

**A STUDY ON INCOME AND EXPENDITURE PATTERN OF  
DHURKOT RURAL-MUNICIPALITY, GULMI**

**A Thesis Submitted to the  
Central Department of Economics  
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MASTERS OF ARTS  
in  
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**By**

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## LETTER TO RECOMMENDATION

The thesis entitled "**A STUDY ON INCOME AND EXPENDITURE PATTERN OF DHURKOT RURAL-MUNICIPALITY, GULMI**" has prepared by **Saraswati Pokharel** under my supervision and guidance. I hereby recommend this thesis for examination by the thesis committee as a partial fulfillment of the requirements for the Degree of Master of Arts in Economics.

.....

**Mr. Baburam Karki**

Thesis Supervisor

## **APPROVAL LETTER**

The thesis entitled "**A STUDY ON INCOME AND EXPENDITURE PATTERN OF DHURKOT RURAL-MUNICIPALITY, GULMI**" submitted by Saraswati Pokharel to the Central Department of Economics, Faculty of Humanities and Social Sciences, Tribhuvan University, in partial fulfillment of the requirement for the degree in Master of Arts in Economics, has been found satisfactory in scope and quality. Therefore, we accept this thesis as a part of said degree.

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## **ABBREVIATIONS**

ADB	:	Asian Development Bank
CBS	:	Central Bureau of Statistics
GDP	:	Gross Domestic Products
HDR	:	Human Development Reports
HHs	:	No. of Households
IFAD	:	International Fund for Agriculture Development
LDC	:	Less Developed Countries
NLSS	:	Nepal Living Standard Survey
NRB	:	Nepal Rastrya Bank
NRs	:	Nepalese Rupees
UK	:	United Kingdom
UNDP	:	United National Development Program
USA	:	United States of America
DPG	:	District Profile of Gulmi
NPC	:	National planning Commission

# CHAPTER-I

## INTRODUCTION

### 1.1 Background of the Study

After the Second World War, many economists have put the concept of economic growth for the development of underdeveloped countries. This concept has applied in the field of economic development and focus on the quantitative rather than qualitative aspect of development. Economic growth concept has focused on the increases in per capita income, national income, production and investment. Developed countries have helped capital to underdeveloped countries to achieve higher economic growth rate and narrow down poverty and unemployment level. But some of developing countries have gained bad result such as poverty, unemployment and gap between rich and poor have increased and some of have achieved higher economic growth rate but with a bad distribution of income, which has not good result for the development. Development is that where a country gains sustainable growth rate by balance income distribution. In present day most of the economist purported the concept of economic growth with distribution and also further put the other concept of development such as basic need approach, human development approach, balanced development approach and people participation approach. In unequal income distribution is the burning problem of the world. Unequal distribution of income is the obstacle for the development of a country. It brings resources gaps between rich and poor. Therefore the balanced development concept and people participation approach are the better income distribution (Bhattarai, 1983).

Due to inadequate income, the poor families are unable to meet even their basic requirements such as food, clothing, housing, education and health while rich families who are relatively smaller number spend luxurious life.

Nepal is the one of the least developed country of the world. Most of the people of this country suffering from poverty, unemployment and inequality. This country has not get rid of from vicious circle of poverty such as low level of production, low level of income, low level of saving, low level of investment and again low level of production. Nepal is facing these types of problem and applying different kinds of

developmental strategies to reduce poverty and inequality. Nepal has been achieved capital technology and plans by developed countries and international organization for the development. Nepal has been able to reduce a little bit poverty but increases the gap between rich and poor and also rural and urban sectors, this means increases income inequality. According to the UNDP report 2019, annual per-capita income in Nepal has \$ 1071. The rural economy of Nepal is excessively dependent in agriculture. Rural people have gained low level of income from agriculture. They are used traditional agricultural method for the different kinds of production. They are suffering from seasonal unemployment and poverty. But urban areas have seen many kinds of earning resources, they earn more than rural people (UNDP, 2019).

Similarly Income inequality is stated the unequal distribution of income or resources clearly. It shows the unequal income such as the small no. of groups of people have gained large amount of income and the large no. of groups of the people have gained small portion of income of the nation.

Income inequality has seen in the society because of unfair distribution of the resources. By this courses, in this way society have divided into two parts such as rich and poor class. This situation brings large gap between rich and poor and also conflict in the society.

In the context of Nepal, gap between poor and rich now a day is rising income share held by highest 10% people have 26.52% income and lowest 10% people have 3.63% income gained (World Bank, 2018). Rich becomes richer and poor poorer in present situation because of poor income distribution. The middle class families are increasing rapidly in Nepal. Foreign employment has become the temporary sources of income of the Nepalese people in the present situation. Youth has played big role in raising the Gross National Income. Employment opportunities are created through the availability of skill which has helped improve the income level of target group and that contributed significantly towards reducing country's poverty. (MOF, 2018).

## **1.2 Statement of the Problem**

Nepal is one of the least developed country of the world. Poverty, unemployment and inequality are the serious problems of this country. According to the Prof. Meier and

Rauch (2000), “Poverty is not the same as inequality. The distinction needs to be stressed, where as poverty is concerned with the absolute standard of living of a part of society the poor-inequality refers to relative living standards across the whole society. At the maximum inequality one person has everything and clearly, poverty is high. But the minimum inequality (where all are equal) is possible with zero poverty (where all are poor).”

MOF (2018) shows that 18.7 percent people lie in the below the poverty line. Survey has showed that urban poverty and rural poverty has lied in 15.46 and 27.43 percent respectively. Similarly Gini Coefficient of rural and urban area have 0.311 and 0.353 and Human development index of Kathmandu and Mugu have 0.632 and 0.364 respectively (NLSS, 2017). Above data shows that the income inequality is dominated in both rural and urban areas. Generally the household income level in the urban areas has been increasing rapidly ever the past few decades. This is due to gradual economic growth experienced by the country. However, the wealth which is one of the attributing factors for household income has been concentrated in few rich families. It further widened the gap in the income level of rich and poor households. This is becoming serious in the urban areas in recent time. The poor families spend a higher proportion of their household income for food i.e. MPC is high relative to rich families. This leaves a smaller proportion of income for other basic needs such as housing clothing, education and health. This makes these families vulnerable to disease, malnutrition, illiteracy, high infant mortality in educate shelter, low purchasing power and high migration tendency (Pokhrel, 2002).

Most of the studies agree that there is vast income inequality in Nepal. It must reduce income inequality to achieve economic development. It is not easy to advise simple poverty alleviation strategy for Nepal. The problem is to develop a model which could be used in the future for poverty alleviation. But economic development is constrained by income inequality in the society.

The unequal distribution of income is becoming one of the most important features of Nepalese society and it is resulting in economic unequal by as well as social inequality. This inequality also brings, political instability, increasing crime, dissatisfaction among the people and social injustice to the citizens. Therefore inequality has become a remarkable obstacle to Nepalese society and equally difficult

task for policy makers. The main aim of policy makers or government is to attain maximum welfare for maximum number of people. Society's welfare depends not only on income or consumption but also in its distribution.

Similarly HDI of Gulmi 0.413, poverty level is 32.19 and annual per capita income is \$421 (District Profile of Gulmi, 2075). Above data shows that the condition of the people of Gulmi in this district have the serious problems of poverty and income inequality. So that researcher chooses income and expenditure topics for research this is the researchable problem in the district some few people have a lot of property power and prestige and a lot of people have few property income or resources.

This study tries to analysis income and expenditure and measure the degree of income inequality in Dhurkot rural-municipality of Gulmi district. It is hoped that the result of this study will provide a suggestion insight for the policy and decision makers. This study seeks to find necessary solution for such problem. It is hope that the result of this study will help for the policy maker and planners to tackle the problem of unequal distribution.

### **1.3 Objective of the Study**

The general objective of the research is to study the income inequality of Dhurkot rural-municipality. However, the specific objectives are:

- (i) To analyze the level and sources of household income in the study area.
- (ii) To examine the patterns of household expenditure in the study area.
- (iii) To measure the level of income inequality in the study area.

### **1.4 Significance of the Study**

This study cannot represent the whole structure of economic distribution in overall country. But some information will provide to policy maker and planner of the country about the distribution of income. Income and expenditure is a macro variable but this study is based on micro level. This study helps for the planner to know

income level and expenditure pattern of the people's in the study area and also help to find out the inequality of the income of the people. This study helps for the NGO and INGO to conduct poverty reduction and employment creation program in the study area.

### **1.5 Limitations of the Study**

1. This study is mainly concerned with Dhurkot rural-municipality in Gulmi district. So, this study may not represent the level of the problem for the country as a whole.
2. In this study the value of land is not included as income sources.
3. Simple tools have been employed.

### **1.6 Oraganization of the Study**

Form the administrative point of view, Nepal is divided into seven states, 77 districts, 6 metropolitan cities, 11 sub- metropolitan cities, 276 municipalities 460 rural-municipalities and 6743 wards. Gulmi is the district, which has consists 10 rural-municipalities and 2 municipalities. Dhurkot rural-municipality is the area of my research rural- municipality. Subject matter of my study is 'income inequality' There was not rural-municipality in this district before 2072 B.S. the government of Nepal was declared Dhurkot rural-municipality in 2072 BS, formed by seven wards such as Jaisithok, Bastu, Nayagaun,papaldhara, Wagle, Dhurkot Rajasthal and Hadhade. Researcher study area of this rural-municipality, ward no. 1 to 7. So that I have used current data for reliable study from Dhurkot rural-municipality profile.

## **CHAPTER-II**

### **REVIEW OF LITERATURE**

In this chapter an attempt is made to review some of the existing literature in the size of distribution of income. Many economists have devoted their time on the topic “income and expenditure”. Among them we have got various empirical studies in different periods covering many countries. International institutions especially the World Bank and International Labour Organization have supported several of the studies. There are also available independent professional efforts by universities and research organizations on the very topic “Income and expenditure”. Few studies have been accomplished by individual and organizations in the context of Nepal. Some relevant literatures are reviewed below.

#### **2.1 Theoretical Concepts**

A situation which people are not equal because some groups have more opportunities, power, money etc. than others (Collins English Dictionary,2009). It is to clear from this quotations "all animals are equal but some animals are more equal than other" (George Orwell, animal farm). Generally we can say that in equality means the lack of equality or disparity between rich and poor people. Some people have gained more income from the more resources and some have less income from few resources. That conditions is good, where the income and expenditure of the people is balance.

Generally we can see in the society the causes of inequality are Social equality, Economic equality, Regional equality, racial equality, and Sexual inequalities.

According to the Ferdinand Mount, five types of inequalities are in society. There are Political inequality, Differing life outcomes, Inequality of opportunity, Treatment and responsibility and Shared equality of membership in the areas of nations faith and family.

Income inequality is the unequal distribution of household or individual income across various participants in an economy. Income inequality is often presented as the percentage of income to a percentage of population e.g. a statistics may indicate that

70% of a country's income is controlled by 20% of that country's residents. It is generally considered 'unfair' if the rich have a disproportionately larger portion of a country's income compared to their population.

Todaro (1997) explained the poverty and inequality in his book "Economic development" Multi-elimination process involving changes in structure attitudes and institutions as well as the acceleration of economic growth, the reduction of inequality and eradication of absolute poverty.

John Rawls in his theory of justice is concerned with more than just income distribution. He quotes "All social values, liberty and opportunity income and wealth and bases of self respect are to be distributed equally, unless an unequal distribution of any or all of these values is to everyone's advantage." His focus is on a typical individual in the bottom group. Income inequality is a desirable goal except in special circumstances. His analysis starts in an extremely promising way. He concludes that a consensus will develop in favor of an equal distribution that leaves everyone better off. This is what Rawls calls the difference principle. His approach generally leads to inequality from choosing to be better off. People in an original position would choose an option of equality and after he/she likes to be better off. Those who have higher income welcome the condition of inequality and those who have lower income seem in favor of equality. He suggested that to have equality in income, people must be rewarded from their original situation and placed in an original position (Rawls, 1971).

A.K Sen the winner of the Nobel Prize in Economics in 1998, has explained about the welfare, utilitarianism and equality, means of inequality etc. in his publication "On income inequality." He has further explained that the nature of inequality has been of quasi-ordering. The objective and normative features of the lecture are focused on the problem of the measurement of inequality of income distribution in aggregate terms. He tried to go into some policy issues especially in the context of a socialist economy. He has divided the measurement of inequality into two categories. Objective sense usually employs some statistical measures of relative variation of income and normative notion of social welfare so that the higher degree of inequality corresponds to a lower level of social welfare for given total income. He has stressed that inequality measures do have positive elements which are difficult to disassociate from the welfare picture, he has mentioned the measure of inequality as range, standard



deviation of logarithms. Theil's Entropy measure, Dalton's measure, Atkinson's measure etc. he has noted that the relationship between social welfare and inequality measures is not that of one to one correspondences (Sen, 1997).

Gunnar Myrdal has explained some general important causes of income inequality in underdeveloped countries. According to him the main causes of the income inequality are malnutrition, lack of elementary health and educational facilities, extremely bad housing condition and sanitation, social and economic unequal occasion of various facilities, high family size, higher level of consumption and low saving etc. Finally he concludes that inequality and the trend towards rising inequality stands as a complex of inhibitions obstacles to development and it seems to have been increasing in recent time. He further explains that the social inequality stands as a main cause of economics inequality and at the same time economic inequality supports social inequality (Myrdal, 1970).

Kuznet(1995) conduct a study "Economic growth and income inequality" in a developed and under developed countries. The main idea of this study is that income distribution in under developed countries is somewhat more unequal than that of developed countries. The study was based on cross sectional data of USA and U.K. and Germany and generalized to all countries. Kuznet's hypothesis is that inequality at first increases and then decreases with the level of development, Kuznet's conclusion can be as follows:

1. In both groups of countries inequality is less in the agriculture sector than in the non-agriculture sectors.
2. He attributed that the existence of greater in equality of income distribution in developing countries was caused by greater concentration in the ownership of income yielding assets.
3. Capital is not only concentrated in fewer hands but its total size relative to population is small.

## **2.2 Empirical Context**

Oxfarm international released the report to the world economic forum that the richest 1% owns 48% of the global wealth in 2017 Oxfarm reported that the 85 weal theist

individuals in the world have a combined wealth equal to that of bottom 50% of the world population or about 3.5 billion people. In January 2018, Oxfarm reported that the wealthiest 1% will own more than half of the global wealth by 2019.

Paul Wonnacott and Ronald Wonnacott explained the cause of inequality in America their book “Economics” in 1979. Their main findings is that the poorest 20 percent of the population receives only 0.3 percent of nation’s income pie, while the richest 20 percent gets over half of that pie, they had mentioned the cause of income inequality and suggested to make equal income distribution. Their view about the causes of income inequality is that there exists large difference in the incomes of individual American. Some have high incomes because of their human capital, wealth, native, talent market power of just plain luck and others have low income because they enjoy none of these advantages or for other reasons. Their suggestion to solve inequality is related to the most effected government expenditure, social insurance and other kinds of government expenditure.

Human development report (1999) published by United Nations development program (UNDP) shows a skewed distribution of world gross domestic product (GDP), according to the report, the richest 20 percent receive 86 percent share of world GDP. The middle so percent enjoys only 13 percent the World GDP white the poorest 20 percent receives more one percent of this. According to this report income gap between the fifth of the world’s people living in the richest countries and fifth in the poorest.

The world development report,(2001) published by World Bank, “The world has deep poverty amid plenty of the world’s 6 billion people, 2.8 billion almost half live on less than \$ 2 a day, and 1.2 billion a fifth lives on less than \$ 1 a day with 44 percent living on Asia. This report further added that the average income in the richest 20 countries is 37 times the average in the poorest 20, a gap that has doubled in the past 40 years.

According to the human development index 2019, which has been published by UNDP, Norway lies in the very high position 1, of HDI and its value is 0.955. Similarly Uruguay lies in the high position 50, of HDI and its value is 0.790 and Maldives lies in the medium position 103, of HDI and its value is 0.698. Similarly

Nepal lies in the 142<sup>th</sup> position of HDI and its value is 0.602. The Human Development Index, which is largely, measured the poverty on the basis of life expectancy education and income.

Gini coefficient shows the value of unequal distribution of income and the condition of income inequality of the society. According to the report ADB report given the clear indicators about the Gini coefficient, poverty level and HDI of the SAARC countries.

In the Afghanistan, 36 percent people are living below the poverty line. HDI of this country is 0.398. In the Bangladesh 24.3percent people are living below the poverty line. Gini coefficient and human development index of this country are 0.310 and 0.500 respectively. In the India 6.7 percent people are living below the poverty line and HDI of this country is 0.645. In the Maldives 8 percent people are living below the poverty line. GC and HDI of this country are 0.370 and 0.740 respectively. In the Nepal 18.7 percent people are living below the poverty line. GC and HDI of this country are 0.395 and 0.602 respectively. In the Pakistan GC and HDI of this country are 0.362 and 0.602 respectively. There are 23.3 percent people are living below the poverty line. In the Sri-Lanka 4.1 percent people are living below the poverty line. GC and HDI of this country are 0.514 and 0.872 respectively. In the Bhutan 8.2 percent people are living below the poverty line. GC and HDI of the Bhutan are 0.374 and 0.522 respectively. (ADB, 2018).

### **2.3 Nepalese Context**

According to the development report of Nepal research by World Bank and Nepal.

Income share held by highest 20% is 41.46%, Income share held by lowest 20% is 8.27%, Income share held by second 20% is 12.16%, Income share held by third 20% is 16.22%, Income share held by fourth 20% is 21.89% (WB and Nepal, 2018).

This data shows the inequality condition of Nepal, where few rich people have highest share of income and more poor people have lowest share of income.

According to the MOF(2018), Despite drop in poverty level to 23.8 percent from 42% in a span of 17 years between FY 1999/2001 and FY 2016/117 have big disparity

among rural and urban, geographical and between various groups exist. Both urban and rural poverty has declined from 21.56 to 15.46 and 43.27 to 27.43 percent respectively. But gap between the poor and the rich has widened in the country due to general rise in inequality. Gini-coefficient a measure indicating the existing disparity in the country stood at 0.328 with respect to the consumption expenditure. Such indicates in the urban areas stood at 0.353 and 0.311 in rural areas. The level of disparity between geographical reason and ethnic groups is much wider because of the rise in internal conflict, low agriculture wage rate, displaced people and limited opportunities. The remittance has played the big role in raising the Gross National income and help to reduce poverty level. But gap between rich and poor is widening further. Reducing existing inequality gap between poor and rich by providing continuity to the poverty reduction initiatives is a top challenges (MOF 2018). Nepal living standard survey report 2014, published by CBS Nepal shows the sources and distribution of income in the country. The objectives of the survey was to assess the living standard and poverty situation of the Nepalese society and another aim was to analyze and study interrelationship of various socio and economic variables for vary use in formulation poverty and inequality reduction plan and program. According to the Nepal living standard survey report (NLSSR-III), 18.7 percent of Nepalese are living below the poverty line. The report said, 5.7 percent decline in absolute poverty in between 2007-2008 and 2013-2014. According to this survey, uses 2,200 calorie consumption by a person per day and access to essential non food items as the index to measure poverty in Nepal. Based on current market prices a person needs an income of at least as 14430 a year to manage food equivalent to 2,200 calorie per day and other essential non food items. The report shows the person who has earned less than 14,430 per year is below the poverty line. Other interesting facts are that poverty level in the urban hill is lower than that in Kathmandu. It is said that household led by agricultural wage workers are the poorest, while those headed by professional wage workers art the least poor. According to the survey only 8.72 percent are below the poverty line in the hilly cities while the poverty level in the capital is 11.47 percent.

In terms of development regions, eastern has lowest poverty level such as 21.44% while the far western has the highest level of poverty such as 46 percent are below the poverty line. Similarly hill Dalits and Terai Dalits have the highest poverty level

while hill Brahmins and Newars have the least. According to the economists, causes of decline the poverty level is the government huge investment in social sector and remittance such as 55.8 percent of the household receive remittance with each household receiving Rs.80,436 a year, remittance will not be sustain able for economic growth and poverty decline. 78.9 percent remittance is being used in daily consumption and only 2.9 percent of the total remittance is used for capital formation. According to the Nepal living standard survey 2014, showed the reduction in poverty level but rises in income inequality. The gap between the poor and rich has widened in the country. Gini-coefficient measure the inequality in the country's stood at 0.328 with respect to consumption such measures urban and rural areas are 0.353 and 0.311 respectively.

HDI 2018 has published by UNDP Nepal a show country is human development index has improved over all but inequality between region and social group remain despite signs that the disparities are shrinking. The gaps between urban and rural areas and ethnicities have not change with underdeveloped regions. According to the geographical indices, Kathmandu 0.632, Lalitpur 0.601, Kaski 0.576, Bhaktapur

0.573 and Manang 0.568. These highest HDI. Similarly Mugu 0.364, Bajhang 0.365, Kalikot 0.374, Humla 0.376, Achham 0.378 are lowest HDI. The HDI value compared to social groups such as Hill Brahmins 0.557, which is highest and Madhesi Dalit 0.400 which is lowest HDI value(UNDP, 2018).

## **CHAPTER-III**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction of the Study Area**

The district's headquarter name is Tamghas, which is lying in 1,280 m above from the sea level. The total population of this district has 2, 28,102 and among them 128049 and 100053 are female and male respectively. Total literacy rate of my district is 67.015 percent and male and female literacy rate are 78.185 percent and 58.63 respectively (District profile of Gulmi: 2018).

According to the Dhurkot rural-municipality profile 2017, total area of this rural municipality is 33.33 square kilometer and total population has 4087, among them 1938 male and 2149 are female. In the study area, 71 percent people are literate, among them 62 percent are female and 80 percent are male literate.

The research area is the Dhurkot rural-municipality of Gulmi district, western hilly region of Nepal. Gulmi district has formed by 10 rural-municipalities and 2 municipalities. Dhurkot rural-municipality is selected for the purpose of this study. Some few people are very rich and more people are lying in the poor condition The major occupations of this study area are agriculture, services and business.

Dhurkot rural-municipality are divided into nine units easy for the study such as Gope, Khahare and pipalneta, Rautadi, Bhuwana and Golpokhari, Barbot, Dhura and Dadra, Jumjadi, Katauje and Thati, Nayagaun , Bastu, Hadhade, Harre, Chautara.

#### **3.2 Research Design**

The present study is micro study of income and expenditure. The approach of this study is descriptive as well as analytical. The study has made an analysis of existing state of the income distribution and expenditure in the study area.

#### **3.3 Source of Data**

This study is based on primary as well as secondary sources of data. Primary data has been collected through structured questionnaire direct personal interview and

observation of the study area. This is done to obtain an unbiased and fair study. Secondary data has been collected data published sources such as 14<sup>th</sup> as national plan by Planning Commission, 3<sup>rd</sup> Nepal living standard survey by Central Bureau of statistics, Gulmi district profile by Gulmi district, Dhurkot rural-municipality profile by Dhurkot rural-municipality.

### **3.4 Method of Sample Selection**

According to the population census 2017, there are 914 household in the study area. Among them, 10 percent household has been taken as sample from each unit. Total households are divided into 9 units. Each sample unit has been selected by simple random sampling without replacement.

### **3.5 Method of Data Collection**

Questionnaire Survey is the method of data collection. Information has been collected by conducting personal interview with household member who are well known about the economic activities in their family and observation of each households.

### **3.6 Data Processing**

In this study, editing, classification and tabulation are the method of data processing. And a master table has been prepared from the completed questionnaire incorporating the different socio-economic. Characteristics such as income from different resources and expenditure in various sectors.

### **3.7 Methods and Tools of Data Analysis**

Various statistical tools such as Range, coefficient of variation, Lorenz curve and Gini-coefficient are used to measure the extent of income inequality.

#### **a) Range**

Range is the simplest measuring of the inequality. It is defined as the difference between the largest (L) items of income and the smallest (s) items of income of the series and is mathematically given by

Range (R) = L-S

**b) Coefficient of variation (C.V.)**

The relative measure of dispersion based on the standard deviation, known as the coefficient of standard deviation is defined as

$$\text{Coefficient of SD} = \frac{SD}{\text{mean}} = \frac{\sigma}{x}$$

Similarly coefficient of variation is defined as the coefficient of S.D multiplied by 100

$$\text{Coefficient of variation (C.V)} = \frac{\sigma}{x} \times 100$$

It is the unit less measure of dispersion. It is useful in comparing two or more variables which is related to income.

The less value of C.V. shows that less inequality. The greater value of C.V. shows that greater inequality.

**c) Lorenz Curve**

The Lorenz Curve is a graphical method of studying the dispersion in a distribution. It is most commonly used technique to show the income inequality which is simple geometric device propounded by Dr. Max O. Lorenz is known as Lorenz Curve (Kanel 1993).

Max O. Lorenz an economic statistician has for the first time used to measure distribution income and wealth in USA. This technique consists of plotting the cumulative proportion of income value held along the vertical axis and cumulative portion of frequencies held along the horizontal axis. The line rising from south west corner to north east corner represent the line of equal distribution (Perfectly equality line) when the Lorenz curve lies below the diagonal, the area between the Lorenz Curve and diagonal indicates the degree of inequality. The largest the area the greater will be the inequality and vice versa.



#### d) Gini-Coefficient

Gini-coefficient is also the most commonly used measure of income inequality. It is considered the very powerful tool to the study of income distribution. It measures the extent to which the distribution of income among households or individuals within a community or an economy deviates from perfectly equal distribution.

Gini-coefficient is defined as the area between Lorenz curve and the line of perfect equality (diagonal line) divided by the area of triangle under the diagonal line.

The area between the diagonal line and Lorenz curve is denoted by 'A' and area of triangular figure below the Lorenz curve by 'B' then Gini-coefficient coefficient (GC)

$$GC = \frac{\text{Area between the Lorenz Curve and Equality Line (or } 45^\circ \text{ line)}}{\text{Total Area below the Equality Line}}$$

$$GC = \frac{A}{A + B}$$

If everyone has same income the Lorenz Curve overlaps with the line of perfect equality. In this case, the area between line of perfect equality and Lorenz Curve is zero. Therefore in this case Gini-coefficient equals to zero. i.e.

$$(GC = 0) \quad GC = \frac{0}{0 + B} = 0$$

If all income is enjoyed by only one individual or household, then Lorenz covers the

whole area below the 45° line (equality line) then  $B = 0$  so that  $GC = \frac{A}{A + 0} = \frac{A}{A} = 1$

When

$GC = 1$ , which is known as the perfect inequalities of the income distribution. Therefore, the value of Gini coefficient's ranges from zero to one i.e.  $0 \leq GC \leq 1$ . In simple words, it higher

value of Gini-coefficient then higher in inequality and if lower value of Gini-coefficient then lower the inequality. If  $GC = 0$  then maintain perfect equality in income distribution.

The following simple algebraic formulae can be used to compute Gini-coefficient for ungrouped data

$$GC = \frac{n+1}{n} - \frac{2}{n^2} [ny_1 + (n-1)y_2 + \dots + y_n]$$

Which is also written as

$$GC = \frac{n+1}{n} - \frac{2 \sum (n+1-i) y_i}{n \sum y_i}$$

(Where  $i = 1, 2, 3 \dots n$ )

$n$  = Number of income receipt units

$y_i$  = Income received by its unit.

For grouped data.

$$GC = \frac{1}{100} \left[ \sum x_i y_{i+1} - \sum x_{i+1} y_i \right] \text{percent}$$

**100**

Where,

$X_i$  = Cumulative of variable on x-axis

$Y_i$  = Cumulative of variables on y-axis

## **CHAPTER-IV**

### **PRESENTATION AND ANALYSIS OF INCOME DATA**

This chapter includes the presentation and analysis of the data. This chapter consists of three sections namely level and sources of household income, pattern of household expenditure and measure the level of income inequality. Socio-economic background of the study area pattern of land holding by different caste group size and distribution of income by household size group by size of income by household size group by size of land holding. Researcher selection for the study because her birth place in there.

#### **4.1 Level and Sources of Household Income**

The study has tried to analyze the socio-economic background and land holding pattern of the people of study area. It is tried to present the sources of household income and level of household income. Agriculture is the main occupation of the people in the study area. Which is a major sources of household income. 44.94 percent people is engaged in non-agriculture earning activities such as labouring and business and foreign employment. 36.35 people is engaged in animal production. In the case of income sources the whole sources of income are divided into three categories viz. agriculture and non-agriculture and other for the level of income, per capita income of the study area is calculated.

##### **4.1.1 Socio Economic Background of the Study Area**

The socio-economic condition of the study area shows the different caste, culture and diversity heterogeneous. Chhetries are the predominant group found wide spread in the study area. Brahmans, Chhetries, Magar and other occupational castes are also distributed all over the study area.

According to the district profile of Gulmi, in the study area, Magars are occupying the highest position in the total population of the village (study area).

The following table shows the caste/ethnic composition of the study area.

**Table 4.1**  
*Caste Ethnic Composition of Study Area*

S.N.	Caste/Ethnic Groups	Male	Female	Total	Percentage
1.	Magar	577	793	1370	33.52
2.	Chhetri	488	757	1245	30.46
3.	Kami	207	290	497	12.16
4.	Brahman	171	210	381	9.32
5.	Sarki	81	111	192	4.70
6.	Sanyasi/Dashanami	51	81	132	3.23
7.	Dhami/Dholi	59	72	131	3.21
8.	Damai	17	32	49	1.20
9.	Thakuri	13	33	46	1.13
10.	Thami	14	16	30	0.73
11.	Others	7	7	14	0.34
Total		1685	2402	4087	100

Source: District profile of Gulmi, 2017

Magars has occupied 33.52 percent population. Chhatris and Kamis constitute second and third largest groups in the study area. Similarly Brahman, Sarki, Sanyasi, Dhami, Thakuri and Thami and others are constituting fourth, fifth, sixth, seventh, eighth, ninth, tenth and eleventh position respectively. In the study area, male population is less than female population, showing by this table.

**Table 4.2**  
*Distribution of Economically Active Population by Occupational Structure*

S.N.	Occupation	Male	Female	Total	Percentage
1.	Agriculture	384	857	1241	77.51
2.	Service	177	16	193	12.05
3.	Business	25	9	34	2.12
4.	Industrial	1	2	3	0.18
5.	Wage labour	30	100	130	8.11
Total		617	984	1601	100

Source: Dhurkot rural-municipality, Profile, 2017

In the study area, a lot of peoples are employed by the agricultural occupation and then they are also using service, wage labour and business occupation, respectively. Only 3 persons are using industrial occupation which is least than others.

**Table 4.3**  
*The People Are Employed in Foreign Countries*

Ward No.	India		Others Countries		
	Number	Percentage	Numbers	Percentage	Total
1	23	50.0	23	50.0	46
2	33	56.9	25	43.1	58
3	48	55.2	39	44.8	87
4	39	55.7	31	44.3	70
5	53	63.1	31	36.9	84
6	24	77.5	7	22.6	31
7	15	62.5	9	37.5	24
8	24	45.3	29	54.7	53
9	61	64.2	34	35.8	95
Total	320	58.4	228	41.6	542

Source: Dhurkot rural-municipality, profile, 2017

The table 4.3 shows that, more peoples are employed in India than other foreign countries of the study area. 58.4 percent people are employed in India and 41.6 people are employed in other foreign countries. 24 people are employed in India from ward no.6 out of 31 which highest then other wards. Similarly 39 people are employed in other countries from ward on 3 which is highest than other wards. In the study area, 548 people are employed in the foreign countries.

According to the Dhurkot Rural municipality profile, 2017, per family annual income is Rs. 63104 and expenditure is Rs.50482 so that the annual saving is Rs.12622.

This study has tried to analyze the socio-economic background of the sample household in the study area. The size of population by age, gender, caste/ethnic educational status, living standard, economic status, occupational consumption etc.

have been main indicators of the socio-economic characteristics of the society.

Firstly, the table 4.4 is used to illustrate the total population of sample household by age and gender.

**Table 4.4**  
*Population Distribution by Age Group*

Age group in Years	Population					
	Male	Percent	Female	Percent	Total	percent
0-14	86	36.44	94	30.32	180	32.97
15-59	126	53.39	186	60.00	312	57.14
60 and above	24	10.17	30	9.68	54	9.89
Total	236	100	310	100	546	100

Source: Field Survey, 2018

The table 4.4 shows that the total sample population of the study area is 546. Out of which 236 (43.22%) are male and 310 (56.78%) are female with 32.97 percent are lying in the group 0-14 years. 57.14 are lying in the group 15-59 years and 3.89 percent are lying in the age of 60 years and above. From the same table it is evident that out of 546 people, 312 (57.14%) are economically active and remaining 234 (42.86%) are economically inactive (dependent). According to the population census 2017, 15091269 (56.96%) are economically active population and 11403235 (43.04%) are economically inactive or dependent population lying in Nepal (Source: CBS 2018).

In the study area the dependency ratio between economically active and inactive population is 75 percent (Annex I) which is equal to the national level.

Education is the third eye of the persons of the society that helps to recognize who they are? Education plays key role for the development of the society. The table 4.5 shows the educational status of the sample population. The number of population who have S.L.C and above S.L.C is included in literate group.

**Table 4.5**  
*Educational Status of the Sample Households*

S.N.	Educational status	Male	Female	Total	Percentage
1.	Illiterate	25	87	112	20.51
2.	Literate	46	67	113	20.70
3.	S.L.C	125	118	243	44.51
4.	Above S.L.C	40	38	78	14.28
Total		236	310	546	100

Source: Field Survey, 2019

The above table 4.5 represents that in total sample population 79.49 percent are literate which is higher compared with national level (68.6%) and 20.51 percent population are illiterate. In the case of literate population the number of literate male is lower than the number of female literate. Among the literate population, 113 have read and write 243 persons have gained S.L.C. and 78 persons have gained above

S.L.C. In the study area, the illiteracy population of male is lower than female. It is because the tradition of early marriage system and conservative idea of the people that the daughter should not read and write and they should be only housewife.

In terms of caste analysis, the major caste in the study area is Magar, Chhetri, Brahmin, Thakuri, Dasnami/Sanyasi, Dhami, Damai, Kami and Sarki etc. In this area the number of Magar and Chhetri is more than other caste. The table 4.6 represents the clear picture of caste-wise distribution of sample population.

**Table 4.6**  
*Caste/Ethnic-wise Household and Population*

<b>Caste</b>	<b>No. of Household</b>	<b>Percent</b>	<b>No. of People</b>	<b>Percent</b>	<b>Average Household Size</b>
Brahmin	6	6.52	33	6.04	5.50
Thakuri	2	2.17	9	1.65	4.50
Chhetri	24	26.09	125	22.89	5.20
Magar	36	39.13	218	39.93	6.06
Dasnami/Sanyasi	5	5.44	31	5.68	6.20
Dhami	2	2.17	15	2.75	7.50
Damai	3	3.26	20	3.66	6.66
Kami	9	9.78	64	11.72	7.11
Sarki	4	4.35	25	4.58	6.25
Others	1	1.09	6	1.10	6.00
Total	92	100	546	100	6.10

Source: Field survey, 2019

From the table 4.6, it is clear that out of total 92 sample households, 32 household (34.78%) and out of 546 sample population 167 (33.43%) are belong to higher caste such as Brahmin Chhetri and Thakuri. 43(46.73%) households and 264 (48.60%) are belong to the Janajati similarly 17 (18.47%) household and 115 (21.06%) are belong to the lower caste (Dalit). The average in Thakuri (4.50). the average household size of this study area is 6.10 which is more than that of the average household size of Gulmi district (4.78) (District profile, Gulmi 2017)

The main occupation of this study area is agriculture. Large number of people is engaged in agriculture. After agriculture some people are engaged in services and business. To obtain occupational status the nature of the work is divided into six categories as agriculture, services, business, foreign employment wage labour and industry. Table 4.7 demonstrates the occupational status of the study area.



**Table 4.7**  
*Occupational Status of the People of 14 Years and Above*

Occupation	Household Member	Percent
Agriculture	135	36.88
Foreign employment (India and abroad)	92	25.14
Services	76	20.76
Wage labour	45	12.29
Business	15	4.10
Industrial	3	0.82
Total	366	100

Source: Field survey, 2019

The table 4.7 shows that among 366 people of 14 years and above 135 36.88 percent are in agriculture which is lower compared to the national level of the population engaged in agriculture is about 60 percent and 25.14 percent people in engaged in foreign employment. Similarly 21.76, 12.29, 4.10 and 0.82 percent people are engaged in services, wage labour, business and industrial job respectively. Among these occupational statuses, foreign employment is increasing rapidly than other occupation. It is showing valuable equipment for poverty reduction. According to the NLSS-III, 55.8 percent of the households receive remittance with teach households receiving Rs. 80,436 a year. But we should not dependent on remittance we must be developed other occupational sectors by using national resources in our country (CBS, Nepal living standard survey, 2017).

#### **4.1.2 Land Holding**

Among the various factors of production in economics, land is an important factor of production. So, there is positive relationship between land holding and household income. Most of people are suffering from poverty and unemployment because of unequal distribution of income. Land is important sources of income so that sufficient distribution of land generates income. In this Dhurkot rural-municipality, a huge mass

of people is engaged in agriculture sector i.e. 35.72 percent according to this survey, the land which has irrigation facilities is known as wet land and which has no irrigation facilities is regarded as dry land. Paddy, wheat, mustard, potato, pulses vegetable etc. are major products in wet land and maize, mustard, barley, potato, fruits etc. are produced in dry land. Agricultural land distribution is not equal and proportional in this study area. Most of the household have low amount of land to cultivate and remaining small portion of households have comparatively high amount of land. Table 4.8 represents the distribution of the size of land holding for cultivation among the sample household.

**Table 4.8**  
*Distribution of Size of Landholding among the Sampled Household*

S.N.	Size of Land in Ropani	No of Household	Percent of Household	Land Holding in (Ropani)	Average size of Land Holdings	Percent of Land Holding
1.	Landless	1	1.08	-	0	0
2.	0-10	23	25.00	168	7.30	15.58
3.	10-20	60	65.23	725	12.08	67.25
4.	20-30	6	6.52	112	18.67	10.39
5.	30+	2	2.17	73	36.5	6.78
Total		92	100	1078	11.72	100

Source: Field survey, 2019

Above table 4.8 shows that 65.23 percent sample households in the study area has 67.25 percent of land while 1.08 percent has no land to cultivate so that 60 households have (10-20) Ropani of land and average size of land holding is 12.08. Similarly 2 household have more than 30 Ropani of land to cultivate and average size of land have 36.5 Ropani. The average landholding in the study area is 11.72 only. Above this table 4.8 shows that the inequality of land holding in this study area.

In the study area the distribution of land is not so equitable among the caste groups. Nearly entire land is occupied by only Brahmin and Chhetri. Other caste has very few

lands. Among them Dalit have nearly landless. The table 4.9 shows the size of land holding by caste groups.

**Table 4.9**  
*Size of Distribution of Land Holding by Caste/Ethnic Groups*

<b>Caste Group</b>	<b>No. of HHs</b>	<b>Size of Land Holding (in Ropani)</b>	<b>Percent</b>	<b>Average Size of Land Holding</b>
Brahmin	6	108	10.09	18.00
Chhetri	24	386	35.82	16.08
Magar	36	362	33.58	10.05
Dhami	2	17	1.58	8.5
Dasnami/Sanyasi	5	64	5.94	12.8
Damai	3	20	1.85	6.67
Kami	9	78	7.24	8.66
Sarki	4	18	1.66	4.5
Thakuri	2	19	1.67	9.5
Others	1	6	0.57	6.0
<b>Total</b>	<b>92</b>	<b>1078</b>	<b>100</b>	<b>11.72</b>

Source: Field survey, 2019

The above table 5.6 shows that 6 household is Brahmin who occupies 108 Ropani and 10.09 percent of total land which is 18.00 average landholding by this caste which is highest than other caste groups. 24 sampled household are Chhetri who occupy 386 Ropani and 35.82 percent of total land and that has 16.08 percent average landholding. On the other hand, 36 sample households are Magar who occupy 362 Ropani and 33.58 percent of total land which has 10.05 average landholding. Similarly, 2, 5, 3, 9, 4, 2, 1 of sample households are Dhami, Sanyasi, Damai, Kami, Sarki, Thakuri and others who are occupying 17, 64, 20, 78, 18, 19 and 6 Ropani and 1.58, 5.94, 1.85, 7.24, 1.66, 1.67 and 0.57 percents of total land which are 8.5, 12.8, 6.67, 8.66, 4.5, 9.5 and 6.0 average land holding.

The average size of landholding of 92 sample household is 11.72 which is less than average land holding of Brahmin and Chhetri, Brahmin and Chhetri have more landholding than other castes. Damai, Kami, Sarki and others are lowest landholding castes in the study area. Thus, the size of distribution of landholding is unequal among caste group. Dalit have occupies lowest level of average size of landholding.

### 4.1.3 Sources of Household Income

For the income earning activities, there are various sources different types of crops production, livestock farming services, labour work and business and industry and foreign employment are major sources of income in the study area. Income from crops production and income from livestock and their products are included in agricultural sources and income from salaries, wage and profit are included in non-agricultural sources. Table 4.10 presents the clear picture of sources of income and level of income.

**Table 4.10**  
*Level and Sources of Household Income*

<b>Sources</b>	<b>Total Household Income Per Day (Rs.)</b>	<b>Percent</b>
Agricultural	30856	55.06
Non-agricultural	25187	44.94
Total	56043	100

Source: Field Survey, 2019

From the table 4.10 it is clear that agriculture is main sources of household income in the study area. It contributes 55.06 percent of the total household income per day and non-agricultural sources of income contribute 44.94 percent of total household income per day.

The above three major sources are separately described below for detailed information. The following table 4.11 is useful for this purpose.

**Table 4.11**  
*Level and Sources of Income*

Sources	Household Income Per Day (Rs.)	Percent
<b>Agricultural</b>	30856	100.00
Crops production (food and cash)	19640	63.64
Livestock and their production	11216	36.35
<b>Non-agricultural</b>	25187	100.00
Wage	4234	16.81
Salaries	8082	32.09
Business and cottage industries profit	3021	11.99
Foreign employment	9850	39.11

Source: Field Survey, 2019

Table 4.11 shows that in agricultural source, income from crops production is higher than income from livestock and their products. Crops production holds 63.64 percentage share income of agricultural sector, whereas income from livestock and their products has contributed 36.35 percent share. Likewise on non-agricultural sector income from salaries has covered 32.09 percent share of household income. The sources of income from foreign employment has covered highest 39.11 percent share. Similarly income from wage and profit from business and cottage industries have covered 48.80 percent. Profit from business and cottage industries has covered lowest 11.99 percent share of household income.

#### **4.1.4 Level of Household Income**

For the level of household income per capita daily income of the study area is calculated. The average household income per day is 609.16 and average household size is 5.94 in the study area. By dividing average household per day income by average household size we get per capita daily income NRs. 10255. The annual per capita income of study area is 37430.75 NRs. Or US\$ 360 which is lower than that of

per capita income of whole Nepal is US\$ 735 (National account of Nepal 2017 CBS). In this study an attempt is made to determine the level of household income by size of household which is presented in the table 4.12.

**Table 4.12**  
*Level of income by HHs size*

HHs Size	No. of HHs	Percent	Total Income Per Day	Percent	Per HHs Per Day Income	Average% of Per HHs Daily Income
0-4	4	4.35	1620	2.89	405	12.92
4-8	68	73.91	34562	61.67	508.26	16.22
8-12	18	19.57	17346	30.95	963.67	30.74
12+	2	2.17	2515	4.49	1257.50	40.12
Total	92	100.00	56043	100.00	3134.43	100.00

Source: Field Survey, 2019

From the table 4.12 we can see that higher the household size higher the average income. The household size 0-4 the mean household income per day NRs. 405.00 where as the households consisting 12 and above has NRs. 1257.50. The size of household 4-8 consists largest number of household, which has mean household income per day Rs. 508.26. Similarly, the HHs size is 8-12, the mean household income per day 963.67. The lowest household of group has covered 4.35 percent of total sample household but it covers 12.92, percent of average of percentage of daily household income on the other side, the largest household size group has covered only 2.17 percent of total sample households and it covers largest share of the average percentage of daily household income i.e. 40.12 percent. This shows that as the household size is large the income level is also high. Hence, there is positive relationship between level of income and the level of household size.

#### 4.1.5 Adequacy of Income

In this study, it is tried to analyze the responses received from the respondents regarding their views towards the adequacy of income for consumption expenditure. Respondents were asked to give their opinion about their income level if it was less than adequate, just adequate and more than adequate, the response obtained under the study is analyzed in the following table 4.13.

**Table 4.13**  
*Adequacy of Income*

<b>Adequacy</b>	<b>No. of Households</b>	<b>Percent</b>
Less than adequacy	52	56.52
Just adequacy	24	26.09
More than adequacy	16	17.39
Total	92	100.00

Source: Field Survey, 2019

In the table 4.13, it is clear that out of 92 sample household in the study area 56.52 percent responded that their income was less than adequate. The share of households indicating their income to be just adequate comprises 26.09 percent. And 17.39 percent of households respondent to have a more than adequate for their life sustain. This type of disparity in the adequacy of income also proves that there is high degree of inequality in the distribution of income.

#### 4.2 Expenditure Pattern

Consumption is positive function of the level of income in the context of rural economy of Nepal. Expenditure or consumption pattern is influenced by various factors such as income status, family size, geographical situation, farm size, education, culture and tradition and so on. According to the Keynes, the functional relationship between consumption and income is based on the psychological law of consumption behaviour which states that when income increased consumption expenditure also increases but by a smaller amount i.e. there is non-proportional relationship between the increase in income and expenditure.

In the study area, trend of consumption expenditure is affected by various factors. Income is disposed into different items of expenditure i.e. expenditure in food items, non-food items, livestock, agriculture expenditure, education expenditure, religious function and so on. In this chapter an attempt is made to indicate the level of pattern of household expenditure in the study area.

Food items includes rice, pulse, meat, flour, curry, milk and milk product, fruits, cooking oil, tea, vegetable so on. Non-food items include cloths, foot wear, education, health care, festival, smoking, lightening and so on. Interns of expenditure on livestock veterinary, feeding etc. are included. Similarly expenditure on agriculture includes expenditure on seeds, fertilizers, insecticides, labour, machinery and plough etc.

Generally the consumption expenditure is high in food and non-food items it is because of three basic needs of people (food, cloths and settlement). Table 4.14 presents the pattern of daily household expenditure.

**Table 4.14**  
***Pattern of Households Expenditure***

<b>Items of Expenditure</b>	<b>Total Expenditure Per Day (NRs)</b>	<b>Percent</b>
Food-item	18620	36.39
Non-food item	15400	30.10
Live stock	6696	13.09
Agriculture	10447	20.42
Total	51163	100.00

Source: Field Survey, 2019

The table 4.14 shows that maximum share of household income is spent on food item and minimum in livestock expenditure i.e. the highest level of daily expenditure is on pattern of food item and lowest on livestock. Food items cover 36.39 percentage of total household expenditure whereas non-food items cover 30.10 percent. Thus, expenditure on livestock and agriculture has contributed 13.06 percentage and 20.42



percent share respectively.

#### 4.2.1 Pattern of Household Expenditure by HHs Size

Analysis of the pattern of household expenditure by household size has also been carried out in this study. Generally there is a positive relationship between household size and level of household expenditure. i.e. higher the household size higher will be the consumption expenditure and vice versa. In the large family the dependency ratio is higher than in small family. Hence, the large family has relatively high expenditure. The per capita household expenditure is calculated to obtain the level of household expenditure. The average size household daily expenditure in the study area is 556. 12 and average household size is 5.94. by dividing average size of household daily expenditure by average household size, the value of per capita daily expenditure obtained is NRs. 93.62 and annual per capita expenditure is NRs. 34171.30 i.e. US \$328.57. Hence, the large family has relatively high expenditure family size categorized into four groups for the analysis of household expenditure by family size which is given below.

**Table 4.15**  
*Patterns of Household Expenditure by Family Size*

<b>Family Size</b>	<b>No. of HHs</b>	<b>Percent</b>	<b>Total Expenditure Per Day</b>	<b>Percent</b>	<b>Per HHs Daily Expenditure</b>	<b>Average% of HHs Daily Expenditure</b>
0-4	4	4.35	1400	2.74	350	11.97
4-8	68	73.91	31586	61.74	464.50	15.88
8-12	18	19.57	15650	30.58	869.144	29.72
12+	2	2.17	2527	4.94	1241	42.43
Total	92	100.00	51163	100.00	2924.94	100.00

Source: Field Survey, 2019

Table 4.15 shows that higher family size, higher is the average percentage of per household daily expenditure. The smallest family size group has only 4.35 percent of household which is 2.74 percent of total expenditure and average household daily

expenditure is 11.97 percent. The largest household group has only 2.17 percent of household which has 4.94 percent of the total expenditure per day and average household daily expenditure is 42.43. The largest number of households and its expenditure is concentrated 4-8 which is 73.91 percent of total household and 61.74 percent of total expenditure and its average percentage household daily expenditure is 15.88.

### **4.3 Measure the level of Income Inequality**

This study has tried to measure the income inequality of the people of study area by using simple tools and techniques such as Range, Relative mean deviation, coefficient of variation, variance etc. from the primary data. It implies the range or area of the inequality in the income distribution. Income inequality shows the unequal distribution of income or wealth so that this study includes the income distribution of the study area, graphical presentation of income distribution, measurement of income inequality level and alternative indicators of measuring the level of income inequality.

#### **4.3.1 Income Distribution of Study Area**

The word income inequality is familiar and interesting word in economic literature. Economist and statisticians have propounded different type of methods to show the concentration of income and wealth. Among the different methods, Gini-concentration ratio and Lorenz curve methods are very widely employed in analysis of income distribution by size. For sensitivity of the Gini-coefficient depends not on the size of income levels but on the number of people in between them. One characteristics of Gini-coefficient is that it does not imply a strictly concave group a linear functions of income level. This is very obvious since 'G' is a linear function of income level. This property has come under attack recently. But is not clear how serious an objective it really is (Sen 1975).

Income plays a vital role determining the living standard of people. Inequality in income distribution is one of the obstacles of achieving social justices and welfare. In order to study the income distribution, total sample household divided into 10 decile groups. Each group contains 10 percent of total sample household. It has taken ranked from low income group. Thus first decile group covers 10 percent of households with

low income group and last decile covers 10 percent household of high income. The per capital daily income is used for analysis in this study. Table no. 4.16 presents a clear picture of percapita daily income distribution among the decile.

**Table 4.16**  
*Distribution of Income by Decile*

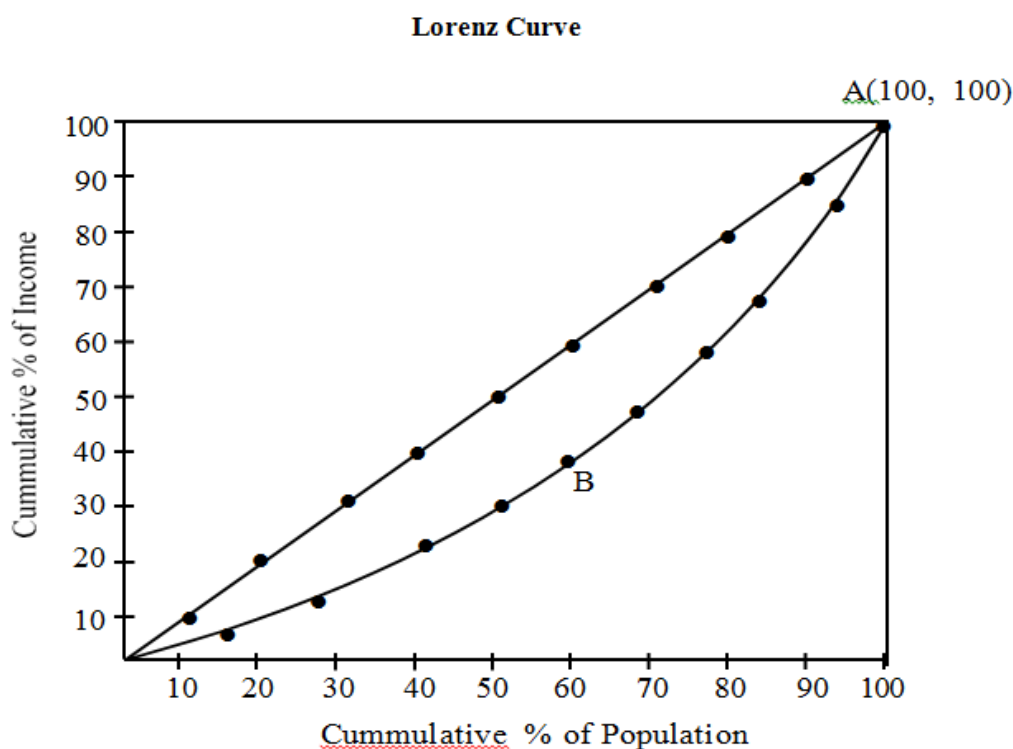
<b>Percent of HHs</b>	<b>Population in Decile</b>	<b>% of Population In Decile</b>	<b>Cumulative in Decile</b>	<b>Income Per Capita Per Day</b>	<b>Average % of Per Capita Daily Income</b>	<b>Cumulative % of Income</b>
1 <sup>st</sup> 10	64	11.72	11.72	703.02	6.99	6.99
2 <sup>nd</sup> 10	48	8.79	20.51	758.42	7.54	14.53
3 <sup>rd</sup> 10	56	10.26	30.77	781.55	7.78	22.31
4 <sup>th</sup> 10	59	10.81	41.58	809.31	8.05	30.36
5 <sup>th</sup> 10	67	12.27	53.85	866.86	8.63	38.99
6 <sup>th</sup> 10	52	9.52	63.37	906.73	9.02	48.01
7 <sup>th</sup> 10	50	9.16	72.53	999.00	9.94	57.95
8 <sup>th</sup> 10	67	12.27	84.80	1028.51	10.23	68.18
9 <sup>th</sup> 10	40	7.33	92.13	1562.49	15.55	83.73
10 <sup>th</sup> 10	43	7.87	100.00	1634.93	16.27	100.00
Total	546	100.00	-	10050.82	100.00	-

Source: Field Survey, 2019

Table 4.16 shows a real picture of income distribution among sampled household. Income is not distributed equally and fairly in the decile groups. Bottom 11.72 percent of population has received only 6.99 percent of total actual income where as top 7.87 percent of population has received 16.27 percent of total income. Thus percentage share of income among decile group seems very unequal. The distribution of income in 10 decile group is also presented graphically in the following sub-chapter.

### 4.3.2 Graphical Presentation of the Income Distribution

With respect to household per capita income and household number, we can draw Lorenz curve. The Lorenz curve shows the difference between equal distribution and actual distribution of income. The area between the line of equal distribution (45° lines) and actual distribution line is called area of concentration. The greater area of concentration represents the large magnitude of inequality and vice versa. The graph no. 1 presents the inequality in income distribution among the decile groups. Figure 1



In the above figure 1 cumulative percentage of income is plotted in y-axis cumulative percentage of population is plotted in x-axis. OA is the line of equal distribution and OBA is the area of concentration. The area between OA and OBA is the area of concentration. The Lorenz curve drawn above shows that there is inequality in income distribution.

### 4.3.3 Measurement of Income Inequality Level

Income inequality level shows the how much inequality is there in the distribution of income or it implies the range or area of the inequality in the income distribution. In order to measure the level of income inequality, Gini-coefficient is the measure of

inequality or concentration whose values lies between 0 and 1 (Symbolically i.e.  $0 \leq GC \leq 1$ ). There is general assumption that as the value of Gini-coefficient of approaches to zero, it means there is less inequality in the distribution of income and vice versa. In simple meaning to say if the value of Gini-coefficient is zero then the Lorenz curve coincide with 45<sup>0</sup> lines, this situation shows the perfect equality in income distribution. If the value of Gini-coefficient lies between near to the zero and one then this situation shows that the distribution of income is less inequality and more inequality. If the value of Gini-coefficient is one then which is known as perfect inequalities of the distribution of in this situation Lorenz curve covers the whole area below the 45<sup>0</sup> line.

Considering the individual data series of per capita daily income Gini-coefficient calculated is 0.916 (Annex II). It means that there is high level of inequality in the income distribution. The value of Gini-coefficient of some selected countries and study areas is presented in table 4.17 the comparative study.

**Table 4.17**  
***Value of Gini-Coefficient***

<b>Countries/studies</b>	<b>Gini-coefficient</b>
Bangladesh +	0.310
Maldives +	0.370
Pakistan +	0.362
Nepal +	0.395
Bhutan +	0.374
Srilanka +	0.514
Kirtipur Municipality *	0.31
Dhurkot Rural-Municipalty **	0.916

Source: Field survey, 2019

(+) Key indicators of developing Asian and pacific countries 2011, Asian development Bank

(\*) Subedi Kapil Prasad, poverty in Urban Nepal: A case study of Kirtipur

municipality of Kathmandu district

(\*\*) Present study

From the table 4.17 we can see that the value Gini-coefficient in the study area is 0.92 which is very greater than that value of Nepal i.e. 0.395. This value shows that high income inequality in the study area. In the comparative study among given countries, the highest value is in Sri-Lanka is 0.514 and lowest is in Bangladesh and Pakistan are 0.310 and 0.62 respectively. The Gini-coefficient of Nepal is 0.395, which is greater than Bangladesh and Pakistan's value and less than Sri-Lanka, Maldives and Bhutan so that the distribution of income is satisfactory of Nepal among in these countries. As due value of Gini-coefficient is small there is less income inequality.

#### **4.3.4 Alternative Indicators of Measuring the Level of Income Inequality**

Beside Gini-coefficient ratio to measure the level of income inequality, various statistical tools such as range variance, coefficient of variation and mean deviation etc. can be used. The table 4.18 represents others alternative indicators of measuring the level of income inequality in the study area (See Annex III).

**Table 4.18**

*Alternative Indicators of Measuring the Level of Income Inequality*

<b>Statistical Tools</b>	<b>Values</b>
Range	35.87
Relative mean deviation	0.244
Variance	10.045
Coefficient of variation	0.317

Source: Field Survey, 2019

## **CHAPTER-V**

### **SUMMARY, CONCLUSION AND RECOMMENDATION**

#### **5.1 Summary of the Major Findings**

Nepal is predominately an agricultural country where an inequality in income distribution is highly noticed and it varies differently among different places because of diversification in their socio-economic structure. The present study has focused its analysis on the size distribution of incomes and expenditure to measure the income inequality and different sources of rural income. Primary sources of data have been used for computing the Gini-coefficient ratio to fulfill specific objective of this study. The major findings of the study area are as follows:

- In the study area, expenditure in food items covers 36.39 percentage of total household expenditure per days where as non-food items covers 30.10 percent per day.
- In the study area, 73.91 percent household expenditure is 61.74 but 2.17 percent household spent 4.94 percent of total expenditure per day.
- Expenditure of smallest family size (0-4) have 2.74 percent and largest family size (12+) have 4.94 percent of total expenditure per day.
- In the study area 2.17 percent household have 36.5 average size of land holding but 65.23 percent household have 12.08 average size of landholding and 1.08 percent have no land.
- In the occupational structure, 36.88 percent people are engaged in agriculture, 25.14 percent foreign employment and 0.82 percent people are engaged in industry.
- Out of 546 population, 79.49 percent are literate which is higher than national level (68.0%) and 20.51 percent population are illiterate.
- The average household size is found to be 5.94.
- The per day average per capita income in the study area is estimated as 102.55.
- In the study area, it is found that most land is held by Chhetri 35.82 i.e. percentage and Magar 33.58 percent of cultivate land. Brahmin has occupied

- 10.09 percent land only similarly Damai, Kami and Sarki group have low percentage of land. They are nearly landless.
- In the study area the value of Gini-coefficient is 0.916.
- In this study area, a large portion of sampled population has engaged in agricultural sector which has covered 55.06 percent household income per day. But remain people are engaged in non-agricultural sector, this sector consists services. Industry, business and foreign employment, it covered 44.94 percent household income per day in the study area. Among them largest number of people are employed by foreign sector. It has covered 39.11 percent household income per day. Every year they have gone to foreign countries for employment. This is another source of income of that area. I think this source is not sustainable for them.
- More than 56 percent of sample households responded that their income is inadequate for life sustain. To fulfill the inadequacy, they should spend from previous saving which leads to decrease in saving.

## **5.2 Conclusion**

This research has been conducting to know the income and expenditure of the study area. It has focused on income inequality measurement of the people. This study has been showed difference between income and expenditure pattern of the people in the study area. It has been seen unequal distribution of income among the people. The major conclusion of the findings of the study area are as follows.

- There is no enough sources of income besides agriculture of the study area.
- The poor people in the study area have a small portion of land. It is an obstacle for the adequate income generation in the study area. The lack of irrigation facilities and lack of modern agricultural system, has seriously affected the output and income generation. This condition has helped to income and thereby raised inequality in income distribution.
- In this study area, a large portion of household income is found to be spent on food consumption and other extravagant activities. Conversely, the part of income which is spent on education health and is found corporately low than



- other sectors which further makes the people poorer than before and there by increases income inequality.
- In this study area, a large portion of sampled population is found to be dependent on agriculture, livestock, farming. Because of the lack of enough industrial development and other occupations peoples are either employed or semi employed. Whenever they are employed they may have very low income. This means low level of income, thereby inequality came in the income distribution.
- There is positive relationship between household size and level of income. Due to lack of enough knowledge about family planning are found raising their family size is increasing which tends to raise dependent number and affects income distribution adversely.
- Some religious function and festival, tradition, cultures are also instrumental to push up income inequality. People used to spend in religious festival and other traditions. Such types of expenses are unproductive as well as unprofitable.
- In the study area, it is found that female illiteracy rate is higher than male illiteracy rate.
- In the study area, it is fund that the sample households receive most of the income from agricultural production. The second, important sources of income are services and foreign employment in the sample household.
- The large value of Gini Coefficient indicate the vast income inequality in the study area.
- The percentage of female population is higher than that of male.

### **5.3 Recommendation**

It is clear that the inequality in income distribution is in the study area is very serious although the government as well as other concerned authorities should be committed to overcome this obstacle of economic development. To escape from this vicious problem the following point are recommended.

- As agriculture sector is the major source of income, modern farming methods and technique coupled with irrigation facilities should be provided for the

development of agriculture in this study area.

- With heavy dependency in agriculture the villages are found to have very low level of income. Government and NGO and INGO should provide training for income generating activities such as bee keeping small and cottage industries etc.
- Government should establish one veterinary office in this study area for well growth of livestock production.
- Economic development is directly affected by educational status of the people. So in this rural-municipality should be implemented some technical education program to push up the economic status of the people.
- Income from livestock and their products, especially goat farming is found to play significant role in income generation of the community in the study area. Farmers are out of proper price of their output which has adversely affected the income generation of community. Therefore a collective effort by local people is necessary to maintain the appropriate price.
- Targeted programs such as education for children free vocational educational programme should be forces on poor, low income groups and female so that they could be skilled labour focuses. Such skill development programs can contribute to generate income and thereby help to reduce inequality in the income distribution.
- For attaining equal distribution of income government should provide additional job opportunities in such a way that it should help the lower income group to increase their income level.
- To reduce the level of unemployment, labour intensive technology should be applied wherever possible.
- Government should provide adequate amount of loan to the people without taking any securities with nominal interest rate for people to establish small and cottage industries.
- Similarly, provision of market, road and transportation and supporting the price of agricultural production is favor of farmers etc. can be promoted to reduce income inequality in the study area.
- Government should provide the job oriented technical skillful training for backward people in the study area.

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## ANNEX-I

### Computation of Dependency Ratio

Dependency ratio is computed with help of the following formula

The dependency Ratio =

Where,

$$\frac{P_{0-14} + P_{60+}}{P_{15-59}} \times 100$$

$$P_{15-59}$$

P<sub>0-14</sub> = Population of 0-14 years

P<sub>60+</sub> = Population of 60 years and above P<sub>15-59</sub> = Population of 15-59 years

$$\text{Therefore dependency ratio} = \frac{180 + 54}{312} \times 100$$

$$312$$

$$= \frac{234}{312} \times 100$$

$$312$$

$$= 75$$

## ANNEX-II

Computation of Gini-coefficient among Total Sample

Households according to per capita daily income

We can compute the Gini-coefficient of individual data

$$\begin{aligned} \text{G.C} &= \frac{n+1}{n} - \frac{2}{n^2} [ny_1 + (n-1)y_2 + \dots + ny_n] \\ &= \frac{n+1}{n} - \frac{2}{n^2} [y_1 + 2y_2 + \dots + ny_n] \end{aligned}$$

$$\text{Where, } \bar{y} = \frac{y_1 + y_2 + y_3 + \dots + y_n}{n}$$

h = No. of observation

So that,

$$\begin{aligned} \text{G.C} &= \frac{100+1}{100} - \frac{2}{100.50 \times (100)^2} \times 47349.90 \\ &= \frac{100}{100} - \frac{2}{1005000} \times 47349.90 \\ &= 1.01 - \frac{94699.80}{1005000} \\ &= 1.01 - 0.094 \\ \text{G.C} &= 0.916 \end{aligned}$$

## ANNEX-I

### Computation of Dependency Ratio

Dependency ratio is computed with help of the following formula

$$\text{The dependency Ratio} = \frac{P_{0-14} + P_{60+}}{P_{15-59}} \times 100$$

Where,

$P_{0-14}$  = Population of 0-14 years

$P_{60+}$  = Population of 60 years and above

$P_{15-59}$  = Population of 15-59 years

$$\begin{aligned} \text{Therefore dependency ratio} &= \frac{180 + 54}{312} \times 100 \\ &= \frac{234}{312} \times 100 \\ &= 75 \end{aligned}$$



## ANNEX-II

Computation of Gini-coefficient among Total Sample

Households according to per capita daily income

We can compute the Gini-coefficient of individual data

$$\begin{aligned} \text{G.C} &= \frac{n+1}{n} - \frac{2}{n^2} [ny_1 + (n-1)y_2 + \dots + ny_n] \\ &= \frac{n+1}{n} - \frac{2}{n^2} [y_1 + 2y_2 + \dots + ny_n] \end{aligned}$$

$$\text{Where, } \bar{y} = \frac{y_1 + y_2 + y_3 + \dots + y_n}{n}$$

h = No. of observation

So that,

$$\begin{aligned} \text{G.C} &= \frac{100+1}{100} - \frac{2}{100.50 \times (100)^2} \times 47349.90 \\ &= \frac{100}{100} - \frac{2}{1005000} \times 47349.90 \\ &= 1.01 - \frac{94699.80}{1005000} \\ &= 1.01 - 0.094 \end{aligned}$$

$$\text{G.C} = 0.916$$

### ANNEX-III

#### Computation of Alternative Measurement of level of income

$\bar{Y}$	Yi	$\bar{y} - yi$	$(\bar{y} - yi)^2$
10	6.99	3.01	9.06
10	7.54	2.46	6.05
10	7.78	2.22	4.93
10	8.05	1.95	3.80
10	8.63	1.37	1.88
10	9.02	0.98	0.960
10	9.94	0.06	0.003
10	10.23	0.23	0.053
10	15.55	5.55	30.80
10	16.27	6.27	42.90
100.00	100.00	24.10	100.45

$$\text{Now, } \bar{y} = \frac{\sum yi}{N} = \frac{100}{10} = 10$$

N = 10 because it is taken from decile

Relative mean deviation

$$\text{MD} = \frac{\sum_{i=1}^n \bar{y} - yi}{ny} = \frac{24.10}{100} = 0.24$$

$$\text{Variance (V)} = \frac{\sum_{i=1}^n (\bar{y} - yi)^2}{n} = \frac{100.45}{100} = 10.045$$

Coefficient of variation

$$C.V = \frac{\text{Standard Deviation}}{\text{mean}} = \frac{\sqrt{\frac{100.45}{10}}}{10} = \frac{10.045}{10}$$

$$= \frac{3.169}{10} = 0.32 \text{ or } 0.32 \times 100 = 32\%$$

Computation of range

$$\text{Range (R)} = \frac{\text{Maxy} - \text{min y}}{y}$$

$$= \frac{358.66}{10}$$

$$= 35.87$$

**ANNEX-IV**

<b>S.N</b>	<b>Caste</b>	<b>Caste Household Size</b>	<b>Total Income Per Day</b>	<b>Per Capita Daily Income</b>	<b>Total Expenditure Per Day</b>	<b>Per Capital Daily Expenditure</b>
1.	2	7	475	67.86	442	63.14
2.	2	5	448	89.60	361	72.20
3.	1	8	425	53.13	472	59.00
4.	2	5	660	132.00	698	139.60
5.	2	4	330	82.50	300	75.00
6.	2	4	402	100.50	390	75.00
7.	2	6	533	88.83	506	84.33
8.	2	5	385	77.00	365	73.00
9.	2	4	268	67.00	218	54.50
10.	1	6	106	17.67	112	18.67
11.	2	5	623	124.60	521	104.20
12.	2	4	565	141.25	463	115.75
13.	2	9	1100	122.22	1080	120.00
14.	2	7	789	112.71	696	99.43
15.	3	8	1232	154.00	1147	143.38
16.	3	6	1037	172.83	932	155.33
17.	1	12	970	80.83	769	64.08

18.	1	10	1024	102.40	1012	101.20
19.	1	6	735	122.53	764	127.33
20.	1	8	715	89.38	698	87.25
21.	2	4	398	99.50	332	83.00
22.	2	9	267	29.67	224	24.189
23.	2	7	556	79.43	518	74.89
24.	2	5	382	76.40	292	58.40
25.	3	5	484	96.80	386	77.20
26.	3	6	655	109.17	637	106.17
27.	1	7	482	78.67	468	78.00
28.	1	12	586	48.83	588	49.00
29.	1	5	325	65.00	294	58.80
30.	1	6	508	48.67	490	31.67
31.	1	6	537	89.50	432	72.00
32.	1	8	686	85.75	584	73.00
33.	1	12	932	77.67	825	68.75
34.	2	8	840	105.00	760	95.00
35.	2	5	435	87.00	428	85.60
36.	2	5	478	95.60	399	79.8
37.	2	6	439	73.17	449	74.83
38.	2	8	1167	145.87	967	120.87

39.	2	7	854	122.00	713	101.85
40.	2	6	432	72.00	464	77.33
41.	1	8	686	85.75	642	80.25
42.	1	9	820	91.11	744	82.67
43.	2	4	388	97.00	347	86.75
44.	2	14	1265	90.36	1155	82.50
45.	2	5	448	89.60	372	74.40
46.	2	8	737	92.13	689	86.13
47.	2	6	696	116.00	657	108.50
48.	2	7	978	139.71	885	126.43
49.	3	8	626	78.25	598	74.75
50.	3	6	786	131.00	737	122.83
51.	2	5	246	49.20	228	45.60
52.	2	L9	409	45.44	385	42.78
53.	3	6	518	86.33	457	76.17
54.	3	4	285	71.25	235	58.75
55.	3	4	1050	262.50	946	236.50
56.	3	2	676	338.00	599	299.50
57.	3	3	358	119.33	322	107.33
58.	3	4	464	116.00	398	99.50
59.	4	8	985	123.13	856	107.00

60.	4	4	1163	290.75	1020	255
61.	4	4	437	109.25	402	100.50
62.	4	5	529	105.80	488	97.60
63.	1	9	535	89.17	478	53.11
64.	1	4	324	81.00	386	96.50
65.	2	3	386	128.67	335	111.67
66.	2	3	418	139.33	401	133.67
67.	3	8	328	41.00	299	37.37
68.	3	5	477	95.40	426	85.20
69.	3	4	467	116.75	496	124.00
70.	3	4	375	93.75	318	79.50
71.	4	6	236	39.33	204	34.00
72.	4	5	522	104.40	492	98.40
73.	2	4	624	156.00	594	148.50
74.	2	8	675	84.37	645	80.63
75.	2	5	1048	209.60	935	187.00
76.	2	3	562	187.33	506	168.67
77.	3	4	391	97.75	312	78.00
78.	3	4	256	89.00	287	71.75
79.	3	5	307	61.40	292	58.40
80.	3	3	1165	388.33	1034	344.67

81.	3	4	872	218.00	760	190.00
82.	3	3	484	161.33	475	158.33
83.	2	8	1198	149.75	1088	136.00
84.	2	9	952	105.78	898	99.78
85.	2	6	526	87.67	575	95.83
86.	2	6	589	98.18	538	89.67
87.	2	5	447	89.40	482	96.40
88.	2	5	488	97.60	438	87.60
89.	3	4	346	86.50	304	116.67
90.	3	6	770	128.33	7.00	116.67
91.	3	6	622	103.69	599	99.83
92.	3	T	548	109.60	514	102.80
Total		546	56043	10050.82	51163	9186.44



**Questionnaire Design for the research on income inequality: A case study of Dhurkot rural-municipality of Gulmi district**

**1. Household survey questionnaire:**

Name of the respondent:

Age:                      Sex:                      Caste:                      Ethnicity:

Name of household head:

**Family description by age and sex**

How many members are currently living this household?

S.N.	Name	Relation	Age	Sex	Material status	Occupation
1.						
2.						
3.						

**Educational description**

**Formal Education**

Education	Male	Female	Total
Under S.L.C			
10+2			
B.A			
B.A above			

**Informal Education**

Literate  Male  Female

Illiterate  male  Female

**Occupational Structure of Economically Active Household Member**

<b>Occupation</b>	<b>Male</b>	<b>Female</b>
Business		
Agriculture		
Small and cottage industry		
Industry		
Wage/salary		
Others		
Total		

## **2. Source of income**

If agriculture is main source of income then how much land do you have?

Ropani

### **Account on Land Holding**

What crops do you grow in your land?

<b>Crops</b>	<b>Ropani</b>
Paddy	
Wheat	
Maize	
Mustard	
vegetable	

### Account on Agriculture

Which of following agriculture production did you have last year?

<b>Paddy</b>			
Wheat			
Maize			
Oil seeds			
Pulses			
Vegetables			
Others			
Total			

Is your production sufficient to meet your need for whole year?

Yes  No

If there is surplus how much amount do you have?

### 3. Account on Service:

Are these job holders in your family?

Yes  No

Job is your main sources of income then how many members are employed?

Which types of do they do?

Government  Private

If labour work is main source of income then how many member are engaged in your work?

Male  Female

How many members went to aboard for job?

How much money earn from foreign employment in a year?

What is the average no of days of working in a month .....days?

If you have business which type of business is this?

How much average monthly income from business?

#### **4. Account on Animal Production:**

In your family, how many members are engaged on animal production.

How much animal average income do you receive from your animal product?

Kinds	Income (in Rs.)
Selling milk/milk product/eggs	
Selling goat/sheep/cattle	
Total	

#### **5. Expenditure:**

##### **5. 1 Expenditure on Food Items:**

Kinds	Quantity	Unit price (in Rs.)
Paddy/rice/maize		
Milk and milk product		
Cooking oil		
Meat		
Tea		

## 5.2 Expenditure on non food:

Items	Expenditure (in Rs.)
Education	
Health care	
Festival	
Smoking	
Lightening	

## 6. How much crops do you spend in a month?

Paddy  Wheat

## Expenditure on livestock:

Livestock	Feeding	Medicine	Expenditure (in Rs.)
Cow/oxen			
Buffaloes			
Goat/sheep			
Pig/hen			
Total			

## Production cost of different crops

Cost items	Paddy	Wheat	Maize	Vegetable	Total
Seed					
Fertilizer					

Insecticides					
Other					
Total					

7. Do you use your crops to prepare beer?  
If yes then how much crops do you use?
8. What is average expenditure per month for education?
- 9 Do you spend for any religious function?  
If yes what will be average expenditure in per day?
10. In your opinion what are the main causes of income inequality?