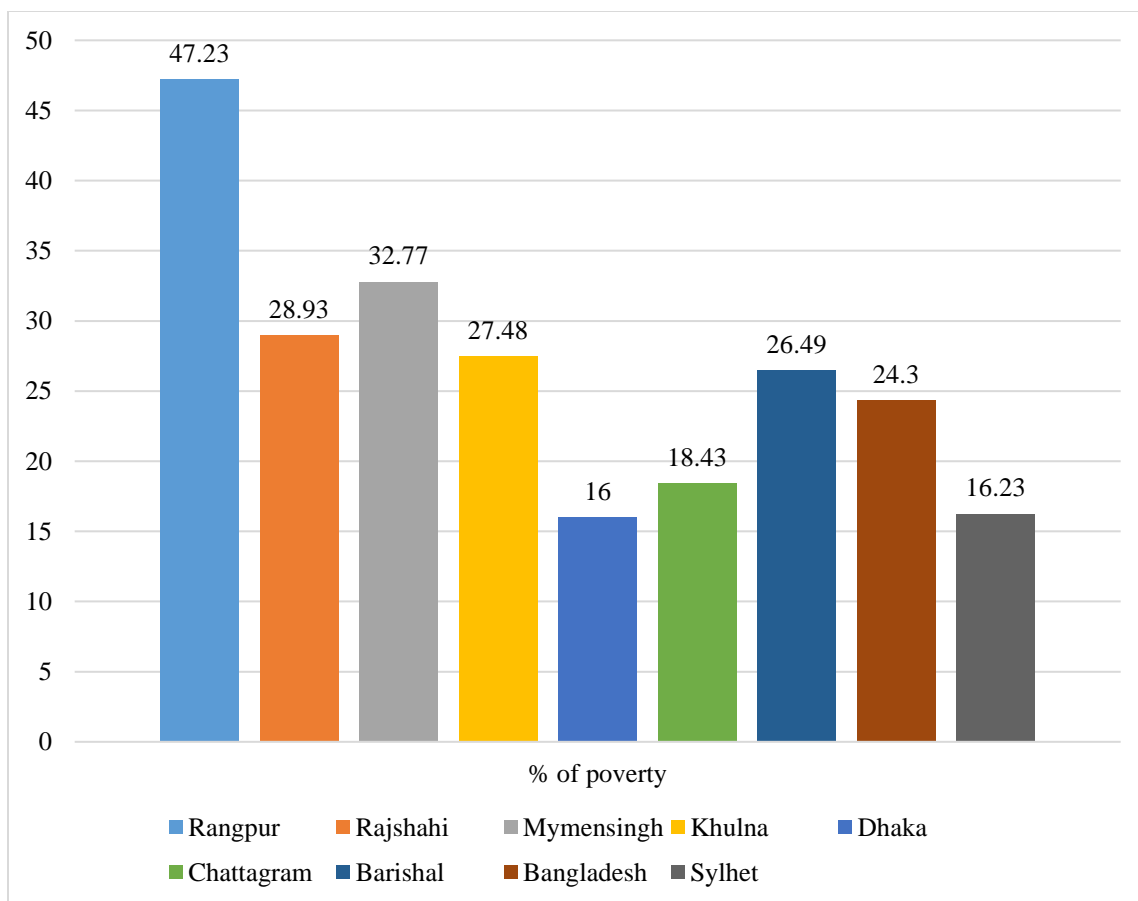


Figure 1.1: Poverty rate by division

Source: BBS, 2022

1.2.3. Upazila level poverty rate in Nilphamari district

The percentage of people living in poverty is broken down by upazila in Table 1.2 for the Nilphamari district. The poverty rate is extremely high throughout the entirety of the Nilphamari district. In this group, the poverty percentage in Domar, which is 44.10%, is particularly depressing. Kishoreganj has the lowest rate of poverty in Bangladesh, which is 39.80%. Others make up 43% of the population in Dimla, 43.80% of the population in Jaldhanga, 42.10% of the population in Sadar, and 43.20% of the population in Saidpur upazila (BBS, 2022).

Table 1.2: Upazila level poverty rate in Nilphamari district

Name of Upazila	Condition	Percentage (%) of poverty
Dimla	Very high	43.00
Domer	Very high	44.10
Jaldhanga	Very high	43.80
Kishoreganj	Very high	39.80
Sadar	Very high	42.10
Saidpur	Very high	43.20

Source: BBS, 2022

1.3. Justification of the Study

Poverty is a significant problem in Bangladesh. Poverty rate in rural area is high. Government of Bangladesh takes various projects in root level of the country to reduce poverty. During previous year many researchers had found out measurement of poverty, study on overall country or world, study on absolute and relative poverty, role of micro-finance to reduce poverty. Developing countries like Bangladesh are facing economic depression every day. The problem is sometimes so expanded that the rural and urban area is affected simultaneously. But after all, rural areas are suffering more than urban areas because most people live below the poverty line. To control the poverty line of the whole country, rural poverty must be evaluated because the country's economy is mainly based on a rural economy. So, if the condition of the poor can be studied through research, the economic condition of the rural area becomes clearer. Nowadays poverty of the rural areas is so complicated that we cannot explain it from a single point of view. Households are becoming poor not only through an economic depression but also from other factors too. The rural land of Bangladesh is still owned by about 20% of the rural area people. Other 80% of people are mainly working on that land and earn their livings. As a result, the rich

are becoming richer and the poor are becoming poorer. This kind of imbalance in land use is also a cause of poverty but this research is mainly focusing on the factors that are directly involved with poverty like health, education, income, etc. This research is mainly based on Multidimensional Poverty Index (MPI). As poverty nowadays is pretty much complicated, the research must be conducted through different dimensions. The main goal of this index is to measure different levels of poverty. The MPI can define poverty and indicate it more perfectly. Also, the research will explain in detail the living standard, health, and education of the union. Identifying different categories of the poor is also a target of this research.

1.4. Objectives of the study

This research is mainly based on Multidimensional Poverty Index (MPI). As poverty nowadays is pretty much complicated, the research must be conducted through different dimensions. The main goal of this index is to measure different levels of poverty. The specific objectives are:

- a) To examine the socio-demographic profile of the respondents;
- b) To measure poverty level of the Putimari union, Nilphamari;
- c) To explore and analyze the existing status of poverty considering the multidimensional poverty index; and
- d) To identify different categories of the poor.

CHAPTER II

REVIEW OF LITERATURE

The main purpose of this chapter is to review some related studies in connection with the present study. Although a lot of studies have been done on poverty only a few studies have been so far conducted related to causes and consequences. This study highlights only a few of the studies, which are considered recent and very relevant to this research. Again, some of these studies may not be entirely relevant to the present study, but their findings, methodology of analysis, and suggestions have a great influence on the present study, so it has a great influence on the present study. Therefore, some of the literature related to the present study are briefly discussed below.

Khaleque and Abdul (2023) indicated that the consumption-based poverty headcount is about 73 with a poverty gap of 22.5 and a squared poverty gap of 9.0. The income-based measures (USD 1.90) also show that over fifty percent of the households have less than USD 1.90 earnings a day, and nearly two-thirds of the households have less than USD 2.15 earnings a day. The poverty gap and squared poverty gap are relatively large compared to the national-level statistics. Near half of the households have occasional moderate food insecurity. This study also showed that regional heterogeneity and household attributes determine the state of food security and poverty. Poverty and food insecurity are found interlinked –low food security is associated with extreme poverty.

Hosan et al. (2023) explored the impact of remittances on multidimensional energy poverty in Bangladesh by employing a nationally representative Household Income and Expenditure Survey (HIES)-2016 with a sample size of 46,080 households and found that an upsurge in remittance inflow engenders a strong contribution toward alleviating energy poverty in Bangladesh and likely in other developing nations. National programs should be established for devising policies to promote migrant workers, lowering energy costs at the household level, and investing remittance income into modern energy technologies to ensure and enhance access to clean energy sources.

Sarker et al. (2022) found that ethnic groups expenditure level exceeds their income. Although their income is very poor but the ethnic groups has more months' of cereal food availability than non-ethnic groups. Most of them are landless. Whatever land they have, most of it is homestead area. They have three meals a day but their dietary diversity is not sufficient. It can be seen that 98.39% non-ethnic households and 97.04% ethnic households have access to safe drinking water. Both groups are vulnerable, marginal and poor. It is important to emphasis on poverty alleviation through income generating activities.

Salam et al. (2022) examined the effect of different livelihood diversification on rural household poverty and income inequality and reveal that diversifying livelihood through income source changes has an impact on the poverty level and inequality among rural households. Following these changes, the overall poverty situation has been improving and income distribution has been worsening over the years. Households drastically reduce their poverty by diversifying their livelihood from only agriculture to part-time farming. Among different non-farm income sources, only self-employment has a positive contribution to decreasing income inequality since 2000. Incomes from migration and wage employment widen income inequality in rural Bangladesh.

Islam and Sarker (2022) indicated that the majority of rural women (73 percent) had a moderate level of participation in domestic agricultural activities, compared to 20% and 7% who had a low level of engagement and 7% who had a high level of engagement, respectively. Correlation analysis revealed that seven of nine independent variables, namely farm size, family income, cosmopolites, extension contact, agricultural training, knowledge about homestead agricultural activities, and attitude toward dwelling agricultural activities, had a significant positive relationship with rural women's participation in dwelling agricultural activities.

Abbas et al. (2022) revealed that Afghanistan, Yemen, Nepal, India, Bangladesh, and the Philippines in Asia and DR Congo, Chad, Madagascar, Niger, Sierre Leone, Tanzania, and Burundi in Africa were the most susceptible countries to extreme multidimensional energy poverty. Second, the study employed supervised machine learning algorithms to identify the

most pertinent socioeconomic determinants of extreme multidimensional energy poverty in the developing world. The results of machine learning identified the accumulated wealth of a household, size and ownership status of a house, marital status of the main breadwinner, and place of residence of the main breadwinner to be the five most influential socioeconomic determinants of extreme multidimensional energy poverty.

Das et al. (2020) that around 90% of the households were suffering from different grades of food insecurity. Severe food insecurity was higher in urban (42%) than rural (15%) households. The rural households with mild/moderate food insecurity adopted either financial (27%) or both financial and food compromised (32%) coping strategies, but 61% of urban mild/moderate food insecure households applied both forms of coping strategies. Similarly, nearly 90% of severely food insecure households implemented both types of coping strategies. Living in poorest households was significantly associated (p value <0.05) with mild/moderate (regression coefficient, β : 15.13, 95% CI 14.43 to 15.82), and severe food insecurity (β : 16.28, 95% CI 15.58 to 16.97). The statistically significant (p <0.05) determinants of both food compromised and financial coping strategies were living in urban areas (β : 1.8, 95% CI 0.44 to 3.09), living in poorest (β : 2.7, 95% CI 1 to 4.45), poorer (β : 2.6, 95% CI 0.75 to 4.4) and even in the richer (β : 1.6, 95% CI 0.2 to 2.9) households and age of the respondent (β : 0.1, 95% CI 0.02 to 0.21).

Sumya et al. (2019) conducted a research in Khulna City, Bangladesh. Five dimensions were considered to measure the MPI: economic, social, infrastructure, political, and spatial, and an analytic hierarchy process was used to calculate the weights of the indicators. The majority of the slum dwellers were found to be multi-dimensionally poor, rather than income poor, and the spatial dimension had a considerable impact on urban poverty.

IFAD (2015) reported of halving of poverty in Brazil over 1990-2010 on account of good economic growth and concerted efforts of the government attacking poverty. Highlighting a major reason for poverty in Brazil as inequality in land tenure, the report outlines the strategy of IFAD to work in tandem with the governmental efforts at rural development.

Rabbani et al. (2014) found that there was a clear increase in real per capital consumption expenditure in Bangladesh between 2005 and 2010, the dietary diversity of Bangladeshis showed no sign of improvement over the same period. Moreover, while poor families typically report a lower dietary diversity than non-poor households, irrespectively of their poverty status, households in Bangladesh limit their food consumption to an inadequate number of food items.

Mitra and Brucker (2014) test the possibility of measuring the MPI by utilizing the Current Population Survey (CPS) and the ACS information independently. They describe and think about populace bunches by the quantity of deprivation experienced in income and other indicators. They pick five indicators to determine multidimensional poverty.

Korankye (2014) investigated that poor governance, lack of education and prevalence of diseases were the major causes behind poverty in Ghana.

Inchauste et al. (2013) studied the success at poverty reduction experienced by Bangladesh, Thailand and Peru and attribute the increase in farm income to higher returns on land and experience in the 1990s in Bangladesh. Other factors that favoured poverty decline included an increase in the number of adults per family, increase in the number of earning members per family, increase in foreign remittances.

Kapoor (2013) questioned the belief that economic growth alone is capable of reducing poverty and with the help of estimates for a number of individual states shown that in some cases high economic growth had not resulted in the expected decline in poverty while some below average performers of economic growth had pushed poverty numbers forcefully. However, disputing the approximate consensus about the positive impact of economic growth on poverty reduction misplaced in itself as available literature on the issue approves importance to economic growth but did not assign it the complete onus of alleviating poverty.

Qayum and Samadder (2013) share the poor impact of the State interventions as weak institutions and absence of implementation guidelines disrupted implementation of poverty

reduction policies designed by the government in Bangladesh and there was no monitoring mechanism at the local level to ensure correct targeting and fund utilization.

Rahman et al. (2013) suggest a positive relationship between poverty and environmental degradation except Chittagong hill tracks and mangrove forest area. It was also observed that environmental degradation is sensitive to economic growth. The successful reduction -n- of poverty in Bangladesh legally depends on both linear and nonlinear relation of various climate and non-climate factors.

Motwani (2012) highlighted the relevance of relative poverty over absolute poverty. She asserted the significance given to poverty line or absolute poverty by economists and policy makers as compared to relative poverty which is social or custom driven perception of the people. Therefore the author suggested incorporation of relative dimension of poverty into the absolute measure of poverty used by policy makers in India.

Khandker and Shahidur (2012) found that income and consumption are lower during Monga than in other seasons, and that seasonal income greatly influences seasonal consumption. Econometric estimates reject the hypothesis of perfect consumption smoothing. In the northwestern region of greater Rangpur, rural households suffer disproportionately from Monga. Seasonal differences in poverty across regions are due mainly to differences in household-specific seasonality of income and consumption. Income diversification explains the lower incidence of income seasonality observed in non-Rangpur regions.

Hick (2012) explained the problematic issues that confound the traditionally accepted material concept of poverty and deprivation and shares his confidence in Amartya Sen's proposed Capabilities Approach to poverty measurement and policy making.

Suryahadi et al. (2012) discussed the trend of poverty in Indonesia which exhibited a decline in long run barring 1999 and 2006 due to Asian financial crisis and rise in fuel

prices. The authors estimated the growth elasticity of poverty for both rural and urban Indonesia as well as the sectorbased component impact on poverty reduction over 1984-2002. The authors contend that growth in service sector impacts poverty reduction the most in both rural and urban Indonesia.

Banks (2011) discussed the ability of the urban poor to benefit from wider processes of urban governance was dependent on a system where their votes count, a pro-poor municipal government had some capacity to deliver, and a dynamic civil society that could press the case for the urban poor and work towards an open and accountable relationship between state and civil society.

Karnani (2011) found skeptical of the ability of the markets to solve the problem of poverty by providing to meet the needs of the poor and generating employment opportunities for them. He instead proposes the role of the State's poverty reduction interventions in achieving the desired results.

Sutiyo and Maharjan (2011) found that the less than expected impact of poverty alleviation schemes on poverty in Indonesia largely due to gaps in their implementation. Specifically, the study points out poor targeting mechanism, inadequate bureaucratic capability in programme implementation and dominant presence of local elite to divert program benefits in their direction.

World Bank (2011) with the help of survey data collected from multiple sources analyzes India's experience with poverty. Specifically, the impact of urbanization and shift from farm to non-farm economic activities on poverty reduction in India in the two decades (spanning 1990 - 2010) has been explored. The major finding included a significant impact of urban growth on poverty reduction while the findings were inconclusive on the role of non-farm dynamism on improving the plight of the rural poor.

Bandyopadhyay (2010) made a chronological examination of the definition of poverty line in India. The author also addressed the debates that done rounds amongst the experts

of the area with regard to various components and surrounding issues involved in poverty measurement, such as - the appropriate recall period used in consumer surveys and the use of calorie intake as a proxy for nutritional adequacy.

Mehta and Bhide (2010) studied the trend of poverty definitions and the trend of incidence on All India and State level sourced from estimation done by the Planning Commission. They critically analyzed the gaps in the definition of poverty and the policy measures taken in the form of various poverty alleviation schemes being run to tackle poverty directly and indirectly. Most significantly, the authors assessed the capability of some of these programmes in impacting the dynamics of poverty - which of these influenced entry into poverty, exit from poverty or improve the quality of life.

Alkire and Santos (2010) discussed the technicalities of the multi-dimensional poverty index developed by OPHI and apply it to evaluate the poverty situation across the world. The important findings included differences in poverty situation once the new index is used as compared to the income measure of poverty. The authors proved that South Asia was home to more than half of the world poor.

Klytchnikova and Diop (2010) surveyed the impact of trade liberalization on poverty in Bangladesh from 1996 to 2000 and explain that trade liberalization led to increased import of farm equipment which was important in improving the rice productivity and lowered the rice prices. This benefitted the extremely poor net buyers of rice who were able to scale up to the poor category.

Srinivasan (2007) analyzed the definition of poverty line in India - changing with time and approved and questioned the way it broadened in the recent past by the revision experts assigned the task by the Government of India. The author also suggested the changes that need to be made to make poverty line a better monitoring tool as well as the benchmark for policy decisions involving poverty alleviation.

Research Gap

In Bangladesh, one of the more recent developments in the field of study is the measuring of extreme poverty using the multidimensional poverty index (MPI). There are not enough studies that have utilized the MPI to accurately gauge the level of extreme poverty in the nation. As a direct consequence of this, there is a lack of comprehension regarding the scope and features of extreme poverty in Bangladesh. An investigation into the Puthimari Union in the Nilphamari district of Bangladesh would offer very helpful insights on the application of the MPI to the measurement of extreme poverty in Bangladesh. Puthimari Union is a rural region that has a significant percentage of people living in poverty. An investigation of this region would be helpful in determining the causes that contribute to extreme poverty as well as in formulating policies and initiatives to alleviate it. In addition to the lack of studies that have used the MPI to measure acute poverty in Bangladesh, there are also a number of other research gaps related to the use of the MPI in the country. For example, there is a need to analyze the data on the dimensions of poverty in order to identify the factors that contribute to poverty, and there is also a need to develop policies and programs to address poverty based on the findings of MPI analysis. These research gaps are related to the use of the MPI in the country. A study of Puthimari Union, which is located in the Nilphamari district, would provide an important contribution to the research being conducted in Bangladesh on the measurement of severe poverty using the MPI. The findings of the study would be helpful in informing the creation of policies and initiatives to reduce poverty in the country if they were used.

CHAPTER III

METHODOLOGY

3.1 Introduction

The study's methodology determines how well a statistical study turns out. Excellent research requires the application of a suitable methodology. The nature, objectives, and goals of a study heavily influence the design of any survey. The availability of the needed materials, time, and resources is also a factor. There are numerous methods for gathering data for statistical study. Data collection for statistical analysis requires the analyst's judgment in selecting data collection strategies within the restrictions imposed by the work's resources. Statistical research typically involves gathering information from individual farmers.

The survey approach was used in this research for two key reasons:

- a. The survey allows for the rapid study of a large number of instances and
- b. The findings are more widely applicable.

The survey approach has a significant drawback in that the investigator must depend on the respondent's memories. To address this issue, researchers conducted several trips to the study region to gather data, and in the event of any omissions or contradictions, respondents were contacted again to get the missing and/or accurate information. The following stages were used in the survey design for this investigation.

3.2. Selection of the Study Area

In any statistical study, choosing the study area is an important step. The site was suitable for the study's specific objective and the potential for respondent cooperation. Kishoreganj Upazila of Nilphamari district was purposefully chosen as the study area as here poverty rate is high. The upazila is the second lowest tier of administrative government in Bangladesh. The districts of Bangladesh are divided into sub-districts called upazilas (Sarker, 2010). Spatial variation of different household characteristics was found in the

different studies in Bangladesh (Sarker, 2012).

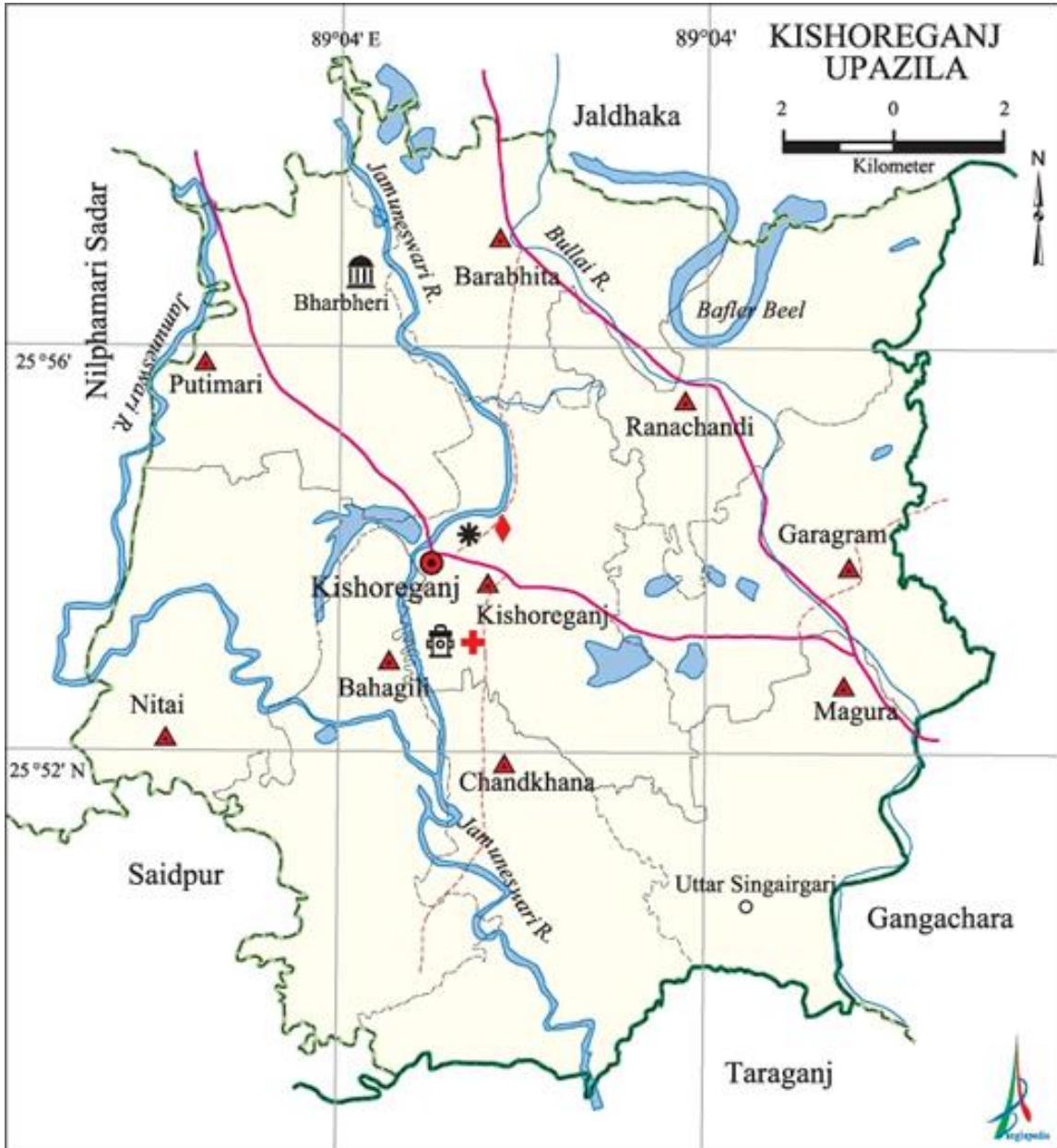


Figure 3.1: The Study area showing Putimari Union of Kishoreganj Upazila

Source: www.google.com

3.3 Sampling Technique and Sample Size

Sample selection is an important part of survey work. It is generally not possible to make census survey. When choosing samples for a research, two criteria must be taken into account. The sample size should be as big as possible to ensure that the statistical analysis has enough degrees of freedom. Field research administration, data processing, and analysis, on the other hand, should be manageable within the constraints imposed by physical, human, and financial resources (Mannan, 2001). However, because to the variability of the technological and human environments, it is required to sample a large number of people before drawing any conclusions. As a result, sampling is used to pick a subset of the population that is representative of the whole population (Rahman, 2000). Due to time, money, and manpower constraints, it was not feasible to enroll all of the farmers in the research region. A total of 60 respondents were chosen randomly. A simple random sampling method was followed in selecting samples and collecting data from the respondents. From the Putimari union of Kishoreganj Upazila, total 60 respondents were selected randomly for a face-to-face interview.

3.4. Data Collection

Any study's outcome depends on the correctness and dependability of the data collected, which is a crucial stage. Data collection techniques have a big impact on the accuracy and dependability of the data. The primary source of data for the study was a set of field-level primary data that was gathered from the chosen participants using interviewing protocols that had been thoroughly tested. Through direct interviews done by the researcher himself with the chosen respondents, field level primary data were obtained. Each chosen respondent was interviewed independently after creating the schedule. Each respondent received a brief introduction on the scope and goals of the study prior to the start of the actual interview. Then the inquiries were made in a straightforward order. The answers were immediately noted on the interview schedules. The researcher had to rely on the respondents' meager memories because, in general, the respondents at the grass roots level do not retain written records of their various activities. The interviewer used a systematic approach to questioning and provided explanations as needed. To ensure that the answers had been accurately recorded, the schedule was checked and validated after each interview.

Data were gathered in local units to save time and make it easier to interpret. Data collecting is viewed as an important aspect of a survey since it has a substantial influence on the quality of the findings. Given its significance, the following precautions were taken throughout the development of the questionnaire as a data gathering tool:

3.4.1. Questionnaire design

A questionnaire is an effective tool for gathering data since it asks questions with multiple dimensions. Without a clear objective and purpose, a questionnaire would always overlook important subjects and make respondents and enumerators waste their time by answering pointless questions. To the best of our ability, we took into account each of these concerns when creating the survey questionnaire.

3.4.2. Pre-testing the questionnaire

The questionnaire was pre-tested to determine the amount of time required to complete the interview, its reliability (i.e., if it caught the information sought), and its consistency (i.e., whether the information acquired was relevant to the survey's overall goal). The test also aimed to assess the logistics necessary for the survey's effective operation. Pre-testing was conducted in Putimari union within Nilphamari district in 2022 before to the survey to assure the optimal performance of the questionnaire in terms of data collecting, processing, and analyzing. As replies, the farmers were picked at random.

3.4.3. Finalization of the questionnaire and method of data collection

The questionnaire was sent to my supervisor after addressed all of the adjustments based on the pre-test suggestions. My supervisor also made a significant contribution to the survey. With the permission, the questionnaire was finally completed. Following the questionnaire, a face-to face interview was conducted.

3.4.4. Data editing and coding

Other critical aspects of the survey included data editing and coding, both of which were

required for data processing. Prior to data processing, it should be finished. In the instance of this survey, coding was done concurrently with questionnaire construction so that the enumerator could mark the correct responses quickly and precisely. The process of verifying and cleaning data that had previously been obtained from the field was referred to as data editing.

3.5. Data processing

Data processing included a number of procedures that were critical because they influenced survey findings based on the steps involved. The following actions were conducted during data processing.

- a. Data input
- b. Appending and merging files
- c. Data validation (additional computer checking, editing and imputation)
- e. Final judgment on mistakes
- f. Completion of data processing and production of data files
- g. Final documentations and
- h. Storage of all files

3.6. Tabulation of data

The information gathered was manually modified and coded. After then, all of the data was compiled and thoroughly examined. Furthermore, data analysis was performed using the applications Microsoft Excel and STATA. It should be remembered that information was first gathered in local units.

3.7. Indicator Selection for MPI

For calculating MPI I have used five factors that are assigned same weightage as globally practiced MPI and it is 1/5. These factors are financial aspects, education, health, living standard and political aspects. In financial aspects considered three sub factors and these are employment, savings and loan and all these are assigned 1/15. In education considered two sub-factors, these are years of schooling and school enrollment children and these two

are assigned 1/10. In Health considered six sub-factors, these are assigned same weightage and it is 1/30. In living standard considered six sub factors and these are cooking fuel, electricity, sanitation, dirt floor, drinking water and electricity facility and all these are assigned same weightage and it is 1/30. In political aspects considered three sub-factors, these are access to law and order, voting right and access to public representatives and these three are assigned same weightage and it is 1/15 (Alkire and Santos, 2014).

Table 3.1: Different indicators for MPI

Dimensions	Indicators	Weight
Education	No one has completed 10 years of education	1/10
	School age child is going to school	1/10
Health	Child labor work	1/30
	At least one child is sick once a week	1/30
	Child death	1/30
	Child's chronic illness	1/30
	Anemia of women	1/30
	Food items taken in a week	1/30
Standard of living	Electricity facility	1/30
	Clean drinking water	1/30
	Adequate sanitation	1/30
	Dirt floor	1/30
	Dirty cooking fuel	1/30
	At least one Assets	1/30
Financial	Family member's employment	1/15
	Monthly savings	1/15
	Monthly loan more than monthly expenditure	1/15
Political	Voting right	1/15
	Access to law and order	1/15
	Access to public representatives	1/15

3.8. Construction of MPI

3.8.1. Deprivation cut off

A person is considered deprived in a certain indicator when his or her achievement is below the mentioned cut off in the same indicator. The ongoing SDGs, national and international policy and agreement, the local culture of the study area, empirical evidence are the basis of setting deprivation cut-off.

3.8.2. Indicator's weight

For MPI calculation, likely the globally practiced MPI all the dimensions have been equally weighted which means each dimension has a weight of 1/5. The indicators within a dimension are also equally weighted. Thus, in the considered indicators, each indicator under the health dimension got 1/30, indicator under education dimension got 1/10, indicator under living standard dimension got 1/30, indicator under financial dimension got 1/15, and indicator under political dimension got 1/15. It is to be noted that- Say, indicator i weight as w_i ,

$$\sum_{i=1}^d w_i = 1$$

3.8.3. Poverty cut-off

A person's deprivation is assigned first as per his deprivation in all the indicators within all the dimensions. The deprivation score is calculated by taking the weighted sum of the number of deprivations, so it lied between 0 and 1. The deprivation score increases with the inclination of the number of deprivation incidences and vice versa. If deprivation is not observed in any indicator, it gets 0 in that particular indicator.

Poverty cut-off is the basis to consider a person MPI poor. Generally, it is noted as 'k' value. If a person's deprivation score is equal to or greater than ($c_i \geq k$) poverty cut-off, that person is considered to be MPI poor. In, MPI this poverty cut-off is 1/3 which means when a person is found to be deprived in equal to or greater than 1/3 of total indicators (weighted) is considered as MPI poor. To check the different magnitude of poverty, in this paper different poverty cut-off has been reclassified. Hence, a person with 20% to 32%

deprivation of total indicators has been considered as vulnerable to MPI poor; when this value is 67% or more is being said the person is having extreme poverty. The robustness of MPI can be measured by differentiating different poverty cut-offs (Rana et al. 2021).

3.8.4. Computing the MPI

MPI is basically the integrated of two key parts- headcount index, intensity index. Headcount index is basically the proportion of MPI poor to the total population whereas intensity index refers to the proportion of deprivation to total weighted indicators. The headcount index is expressed as,

$$H = q/n$$

Here, H is the headcount index, q refers to the number of total MPI poor and n is the total population. The average deprivation scores or intensity index is basically the breadth of the poverty is expressed as,

$$A = \frac{\sum_i^n c_i(k)}{q}$$

Where A is the intensity index, $c_i(k)$ refers to the deprivation score which has satisfied the poverty cut-off of k of 0.33 and q is the total number of MPI poor.

Hence, $MPI = H \times A$

CHAPTER IV
SOCIO-ECONOMIC PROFILE OF THE RESPONDENTS

4.1. Age

Age of the respondents is one of the most important characteristics in understanding their views about the particular problems. From Figure 4.1 shows that the highest 26 male respondents are in age 0-35 and the lowest respondents of male are 11 in age more than 50. And the highest 6 female respondents are in age 0-35 and the lowest respondents of female are 1 in age more than 50. The male and female respondents are 13 and 3 respectively in the age group of 36-50.

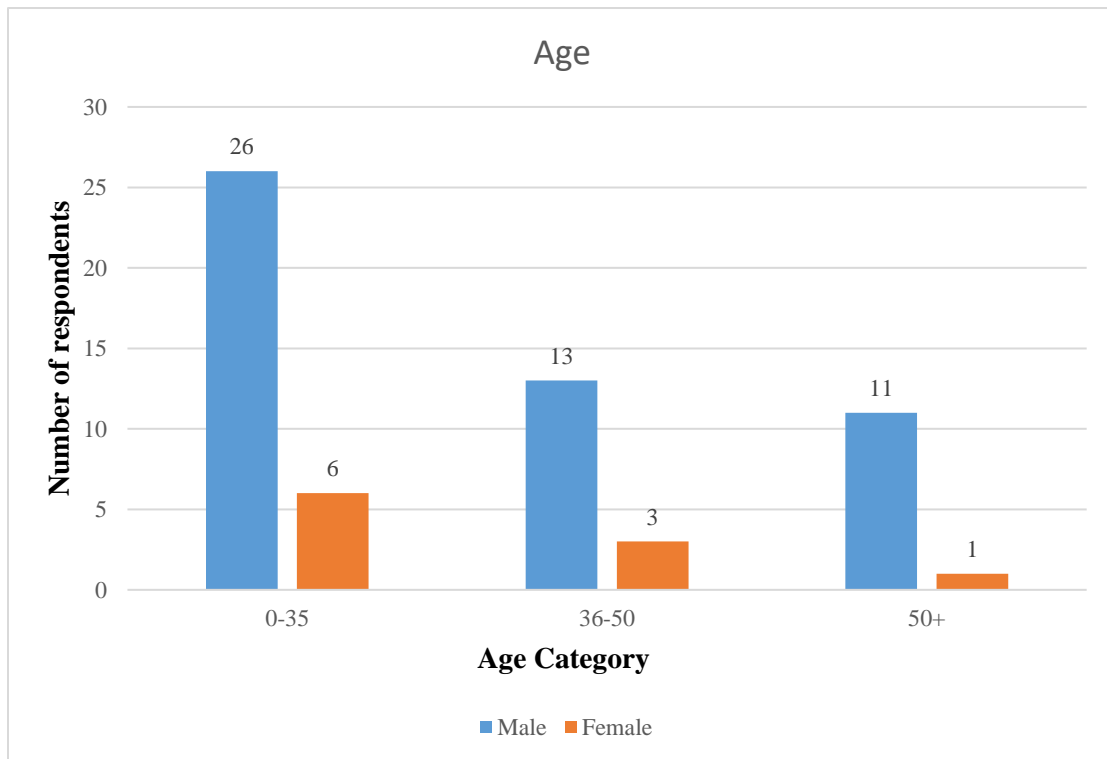


Figure 4.1: Age of the respondent by Study Area

Source: Field Survey 2022

4.2. Education

Education was considered as the key factor for improving skills and attitudes of people and transforming technology. Education can be defined as the ability of an individual aged above 6 years to read and write or formal education received up-to certain standard. In figure 4.2 show four level of education which are define as illiterate, primary, secondary and higher education. It clearly shows that the highest 16 male respondents are in primary level and highest 4 female respondents in secondary education level. Considering all the level of education, illiterate was 6 male and 2 female, primary were 16 male and 2 female, secondary were 14 male and 4 female and higher education were 14 male and 2 female respectively.

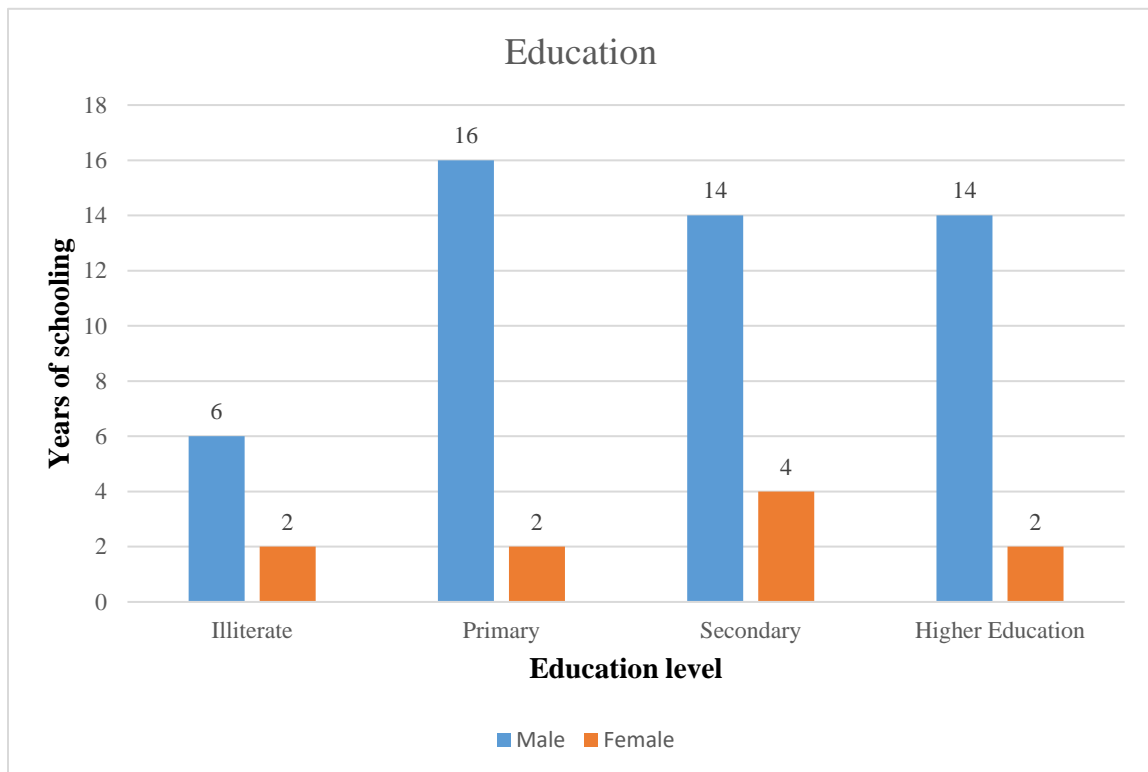


Figure 4.2: Education Level of the respondents by Study Area

Source: Field Survey 2022

4.3. Marital Status

In figure 4.3, marital status are categorized in three categories as single, married and widow/widower. The highest respondents 43 male and 5 female were married. In the same way, the lowest respondents in widow/widower for both male and female were 2 and 0. The male and female in single were 7 and 3 respectively.

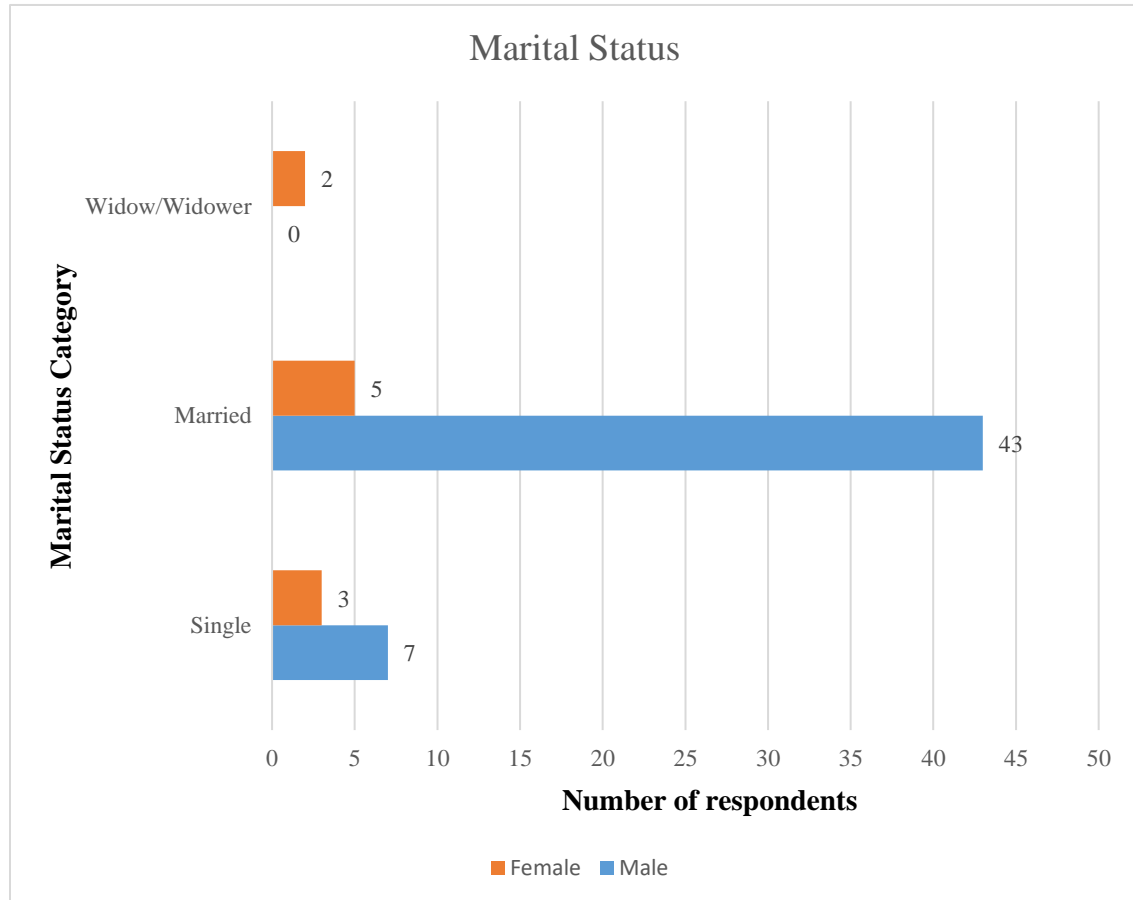


Figure 4.3: Marital Status of the respondents by Study Area

Source: Field Survey 2022

4.4. Source of Income

The sample of respondents are engaged in various types of work which is the main source of income. The works were classified such as crop farming, day labor, service, and business. Service was found to be the inherent and single major source of income for all the respondents in the study areas. A bulk of the total labor force was engaged in service. Only a small portion of the respondent families were found to have dealt with crop farming, business and other occupations. Tables 4.1 shows that the occupational classification according to income. It shows that 55 percent of people had service as the single main source of income. Whereas, 10 %, 20 %, 15 % and 7.7 % were engaged of crop farming, day labor and business respectively.

Table 4.1: Source of Income of the respondents by study area.

Main Source of Income	Number of respondents	Percentage (%)
Crop farming	6	10
Day labour	12	20
Service	33	55
Business	9	15
Total	60	100

Source: Field Survey 2022

4.5. Dwelling

Dwelling is the most important factor that help to understand the poverty situation of people. Dwelling can be defined as the place where people live like house, apartment and condos. Table 4.2 shows that most of the people are live in their own house. whereas 98.33% people had house to live themselves and only 1.67% people rented house for living them.

Table 4.2: Dwelling of the respondents by study area.

Owner of Dwelling	Number of respondents	Percentage (%)
Owner	59	98.33
Rented	1	1.67
Total	60	100.00

Source: Field Survey 2022

4.6. Housing

Housing is the most important factor that understanding the economic condition of people. The Quality of housing is classified into three group as Tin/semi katcha, semi paka and paka. Table 4.3. shows that the majority number of people 35 from 60 respondents had tin/semi katcha housing which is 58.33% of total. The most minority group in paka are only 2 respondents and 3.33 % of total and semi paka housing are 23 respondents which is 38.33 % of total.

Table 4.3: Housing of the respondents by study area.

Quality of Housing	Number of respondents	Percentage (%)
Tin/Semi katcha	35	58.33
Semi paka	23	38.33
Paka	2	3.33
Total	60	100.00

Source: Field Survey 2022

4.7. Toilet

Type of toilet of the respondents is one of the most important characteristics in understanding their views about the poverty problems. The condition of toilet depends on awareness of people in health. From Table 4.4 shows that the highest 31 respondents are in Sanitary without water seal which is 51.67%. The lowest respondents are 5 in Not sanitary that is 8.33%. Sanitary with water seal are 24 respondents with 40% of total.

Table 4.4: Toilet of the respondents by study area.

Toilet Type	Number of respondents	Percentage (%)
Sanitary with water seal	24	40.00
Sanitary without water seal	31	51.67
Not sanitary	5	8.33
Total	60	100.00

Source: Field Survey 2022

4.8. Food coping strategies

Table 4.5. provides a summary of the different food coping strategies adopted by 60 households facing food insecurity. This refers to the various ways in which households facing food insecurity manage to secure enough food to meet their basic needs. These strategies may involve actions such as skipping meals, limiting portion sizes, relying on less expensive foods, borrowing food from friends or relatives, engaging in temporary or informal employment, or sending household members to eat elsewhere. The table includes 12 different food coping strategies. Skip strategy was used by only 8.33% of households and the rest of the 91.67% of households don't skip meals. It is a common coping mechanism for households experiencing food insecurity. From the table, we see that in 15 households about 25% of restricted consumption of food for adults, which means they give priority to feeding the children or other members first, and in the other 45 households around 75% have no restriction on food consumption for adults. 26.67% of the household follow the strategy to limit portion size at meals, which indicates that they may save the

food for further consumption and other 44 about 73.33% of households don't limit the size of meals. None of the households follow the strategy to send their family members to eat somewhere else.

From table 4.5 we see that 42 households around 70% of the total household depends on less expensive food which indicates that they don't have the ability to buy expensive food which means these houses hold maybe suffer from a lack of nutrition or consume bad quality food. The other 30% of the household depends on expensive food which may have more nutritive value or good quality food. Only one household make handicrafts to raise money for food whereas the rest of the other 59 households about 98.33% of them depends on other activity to earn money for buying food. Consume seed stock held for next season from

We can see one of the households using the strategy to consume seed stock held for next season. This may indicate that households are trying to protect their future food security by preserving their seed stock. 13 households about 21.67% of them migrated to work this is a common coping strategy for households facing food insecurity they migrate to another place where they can earn more to consume more food and other livelihood and other 47 households about 78.33% of them stay on the old place and work from there.

The occasional job strategy was used by 37.29% of households, this suggests that households are willing to engage in temporary or informal employment to meet their food needs. Another 62.71% of the households depend on regular work they don't involve in an occasional job. About 9 of the household around 15% of the total household follow the strategy to borrow food from a friend or relatives this strategy can solve food insecurity in the short term but it's not sustainable for a long period. Another 51 households about 85% of the total household don't borrow food from relatives or from friends they may solve the food insecurity on their own.

Table 4.5: Food coping strategies

Items	Yes	Percentage
Skip meals	5	8.33
Restricted consumption of adults	15	25.00
Limited portion size at meal times	16	26.67
Sent household members to eat elsewhere	0	0.00
Rely on less expensive foods	42	70.00
Make handicrafts to raise money for food	1	1.67
Consume seed stock held for next season	0	0.00
The household head migrated to work	13	21.67
Occasional job	22	37.29
Borrow food from a friend or relative	9	15.00
Purchased food on credit	8	13.33
Send household members to beg	0	0.00

Source: Field Survey, 2022

We can also see that 8 out of 60 households purchased food on credit they may buy food from local vendors or local shops on credit this is a short-term strategy to solve food insecurity this may lead them to financial problems because they may have to pay interest to pay the debt. Other 52 of the household don't purchase food on credit.

Table 4.5 shows that none of the households send their member for begging food. After all the table shows the different food coping strategies used by households experiencing food insecurity. The most commonly used strategy was relying on less expensive foods while sending household members to beg or eat elsewhere was not used at all. Restricted consumption of adults and limited portion sizes were also commonly used. The migration of the household head for work and occasional jobs were other commonly used strategies. The data suggests that households are willing to compromise on the quality and variety of their diet to cope with food insecurity.

4.9. Income and Expenditure

Figure 4.4 shows the average yearly income and expenditure of the household. We can see that their average yearly earning less than 100000 from farming activity and They earn around 250000 from non-farming activity. The average expenditure of the household is Tk.193899.96. So, the study shows that it is very difficult for any household that is involved in farming activity and who is related in non-farming activity they earn a lot which is necessary to fulfill the need.

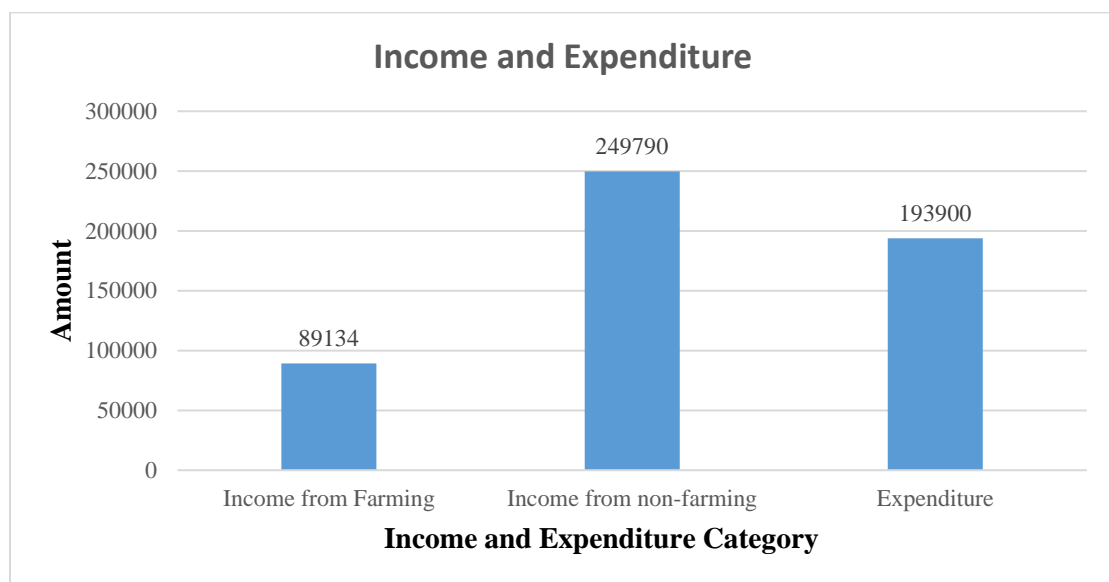


Figure 4.4: Household yearly income and expenditure

Source: Field Survey, 2022

4.10. Availability of computer and ICT training

Table 4.6 shows the information and communication technology-related involvement of the household. Only 8 out of 60 households about 13.33% of the total household have a computer in their home another 52 households about 86.67% of them don't have a computer in their home. It indicates that access to the computer is limited among them. Only 5 households about 8.33% have ICT training other 55 households about 91.67% of the total household don't have any training in ICT. So we can see that a very less portion of the total household has access to the information and communication technology.

Table 4.6: Availability of computer and ICT training of households

Items	Yes	Percentage	No	Percentage
Computer in home	8	13.33	52	86.67
ICT training	5	8.33	55	91.67

Source: Field Survey, 2022

4.11. Number of mobile phone user by age

Figure 4.5 depicts the number of mobile phone users within a household, categorized by age group and number of phones used. The data reveals that only one person over the age of 50 does not use a mobile phone. Among the users, five people aged 0-35, one person aged 36-50, and three people above the age of 50 reported using only one mobile phone. The majority of the household members use two mobile phones, with 23 people aged 0-35, six people aged 36-50, and two people above the age of 50 reported using two phones. Eight people among the household use three mobile phones. Furthermore, only two people aged 0-50 and three people above the age of 50 use four mobile phones. Only one person above the age of 50 reported using five mobile phones, and one person aged 36-50 reported using six mobile phones. In summary, the data highlights that most household members use two mobile phones, with the age group of 0-35 being the largest users of multiple phones. The findings also indicate that mobile phone usage is prevalent among all age groups in the household, with only one person over the age of 50 not using a mobile phone.

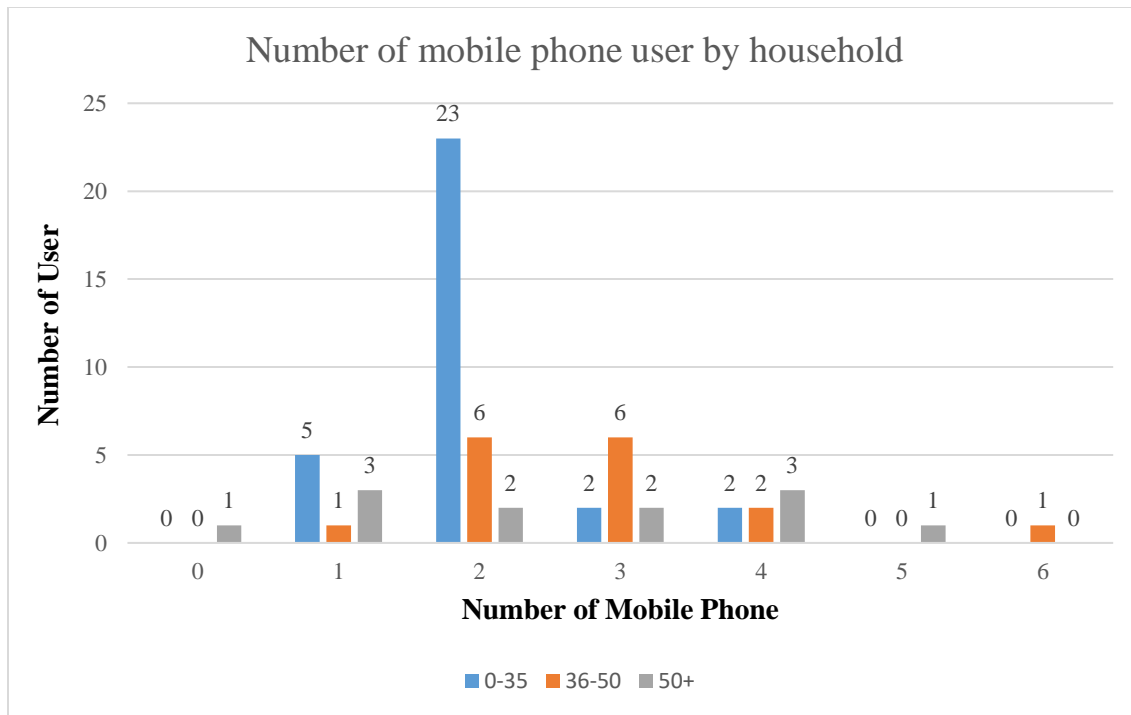


Figure 4.5: Number of Mobile Phone User by Household

Source: Field Survey, 2022

4.12. Number of Android Phone User by household

Figure 4.6 illustrates the utilization of Android mobile phones among households, categorized by age group and number of phones used. The data exhibits that 11 individuals aged 0-35 years, three individuals aged 36-50 years, and five individuals above 50 years do not use an Android phone. The majority of users employ one Android phone, with 16 individuals aged 0-35 years, eight individuals aged 36-50 years, and two individuals above 50 years reported using one Android phone. Additionally, five individuals aged 0-35 years, four individuals aged 36-50 years, and three individuals above 50 years use two Android phones. Only one individual aged 36-50 years and above 50 years use three Android phones among the household, and only one person above 50 years reported using four Android phones. To summarize, the data shows that the majority of individuals within the household use one Android phone. The age group of 0-35 years reported the highest usage of multiple Android phones. Furthermore, the data reveals that Android phone usage is prevalent among all age groups in the household, with some individuals not using Android phones at all.

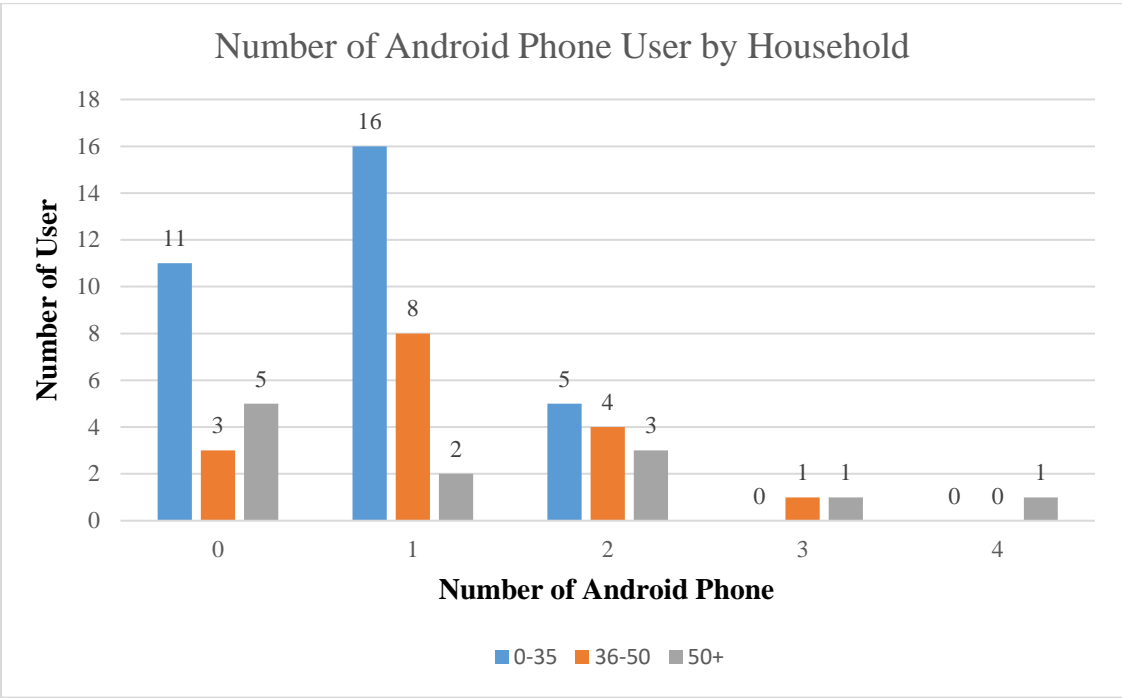


Figure 4.6: Number of Android Phone user by household

Source: Field Survey, 2022

CHAPTER V

MULTIDIMENSIONAL POVERTY INDEX (MPI) RESULT AND DEPRIVATION SCORE ACROSS DIFFERENT POVERTY CUT OFF

5.1. Multidimensional Poverty Index (MPI) result

Table 5.1 demonstrate that 76.58% of the population falls into the MPI non-poor category. Yet the MPI poor status was determined for 52 out of 222 individuals. The existence of vulnerable people among the non-poor population must be noted, and there is a chance that someday soon they could face multidimensional poverty. In contrast to the 16 poor households, there are 44 non-poor households in the study area. This yields a headcount index of 0.23, indicating that 23% of the total population are MPI poor. Overall, Table 5.1 shows that while most people do not suffer multidimensional poverty, a sizeable minority do. Additionally, the existence of vulnerable groups among the non-poor population shows that efforts to reduce poverty should focus on both addressing the requirements of those who are already poor and protecting people from becoming poor.

Table 5.1: MPI summary of the study area

Items	Numbers	Percentage (%)
Total Household	60	-
Total Non-poor Individuals	170	76.58
Total Poor Individuals	52	23.42
Total Non-poor Household	44	73.33
Total Poor Household	16	26.67
Headcount Index	0.23	23
Intensity Index	0.41	41.47
MPI	.095	9.50

Source: Field Survey 2022

5.2. Deprivation score across different poverty cut off

The poverty cut-off levels, which vary between 0 to 66 for each group, are displayed in Table 5.2. The statistics reveal that 127 people and 33 households, or 57.21 % of the population, are not categorized as multi-dimensionally or severely poor (i.e., those with poverty scores between 0 and 20). Also, the vulnerable group, which comprises 43 people from 11 households and may be at danger of becoming poor in the future (i.e., those with poverty scores between 20 and 33). Based on the MPI tool, 23.42% of the total population – 52 individuals from 16 households – are classified as MPI poor.

Overall, the population was categorized into three groups based on their MPI scores: not MPI poor, vulnerable, and MPI poor. The majority of the population falls into the not MPI poor group, indicating that they are far from the poverty line and are not at risk of falling into poverty in the future. Only a minority of the population is considered vulnerable.

Table 5.2: Deprivation score across different poverty cut off

MPI Score	Number of Household	Number of Population	Percentage of Total Population	Cumulative Percentage	Magnitude of Poverty
00-20	33	127	57.21	57.21	Not MPI Poor
21-32	11	43	19.37	76.58	Vulnerable
33-66	16	52	23.42	100	MPI Poor
Total	60	222			

Source: Field Survey, 2022

In summary, Table 5.2 shows that a significant proportion of the population is not experiencing multidimensional poverty or acute poverty, but there are some households and individuals in the vulnerable group who may be at risk of falling into poverty. The MPI tool is a useful tool for identifying poverty among the population, and the results can inform targeted poverty reduction efforts.

CHAPTER VI

SUMMARY, CONCLUSION AND RECOMMENDATION

This research is mainly based on poverty. The rural area is the main victim of it. The research is evaluating poverty through 5 main dimensions that are being faced by rural people. Poverty is a problem that is emerging highly in developing countries like Bangladesh. This study can be used to point out the indicators that are mainly responsible for poverty. The research is not only defining poverty but also the economic and political condition of the area.

6.1. Summary

This thesis was conducted in Kishoreganj Upazila, Nilphamari district, to analyze the high poverty rate. A total of 60 respondents were randomly selected for face-to-face interviews. The MPI was calculated using five factors with a 20% weightage: financial aspects, education, health, living standard, and political aspects. Financial aspects included employment, savings, assets, loans, and years of schooling, while education included years of schooling and school enrollment. Health factors included health, living standard, and access to law and order, voting rights, and public representatives. A person is considered deprived in a certain indicator when their achievement is below the specified cut-off. The deprivation cut-off is determined by ongoing SDGs, national and international policy, local culture, and empirical evidence. The Global Poverty Index (MPI) is calculated using an equal weighting of dimensions, with each dimension having a 1/5 weight. Deprivation scores are assigned based on deprivation in all dimensions, with a weighted sum of deprivations between 0 and 1. The poverty cut-off is 1/3, and a person with 20% to 32% deprivation of total indicators is considered vulnerable to MPI poor. MPI is an integrated combination of headcount index and intensity index, indicating the proportion of deprivation to total weighted indicators. The study reveals that the majority of respondents (26 males and 6 females) are between the ages of 0-35, with 11 males and 11 females aged more than 50. Education is considered a key factor in improving skills and attitudes and transforming technology. The study also shows that the majority of respondents are engaged in various types of work, such as crop farming, day labor, service, and business.

Service is the primary source of income for 55% of respondents, while 10%, 20%, 15%, and 7.7% were engaged in other occupations. Additionally, only 13.33% of households have a computer in their home, while 86.67% don't have one. Only 8.33% have ICT training, and 91.67% don't have any training in ICT. Overall, a small portion of the population has access to information and communication technology. This study found that 76.58% of the population is in the MPI non-poor category, but 52 out of 222 individuals are MPI-poor. This indicates that a significant minority of people do not suffer from multidimensional poverty. The existence of vulnerable groups in the non-poor population highlights the need for efforts to reduce poverty by addressing the needs of those already poor and protecting those from becoming poor. The poverty cut-off levels vary between 0 and 66 for each group. The majority of the population falls into the not MPI poor group, meaning they are far from poverty and not at risk of falling into poverty in the future.

6.2. Conclusion

Poverty is the curse of human life. It deteriorates the quality of human life. It affects human happiness, peace and all their expected wish. And this thesis explored the real scenario of poverty conditions of different villages of Putimari union in Bangladesh. This paper has introduced MPI as an effective poverty measurement tool with descriptive statistical analysis. Poverty has to be measured in a better way for better policy intervention. In developing countries like Bangladesh, acknowledgment of the multidimensionality of poverty is not often seen in policy formulation and social research (Chowdhury and Mukhophaya, 2014). Undertaken 20 indicators are both income and non-income parameters helped to portray the poverty story of rural Nilphamari in a better way. This MPI approach is different from traditional income-based poverty measurement. Hence the breadth of poverty is measured here which will make the reader understand how poor the poor are.

The presence of vulnerable persons among the non-poor population must be acknowledged, and there is a possibility that they will confront multidimensional poverty in the near future. In addition to the 16 impoverished households, the research region included 44 non-poor households. This results in a headcount index of 0.23, showing that 23% of the population is MPI poor.

One of the limitations of this paper is that this paper did not address the spatial attributes (i.e. distance from the workplace, distance from education, distance from medical) which is being practiced nowadays (Sydunnahe and morshed, 2019). Another one is, people do often not find themselves comfortable answering questions relevant to their income and saving. There is a tendency not to tell their actual savings to the people they do not know.

Finally, this thesis incorporates the methodology developing critical insight into poverty measurement. Hence, MPI will be practiced more in national poverty measures, will be exercised in poverty reasoning, and will be practiced in public debates. Besides, the findings will directly help in local development policy, and resources and development projects can be ensured.

6.3. Recommendation

On the basis of the findings of the study to measure acute poverty level, the following recommendations are made as a part of present study which will help to reduce poverty in selected areas. The following recommendations are put forward:

- There should provide more opportunities of farming activities for the vulnerable households to improve their living condition.
- Education level can be increased in selected areas by various government projects such as zero-interest loans for poor students, ICT based education, primary education development program secondary and higher secondary education quality enhancement project, etc
- People needed to be encouraged to take technical education and to create a feasible job sector.

6.4. Limitation of the study

The goal of this study was to discover more about a better knowledge of the current status. Given the researchers limited time, money, and other resources, as well as the need to make the study useful and manageable, the researcher had to impose the following limitations:

- i. The study was confined to only one upazila in the Nilphamari district northern region of Bangladesh.
- ii. Consequently, most of the answers to questions were based on the farmer's memory.
- iii. However, thorough probing was undertaken to ensure respondents gave accurate data.

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Appendix

DEPARTMENT OF DEVELOPMENT & POVERTY STUDIES

Sher-e-Bangla Agricultural University

Sher-e-Bangla Nagar, Dhaka-1207

An Interview Schedule for the Study Entitled

MEASURING ACUTE POVERTY USING MULTIDIMENSIONAL POVERTY INDEX FOR A SELECTED AREA

Serial number:

Date:

Dear Respondent,

All of your information will be kept confidential and will be used for research purpose only. Please provide the following information.

A. General Information

Name:.....
.....
Address:Village:.....Upazilla:.....
.....
District:.....Mobile:.....
.....

B. Demographic and socio-economic information

1. Gender of the respondent:(Use code)
(Use code: Male: 1, Female :0)
2. Age of the respondent:years
3. Education of the respondent:years
4. Household size :number
5. Main source of income :.....(Use code)
(Use code: Crop farming: 1, Livestock rearing:2, Fish farming:3, Day labour:4, Service:5, Business:6, Others:7)
6. Marital status of the respondent:(Use code)
(single:1, married:2, separated:3, Divorced:4, widow/widower:5)
 - If married, Education of the spouse:years
7. Owner of dwelling :.....(Use code)
(Owner:1, Rented:2, Not owner but rented:3, others:4)
8. Quality of housing:(Use code)
(Mud/bamboo:1, Tin/Semi katcha:2, Semi paka:3, Paka:4, Others:5)
9. Are you or any member involved in homestead gardening? Yes (1) / No (0)
10. Amount of own agricultural land :decimal
11. Total number of earning member in the family:number
12. How many member of the family have mobile phone:

- Of them, how many have android.....
13. Do you have Computer in your house: Yes (1) / No (0)
14. Do you have ICT training: Yes (1) / No (0)
15. Sources of drinking water:.....(use code)
 Pipe or wasa waterline:1, tubewell/ deep tubewell:2, pond/river:3, Rain water:4, others:5)
16. Type of toilet:.....(use code)
 (sanitary with water seal:1, sanitary without water seal:2, not sanitary:3, common latrine:4, open area/ no toilet:5, others:6)
17. Sources of power:.....(use code)
 (electricity:1, solar panels:2, Kerosene:3, others:4)
18. Sources of cooking fuel:.....(Use code)
 (Firewood:1, cowdung/leaf/straw:2, Gas/lp gas:3, biogas:4, kerosene:5, electricity: 6, others:7)
19. Are you a member of any societal/cooperative society: Yes (1) / No (0)
20. Distance of highway from your house:(Km)
21. Distance of nearest market from your house:(Km)

C. Health Related Information

22. Any child is engaged with labor work : Yes(1) / No(0)
- How Many.....
 - Early childhood.....(1), Middle childhood.....(2), Adolescence.....(3)
23. At least one child is sick once a week : Yes (1) / No (0)
24. Any child has died in the family : Yes(1) / No(0)
- How Many.....
25. Any child having chronic illness.....(Use code)
 (Autism: 1, Neumonia: 2, Anemia: 3, Thalassemia: 4, Others: 5, No: 0)
26. Any woman is suffering from anemia : Yes(1) / No(0)
27. Fever or diarrhoea in last 30 days.....Yes(1) / No(0)
28. Food coping strategies: Use code(Yes(1), No(0))
- Skip meals.....
 - Restricted consumption of adults
 - Limited portion size at meal times.....
 - Sent household members to eat elsewhere.....
 - Rely on less expensive foods.....
 - Make handicrafts to raise money for food.....
 - Consume seed stock held for next season.....
 - The household head migrated to work.....
 - Occasional job.....

- Borrow food from a friend or relative.....
- Purchased food on credit.....
- Send household members to beg.....

29. Number of food items taken by family members in a week.....

D. Educational Information

30. Education of the respondent:years
31. Education of the respondent's spouse:years
32. School-age child is going to school.....Yes(1) / No(0)
33. Number of school-age child not going to school.....

E. Standard of Living : Use code(Yes(1), No(0))

34. Electricity facility.....
35. Access to clean drinking water.....
36. Access to adequate sanitation.....
37. Do you have dirt floor.....
38. Do you have dirty cooking fuel(cooks with charcoal/dung).....
39. Do you have fast vehicles(motorbike)
40. Do you have refrigerator.....
41. Do you have television.....
42. Do you have android mobile.....
43. Family's women are involved in decision making.....
44. Access to cultivable land.....
- If yes,size of the total cultivable land.....

F. Financial Aspects

45. Family member's employment.....Yes(1) / No(0)
46. Yearly income from farming sources:Taka

	Source	Amount(tk)
1	Crop Production	
2	Livestock	
3	Fisheries	
4	Poultry	
5	Others	

47. Do you have any non-farm income source: Yes (1) / No (0)
- * If yes, amount of income earn in last one year.....Taka

	Source	Amount(tk)
1	Business	
	(a) Grocery Shop	
	(b) Tea Stall	
	(c) Restaurant	
	(d) Ceramic Shop	
	(e) Mechanic Shop	
	(f) Pharmacy Shop	
	(g) Fertilizer Shop	
	(h) Rod-Cement Shop	
	(i) Others	
2	Service	
	(a) Govt. Job	
	(b) Private Job	
	(c) Tution	
	(d) Electrician	
	(e) Day Labour	
	(f) Others	

48. Monthly/Yearly expenditure.....
49. Monthly/Yearly savings.....Yes(1) / No(0)
- If yes,then how much.....
50. Monthly/Yearly Loan.....Yes(1) / No(0)
- If yes,then how much.....

G. Political Aspects

51. Do you have voting right.....Yes(1) / No(0)
52. Access to law and order.....Yes(1) / No(0)
53. Smooth access to public representatives.....
- Yes(1) / No(0)
54. Do you get necessary support from them in your need.....
- Yes(1) / No(0)