CHAPTER ONE
INTRODUCTION

1.1 Background

Poverty is the term becomes the most pronounced term in the economic literature. The meaning of the term is vague and is defined according to the different stages of development. Poverty exists not only in the under develop countries but also in the developed countries. In the underdeveloped countries, the term poverty reflects the situation of living below minimum subsistence level of income, expenditure constituting food; clothing and other services, which the society needs for subsistence. But, in the developed countries, poverty is used to mean the failure to come upto a desired economic level, according to their prevailing standard of income. This study of poverty includes the poverty of one of the developing countries, i.e., Nepal, for the partial fulfillment of the requirements for the Degrees of Master's of Arts in Rural Development.

Nepal is sovereign, independent, multi-lingual, land locked, mountainous and multi climatic country. It is the country of non-stop festivals, divided ecologically into Mountains, Hills and Terai and five developmental regions, fourteens zones and seventy five districts administratively. It is one of the least developed countries of the world having merchandise export, services, tourism and other sectors as the main sources of foreign currency earnings. Generally, Nepalese economy is characterized by slow growth, mass poverty and large scale deprivations and there is the less utilization of potentials with competitive advantages like hydro-power, agro industry, tourism and other sectors. In case of Nepal, economically tourism plays a very important role. The study VDC Kapallekhi is also one of the poorest VDC of Doti District of

Far Western Region. It is one of the hilly VDC of the country and a short description about the study area is provided later.

The concept of poverty is not new. It is as old as human history. In ancient times, the needs and wants of human beings were limited and fulfilled by their own effort or by barter system. But as a time passed, the development of civilization occurred and the human needs and wants varied which lead into the scarcity of needs and wants which became the cause of increasing poverty. Poverty is a multidimensional concept comprising the notion of lack of access to resources and opportunity, illiteracy, poor heath, lack of sanitation, deprivation of basic rights and security and ownerlessness. Different scholars and organizations defined poverty differently.

Poverty is defined as the ability to consume minimum amount of food and non-food items (CBS, 1999).

A state of economic, social and psychological deprivation occurring among people or countries lacking sufficient ownership control or access to resource to maintain minimum standard of living. (World Development Report, 1980).

Poverty is criminal because it does not allow people to be people. It is the cruelest denial of all of us human being (UNDP, 1998).

Poverty is hunger, loneliness, nowhere to go when the day is over, deprivation, discrimination, abuse and illiteracy. (Single mother)

Poverty is defined as the ability to consume minimum amount of food and non-food item. Deficiency of food causes malnutrition which results in poverty. So, food crisis is the means of poverty. Food is the

major determinant factor of poverty. This idea is a house of hunger. It can be assumed that poverty comes into existence due to food crisis showing a strong relationship between poverty and food crisis. (Douglas and Paul, 1980)

So, poverty is primarily, a rural or an agricultural phenomena in developing economy. This is because there is a heavy concentration of the people of developing there is a heavy concentration of the people of developing countries in agriculture. The income of many people in developing countries are so low that the living condition of permanent poverty. So, poverty is the burning and challenging issue of developed and developing countries. Around two thirds of the population of the developing countries are below poverty line and with the low level of income. In USA, 8.9 percent of white and 31.3 percent of black were poor. The highest concentration of poverty is found to be in South Asia (43.1 percent), Sub Saharan Africa (39.7 percent) and much of Latin America. (World Bank, 1993)

Nature of Poverty

The relationship between essential needs of human, physical efficiency and ability to satisfy them in poverty. Poverty is defined in terms of two parts by Paul Harrison (Harrison, 1989).

1) Absolute Poverty: Hunger is the painful focus of the absolute poverty. Absolute poverty, mainly centered in the rural areas of developing world has been emerging as the result of various factors like poverty, shortage of cultivated land etc. Absolute poverty refers to a situation where people received income below minimum level required for survival and physical efficiency, i.e., it is more than low income. The essential elements of

survival are basic level of private consumption like minimum diet, minimum amount of protein and certain essential, public goods and services such as clean water and sanitation, health, service and education. In Nepal, 42 percent of the total populations live below absolute poverty line (NPC, Ninth Plan). So long as very fifth inhabitant of our planet lives in absolute poverty, there can be no real stability in the world. (Kofi Annan, 1999).

2) Relative Poverty: It refers to a situation in which people's living standard is below what is generally regarded as the socially acceptable minimum and the common practice is to consider the minimum level of income in the country as the level of relative portion of certain percentage of minimum income. In this type of poverty, people have been victimized from poverty and are deprived of their basic requirements.

Relative poverty is same that your house has a thatched roof while your neighbour has tin, same way that your children go barefoot to the school, same way that your daughter's dowry or wedding feast is so pitiably small, prevalent in most of the third world. (Harrison, 1989)

Level of Poverty

There is also another tradition to visualize poverty from two angles. They are micro level and macro level.

1) Micro Level: In micro sense, poverty is identified as low calorie intake, lack of adequate shelter, cloth and basic health facilities, illiteracy, high infant mortality, low per capita income and high rural or urban migration.

2) Macro Level: In macro sense, poverty is identified as high rate population growth, low production, lack of employment opportunities, lack of marketing facilities, technical and administrative in efficiencies.

Kinds of Poverty

There are mainly two kinds of poverty:

1) Urban Poverty: The poverty found in the more developed regions of the country, i.e., in urban areas of the country is called urban poverty.

2) Rural Poverty: The poverty found in the less developed regions of the country, i.e., rural areas is termed as rural poverty. This type of poverty is the most serious one. This study includes the study of rural poverty.

Types of Poverty

The different definition put forward by the economists can be grouped into three types of poverty.

1) Collective Poverty:

- When/where economic resources do not meet the needs of the population e.g.: Remote areas of mountains and hills of Nepal.
- When there exist ignorance, e.g.: high degree of illiteracy (75 percent) among the Nepalese women.
- Exportation by certain sections of the society, e.g., plights of the Nepalese tenants and Kamaiyas (Abolished by HMG/N).
- Lack of vertical and horizontal mobility of certain social groups and castes, e.g., Dalits in Nepal.

2) Cyclical Poverty: A periodic due to mismatch between the demand and supply, e.g., in industrial economy depression and in agrarian economy due to the failures of crops.

3) Individual Poverty: Poverty not causes by mainly economic factors, e.g., the status of orphans, invalids, sick aged etc.

Poverty in Nepal

Economic condition of Nepal is very poor among the SAARC countries (UNDP, 2000). In Nepal, poverty is deep and complex and only a concentrated effort to improve public interventions while mobilizing community initiatives holds hope for the reduction in poverty (World Bank, 1998). Poverty is the underlying causes of most malnutrition. Unequal distribution of income, inflation and slumps cause poverty in developed countries, while in case of developing countries it is much more complex.

There is the vicious circle of poverty in Nepal. Poverty is a social product and is not getting by nature. Nepal is predominantly an agricultural country with more than 80 percent people living in rural areas and depending on agriculture for their daily livelihood. The agricultural sector hence absorbs around 75 percent of total labour force of the country. So, land is an important source of employment. Agricultural sector was given a lead role to play in poverty alleviation, along with making effort to gain high growth rate and cerate extensive employment opportunity in the ninth plan. Nepalese society is traditional and conservative. Poverty of Nepal is related to the unemployment and underemployment of small and marginal farmers and underdevelopment

of banking system. Only around 40 percent of people are literate in Nepal. (UNDP, 2000).

The high population growth rate of Nepal (Around 2.38 percent) obviously creates difficulties to provide people a sense of achievement from the successful implementation of poverty alleviation and employment programs. The ninth plan targeted to decrease the population below absolute poverty line from 42 percent (start) to 32 percent (end). But it is somewhat unsuccessful due to various difficulties in the country while implementing the plans and programs. In Nepal, high mortality rate, low health care, low income, low life expectancy, low productivity, low literacy and rapid population growth are the causes and consequences of poverty. The most fundamental factor contributing to poverty in Nepal has been the rapid increase in population which approximately doubled in the last 20 years and will double again by 2020. (World Bank/UNDP, 1994)

Nepal's level of income (US $ 210 per capita per year) is one of the lowest in the world, more than half of the population work for less than one dollar a day. The rate of growth of income is lower than that of the Asian and South Asian countries. So, among the 174 countries of the world, Nepal is placed in 144th position in 1999 and fifth position of SAARC countries in 2000 (UNDP, 2000). It has lower living standard compared to other SAARC countries.

The PCI of Nepal is US $219 (1997), Pakistan US $417, India US $465 and Sri Lanka US $551 (UNDP, 1999). Nepal is one of the poorest country in the world having GNP/PCI as US $210 per annum in 1998 (WB, 2000). So, many obstacles are present to the economic growth in Nepal. There is the vicious circle of poverty. So, every program, here,

starts with poverty and comes to an end with poverty, the achievement being negligible. Hence, it can be said that Nepalese poor people are borning in poverty, living in poverty and dieing in poverty but poverty never died.

1.2 Statement of the Problem

The problem of poverty is more, deep and complex in the underdeveloped countries like Nepal. Most of the population of Nepal around 87.6 percent live in rural localities and 3912 VDCs of the country comprises of rural localities. Since the backbone of the economy of Nepal is agriculture, transformation of agriculture is very very essential here, for its overall development and for the reduction in poverty. Due to the absence of irrigation, fertilizers and agricultural credit, agricultural productivity is decreasing day by day in the country. In Nepal, population is growing faster than gross domestic product in one hand and in other, there is the lack of industrial sector, modern technology, market information and employment opportunities. The growth of non-farm sector is at an infancy stage in Nepal. Inequalities of income and wealth has increased the number of absolute poor every year.

Around 42 percent of the populations of Nepal live in absolute poverty defining as having less than the income required to consume a minimum of 2124 calories daily. The literacy rate is also very low in rural area of Nepal (around 36.8 percent) compared to that of urban areas (65 percent). Education plays an important role in the alleviation of poverty but due to very low literacy rate in Nepal, poverty is widespread. The problems of poverty in the case of Nepal can be pointed out as below:

- Lack of alternative employment opportunities in non agricultural sector.
- Absence of agricultural modernization and indigenous agricultural system is widespread.
- Absence of irrigation facility, pesticides and insecticides, modern seeds and fertilizers.
- Low status of women due to illiteracy, unemployment and under employment/disguised employment (men also).
- Lack of transportation and communication facilities.
- Widespread discrimination practices.
- Social inferiority, cultural defects, haliya system and small size of landholding as well as low wage rate of agricultural workers and inadequate price level of agricultural products etc. of untouchable cast.
- Indigenous (no mixed) cropping pattern.
- Large family size.
- Unequal distribution of income, landholding size etc.
- Unnecessary expenditures on drinking, smoking, gambling and traditional festivals.
- Absence of financial institution and banking system to provide financial support to the poorer farmers of rural areas.
- Problems in reaching central level poverty alleviation programs to the target areas.
- Unemployment and disguised employment among educated youth.
- Lack of group credit schemes.
- Lack of awareness about family planning, gender equity, health, sanitation, environment etc.
- Weak commitment of people towards reducing poverty.

- Lack of industrial development and development on tourism

1.3 Objectives of the Study

The various objectives of the study are as follows:

1. To measure absolute and relative poverty in the study area.
2. To measure the nature and the extent of poverty in the study area.
3. To determine the relationships between poverty and other factors like level of income, literacy, employment, landholding size, ethnic group etc.
4. To findout the caused factors of the poverty in the study site.
5. To suggest appropriate policy measures to reduce poverty for the respective department

1.4 Rationale of the Study

Poverty of Nepal is mostly rural in nature as various studies estimated. Around 88 percent of the total population of Nepal live in rural areas. According to Nepal Standard survey 1996, 42 percent of the total population remained below the absolute poverty line. Among them 17.1 percent are considered as ultra poor or the poorest (NPC, ninth plan). His majesty government of Nepal had aimed that at the end of the ninth plan, the percentage of people below poverty line would be reduced to 32 percent but the target is unsuccessful. So, HMG of Nepal focuses to reduce the poverty line at the end of tenth plan. Pursuing the long term vision the percent size of the population below poverty line, the 42 percent would be brought down to 10 percent in next 20 years, i.e., by the year 2013/2014 B.S. (NPC, ninth plan)

For the purpose of reduction in poverty, development effort should be made in such a manner that will benefit the actual poor directly and indirectly. This study is directed towards the depiction of poverty, its nature and extent and recommendations for the alleviation of poverty in the rural areas of Nepal with special emphasis Kapallechi VDC of Doti District. It tries to present the incidence of poverty and shows its relationship with other economic factors like income, employment, expenditure, landholding etc. This study also depicts the major income inequalities within the poor classes of the rural areas. This study may be helpful in the formulation of right policies and may also be helpful in the various research processes that may be carried out by various researchers, students, teachers and interested persons who may directly or indirectly will be engaged in the overall development of this VDC/District/Country.

Besides the measurement of absolute and relative poverty in the study area, it also measures the nature and extent of poverty. It also analyzes the various previous dissertations from the point of current context of study. It also determines the relationship between poverty and other economic factors and it also finds out the various causal factors of the poverty in the study area. It suggests various appropriate policy measures to reduce the poverty and it also defines poverty from the different contexts of the study.

The major problems in the poverty problem of Nepal are its rural nature and vicious circle. The dependent variable, i.e., poverty is the causes and consequences of the independent variables, i.e., income and expenditure level, livestock and landholding, education and employment etc. So, there is the unbreakable circle of poverty in Nepal, which is widely called the vicious circle. Hence to define and to break this vicious circle, this study may play a very significant role.

1.5 Limitations of the Study

Social research can hardly be done without limitations. So, each and every social research work has its own limitations. This study is mainly carried out for the partial fulfillment of master's degrees in rural development. Hence, the time and financial constraints are the main limitations of the study. Some of the other limitations of the study are pointed out as below.

1. This study is limited to the study area only, i.e., Kapallekhi VDC of Doti District. So, it might not be generalized and may not be as same as the figures indicate but is the most accurate data of the study area at the time of study.
2. Various secondary sources are used for supporting primary data but are not exactly followed and copied.
3. The study is conducted under time and financial constraints.
4. Self prepared interview schedule/questionnaire is used for primary data collection. Hence thorough study of respondents and vast knowledge about topic is under limit.
5. Economic variables like inequality of income and wealth, literacy, unemployment etc. are considered so as a cause of poverty whereas socio-cultural variables like political power etc. are not considered.
6. Value of fixed assets and other assets is not included in income. But income generated from these assets is included.
7. Random sampling technique is used for data collection and various econometric tools are used to analyze the obtained data.
8. The values of products of self consumption are excluded.

1.6 Organizations of the Study

The thesis is organized in six chapters, namely Introduction, Review of Literature, Research Methodology, Measurement of Rural Poverty, Nature and Extent of Poverty Problem in the Study Area and Summary, Conclusion and Recommendations. “Introduction” gives the concept definitions and background of poverty, kinds, types and levels of poverty, statement of problem, objectives of study, rationale of study and limitations of study. “Review of Literature” provides the information about the published and unpublished documents and clear investigation on those documents related to the study topic. There is the revision of various books, journals, previous theses, dissertations, reports etc. related to the study topic. “Research Methodology” provides the idea and steps to be followed in the research. The type of research, its writing style, various terms used and their descriptions, data collection procedures and instruments, nature and sources of data, collection, presentation and analysis of data, reliability of the study etc. are described in this chapter. “Measurement of Rural Poverty” compares the present study with previous studies and calculates absolute, relative and total poor of the study area. Similarly, “Nature and Extent of Poverty Problem in Study Area” determines the relationships between various economic factors and poverty and analyses the poverty problem from different contexts. And at last but not least “Summary, Conclusions and Recommendations” deals with major findings and their reliability, overall significances and main outcomes, overall thesis descriptions and its procedures, and recommendations to the planners, development practitioners, policy makers, related organization and persons.

CHAPTER TWO
REVIEW OF LITERATURE

Poverty is the most challenging problem in the underdeveloped countries like Nepal, which attracts the attention of many researchers and economists. Poverty is the result of economic process and shocks, political instability, massive corruption, poor governance, unemployment, unfavourable government policy to the poor people, powerlessness and insecure livelihood due to the fewer economic opportunities, social norms and values, inadequate investment and resource transfer mechanisms, war, violence and the natural disasters that interact with each other in ways that exacerbate the deprivation in which the poor people live. Malthus was the first person who recognizes the causes and the consequences of the poverty problem. According to him, poverty is mainly the result of insufficiency in production which was later questioned by various scholars like Karl Mark etc. who defined poverty as the result of the exploitative economic institution.

In the case of Nepal, National Planning commission, firstly in 1976-77, defined and quantified the level of poverty through a survey on employment, income distribution and consumption patterns. For the derivation of the poverty line, the minimum existence level of income and expenditure were used. Various data analysis tools like Gini coefficient, Lorenz curve etc. were used to derive the poverty line. The minimum susbsitence level was an income level of Rs. 2 per capita per day at 1976/77 prices and the absolute poverty line for rural Nepal was Rs. 1.32 per capita per day at 1976/77 prices. (NPC, 1976/77)

In the reports of FAO, various social indicators like population growth rate, life expectancy, infant mortality rate, school enrollment,

daily calorie supply etc. were used to emphasize the existence of severe poverty in South Asian Block. The study pointed out that the poverty situation has been aggravated by adverse global trend as the result of the current low economic growth, extensive erosion of natural resource base, growing foreign debt burden and population dispersal have also put strength on the population. The survey on 1972 showed that 23.50 percent of households or 23.99 percent of population live below the absolute poverty line in Urban Nepal. Similarly, 38.30 percent of households or 40.42 percent of population live below the absolute poverty line in rural Nepal. Later in 1976/77, it was found that 40.3 percent of households or 40.2 percent of population were below absolute poverty line and 20.5 percent of households or 18.84 percent of population were below the relative poverty line. In that survey, various statistical tools like Gini coefficient, Lorenz curve etc. were also used and the minimum subsistence level was taken as an income level of Rs. 2.02 per capita per day at 1976/77 prices. (FAO, 1972, 1976/77)

On the basis of the sample survey done by NPC, Jain differentiated two categories of poor to expand the definition of poverty in the book "Poverty to Prosperity in Nepal". According to him, the households which have less than Rs. 2 per capita per day at 1976/77 prices were called poorest of the poor and those households having more than this income level but less than the income required to meet national average consumption expenditure (Rs. 2.68 per capita per day at 1976/77 prices) were called above poverty line poor relating to absolute and relative poor respectively. The study showed that 55 percent of population are poor among whom 95 percent are concentrated in rural areas. The book is based on the poverty problem, various programs and policies to reduce the problem, and for the upliftment of the living standard of the poor. It

was totally based on theoretical framework and non statistical tools are used. His further study based on the sample survey done by NPC showed that 18.8 percent of the total population of Nepal have less than Rs. 2.668 per capita per day income at 1997 prices and were regarded as the poorest of the poor (Jain, 1981, 1997)

On the basis of the household survey and population census, the researcher observed the extent of absolute poverty for ten Latin American countries by the adoption of the normative approach, in his analysis based on country specific poverty lines representing minimum acceptable levels of private consumption drawn according to food based method. The researcher found that poverty lines range from 150-250 dollars of annual household consumption per capita and 40 percent of households of Latin America are poor at the beginnings of 1970s. The extent of poverty is ranging from 20 percent to 60 percent in the rural areas and the corresponding poverty gap is also estimated in terms of total household income for Latin American countries by the writer. (Altimir, 1982)

Amatya Sen in his book “Poverty and famines” views the problem of poverty on the basis of various approaches like inequality approach, absolute and relative poverty approach, biological approach etc. for analysis of the courses of deprivation. In inequality approach, author found the close relationships between poverty and inequality and a transfer of income from a person in the top income groups to one i nthe middle income group reduce the inequality problem. According to the biological approach, poverty is primarily related to biological and nutritional requirements. Deprivation is considered broadly to grip with the understanding of the poverty. The author found that concept of the absolute deprivation and the approach of relative deprivation supplements

rather than the analysis of poverty in terms of absolute dispossessions (Sen, 1997).

Sad out and Alian in their book quantitative development policy analysis stated that calculation of amount of expenditure that achieves a minimum nutritional intake and non-food items is required for the definition of poverty and the main objective for the policy design should be poverty alleviation. They have used various econometric tools like Sen's poverty index, Gini coefficient, Lorenz curve etc. for data analysis purpose. (Sadout, Alian)

In his study of poorest of the poors, on the basis of the primary data and by the application of various statistical tools like chi-square test and comparison table, the researcher carried out a comparative study of two village Panchayats naming Hansapur of Hill and Belawa of Terai Region. His study showed that 65.6 percent of population of Hill and 84.4 percent of population of Terai were engaged in agriculture as their main source of income. He found that degradatory socio-economic conditions like lack of food, clothing, shelter, basic education, health care, employment and other opportunities were the causes and consequence of poverty in the study area. Large family size, low productivity of unskilled labour, poor health, lack of the participation in production activities, natural disaster, lack of employment in other sectors are other factors aggregating poverty according to the researcher. He also found that farming and labourer are the main source of income of rural poor and the most of the poor households either do not possess or possess a very little land. (Subedi, 1986)

By focusing on the vicious circle of poverty in the developing countries, Poudel explained causes and complexity of poverty and its

solution and explained the concept of absolute and relative poverty. By the application of secondary data, in his study entitled “Drive against poverty”, he analyzed the problem of poverty by using the tabular method. He put forward that the people spend a lot of income, even they very low income, in order to fulfill social and religious duties from birth to death. Since they spent on non-productive work, they need to borrow much resulting high level of indebtness which shows both the causes and effect of poverty. For increasing their income and alleviation of poverty, adoption of modern and developed techniques and ideas are essential. But the failure of application of such conditions is due to illiteracy, fatalism, religious ideas, casteism, and joint family system. According to him, causes of poverty is also the unequal distribution of income. And for the lessening of poverty he recommended that high priority on the labour intensive technique is required and the welfare programs ensuring education, nutrition, sustained-prosperity should be implemented. (Poudel, 1986)

By using various econometric models like Gini-coefficient, poverty index, regression, correlation. Wolf’s point, sen’s index, Bhandari in his research entitled “Poverty in Nepal” established poverty line based on minimum required Calorie per day per person and measured the extent of poverty and highlighted the nature of poverty of Bhaktapur District. He found a high correlation between size of land holding and poverty, level of income and poverty, education and poverty, ethnic groups and poverty, and so on. He nicely analyzed the poverty problem, its causes and its extent highly on the basis of primary data. The study had shown the difficult livelihood of people of study site and also showed that a significant portion of the people are engaged in survival oriented activities. The study found that 47.06 percent of households or 41 percent

of the population are absolute poor and 22.53 percent of households or 25.5 percent of population are relative poor. He also recommended some suggestions like upliftment of the agricultural sector, increment in opportunities, in formal education etc. for the alleviation of poverty. (Bhandari, 1987)

According to Seddon, in his research entitled “Nepal: A State of Poverty, the political economy of population growth and Social deprivation”, causes of the poverty are increasing population, agricultural crisis and the wide gap between rich and poor. Both primary data by field survey (1974 to 1982) and secondary data were used in his study. The researcher gave due considerations on the struggle for basic essentials of life and recommended some policies giving high emphasis on the role of the government (Seddon, 1987)

Dahal and Shrestha in their research paper entitled “Rural Poverty in Nepal” analyzed the poverty on the basis of household size, land holding size and ethnic group from the primary data collected through the random sampling method by the application of various econometric tools like Keynesian consumption function for determining wolf point and Sen’s poverty index of ordinal welfare for the data analysis purpose. They estimated that 63 percent of household or 64 percent of population were below the poverty line in the study area. The study identified that the poverty of study area was Rs. 131 per capita per months, and estimated that breakeven or wolf point was Rs. 216 per capita per month at 1984/85 prices, which showed that 89 percent of sample households were below this income level. (Dahal, Shrestha, 1987)

Khanal explained the income distribution by household size and landholding size by the application of primary data to give the picture of

distribution of income in his research paper entitled “Income inequality and consumption pattern of Nepal” including the case study of Bhaktapur District. For data analysis purpose and for the income inequality measurement, he used various econmetric tools like Gini coefficient, normal variance, Lorenz curve, rangem relative means devioation, coefficient of variance, standard deviation of logarithms etc. (Khanal, 1988).

One of the study of Nepal Rastra Bank was carried to assess the income, consumption and employment situation in Nepal by the help of various econometric tools like Gini coefficient, sen’s poverty index etc. for data analysis purpose during the year 1988 by comparing the Gini coefficient of different countries. It was found that there was the high income inequality in Nepal. This survey showed that 71.7 percent of total population having more than 10 years of age were economically active and among them 54.3 percent were urban oriented and 79 percent of the economically active population were found to be engaged in agriculture which provided 56.2 percent of national income. The value of Gini coefficient was 0.57 showing greater income inequality, dependency ratio was 1.15 and literacy rate was 39.6 percent according to the study. Incidence of poverty in Hills was 47 percent of households or 50 percent of population (highest), in mountain was 36 percent of households or 44 percent of population and in Terai was 33 percent of households or 55 percent of population (lowest).

Poverty alleviation project in 8 districts of western Terai has been prepared by NRB by the application of GBB, Nirdhan and Swawalamban Bikas Kendra in the first phase to fulfill the objectives. The programme were running in 52 VDCs and 17 VDCs of western Teari. The main objectives of the project were to provide the incremental landing loan for

the implementation of credit programme to the deprived target group to conductive atmosphere for providing community development and skill oriented training. To provide the institutional credit to around 28833 poor from 16 branches of GBB to reduce the number of hardcore people of the district was the main goal of the project by providing various training related programmes. The hardcore people were those having less than 1.5 Bigha in Terai or 20 ropani in Hill or whose household saving less than Rs. 4409 as annual per capita income provision of loan utilization or credit revolving fund, loan repayment monitoring and evaluation, auditing centers training fund validity etc are the various methods used for the poverty alleviation of the core people on the basis of priority. (NRB, 1988)

By using secondary data from the survey of NRB 1991/92. Chhetry in his study entitled “Some aspects of poverty in Nepal: Micro analysis” had made a study on income, consumption expenditure, food expenditure and operational landholding. Defining poverty on the basis of per capita income, consumption, food expenditure and land holding and exploring the impact of the growing agricultural and non-agricultural sectors in various income groups were the main objectives of his study. He found that distribution of per capita income was more equitable than that of per capita land holding and bottom 53 percent of the lower income group received their income from non-agricultural sectors. 40 percent households in Terai, 70 percent households in Hills, and 77 percent households in mountains were found below the absolute poverty line. (Chhetry, 1996)

According to secretarial analyses of the problem of poverty and land setting in “Poverty Alleviation in South Asia”, SAARC countries had about one fifth of world’s population living in 3 percent of world’s

land area and of 1.1 billion people, 440 million were considered poor and 360 million of them live in rural areas in 1991. Poverty did not supply means, it meant lack of income, education, employment, opportunity etc. Excepting Sri Lanka, during the last two decades, mortality rate, infant mortality, under five mortality remained unacceptably high. 125 millions of children of school going age were not in schools, 175 millions of adult were illiterate and large numbers were suffering from malnutrition. The average large majority had only few years of the elementary education, mean years of the schooling of people of 25 years estimated to only 3.5 year. This report indicated that 316 million people did not have access to safe drinking water and only 10 percent of people (110 million) had access to sanitation. Lack of access to basic needs was due to the fact that rural areas had legged behind in the provisions of the necessary social and physical infrastructure. Around 82 percent of poor lived in rural areas. Several SAARC countries were handicapped by the scattered settlements, dispersed among mountains, deserts, atolls and isolated terrain with extremely difficult means of transportation, communication and market access. Their socio economic investment demanded for infrastructure. This needed to be provided cost effectively through community participation. These difficulties of the SAARC countries were further compounded by natural and man made disasters situation.

Koirala, Lamsal, Shah and Poudyal in their study topic entitled “Proposed approach to poverty alleviation in Nepal” had discussed the deficiencies of the post poverty alleviation programmes like inadequate coverage, wrong targeting neglect of rural socio-economic milieu and local potential, lack of system development, high cost of programs, bureaucratic attitude, non-cohesive groups, curb on federating associations, lack of commitment at implementing level, leading to

malpractice and corruption, centralized planning, too much experimentation and lack of the basic data. This paper presented some innovative approaches and measures for poverty alleviation like methodology of targeting and so on. Two types of programmes self targeting and targeted were suggested. In former one, there was no need for identification of poorer segment of society and programmes including labour intensive construction activities, such as those propagated by the food-for-work program, subsidizing the economically inferior goods particularly utilized by poor and promoting small and cottage industries etc. In the later one, backward areas and poor households were identified and especially designed programmes were implemented for their benefit. To provide fund for the implementation of target group oriented and sectoral programmes aiming at increase in employment and income earning opportunities for the men, women and youth, trust fund should be created. A target to rise above poverty line was set to the 5 million poor by 1997. The working paper also proclaimed that human resource was the prime mover of the development process. This paper also pointed out that poor were not only the charity seekers but also the source of development. (Koirala, Lamsal, Shah, and Poudyal, 1992).

Aryal in his research work entitled “Poverty in Rural Nepal” discussed his study on the basis of primary data collected from Sindhuli district for the analysis of nature of poverty by establishing its relationships with various socio-economic factors like level of education, ethnic group, employment etc. For the analysis of data, he used various statistical tools, like Gini coefficient, sen’s poverty index, Chi-square test etc. He found that 41.42 percent of households or 43.63 percent of population were absolute poor and 18.57 percent of households or 16.91 percent of population were relative poor. The study had revealed Rs. 9.81

per capita per day as the absolute poverty line and Rs. 15.18 per capita per day as the total poverty line. About 60 percent of households or 59.05 percent of population were poor and the value of Gini coefficient was 0.3112 for them in the study area. The study showed that top 10 percent had 19.64 percent of total income and bottom 10 percent had 2.65 percent of total income indicating high inequality in income distribution. There was the positive correlation between income and expenditure (consumption) having a correlation coefficient of 0.679. The value of sen's poverty index considering Gini coefficient was 0.1436 clearly indicating the extent of poverty was high. This study found that the nature of the poverty was more serious in lower caste people who used to spend a large proportion of their income on liquor consumption, smoking and traditional festivals. According to the study, small size of landholding, lack of market facilities and other basic infrastructures, production for only self consumption, lack of off firm jobs, and unequal distribution of landholding were the causes of poverty. Some recommendations like provision of vocational training, provision of village employment opportunities, provision of training for cottage and small industries, provision of land distribution on contract basis with supplementary programmes of long term loan, transportation facilities, institution of compulsory education for children, increase in informal education programmes, provision of improved method of cropping, irrigation, credit, fertilizer and improved seed, reduction in spending on alcohol, smoking and expensive traditional festivals and conduction of literacy programs and employment intensive training programmes for women to improve their status were discussed is the study for the alleviation of poverty.

In his further study, he found that existence of gender disparity, unskilled labour supply, lack of employment opportunities, low investment on education, health and sanitation, castewise disparity in society, indebtness etc. were the characteristics of the poor in Nepal, in his study topic entitled “Poverty alleviation in Nepal” by NPC. His study also highlighted some problems in poverty alleviation policies, programmes, and strategies in Nepal. He provided some recommendations like development of local national level capacity, strengthening planning and programming including goals and target settings, strengthening implementation mechanism and organizations, developing and enforcing the legislative and regulative system, effective and efficient mobilization of financial resources, strengthening monitoring and evaluation system and compromising between micro-economic policy and the social stability for the poverty alleviation in Nepal. (Aryal, 1994, 1996, 1997)

Guru Gharana in his study entitled “Trend and Issues in Poverty Alleviation in Nepal” discussed the various causes of poverty and it’s alleviation strategies of Nepal and of SAARC countries. He found that political and socio-cultural factors, economic and demographic factors and geographical factors were the causes of expanding and deepening of poverty in Nepal. He also discussed that lack of good governance, concentration of foreign and in the urban areas, low human development investment were the main socio-political factors which were helping for chronic and pervasive poverty in Nepal. (Guru Gharana, 1995)

The report of center bureau of statistics “Nepal Living Standard Survey” expressed minimal nutritional requirements in terms of calorie intake was equal to 2124 kcals per capita per day requirements to find out the absolute poverty line. The absolute poverty line was calculated to be

Rs. 4404 per person per annum in real price. Consumer price index, laspeyres food price index, laspeyres housing price index, Gini coefficient etc. were used to measure the cost of living differences in the country. The report found that rural areas were more poorer than urban areas and similarly, western hills and mountains were the poorest regions of the country. The report found that 45 percent of people were poor among whom 23 percent were in urban areas and 44 percent in rural areas which also indicated that rural poverty was deeper and more severe than the urban poverty and there was the big difference in the degree of inequality between urban and rural areas. Gini coefficient of urban areas was 0.43 compared to 0.31 in rural areas indicating that the income inequality in urban areas was higher than that of rural areas. (CBS, 1996)

Gautam, in her research study entitled “Poverty in Nepal” of Dang District, used 108 sample households and 373 people for the collection of primary data to analyse the extent of poverty and the pattern of income distribution in the study area. Her study was based both on primary and secondary data. According to her study, 40.74 percent of households or 49.48 percent of population were absolute poor and 35.25 percent of households or 25.29 percent of people were relative poor in the study site. She determined that various socio-economic characteristics and variables of society, like size of landholding, employment and educational status, type of the occupation etc. are the determinants of the nature of poverty problem of the study area. (Gautam, 1997)

Ghale in her study topic “Poverty among Chepang Community” of Chitwan district used primary data on the basis of size of landholding, literacy, family size, monthly income by ethnic group etc. for the analysis of cause and nature of poverty of the study area. For data analysis purpose and for poverty analysis, breakeven technique was used to

determine the wolf point, Sen's poverty index, and the minimum subsistence norm. She found that about 96.06 percent of people were absolute poor and there was the absence of relative poor in the study site. Various econometric tools like Lorenze Curve, Gini coefficient, simple linear regression etc. were used for data analysis purpose. She found that lack of education and technical skills, lack of land resources, unemployment, low productivity along with the growth of the population, lack of income generating occupations and activities etc. were the main causes of poverty in the respective Chepang Community of the study site of Chitwan district. (Ghale, 1997)

On the basis of both, primary data collected from 11 selected districts of mountains, hills and Terai and of politico-administrative regions and secondary data, the research paper of New Era entitled "The neglected majority poverty: The Nemesis of Development" tried to analyse the poverty. To present the poorest and Socio-economically down trodden (Dalit) people villages from rural districts and particular locations from urban districts were selected. People from urban and semi urban areas were daily paid labourer or self employed small entrepreneurs which also included the street vendors, and homeless children or ragg pickers of urban areas. Socio-economically depressed groups like cobblers, sweepers, laundryman, tailors, push-cart operators, riskshaw pullers, squatters and briddhashram etc. were the low income groups of urban areas. To describe the absolute and relative poverty, three types of poverty named material poverty, intellectual poverty and entrepreneurial poverty have been defined. The causes of poverty were found to be lack of capital to invest, difficult geographical situation, poor health services, lack of electricity and drinking water, lack of fertilizer and low productivity, deforestation, expenditure being greater than income,

inequitable distribution of land, high population growth, natural calamities, uncontrolled inflation, corruption, nepotism, lack of patriotic feeling among people and so on. The study also recommended some strategies for poverty alleviation. They were the land of inheritance needs should be reviewed to check land fragmentation and relieve the pressure on land, vocational and technical training should be launched on a wide scale, the feudal structure of society and the rent seeking attitudes of people should be changed through the creation of new opportunities and environment for productive investment and so on. (New Era, 1997)

Aacharya in her study topic "Nature of Poverty" tried to examine the poverty of Dang District and to show the relationships between poverty and employment of the study area on the basis of both primary as well as secondary data collected from the sampled households and NPC, CBS, WB, NRB etc. respectively, for the purpose of the comparison and analysis. For data analysis purpose, various econometric tools like Gini coefficient, Lorenze curve, sen's poverty index, wolf point, range, regression etc. were used in her study. Her study showed that 48.57 percent of households, or 57.87 percent of the population were absolute poor and 30 percent of households or 25 percent of population were relative poor and similarly, 21.43 percent of households or 17.13 percent of population were non-poor. In the study site, she found that level of income was highly dependent on agriculture. In her study, she also recommended that provision of adequate land according to family size, training to the labourer, provision of formal and informal education to wipe out their traditional beliefs and cultural defects etc. were essential for the reduction of poverty in the study site. (Aacharya, 1998)

According to UNDP, among the world's 6 billion populations, 2.3 billion (around 4 percent) people had income of less than US$2 per day

and 1.2 billion (around 20 percent) people had income of less than US$1 per day and 14 percent of those were living in South Asia. (UNDP, 2001/02)

The study of Risal entitled “An economic analysis of income distribution, consumption patterns and poverty in Urban Nepal” was based on secondary data for the calculation of income distribution, consumption pattern and poverty by the application of various statistical tools like Theil index, log, normal variance, Lorenz curve, Gini index and Keynesian linear consumption function to derive breakeven point etc. The value of Gini coefficient was found to be 0.35 and it was found a positive correlation between total consumption, expenditure and income. In the nut sell of this work, he said that it was seriously needed to raise the consumption patterns where low consumption was persistent. That was to be carried out as to mobilize the saving where saving generally took place and to reduce the inequalities in the income distribution where the most unequal income distribution found. This targeted to achieve an increased overall economic growth. It was to be recommended that there was no incompatibility between a high rate of growth and relatively equal distribution and hence before drawing any important policy conclusions a much intensive and wider study must be under gone. (Risal, 1999)

World Bank through “Poverty in Nepal at the turn of 21st Century” gave central message that poverty in Nepal was deep and complex and was more widespread and deeper in remote areas in the mid and far western developmental regions and in the mountains. It was widespread due to the increasing population growth rate, illiteracy and so on. Only a concert effort to improve public interventions while mobilizing the community initiatives held hope for a reduction in poverty. This report was divided into two parts and was totally based on Secondary data.

GDP, population growth rate, Gini coefficient, regression analysis etc. were also used in the study. The first part of the report included the overall poverty problem and the second part recommended suggestions to reduce poverty by concentrating on agriculture, rural infrastructure, health education and role of women in the context of efforts. According to the report, 82 out of 90 percent Nepali households owned land and 86 out of every 100 were actually farmers. Almost 90 percent poor were very poor having low productivity. Among them, only 11 percent received irrigation facilities and only 37 percent used fertilizer. Around 4 percent population lived under the incidence of poverty in urban Kathmandu which was 10 times greater for the country and 76 percent were literate which was 3 times less for the country according to the report. More than 80 percent Nepali women could not read and one in 20 poorest women was literate. According to the report, poverty was extended due to the dominance of agriculture in the economy, lack of infrastructure, value of migration and low social indicators. And in the second part, the report provided the strategy for poverty alleviation. Lessening, population growth rate, increasing agricultural productivity, different programmes for rural poor, irrigation and fertilizer facilities, improved farming technology in agriculture, providing the public health and education for poor by developing infrastructure, free public works as safety net to check corruption, agriculture extension and veterinary services and greater availability of credit of the grass root level etc. were the main strategies recommended to achieve broad-based, equitable, sustainable growth rate for poverty alleviation. The report suggested two ways to poverty alleviation in Nepal. One was the allocation, targeting and efficiency of public investments and expenditure should be improved and the another was communities should be mobilized to express priorities and help, implement and monitor service provision and for the

poor people, this report suggested that health and education were the most important things for their better life (World Bank, 1999).

J.W. Mellon in his publication entitled “Why has foreign aid been so ineffective in reducing poverty?” stated that a lot of people in the foreign assistance buried grab on the importance in poverty reduction of growth in rural non-form employment and tried to move directly through micro-enterprise and micro-credit projects for increasing the amount of that activity. Those efforts to increase employment through micro enterprise, without rising farm income were basically counter productive without rising the agricultural incomes, the effective demand for those goods and services would not grow. The demand must come locally and the growth in agricultural output was the only source. Targeting programs directly to the poor was going to fail unless somebody did something to increase effective demand for what the poor were producing. In Nepal, most of the poor depend upon agriculture for their income and that it was necessary to have rapid growth in agriculture. He identified two sources of agricultural growth. One was commercialization which was basically specialization. Another was to increase productivity (per land unit) given the land constraints. Here, it was interesting to note that the foreign aid had been so ineffective in reducing poverty due to such various reasons (Mellon, 1999).

Kafle published one article entitled “Structural adjustment and Poverty Alleviation” in NRB Samachar in 2005. According to him, poverty situation in Nepal was characterized by wide variations between urban and rural areas, ecological zones, developmental regions, gender and so on. According to 1995/96 household survey, 44 percent of rural population lived in poverty and 23 percent of urban population were also in such condition. Around 90 percent of poor lived in rural areas. Poverty

in mountainous region was 56 percent. In mid-western and far-western regions (Hills and Mountains), it was 7.2 percent whereas in rural mid western and far western Terai regions, it was 53 percent. According to the writer, three essential requirements for ensuring good progress in poverty reduction were political stability, strong government commitment political will to effectively implement the poverty reduction policies and good governance. He also recommended that three key issued that always policy makers should concentrate on should be: how to finance poverty reducing spending in a way that did not have a negative impact on micro-economic stability, what policies can improve macro-economic performance and what policies can protect poor from domestic and external shocks. (Kafle, 2005).

In the publication of CBS, it was indicated that literacy rate had been increasing since last three decades in the case of Doti district, far western region and Nepal as a whole. Current Literacy rate according to 2001 census was 43.7 percent for Doti, 48.7 percent for far western region and 54.1 percent for Nepal as a whole. But in the case of rural view, literacy rate for far western region and Nepal as a whole was 47.2 and 51.0 respectively showing a great gender inequality and variation in the literacy. This annual publication of CBS also indicated that in Nepal, according to 2001 census, 30.6 percent of people had pakki house; 31.7 percent of people had ardha-pakki house and 36.9 percent had kachchi house. The population distribution in Doti District was 52.7 percent chhetri, 9.2 percent Brahmin, 8 percent Kami and 5.2 percent Dami/Dholi. Sex ratio in Doti was 100, population density was 102 and area is 2025 sq. km. Consisting 0.89 percent of total population of Nepal having 2.14 average annual growth rate. (CBS, 2003)

According to the 10th plan of Nepal, the causes of poverty were economic, social and technological backwardness, low economic growth, rate, high annual variation of economic growth rate, significant contribution of non-agricultural sector only in limited urban areas, public expenditure-weak prioritization, weak process of selecting projects and small amount of budget allocations in number of projects, lack of good governance, security problems and political instability, lack of desired achievements from targeted programs and social discriminations. (NPC, 2003).

One article of Amatya entitled "Far Western region and poverty alleviation" was published in Annapurna Post daily dated 27 December 2005. According to him, entrance to the neighbouring country India was not the hobby but the necessity to meet the basic needs of life for the local rural poor people of far western region eventhough 80 percent of people based on agriculture and it provided 40 percent GDP in the case of Nepal. Only 8 percent of budget was given to agriculture. Among 75 districts of the country, 55 have scarcity of food even there was land area of 3364139 hectare for the purpose of agriculture. Far western is the smallest region of the country having an area of 12.7 percent of total land area of Nepal having various biological diversities in the context of mushroom, Jatamashi and Yarshagumba. As told by late king Birendra, Himalaya for livestock, Hill for fruits and vegetables and Terai for cropping, was not implemented yet in the country. So, for the poverty alleviation of the far western region, the government had to follow solid ideas for increasing the agricultural production and development in the biological diversities was necessary, according to him. He also included the words of Hark Gurung published from Asian Development Bank/Nepal as "Nepal: regional strategy for development" in his article.

According to author, regions were different according to natural and human resources. And therefore, interrelationship between development and equity should be made. According to the utilization of the resources of available lands, economic activities should be formulated. But in the case of Nepal, while formulating the plans, there was not much concentration on land use process which was the main causes of failure of plans, programmes and strategies in the country and which directly resulted into the higher degree of poverty in the country in the form of vicious circle. (Amatya, 2005)

According to Nepal Human Development Report, the human poverty index value for Nepal was estimated at 39.6 (of rural was 42.0 and of urban was 25.2), a figure fairly closed to the HPI (41.2) reported in the global HDR 2004. The HPI value exceeded that of all the Asian countries except Bangladesh and Pakistan. Human poverty in rural areas surpassed that of urban areas. The incidence was most pronounced in the mountains followed by Terai and Hills. Likewise, it was heavily concentrated in the mid-western and far western developmental regions and was highest in the mid western mountains which was 1.7 times higher than that of central Hills where the HPI value was recorded to be the lowest. Similarly, considerable disparities in human poverty existed across districts. In Doti, HDI lied between 0.400 - 0.449 while far western region as a whole was 0.404 (2001) and 0.364 (1996 - adjusted) and in Doti, HPI was between 50-65 while far western region as a whole was 48.5 (2001) and 50.7 (1996 - adjusted). In comparison to the periods, it was found that decline in HPI had been highest in mid-western, western and central developmental regions with the least progress in the far-western region. Ecologically there has been least progress in poveryty reduction in Terai and the Mountains compared to the Hills. Nepal was

hardly alone among the numerous countries worldwide that had allowed both historical and contemporary factors to perpetuate the gaps between its haves and have-nots. The people's movement of 1990 raised the aspirations of the marginalized sections of Nepal's population but would not adequately deliver on its promises of socio-economic betterment. Discriminatory practices rooted on ethno-caste system had dominated Nepalese culture for centuries. Macro-economic policies had been largely ineffective in promoting pro-poor growth and ensuring equitable income distribution. The piecemeal approach of the reform process against the backdrop of increasing popular awareness of human rights fueled contradiction in Nepalese society, leading to violent conflict. Targeted programs should be built into holistic social mobilization efforts and socially mobilized communities could overcome their current tendencies to exclude the ultra poor while at the same time ensured that the non-poor were also included to reduce tensions within the community, changing the long standing institutional culture that governed Nepal's decision making processes simply would not take place without radical changes in mindsets of those who worked within team. According to the report, poverty alleviation was possible only by deepening democracy, removing discriminatory laws and practices, making macro policy reforms for propoor, transforming agriculture, expanding equitable education and the health facilities, building infrastructure, creating employment opportunities, empowering disadvantaged and marginalized groups and investing in the organizational capacity of poor etc. According ot the report, 56 percent in mountains, 41 percent in Hills, 42 percent in Terai, 23 percent in Urban areas, 44 percent in rural areas and 42 percent in Nepal as a whole were below the poverty line. (UN, 2004)

United Nations in its book entitled “Poverty, unemployment and development policy” studied the selected issues with reference to Kerala. It was difficult to assess policies and programs with a bearing on unemployment in the state without analyzing the reasons for the rapid proletarianization of labour and reported rise in the real wage rates of unskilled labour amidst large-scale unemployment. It recommended that creation of employment opportunities of adequately gainful nature on the required scale calls for measures that would not only raise the productivity of land but also promote rapid industrializations. (UN, 1975)

Teroedjre in his book “Poverty: Wealth of Mankind” defined poverty as fatal famine, tropical diseases, permanent unemployment, beggary, ignorance, the cramped cabin where men and beast are crowded together. Poor are “having only just what is necessary” or “having what is essential but no more”. In poverty, morality and even a touch of happiness was possible, never in destitution. (Teroedjre, 1979)

According to Morris and McAlpin in their book “Measuring the condition of India’s poor”, conventional wisdom was the rapid rises in total GNP would increase average per capita income and this would quickly trickle down to improve human well being, particularly among the very poorest groups in developing societies. The result showed the per capita GNP has risen rapidly but the gains have tended to flow to the groups who were already better off, with few appreciable gains for those least well off. According to the writers, a composite index that seeks to measure the welfare aspects of international socio-economic performance must be made up of component indicators that meet the following six criteria:

1. The indicators should avoid the assumption that there is only one pattern of development.
2. The indicators should not reflect the values of specific cultures.
3. The indicators should reflect results, not inputs.
4. The indicators should be able to reflect the distribution of social results.
5. The indicators should be simple to construct and easy to comprehend.
6. The indicators should lend themselves to international comparison.

Infant mortality, life expectancy and basic literacy meet the six criteria set out above which are the component indicators of the physical quality of life index. (Morris and McAlpin, 1982)

According to Hayter in the book “The Creation of World Poverty”, there is no lack of information on the extreme forms of deprivation which the majority of people in this world novel suffer. Most but not of all these people live in Asia, Africa and Latin America. There are, in addition, glaring inequalities in the wealth between different parts of the world and also within individual countries. The widening gap between developed and developing countries has become a cliché. There are also a good many indications, less well documented perhaps, that the situation of the very poor, especially in rural areas in underdeveloped countries, is becoming worse in absolute as well as in relative terms, mainly because distribution within countries is becoming more unequal. (Hayter, 1982)

Myrdal in his book entitled “The economics of Poverty” defined poor, poverty, causes and structural causes of poverty, economic theory, aggregate demand and poverty, traditional cures of poverty. He summarized that the level of American income had full force of the post

world war-II rise, some seemed to have been overstated, as a Lorenz curve indicated. Despite these conclusions, however, we still do not know how many people, if any in fact, are poor. (Myrdal, 1968)

According to Ul Haq in his book entitled “The Poverty Curtain” seven sins of development planners are numbers games, excessive controls, investment illusion, development fashions, divorce between planning and implementation, neglect of human resources, and growth without justice. He also clearly indicated much more about poverty and development practices in his topic entitled “Toward a direct attack on mass poverty”. (Ul HaQ, 1976)

Singh and Tiwari is their book “Managing Poverty Alleviation” suggested some recommendations for poverty alleviations. They are:-

1. A strengthened organizational set up in the field was required which gives adequate weightage to the implementation of IRDP.
2. Only those officers who view a clear field assignment as deeply significant and meaningful should be selected.
3. Strengthening the understanding and motivation of field workers at the village level through investments in training and the creation of monetary incentive schemes along with promotional opportunities.
4. Micro level planning has to be greatly strengthened.
5. A computer based information system in each district of the nation can serve as a most powerful causal force for the effective planning and management of poverty alleviation.
6. Functionaries focus seems to be on the achievement of allocation targets, i.e., input variables.

7. The problem of social constraints on implementation of vested interests, of siphoning of benefits by the dominant and affluent sections, has also to be managed.
8. There should be increase in the involvement of beneficing in the development decision making process.
9. A systematic network of other pro-poor programmes like land reforms, enforcement of minimum wages, an efficient and effective public distribution system, access of the rural poor to basic needs and facilities like nutrition, health care, sanitation, drinking water, education etc. have to be simultaneously strongly strengthened through the judicious use of substantially increased allocations of human and financial resources. (Singh, and Tiwari, 1988)

Gilder in his book “Wealth and Poverty” indicated that to get a grip on the problems of poverty, one should also forget the idea of overcoming inequality by redistribution. Inequality may even grow at first as poverty declines. To lift the incomes of the poor, it will be necessary to increase the rates of investment which, in turn, will tend to enlarge the wealth, if not the consumption, of the rich. The poor, as they move into the work force and acquire promotions, will raise their incomes by a greater percentage than the rich, but the upper classes will gain by greater absolute amounts, and the gap between the rich and the poor may grow. All such analyses are deceptive in the long run, however, because they imply a static economy in which the numbers of the rich and the middle class are not growing. In addition, inequality may be favoured by the structured of a modern economy as it interacts with demographic change. When the division of labour becomes more complex and refined, jobs grow more specialized, and the increasingly specialized workers may

win greater rents for their rare expertise, causing their incomes to rise relative to common labour. (Gilder, 1981)

Whatever the outcomes of these development, an effort to take income from the rich, thus diminishing their investment, and to give it to the poor, thus reducing their work incentives, in sure to cut American productivity, limit job opportunities and perpetuate poverty. (Gilder, 1981)

K.C. took sample size of 200 HH with 1223 population and found that 27 percent of HH or 29.27 percent of population were absolute poor and 22.5 percent of HH or 24.37 percent of population were relative poor in the study area in the research topic entitled “Poverty in Rural Nepal”. The researcher also identified that 53.64 percent of population or 49.5 percent of HH in the study area were poor. Various econometric tools like Lorenze curve, Gini coefficient, Wolf point, Sen’s poverty index etc. were used for data analysis purpose. According to his study 50.50 percent of HH or 46.36 percent of population were non-poor in the study, area. Various outcomes showed that there was high degree of income inequality among sampled households, absolute poor households and among total poor also. The study also showed the positive correlations between income and consumption. The most of the people spent a large proportion of their income in liquor consumption, smoking and traditional festivals. Some of the recommendation were in terms of agricultural productivity, cottage industry, modern farming, financial institutions, marketing, transport, communication, awareness programs, education and health, awareness in health and school and social welfare programmes. According to the researcher’s dissertation there are three kinds of poverty. They are collective poverty, cyclical poverty and individual poverty. (K.C., 2003).

Joshi in his dissertation entitled “A Study on Rural Poverty” indicated that 44.56 percent of HH or 41.75 percent of population were relative poor in the study site. Similarly, 58.77 percent of HH or 41.23 percent of population were non-poor. Total poverty line (BEP drawn) was 23.75. In the study area, income level of service/business oriented personalities was high while that of agriculture related was very low. There was high degree of inequality in income. The main causes of poverty were low productivity, lack of education, agricultural market, technology, work continuity and traditional society etc. The nature of poverty was more serious in the ethnic groups like Magar, Damai, Sunar etc. but it was less serious for others. Some of the recommendation of the study were development of non-agricultural sector, poverty alleviation programs should be directed towards rural areas, generation of public awareness programmes, improvement in agricultural technologies, teaching about family planning and so on. The researcher strongly argued that those who are literate and educated are unemployed and they do not help their parents in agricultural sector. Therefore, their standard of living is falling down slowly. So, the government should start plans for them (Joshi, 2003).

The researcher estimated Rs. 16.65 per capita per day as absolute poverty line and Rs. 29.48 per capita per day as total poverty line. On the basis, 41 percent of HH or 46.26 percent of population were relative poor and 78 percent of HH or 81.89 percent of population were total poor. The researcher also summarized that 37 percent of HH or 35.63 percent of population were absolute poor. Similarly, 22 percent of HH or 18.11 percent of population were non-poor, various econometric tools like correlation coefficient, Gini coefficient, Sen’s poverty index etc… were used for data analysis purpose. Researcher estimated correlation

coefficient between income and consumption as 0.9653 and 0.8861 for the absolute poor, showing positive correlation between income and consumption. The value of Gini coefficient among relative poor was 0.2435 and without considering Gin coefficient was 0.1926, showing high extent of poverty. The nature of poverty was more serious in ethnically dominated groups and also found negative relationship between poverty and land holding and positive relationship between family size and income level. The study also found that most of the people spent a large proportion of their income on liquor consumption, smoking and traditional festivals. The researcher also recommended that employment opportunities in the other sectors than agriculture should be created, vocational training and financial assistance should be provided, small scale industry should be promoted, modern farming system should be introduced, education and non-formal education should be provided for adults, transportation facilities should be provided and saving should be mobilized into high return yielding sectors. (Tamrakar, 2002)

Subedi in his research paper entitled “A Study on Rural Poverty in Nepal” found that 45.71 percent of HH or 47.35 percent of population were absolute poor by estimating 12.06 per day per capita income as the poverty line. Similarly, 54.29 percent of HH or 52.65 percent of people were non-poor. The researcher also used various econometric tools for data analysis purpose like Gini coefficient, Sen’s poverty index etc … Gini coefficient of poor people was 0.448 and of the sample population was 0.39438, indicating high income inequality in the study area. The value of Sen’s poverty index considering inequality was 0.0607 and without considering inequality was 0.0411 showing not a great intensity of poverty in the study area. And 55.20 percent of working age population were semi-employed and 17.70 percent were unemployed.

The researcher also recommended some suggestions like reforming of the land distribution and land use system, making minimum wage standard for agricultural labourer, providing techniques, loan and market to develop the cottage industries, providing vocational education and training and controlling of social discrimination and harmful social traditions etc. (Subedi, 2001)

According to Pyakurel in his research topic entitled “Poverty in Rural Nepal”, 71.26 percent of HH or 68.23 percent of population were absolute poor on the basis of Rs. 12.7653 per capita per day as the absolute poverty line. According to Wolf point, 76.26 percent of HH or 73.17 percent of population were poor. Similarly, 23.75 percent of HH or 26.83 percent of population were non-poor. Gini coefficient was 0.379 among sampled HH showing considerable inequality in the distribution of income. The value of Gini coefficient, Sen’s poverty index, mean deviation, variation, range, coefficient of variation etc. were used for data analysis purpose. The calculated value of Sen’s poverty index considering inequality was 0.3815 and without considering inequality was 0.3343 showing greater intensity of poverty. It was also found that there was positive correlation between income and expenditure (consumption). To reduce poverty, agricultural infrastructure, like chemical fertilizers, seeds, irrigation and other facilities should be provided and intensive agricultural practice with multiple cropping system should be adopted. Alternative opportunities should be given to encourage cottage and small scale industries, modernization of agriculture in modern farming system should be introduced. Financial support to poor farmers and women should be provided at low interest rate. Marketing facilities should also be taken. Transportation and communication facilities should be developed. There should be reduction in unnecessary ritutals, alcohol, smoking and

gambling etc. Necessary education system should be provided. (Pyakurel, 2001).

Swarnakar in his dissertations entitled “A Study Analysis of Extent and Nature of Rural Poverty” estimated absolute poverty line as Rs. 16.89. According to which 47.41 percent of HH or 47.69 percent of population were absolute poor. Similarly, total poverty line was estimated as Rs. 39.73 and population below this level were 79.91 percent and HH were 78.52 percent. And relative poor households were 31.11 percent and population were 32.22 percent. Mean income of the sampled HH was Rs. 27.60 while absolute poor HH was Rs. 10.02. Gini coefficient of sampled household was 0.4126, sampled population was 0.1430, absolute poor households was 0.430 and absolute poor population was 0.1435 showing high degree of income inequality. Similarly, marginal propensity of sampled and absolute poor households, were 0.78 and 0.882 respectively. Among sampled and absolute poor households, mean deviation was 0.63 and 0.213, variance was 507.02 and 8.58, coefficient of variation was 0.8158 and 0.253 and range was 3.3 and 0.951 respectively. The poverty problem was more serious in Dalits and less in Brahmins Illiteracy and unemployment were also the causes of poverty. The correlation coefficient between income and expenditure was 0.9425 and 0.8064 for sampled and absolute poor households respectively. It was found that there was negative relationship between family size and level of income, and landholding and poverty. Similarly, positive relationship between family size and poverty and landholding and income was found in the study site. The researcher also recommended various suggestions like irrigation facilities, agricultural credit etc should be provided, small size of land, intensive agricultural practice, multiple cropping system, should be adopted, increment in employment opportunities through the

establishment of production and service sector industries improved seeds, chemical federalizes, provision of subsidy, transportation and communications facilities should be developed, spending on traditional feast and festivals, gambling, alcohol and smoking etc. should be decreased. Non formal education and vocational training should be provided, a proper wage rate should be determined and effective family planning should be adopted etc. Swarnakar, D.L., 2001).

Joshi in the research paper "Rural Poverty in Nepal: A Case Study of Raikar Bichwa VDC, Ward Number 8, Kanchanpur district" took 60 sample households out of 340 households. By estimating Rs. 20.91 per capita per day as absolute poverty line, it was found that 40 percent of HH or 42.65 percent of population were absolute poor. Similarly 15.44 percent of population were relative poor. About 45 percent of household or 41.91 percent of population were non poor. By estimating Rs. 23.85 per capita per day as the total poverty line, it was estimated that 55 percent of total HHs or 58.09 percent of population were poor. Mean income of non-poor households was Rs. 44.35 per capita per day and percentage of economically active population was 62.6. It was found that 54.18 percent were literate and 8.37 percent of population were educated. The mean income of absolute poor HH was Rs. 14.21 per capita per day. The value of Sen's poverty index considering inequality was 0.18 and without considering inequality was 0.13, which showed the higher intensity of poverty due to inequality in income distribution. The value of Gini coefficient was 0.1567 indicating income inequality. Low productivity, lack of education, agricultural market, technology etc. were the main causes of poverty. Poverty was more serious in ethnically dominated castes. Most of the poor people spent large of their income in liquor consumption, smoking, gambling and unnecessary feast and

festivals. The dependent populations were high among poor people. Poverty problem was high among the illiterate people and service/business oriented people had high income level while agriculture/livestock oriented people had low income level. It was also recommended that employment opportunities other than agriculture should be created, irrigation facility should be provided, compulsory education, vocational training and informal education should be provided to children and women, transportation, communication and modern farming facilities should be provided, informal education to untouchable and lower castes should be provided, mixed cropping pattern should be initiated, awareness about family planning should be raised, public awareness programs should be introduced, financial institution and banking system should be established, poverty alleviation programmes must reach the rural area and local people, additional employment opportunities should be provided for educated youth and other and provision of vocational education to replace current education pattern should be made etc. (Joshi, 2003)

Gautam in the study topic entitled “A Study of Urban Poverty in Tribhuvan Municipality” indicated that 18 percent of HH or 24.02 percent of population (10 percent of HH or 9.19 percent of population using Lipton’s definition) were absolute poor by estimating Rs. 22.58 per capita per day as absolute poverty line. Similarly, 11 percent of HH or 13.11 percent of populations were relative poor. And 29 percent of HH or 37.13 percent of population were total poor by estimating Rs. 29.02 per capita per day as total poverty line. The value of Gini coefficient was 0.35 (for sampled HH) and 0.11 (for absolute poor HH) showing considerable and negligible inequality in income respectively. Sen’s poverty index was 0.08 (considering Gini coefficient) and 0.06 (without

considering Gini coefficient) showing not so high extent of poverty. The value of mean deviation, range, coefficient of variance were 0.5174, 3.60, 0.67 and 44.4 respectively showing high degree of income inequality, among sampled HHs. Among absolute poor, the value of range, variance, mean deviation and coefficient of variance were 0.68, 12.53, 0.16 and 0.21 respectively, showing high degree of income inequality. The value of coefficient of variation among poors was 0.053. Marginal propensity to consume was 0.57 showing a large proportion of income was spent on consumption. The value of head count index was 0.24. The value of income gap ratio was 0.25, poverty gap index was 0.06 and squared proportionate poverty gap index was 0.15 for the poor. Around 50 percent of household heads were illiterate and 50 percent and 22.22 percent of household heads were literate and educated respectively among absolute poor households. The daily per capita mean income of illiterate and educated households heads were Rs. 14.23 and Rs. 22.02 respectively. It was found that earning capacity was directly and positively related with level of education. Around 24.71 percent of male were illiterate, and 75.29 percent of female were illiterate. Similarly, 35.33 percent of male and 64.67 percent of female were unemployed. The top 20 households had 26.17 percent of employed population whereas the bottom 20 households had 8.73 percent of employed population. The family size of the relative poor, absolute poor, non poor and total sampled HHs were 7.00, 7.83, 5.19 and 5.87 respectively showing no significant relationship between the family size and poverty. But employment level was positively related to income level and negatively to poverty. And at last but not least 11.11 percent of HH were landless, 27.77 percent of HH operated 0-2 Katha, 33.33 percent of HH operated 2-5 Katha and only 27.77 percent of HH operated 5 katha and above, among sampled households. It was also recommended that agriculture should be

transformed, employments during off farm season should be promoted, there should be price support and provision of subsidy in the inputs, financial institution and banking system should be established, group credit schemes should be lunched, integrated programs should be conducted, promotion of the cottage industries should be designed and implemented, compulsory education for children should be instituted, spending on alcohol, smoking and unnecessary festivals should be reduced and discouraged, policy awareness programmes should be launched and there should be a strong commitment of people towards reducing poverty. (Gautam, 2004).

According to Rai in his research study entitled "Poverty alleviation policy and reality in Nepal: An Anthropological study on Andheri Narayansthan VDC of Okhaldhunga District", the households having economically high status were generally dominant in social sectors whereas economically low status households had no access and benefits or of comparatively less benefits and access. Economically conditioned (high status), socially aware and culturally advanced (in the sense that if they are benefited with prevailing condition) households were brought up in the main stream of policy formulation and implementation efforts, and were more secure in terms of economic and social stagnation in the future. Socio-economically and culturally disadvantaged groups were always backward for they were incapable of exploiting the development mechanisms that were brought up with the policy attempts. Socio-cultural and geographical (altitude, climate, natural resources) conditions had tremendous effects on the formation of socio-economic backgrounds of a particular society. The suggested various recommendations were the local based needs should be considered while implementing of any policies and the local people must be given with full and free authorities of handling

their activities themselves by a proper guidance from outsiders (Rai, 2005).

Prasain in the research study entitled “Poverty and fertility in Nepal: A Case study of Bhatauli VDC, Ramechap District” indicated that poor households had large HH size compared to non-poor HH. Poverty and fertility were directly related to each other. And, poor household tended to be larger than the non-poor households. In his recommendations, he wrote that the programs adopted by the government of Nepal to eradicate poverty like income generating activities through employment creation and productivity, labour intensive public works, access to basic services (proper educational facilities, health facilities, nutritious food items, transportation, communication etc.) social funds, participation of the poor, anti-discrimination activities, established cottage industry etc. need to be strengthened and the involvement of women in policy making bodies should be emphasized etc. (Prasain, 2005)

Above studies showed that there is the major problem of poverty for the developing countries like Nepal. Different financial institutions help to avoid the poverty by providing assets at low interest and other investments to the poor. From the different views of different researchers and authors, it can be able to know a lot about the poverty problem of rural areas which is present all over the country and can be alleviated through the provision of money with low or no interest, different skills for behavioural education and other traditional concepts for the local rural poor people. This study has given special attention to the extent and nature of the poverty of the study area, i.e., Kapallekhi VDC, one of the hilly VDC, of the Doti District of Nepal which is a rural setup having distinct socio-economic characteristics. The current study tries to find the missing elements in the concept of poverty.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Terminology

The variables or terms used for fulfillment of the objectives of the study are defined as below:

3.1.1 Household

A household is an economic unit in which the individuals or the family members earn and consume together for their existence

3.1.2 Total Household Income

The total income which is earned by all family members from different sources of income is known as the total household income. It is the total sum of net income from agriculture production, livestock and poultry farming, labour, business and cottage industries, services, rent etc. the net income is derived by subtracting the expenditure made or cost involved while earning from the total income.

3.1.3 Total Household Consumption

The total sum of the expenses on food items and non-food items which the family members spend in a year to fulfill their requirements is called total household consumption.

3.1.4 Absolute Poor

Those who are unable to earn an income sufficient to finance their subsistence requirement going 2256 calories of energy of market price are absolute poor.

3.1.5 Relative Poor

People above absolute poverty line but earning an income below wolf point are relative poor.

3.1.6 Non-poor

People whose income is above the poverty line are non-poor.

3.1.7 Illiterate/Literate/Educated

Those people who cannot read and write are illiterate. Those who are able to read and write Nepali language are recognized as literate. Those who have completed or have appeared post school education are taken to be educated people.

3.1.8 Main Occupation

The particular occupation in which the household is mainly dependent and which contributes the largest share in total annual income of the household is known as main occupation.

3.1.9 Active/ Working Age Group Population

All the household members who are in between 14-59 years of age are known as active/ working age group population.

3.1.10 Size of Landholding

The landholding considered is cultivated land, including both rented and owner occupied from land.

3.2 Rationale of Selection of Study Topic and Study Area

Poverty is the burning problem of all the third world countries and of some of the developed countries also. In the developing countries like Nepal, vicious circle of poverty is present everywhere. So, to eliminate the problem of poverty from such developing countries is only a dream. Although all plans, policies, programs and projects are directed towards poverty and its reduction, no satisfied results are being obtained. So, a vast study about the topic is required to solve the poverty problem of the whole country. So, to help the development practitioners, planners, policymakers and donor agencies is must for the alleviation of poverty. The main reason of the selection of study topic was to measure the nature and extent and vicious circle of poverty of the whole country on the basis of Kapallekini VDC of Doti district of Nepal.

For the overall development of the country, development of the rural VDC is must. Kapallekhi VDC is one of the very rural VDC of far-western Nepal. So, the most of the inhabitants of this VDC even could not able to taste the fruit of development and even unknown. They are borning in poverty, living in poverty and dieing in poverty. So, to empower the people for their own development should be the main aim of the educated persons. So, reduction in poverty is very necessary to empower them. Most of the people of study VDC were absolute poor and almost two thirds of the populations were poor. So, poverty and its vicious circle is widespread and non-breakable for the study VDC. So, to give emphasis on the vicious circle of poverty of the study site, this study was carried out. The study of the poverty of the whole country was out of reach due to various limitations and it would be the first step for the researcher to develop rural Nepal or to alleviate poverty. The rural people

of Nepal are spending a very hardful life and so, it is necessary to upgrade their lifestyle for making their lifestyle for making their life more easier. The problems of the hilly areas of Nepal and of the study VDC are also put forward in this dissertation. For the attraction of the donors towards the alleviation of poverty, this theses may play a very significant role. A lot researcher regarding the more developed regions are present there, so the rural area of Nepal was selected as the study site.

3.3 Research Design

This study was mainly based on micro study of poverty. This study also tried to analyze the existing level of poverty in specific study area. The study was more analytical and descriptive in nature. So, descriptive research design was followed in this study. So, this study searched the adequate information about the study area and poverty. Both field research and desk research were used in this study. Survey research was carried out by the help of the sampling method. So, this research was not necessarily seek to explain the relationships, test hypotheses, make predictions or get at meeting and implications of the study. This research followed both qualitative and quantitative aspects of the phenomenon.

3.4 Nature and Sources of Data

For this study both primary and secondary data were used. Primary data were collected by field visiting, by the help of interview, questionnaire, and observation of the respondents. Keeping in the mind about the objectives of the study and nature of data required, these primary data collection instruments were used. Hence the sources of primary data were local people, local leader, teachers, and the government employers. Secondary data were collected from district

development committee, district administration office, related VDC, NPC, CBS, NRB, publication of World Bank and various other research institutions. Library materials were also used. Secondary data were used for supplementing primary data. Descriptive research design and relevant econometric tools were used to present and analyze data.

The data collection period was about one month. During that time, the researcher stayed in his relative's home and hotels. The purpose of staying with those places was let the local people feel that the researcher had not biased to any group. Indeed, this helped the researcher to carry out his field activities smoothly.

3.4.1 Selection of Key Information

The key informants for this study were ten in number are tea. Five were from the district development committee and five were from the district administration office. These key informants were selected according to judgmental sampling on the basis of their position and their knowledge of the study topic.

3.5 Sampling Procedure

Every types of social research is carried out by the collection of data from the samples which are drawn from population because the study of the whole population is out of reach due to limited time frame and budget. Samples are the source of primary data. In this research, the sampling procedure was the stratified random sampling because in this sampling method, every element of the population had an equal chance of being selected. Similarly, for key informants, the judgemental sampling was used. Out of the total 705 household of the VDC, 50 households had been selected for household survey which represented 7 percent of the\

total household, randomly. The sampling size used in this study was given in table number 3.1.

Table No. 3.1

Ward Wise Sample Size

Ward	Total number of household	Number of sampled household
1	65	5
2	44	4
3	84	6
4	71	5
5	62	4
6	63	4
7	106	7
8	83	6
9	127	9
Total	705	50

Source: CBS, 2003.

3.6 Method of Data Collection

For primary data collection, various instruments like structure questionnaire, discussion and observation were used on the basis of household head by field research. Similarly, for secondary data collection, desk research were carried out.

3.6.1 Household Survey/ structured questionnaire- Interview

In this case, the interview were based on field survey. The household survey had been carried out from ward-level using questionnaire. Household survey had been carried out to acquire

information on socio-economic condition of the people. Questionnaire was used for the collection of data to fulfill the objective of the study with people from different ages, sex, family and background as well as sources of income.

During the field study, such interviews were taken time to time with different household heads. For the interview, their regular duties and works were not disturbed, but their leisure time was utilized. Such interviews were taken specially with household heads, women local leaders, teachers, governmental officers and district level staffs etc.

3.6.2 Discussion

To find out the present condition of the VDC and the people of VDC, development practices and functions etc., group discussion had been conducted with household head, women, local leaders, teachers, employers and district level staffs. Discussion with key informants was helpful in the collection of the information. The members from district development committee and district administration office were discussed about the present condition and activities of VDC, position of VDC in district-level performance, the program being held in the VDC and its success, budget of district for the development of VDC and human and financial resources of the VDC etc.

3.6.3 Observation

Field observation had been done throughout all the wards of the study VDC, i.e., Kapallekhi VDC to observe the condition of the people, and nature and extent of poverty. The success/ failure of VDC fund, developmental programs and constraints behind them were also observed. That was also conducted during field visit. The whole time in morning

and day was devoted to interview with respondents of the community and observing their various activities. The long observation of the respondents provided the abundant knowledge about poverty.

3.6.4 Desk Research

It was carried out generally for the collection of secondary data Various published, unpublished and official records of the following various sources were used for secondary data.

- VDC office
- District Development Committee
- District Administration Office
- National Planning Commission
- Centre Bureau of Statistics
- Nepal Rastra Bank
- World Bank
- Other research institutions like UNDP
- Research report, Thesis, Dissertations, Articles, Journals, Act, Plans, Policies, Programs, Projects etc.

3.7 Method of Data Presentation and Analysis

The impact of the independent variables, i.e., income, employment, age, agricultural productivity, literacy, landholding, occupation, ethnicity, consumption etc. in the dependent variable, i.e. poverty was calculated according to the context of the study. In such a case, variables were identified and operationalized. The researcher gave anything for this research.

For data processing and presentation, unnecessary details and insignificant informations had been eliminated by editing the collected data. Data have been presented in graphical form, tabular form and as a map according to the need of research. Descriptive and analytical methods were used for qualitative data and relevant econometric tools were also used for the analysis of quantitative data with the help of tabulation.

The raw data collected through completed questionnaire were tabulated and master sheet of information was made in order to incorporate the different socio-economic characteristics such as income landholding, family size etc. Various relevant econometric tools discussed below were used to measure the poverty and its extent and also used to show the relationship between poverty and other variables such as income inequality, unemployment, level of education, dependency ratio etc.

3.7.1 Method of Estimating Poverty Line

3.7.1.1 Computation of Absolute Poverty Line

The minimum subsistence level was followed to estimate absolute poverty line. The household whose per capita income was below minimum subsistence level was known as absolute poor. Minimum substance level followed by FAO (1986) was used to estimate the absolute poverty line. According to FAO estimation, the per capita daily calorie requirement for survival for Nepal was 2256 calories, which requires net consumption of 605 gms of cereal and 60 gms. of pulses. To obtain per capita per day expenditure on 605 gm of cereals and 60 gms of pulses, they were multiplied by their respective local market prices. To

this total value, the consumption expenditure to be made on other essentials of life were added.

According to NPC (1978), expenditure on minimum food requirements, i.e. 605 gms. of cereal and 60 gms of pulses secured only 65 percent of total subsistence consumption expenditure. Remaining 35 percent of subsistence consumption expenditure was spent on other food and non-food items.

3.7.1.2 Computation of Total Poverty Line

3.7.1.2.1 Keynesian Consumption Function

In this, it was assumed that consumption was the linear function of income. Thus, it was expressed as;

$C_i = a + by_i$

Where, C_i = Consumption/ Expenditure

a = Autonomous consumption

b = MPC/ marginal propensity to consume

y_i = Income

3.7.1.2.2 Computation of Wolf Point

Knowing the value of a and b of Keynesian consumption function was necessary to compute wolf point by regression analysis. The wolf point was considered as that point at which C_i and y_i are equal in Keynesian consumption function. Thus, we had to do regression analysis as follows:

$C_i = a + by_i$

$\phi C_i = na + b\phi y_i$ …….(i)

$\phi C_i\, y_i = a\phi y_i + b\phi y_i^2$ …… (ii)

We used determinant method to calculate the value of 'a' and 'b' from above equations.

Again, $C_i = a + by_i$

Replacing y_i by C_i ($\because$ $C_i = y_i$)

$C_i = a + bC_i$

$\therefore C_i = \frac{a}{1 - b}$

Hence, wolf point ($C_i = y_i$) = $\frac{a}{1 - b}$

The wolf point gave the total poverty line. Hence, the household which lies below this poverty line was known as poor.

3.7.1.3 Derivation of Relative Poverty Line

The relative poverty level was derived on the basis of wolf point and absolute poverty level. The difference between absolute poverty level and wolf point gave relative poverty level. Those households were relative poor whose income was above the absolute poverty line and below the wolf point. In simple, difference between percent of total poor minus percent of absolute poor was relative poor.

3.7.1.4 Estimation of Non-poor

The household was considered to be non-poor if its income was above the total poverty line or break even level of income, i.e., above the equality point of income and expenditure. Symbolically, Non poor y_i >.

3.7.2 Computation of the Magnitude or Intensity of Poverty Situation

Intensity refers to degree of poverty. Sen's poverty index was used to estimate the intensity of poverty. The theoretical notion was that as the value of index approached to zero, there was low intensity of poverty and if it approached one, intensity of poverty was high.

3.7.2.1 Computation of Sen's Poverty Index with Considering Gini Coefficient

Sen's poverty with considering inequality among poor can be calculated as:

$$P^* = X\frac{X}{C_P^*}\left(C_P^* - C_p\right)\left(1 - G_P\right)$$

Where, P^* = Poverty index

X = Percentage of people below absolute poverty line.

C^*_P = Absolute poverty line income per capita per day

C_P = Per capita mean income of the absolute poor.

G_P = Gini coefficient of absolute poor

3.7.2.2 Sen's Index Without Considering Gini Coefficient

For this, we used the following expression:-

$$P^* = X\frac{X}{C_P^*}\left(C_P^* - \bar{C}_p\right)$$

It was based on an ordinal welfare concept. It responded the question "How poor are poor?"

3.7.3 FGT (Forester, Greer and Thorbecks) Index

It is based on measuring the gap between poverty line and the income of the poor, as a poverty fraction, rising it to a power ℑ and then summary over all poor units. Not only does the index to take into account the prevalence and intensity of poverty, it may also be used to reflect the degree of inequality among the poor by varying the value of the ℑ parameter.

$$P_{\Im} = \frac{1}{N} \sum_{i=1}^{q} \left(\frac{z_p - y_i}{z_p} \right)^{\Im}$$

Where, Z_P = Poverty line

y_i = Income of the i^{th} poor person

N = Total number of people

q = Number of individuals whose income was below the poverty line

$P_{\Im}$ = Poverty index

3.7.3.1 Income Gap Ratio

The mean income of the poor expressed as a fraction of poverty line was income gap ratio. This took the following formula.

$$I = \frac{1}{q} \left(\frac{z_p - y_i}{z_p} \right) \times 1 - \frac{\bar{y}_p}{z_p}$$

Where, I = Income gap ratio

$\bar{y}_p \times \frac{1}{q} \sum_{i=1}^{q} y_i$ is the poor

3.7.3.2 Head Count Index

The proportion of poor in the total population, i.e., the proportion of total population lying below the poverty line. This measure was indifferent to the extent of poverty of the poor. It was only sensitive to their number and reflected the prevalence of poverty.

Thus, if $\Im = 0$, FGT index $P_{\Im}$ becomes:

$$P_o = q/N$$

Where, q = number of poor below poverty line

N = Total sample size population.

3.7.3.3 Poverty Gap Index

It was the income gap ratio multiplied by the headcount index. It gave a good measure of the intensity of poverty as it reflected how far the poor were from the poverty line. It might also be used to show the amount of income under perfect targeting, that needs to be transferred to the poor to close the poverty gap in order to eradicate poverty and provided a measure of the resources required to eliminate poverty. However, p_i was insensitive to income distribution among the poor.

Thus, if $\Im = 1$ FGT index $P\Im$ becomes:

$$P_1 = \frac{1}{N} \sum_{i=1}^{q} \frac{z_p - y_i}{z_p} \quad XI.p_o$$

Where, I = Income gap ratio

P_0 = Head count index

P_1 = Poverty gap index

3.7.3.4 Squared Proportionate Poverty Gap Index

It reflected the degree of inequality among the poor, in the sense that the greater the inequality of distribution among the poor and thus, the severity of poor, the higher was P_2.

Thus, if $\Im = 2$, FGT index $p_{\Im}$ becomes:

$$P_2 = \frac{1}{N}\sum_{i=1}^{q}\left(\frac{z_p - y_i}{z_p}\right)^2 = P_o[I^2(1-I)^2.C^2]$$

Where, P_o = Head count index

I = Income gap ratio

C^2 = Square of coefficient of variation of income among poor $\frac{6}{\bar{x}}$

3.7.4 Calculation of Extent of Income Inequality and Distribution of Income Among the Sampled Household

Various statistical tools like range, Lorenz curve, Gini coefficient etc. were used to calculate the distribution of income and extent of income inequality.

3.7.4.1 Relative Mean Deviation

It was used to measure the equality in the distribution of income. It also measured variation of each item from its mean value. If the value of the mean deviation was zero, it expressed that there was perfect equality otherwise not.

Mathematically, $MD = \sum_{i=1}^{n}\frac{|\bar{Y} - y_i|}{n\bar{y}}$

Where, MD = Relative mean deviation

$\overline{Y}$ = Mean income

y_i = Income of i^{th} individual

n = Number of observations.

3.7.4.2 Variance

Variance showed the deviation of data or individual items from the mean value. So, it is useful to apply for the estimation of the dispersion of the data which ultimately showed inequality in the distribution of income.

Mathematically, variance ($\exists^2$) = $\sum_{i=1}^{n} \frac{f_{\bar{y}} Z y_i Å^2}{n}$

Where,

y_i = Income of the individual

$\bar{y}$ = Mean income

n = Number of observations.

This was exactly equal to the square of standard deviation. Thus, it estimated variation. However, it was influenced by mean level of income.

3.7.4.3 Coefficient of Variation

This was the ratio of standard deviation to mean and was not influenced by the mean level of income.

Mathematically, C.V. = $\frac{\sqrt{Var}}{\bar{y}} X \frac{\exists}{\bar{y}}$

Where, C.V. = Coefficient of variation

$\exists$ = Standard deviation

$\bar{y}$ = Mean income

3.7.4.4 Range

It was the simplest method of calculating inequality and was defined as the difference between the highest and the lowest items of the given series as ratio of its mean. Here, it was used to measure the extent of inequality in the distribution of income mathematically,

$$R = \frac{Max_y \; ZMin_y}{\bar{y}}$$

Where,

R = Range

Max_y = Maximum income

Min_y = Minimum income

$\bar{y}$ = Mean income

3.7.4.5 Lorenz Curve

The Lorenz curve was a graphical method to measure the extent of inequality in the distribution of income. It represented the difference between equal distribution and actual distribution of income. It is prepared by plotting cumulative percentage of income against cumulative percent of income receptive in a square. The area between the principal diagonal and the curve, i.e., between equal distribution and actual distribution represent the extent of inequality, i.e. larger the area between these two, higher the inequality and vice-versa.

3.7.4.6 Gini Coefficient

Gini coefficient also measured the inequality of income distribution. It measured the area between the line of equality and Lorenz

curve as a fraction of the total area beneath the line of equality. It could be calculated as:

3.7.4.6.1 For Ungrouped Data

$$G.C. = 1 - \frac{1}{n} + \frac{2}{n^2 \bar{y}} (n y_1 + (n-1) y_2 + \ldots\ldots\ldots + y_n)$$

Where, $y_1 \leq y_2 \leq y_3 \leq \ldots\ldots\ldots\ldots \leq y_n$

GC = Gini coefficient ($0 \leq G.C. \leq 1$)

n = Number of income receiving units

$\bar{y}$ = Mean income

y_i = Income of i^{th} income receiving unit (i = 1, 2, ……n)

If the value of G.C. approached to one, there was greater extent of inequality and if it approached to zero, there was lesser extent of inequality in the distribution of income. A very ideal distribution might have zero value of G.C., symbolizing perfect equality.

3.7.4.6.2 For Grouped Data

$$G.C. = \frac{1}{100^2} (x_i y_{i+1} - x_{i+1} y_i)$$

Where,

G.C. = Gini coefficient

x_i = Cumulative proportion of class interval of groups, i.e. x variable under consideration $\frac{\text{household}}{\text{population}}$

y_i = Cumulative proportion of income received by income receiving units, i.e., y variable under consideration (income)

3.7.5 Derivation of Relation Between Income and Other Factors Such as Expenditure, Level of Education, Level of Employment

3.7.5.1 Correlation Coefficient

It was computed to show the relationship between income and expenditure. It was also used to show the relationships between any two random variables. These two factors were highly correlated phenomenon.

Mathematically, $r = \frac{N \sum y_i c_i - \sum y_i \sum c_i}{\sqrt{N \sum y_i^2 - (\sum y_i)^2}\sqrt{N \sum C_i^2 - (\sum C_i)^2}}$

Where,

r = correlation coefficient

y_i = Income of i^{th} household

c_i = consumption expenditure of the i^{th} household

N = Number of observations

The value of r ranged from +1 to -1. If it was negative, it implied the inverse relationship between the variables and if it was positive, it implied direct relationship between variables. If it was zero, it implied no relationship.

3.7.5.2 Z-test

Z-test was used for the test of significance of calculated statistics such as correlation coefficient between total income and consumption/ expenditure. In this study, z-test was used to test the significance of correlation coefficient (r). Test statistics:

$$z = \frac{1}{2}\log_e \frac{1+r}{1-r}$$

where,

r = correlation coefficient

if $z \geq z_{\alpha/2}$ then we rejected $H_o : r = 0$

if $z < z_{\alpha/2}$ then we accepted $H_o : r = 0$

i.e., if calculated z $\geq$ tabulated z, then correlation coefficient was significant

if calculated z < tabulated z, then correlation coefficient was in significant.

α was the level of significance, e.g. for 95 percent confidence level, z = 1.96.

3.7.5.3 Chi-square test

As income was the major determinant of poverty, it was better to know the relationship between poverty and other variables like employment, education. Thus, chi-square test of significance was used to know it.

Mathematically, $\chi^2 X \quad \frac{\sum (O - E)^2}{E}$

Where,

χ^2 = chi-square

O = observed frequency

E = Expected frequency

Hypotheses might be accepted or rejected according to the context.

3.7.5.4 t-Test

It was used to test the significance of regression parameters, i.e. intercept parameter (a) and slope parameter (b).

The regression model : $c = a + by + e$

Test statistics : $t = \frac{b}{S_b}$ and $t\ X\frac{a}{S_a}$

Where,

c = Total consumption

y = income

a = Autonomous coefficient

b = Regression coefficient

e = Error term

S_b = Standard error of the slop parameter (b)

S_a = Standard error of the slop parameter (a)

Similarly,

$$S_a X \sqrt{\frac{c^2 Za \quad c Zb \quad cy}{n Z2} \quad \frac{1}{n} \Gamma \frac{f\bar{y}\AA^2}{y^2}}$$

$$S_b = \frac{Se}{\sqrt{\quad y^2 Zn f\bar{y}\AA^2}}$$

Where, $Se = \frac{c^2 Za \quad c Zb \quad yc}{n Z2}$

Se = Standard error estimation

If $t \geq t_{n-2}$, ℑ/2, then we rejected $H_o : b = 0$

If $t < t_{n-2}$, ℑ/2, then we accepted $H_o : b = 0$

i.e.,

if calculated t ≥ tabulated t, the regression coefficient was significant

if calculated t < tabulated t, the regression coefficient was insignificant

3.7.6 Study of Nature of Poverty

The nature of poverty had been analyzed by classification of poor households into a number of groups on the basis of family size, occupation, literacy, land holding and so on. Relationship between socio-economic characteristics and poverty had been established to examine the nature of poverty.

CHAPTER FOUR
MEASUREMENT OF RURAL POVERTY

4.1 Introduction to the Study Area

4.1.1 Background

Kapallekhi VDC is one of the least developed and rural VDC of far western Nepal and of Doti district. It is located almost in the central part of the district. It is also quite near from to district as well as regional headquarters, i.e., Silgadhi and Dipayal respectively. Even though the VDC and the inhabitants of the VDC are backward in every aspects like education, employment, awareness and so on. The VDC is surrounded by Bhumirajmandu VDC in east, Mudegaun VDC in west, Gadsera in south and Dipayal-silgadhi municipality in north. The VDC is divided into 9 wards among whom all are the rural areas of the VDC.

Kapallekhi VDC is also an important place from the cultural and religion point of view in the country. The various festivals “Jaants” in local language) of the VDC are the burning cultures of far western regions. Various temples like Kedareshor, Bhageshor, chimradeshor, Tallei Mandu, temple made by Pandav, Saraswoti temple etc. are important religious sites of the VDC. The place like Thali, Naapani etc. are important from tourism point of view also in future. So, these sites may help to promote the cultural, religious and tourism industry and overall development of Kapallekhi VDC.

In past, the branches of rural development bank, health post, telephone booths etc. were also available in the VDC. But the present conflict situation of the country has resulted in the destruction of all such

infrastructure including the building of VDC office. The local people are the direct victim of the civil war. The current civil war not only destroyed almost all basic infrastructures but also appeared as the main reason for the migration of people to the outer world. The maoist also replaces and destroyed the houses of most recognized, literate, honest, social workers and local leaders. So, the civil war directly resulted in the more down falling of the lifestyle of those local inhabitants. The jungle-inhabitants not only destroyed the constructed infrastructure but also appeared as the obstacles of the development programs in the VDC.

Ward number 2, 5, 6, 7, 8 and 9 are some what benefited from electricity and drinking water while ward number 4 has only drinking water and 1 and 3 are away from both facilities. The irrigation facility is also lacking in the VDC due to the absence of required water resources in the VDC. Only ward number 7 is touched by motor-road. Agricultural productivity of the VDC is also very low due to absence of irrigation facility, lack of improved seeds and human resources, lack of modern technology, less use of fertilizers, pesticides and insecticides, and so on.

The total population of the VDC is 4049 according to 2001 census of which 2017 (49.8 percent) are male and 2032 (50.2 percent) are female. The total number of household is 705 and average household ize is 5.7. Table number 4.1 presents the distribution of households by wards and distribution of population by sex. The table clearly indicates that the population distribution according to household size by ward is quite homogenous. And the number of male and female in the VDC is also similar. But the household size, i.e., population per household is 5.7 which is slightly higher in this VDC.

Table No. 4.1

Distribution of Population and Household by Sex and Wards

Ward number	Household (Total)	Population (Total)	Male	Female
1	65	358	170	188
2	44	293	138	155
3	84	612	317	295
4	71	450	239	211
5	62	340	164	176
6	63	319	160	159
7	106	622	316	306
8	83	437	213	224
9	127	618	300	318
Total	705	4049	2017	2032

Source: CBS, 2003.

The table number 4.2 shows the age and sex structure of population in the VDC (population by 5 years age group and sex). It is indicated that out of the total population, there are 44.4 percent of dependent population (population below 14 years of age and above 60 years of age). It means the dependency ratio in the VDC is high. The high dependency ratio meant the existence of some degree of poverty in the VDC. The population is also quite homogenously distributed according to age group. It is found that as the age group increases, the number of populations situated in that group decreases, i.e., there is the lesser number of older people than the children. As age group increases, the number of population decreases respectively.

Table No. 4.2

Population by 5 years age group and sex

Age group	Total	Percent	Male	Percent	Female	Percent
0-4	511	12.6	266	13.3	245	12.1
5-9	531	13.0	259	12.8	272	13.4
10-14	517	12.8	261	12.9	256	12.6
15-19	387	9.6	214	10.6	173	8.5
20-24	392	9.7	200	9.9	192	9.4
25-29	299	7.4	137	6.8	164	8.1
30-34	287	7.1	136	6.7	151	7.4
35-39	236	5.8	116	5.8	120	5.9
40-44	181	4.5	89	4.4	92	4.5
45-49	178	4.4	78	3.9	100	4.9
50-54	160	4.0	79	3.9	81	4.0
55-59	126	3.1	62	3.1	64	3.1
60-64	95	2.3	37	1.8	58	2.9
65-69	80	2.0	44	2.2	36	1.8
70-74	42	1.0	19	0.9	23	1.1
75 and above	27	0.7	20	1.0	7	0.3
Total	4049	100	2017	100	2032	100

Source: CBS, 2003.

Higher number of children i.e., higher percentage of lower age group clearly indicates the high birth rate in the VDC and similarly low number of old people, i.e. lower percentage of older age group implies the high mortality rate.

Table No. 4.3

Population 6 Years of Age and over by Literacy Status and Sex

Educational Status	Male	Percent	Female	Percent	Total	Percent
Cannot read and write	609	34.4	1255	72.3	1864	53.2
Can read only	82	4.6	41	2.4	123	3.5
Read and write	1080	61.0	439	25.3	1519	43.3
Total	1771	100	1735	100	3506	100

Source: CBS, 2003.

The VDC has slightly good facility of education with comparison to other VDCs. It has a high school and quite near from other schools as well as college. The size of population of 6 years of age and above in the VDC is 3506 which is 86.6 percent of whole population among whom 177 are male and 1735 are female. Out of the total male 34.4 percent are illiterate whereas out of total female 72.3 percent are illiterate and out of the total population 53.2 percent are illiterate. The figure so, indicates that there is the very high illiteracy among the female of the VDC with comparison to male. Similarly, the overall literacy rate in the VDC is 43.3 percent and male literacy rate is 61.0 percent while female literacy rate is 25.3 percent. The percent of population who can read only is 3.5. In the case of male, this is 4.6 percent while in the case of female, this is 2.4 percent. The overall data shows the higher illiteracy rate in the village development committee.

Table No. 4.4

Population 10 Years of Age and Over by Usually Economic Activity

Economic activity	Male	Percent	Female	Percent	Total	Percent
Economically active	1325	86.9	1184	76.4	2509	81.6
Economically inactive	200	13.1	365	23.6	565	18.4
Total	1525	100	1549	100	3074	100

Source: CBS, 2003.

The size of the population of 10 years of age and above in the VDC is 3074 which is 76.0 percent of the whole population. Among whom 1525 are male and 1549 are female. Out of the total male, 1325 (86.6 percent)are economically active and 200 (13.1 percent) are economically inactive. Similarly out of the total female, 1184 (76.4 percent) are economically active and 365 (23.6 percent) are economically inactive. And out of the total population, 2509 (81.6 percent) are economically active and 565 (18.4 percent) are economically inactive. It is found that with comparison to the male, female are less economically active in the study area.

Table No. 4.5

Population by Caste/ Ethnic group

Caste group	Population	Percentage
Sarki	414	10.2
Lohar	158	3.6
Chhetri	1409	34.8
Thakuri	645	15.9
Brahman (Hill)	319	7.9
Sanyasi	11	0.3
Kami	314	7.8
Damai/Dholi	350	8.6
Thakali	6	0.2
Muslim	51	1.3
Others	14	0.3
Unidentified caste	358	8.8
Total	4049	100

Source: CBS, 2003.

Chhetri, Thakuri, Sarki, unidentified caste, Damai/Dholi, Brahman, Kami, Lohar, Muslim, others, Sanyasi and Thakali are the major caste/ ethnic groups of the VDC which occupy 34.8 percent, 15.9 percent, 10.2 percent, 8.8 percent, 8.6 percent, 7.9 percent, 7.8 percent, 3.9 percent, 1.3 percent, 0.3 percent, 0.3 percent and 0.2 percent respectively. Hence the

VDC is mostly occupied by middle caste and then, lower caste and lastly upper caste people.

Table No. 4.6

Population by Mother Tongue and Religion

Mother tongue	Population	Percent	Religion	Population	Percent
Nepali	3007	74.3	Hindu	3998	98.7
Others	1042	25.7	Islam + Sikha	51	1.3
Total	4049	100	Total	4049	100

Source: CBS, 2003.

Major mother tongue of the people is, of course, Nepali which constitutes 74.3 percent of total population and others constitute 25.7 percent of total population. Similarly, major religion is, of course, Hindu which constitutes 98.7 percent while Islam and Sikha constitute only 1.3 percent, Currently, it is found that Christianity is increasing in the VDC day by day due to financial attractions and other supports being provided by the religion advertisers.

Table No. 4.7

Household having Agricultural Land, Livestock and Poultry

Type	Household number	Percent
Agricultural land only	54	7.7
Livestock only	10	1.4
Poultry only	0	0
Land+ livestock	509	72.2
Land + poultry	4	0.6
Livestock + poultry	1	0.1
Land + Livestock+ poultry	107	15.2
None of all	20	2.8
Total	705	100

Source: CBS, 2003.

The more percentage of the households have land and livestock (around 72.2 percent). Similarly the percent of households having land, livestock and poultry is 15.2 percent. And the percentage of households is 7.7 which have agricultural land only. The percentage of households having livestock only, poultry only, land plus poultry, livestock plus poultry and none of all is 1.4 percent, 0 percent, 0.6 percent, 0.1 percent and 2.8 percent respectively. So, from the data, it can be concluded that the people are not attracted towards poultry farming in comparison to livestock and land in the study area which may be due to the marketing problems and various socio-cultural barriers etc.

Table No. 4.8

Types of Economic Activity

Types of activity	Number of households (percentage)	Percentage
Manufacturing	8 (1.1)	4.4
Trade/ Business	30 (4.3)	16.4
Transport	0 (0)	0
Service	19 (2.7)	10.4
Others	126 (17.9)	68.8
Total	183 (26.0)	100
Not having economic activity	522 (74.0)	
Grand total	705 (100)	

Source: CBS, 2003.

Out of the total households, the percent of households having economic activity and not having economic activity is 26.0 percent and 74.0 percent respectively. And, 1.1 percent, 4.3 percent, 2.7 and 17.9 percent of total households have manufacturing, trade/ business, service

and others economic activities respectively. Similarly, 4.4 percnt, 16.4 percent, 10.4 percent and 68.8 percent of households having economic activity have manufacturing, trade/ business, service and other economic activities respectively. Hence, it is found that very lower percentage of the households of Kapallekhi VDC have economic activity and it is also found that none of the households are involved in transport activity. This may be one of the major causes of vicious circle of poverty in the VDC.

Table No. 4.9

Population by Country of Citizenship/ Place of Birth

Country of Citizenship	No. of population	Percent	Place of birth	No. of population (Percent)	Percent
Nepal	4048	99.9	Same district	3867 (96.2)	95.5
India	1	0.1	Other district	153 (3.8)	3.8
Total	4049	100	Total native born	4020 (100)	99.3
			Total foreign born	29	0.7
			Total	4049	100

Source: CBS, 2003.

Almost all of the people of VDC are Nepali citizen except one person who has Indian citizenship. Similarly, most of the people (around 99.3 percent) are native born and only 0.7 are foreign born. Similarly, out of the total population, 95.5 percent are born on same district while 3.8 percent are born on other districts. And out of the total native born, 96.2 percent are born on same district while 3.8 percent are born on other districts.

Table No. 4.10

Population 6 Years of Age and Over by Status of School Attendance

Attendance	Male	Percent	Female	Percent	Total	Percent
Currently attending	573	57.1	352	38.9	925	48.4
Currently not attending	431	42.9	554	61.1	985	51.6
Total	1004	100	906	100	1910	100

Source: CBS, 2003.

Out of the total population, 48.4 percent are currently attending school while 51.6 percent are not currently attending school. Similarly, out of the total population of male, 57.1 percent are currently attending school while 42.9 percent are currently not attending school. And, out of the total population of female, only 38.9 percent are currently attending school while 61.1 percent are currently not attending school. As a whole, the percentage of currently school attending population is quite low which can also be a cause of poverty in the study VDC. In the other hand, with comparison to male, the percentage of female attending school currently is very low which clearly indicates the domination and lower standard of living of the women of VDC. Due to various factors like economic, socio-cultural, behavioural and individual etc., the women of the VDC are not attending school currently.

Table No. 4.11

Population 10 Years of Age and Over by Marital Status

Marital Status	Population	Percentage
Single	914	29.7
Married (Single spouse)	2002	65.1
Married (more than 1 spouse)	30	1.0
Widow/ Widower	91	3.0
Divorced	15	0.5
Not stated	22	0.7
Remarried (single spouse)	0	0
Separated	0	0
Total	3074	100

Source: CBS, 2003.

The marital status of the population as a whole is single (29.7 percent), married with single spouse (65.1 percent), married with more than one spouse (1.0 percent), widow/ widower (3.0 percent) divorced (0.5 percent) and not stated (0.7 percent).

Similarly, the percentage of people who separated and remarried with single spouse is 0 percent and 0 percent respectively. Hence, it clearly indicates that the most of the populations have not multiple spouse, divorced, remarried or separated showing strong and strict socio-cultural norms and values of the study VDC.

Table No. 4.12

Children Below 16 Years of Age by Status of Living Arrangement

Living with	Population	Percentage
Parents	1438	85.6
Mother	95	5.7
Father	13	0.8
Father + step mother	13	0.8
Mother + step father	27	1.6
Other relatives	22	1.3
Employer	36	2.1
Others	35	2.1
Total	1679	100

Source: CBS, 2003.

Most of the children are living with their parents (85.6 percent). Similarly, the percentage of children living with their mother, father, father + step mother, mother + step father, other relatives, employers and others is 5.7 percent, 0.8 percent, 0.8 percent, 1.6 percent, 1.3 percent, 2.1 percent and 2.1 percent respectively.

4.2 Poverty Situation

The central theme of the percent study is to identify the vicious circle of poverty in Kapaallekhi VDC of Doti district. The establishment of the poverty line provides an important judgment to identify the poor. So far as the problem of poverty is concerned, 3 types of poverty lines are estimated in this analysis. They are absolute poverty line, relative poverty line and total poverty line. the absolute poverty refers to the level of income required for the basic needs or only for the survival whose income is below the poverty line. Similarly relative poverty refers to the

level of income below the total poverty line but above the absolute poverty line. The sum of both the absolute poverty and relative poverty is called total poverty.

4.2.1 Absolute Poverty Line and Absolute Poor

The income level required to purchase minimum subsistence essentials of food, clothing and shelter as well as other basic needs including services for survival and social existence is the absolute poverty line and the people whose income is below absolute poverty line, i.e. income is not sufficient to maintain a minimum standard of living are called absolute poor.

According to national planning commission, the minimum daily calorie requirement for mountains region, terai region and national level is 2340 calorie, 2140 calorie and 2250 calorie respectively. So, national planning commission has estimated different absolute poverty line for different region. According to NPC, the expenditure in food item covers only 65 percent of the total expenditure while remaining 35 percent is in non-food items.

According to FAO standard 1972, the minimum subsistence norm for Nepal is 2256 calories per capita per day. This requires a net consumption of 605 grams of cereals and 60 gms of pulses, while provide 2042 calories and 214 calories respectively. Michael Lipton stated that those should be stated as absolute poor who spend 70 percent or above of their total income on food consumption in 1985.

Absolute poverty is the lack of income necessary to fulfill the basic needs, i.e., lack of access to the basic good and services that constitute a minimal acceptable standard of living which varies according to the

region and time. So, the threshold that allows minimum calorie requirements and a small allowance for non-food items is the absolute poverty line, NPC estimated that the basic needs income per capita per day is Rs. 5.94 for hill and Rs 4.75 for terai in 2044 B.S. So, to draw the absolute poverty line in the area, local cereals and pulses of the study are taken into account for calculation.

In order to derive the per capita per day value of the 605 grams of cereals and 60 grams of pulses, average of the corresponding market prices are used. The summation of these two values gives the total value of 2256 calories per day. Regarding this, cereals and pulses, which are taken for analysis are common in the study area. In this study, different varieties of rice, wheat and maize are taken as cereals while Rahar, Mushuro, Kerau, Bean, Soyabean, Mass and Gahat as pulse.

The average cost of 605 grams of cereals and 60 grams of pulses is found to be Rs. 11.50 and Rs. 2.23 respectively. By considering these items of the value of 2256 calories per capita per day is found to be Rs. 13.73. (Annex-1). National planning commission put forward that the expenditure on food items covers only the 65 percent of total expenditure. Hence, the calculated value, i.e., Rs. 13.73 is only 65 percent of the total expenditure per capita per day. So, 35 percent of the total expenditure is Rs. 7.39 which is spent into other food/ non-food item. By summing up the expenditure on food items and non-food items, the absolute poverty line of the study area is found to be as an income of Rs. 21.12. And the expenditure in a year is Rs. 7708.8. The people having less than Rs. 21.12 income per day or Rs. 7708.8 income per year are said to be absolute poor.

Various researcher have estimated absolute poverty line in their studies and this study compares its absolute poverty line to other studies in the following table number 4.13.

Table No. 4.13

Absolute Poverty line Estimated in Different Studies

S.N.	Study area	Average daily value of 2256 calories in Rs. (605 gms of Coreals and 60 gms of pulses)	Lower average daily consumption on non-food items in Rs.	Absolute poverty line
1.	Rural Nepal	1.32	0.70	2.02
2.	Raikar Bichwa	13.59	7.32	20.91
3.	Tribhuvan Municipality	14.68	7.90	22.58
4.	Nepal (Hill/ Mountain)	3.86	2.08	5.94
5.	Halawar	10.98	5.91	16.89
6.	Belawa	15.34	8.26	23.61
7.	Sahajpur	13.63	7.33	20.96
8.	Jhangajholi	10.82	5.83	16.65
9.	Kathmandu	12.64	6.81	19.45
10.	Kapalleklu	13.73	7.39	21.12

Source:

1. NPC, A survey of employment, income distribution and consumption pattern in Nepal, (1978) p. 111
2. Joshi H.R., Rural Poverty in Nepal: A Case Study of Raikar Bichwa VDC, Kanchanpur, (2003) p. 39

3. Gautam A, A Study of Urban poverty in Tribhuvan Municipality (2004) p. 48.
4. NRB, multi-purpose household survey: A study on income distribution, employment and consumption pattern in Nepal (1988) p. 134
5. Swarnakar, D.L. A Study analysis of extent and nature of rural poverty in Halawar VDC of Dang District (2001) p. 49.
6. K.C., C.B. Poverty in Rural Nepal: A case study of Belawa VDC, Bardia district (2003) p. 45
7. Joshi, S.R. A Study on rural poverty in Sahajapur VDC, Kailali District (2003) p. 42.
8. Tamrakar, S. The extent of rural poverty: A case study of Jhangajholi Ratmata VDC of Sindhuli district (2002) p. 50.
9. Aryal B., Urban poverty in Nepal: A case study of selected occupational groups of Kathmandu city, (1998) p. 27.
10. Field survey (2006) by author (Annex-1)

From the above table, it is found that the absolute poverty line estimated in the present study is quite comparable but slightly higher than the former studies. The slightly higher poverty line (absolute) in the present study is due to the time lag between the present study and other studies and the increased inflation also. There is the spatial difference in these studies also. The present study has made effort to estimate the poverty line of the study area which is very far from the city area where there is no facility of transportation, water supply, electricity and others.

The comparative findings of the absolute poor among the sampled households by different studies is presented in table no. 4.14.

Table No. 4.14

Absolute Poor Households and Population in Different Studies

S.N.	Study area	Total sampled households	Absolute poor HHS		Total population	Absolute poor population	
			No.	%		No.	%
1.	Rural Nepal	2136168	860769	40.30	1244536	450583	36.20
2.	Raikar Bichwa	60	24	40	408	174	42.64
3.	Tribhuvan Municipality	100	10	10	587	54	9.19
4	Shajpur	92	41	44.56	570	238	41.75
5.	Jhagajholi	100	37	37	668	238	35.63
6.	Halawar	135	64	47.41	866	413	47.69
7.	Markhu	80	48	60	469	280	59.7
8.	Kathmandu	100	57	57	518	312	60.23
9.	Kapallekhi	50	22	44	295	131	44.4

Source:

1. NPC, A survey of employment, income distribution and consumption pattern in Nepal, (1978) p. 158
2. Joshi H.R., Rural Poverty in Nepal: A Case Study of Raikar Bichwa VDC, Kanchanpur, (2003) p. 40
3. Gautam A, A Study of Urban poverty in Tribhuvan Municipality (2004) p. 49
4. Joshi S.R., A study on rural poverty in Sahajpur VDC, Kailali District (2003), p. 44
5. Tamrakar S., the extent of rural poverty: A case study of Jhangajhola Ratamata VDC of Sindhuli District (2002) p. 52.
6. Swarnakar, D.L. A Study analysis of extent and nature of rural poverty in Halawar VDC of Dang District (2001) p. 51.

7. Dahal, G.S. Extent of poverty in rural Nepal (1999) p. 78.
8. Aryal B., Urban poverty in Nepal: A case study of selected occupational groups of Kathmandu city, (1998) p. 28.
9. Field survey (2006) by author

From the above table it is found that, the number of absolute poor households and population are quite higher in the whole context. But these data are comparable with the other data of the other studies. So, it is not found a clear differentiation in the distribution of absolute poor households and population in the study area with comparison to other areas.

4.2.2 Relative Poverty Line and Relative Poor

The income level of household below the wolf point and above the absolute poverty line is regarded as the relative poverty. So, wolf point is computed to estimate the relative poverty. The wolf point or the breakeven point is the level of income just equal to the expenditure. The wolf point is $\frac{a}{1 Z b}$ in a linear Keynesian consumption function. If a household falls below this point, the households consumption expenditure exceeds the income of the households and have nothing to save, rather than to draw past saving, sell assets or incur debt to maintain expenditure.

Regression line is fitted by using per capita daily income and consumption expenditure to find out the wolf point. Then, wolf point is calculated with the regression coefficient. Wolf point is generally regarded as the total poverty line. The households or populations whose income lies below this point are regarded as poor while those who have income above this point are regarded as non-poor. (Annex-2).

The regression parameters, i.e. intercept and slope parameters are obtained as 13.97 and 0.47 respectively (Annex-2) from regression analysis. To test whether the parameters are significant or not, the t-test has been used. By using t-test statistics, the calculated value of t_a and t_b are obtained as 15.5 and 10.4 respectively which are greater than the tabulated value of 't' at 48 degrees of freedom and 5 percent level of significance (Annex -12). This concludes that the both regression parameters are significant. In the present study, the calculated value of wolf-point is Rs. 26.36 and absolute poverty line is Rs. 21.12. It is found that 16 percent of total sampled households (8 out of 50) and 14.6 percent of total sampled populations (43 out of 295) are relative poor.

Table No. 4.15

Relative Poor Households and Populations in Different Studies

S.N.	Study area	Relative poor households		Relative poor population	
		No.	%	No.	%
1	Raikar Bichwa	9	15.00	63	15.44
2	Tribhuvan Municipality	11	11.00	77	13.12
3	Sahajpur	15	16.30	97	17
4	Halawar	42	31.11	279	32.2
5	Bhaktapur	12	22.53	100	25.5
6	Markhu	13	16.25	70	14.94
7	Hansapur	30	33.33	176	32.83
8	Chiti	18	18.00	113	19.21
9.	Kapallekhi	8	16.00	43	14.60

Source:

1. Joshi H.R., Rural Poverty in Nepal: A Case Study of Raikar Bichwa VDC, Kanchanpur, (2003) p. 42

2. Gautam A, A Study of Urban poverty in Tribhuvan Municipality (2004) p. 51
3. Joshi S.R., A study on rural poverty in Sahajpur VDC, Kailali District (2003), p. 45
4. Swarnakar, D.L. A Study analysis of extent and nature of rural poverty in Halawar VDC of Dang District (2001) p. 54.
5. Bhandari S.R. Poverty in Nepal: A Case Study of Bhaktapur district (1987) p. 31.
6. Shrestha B.K. Rural Poverty in Nepal: A Case Study of Markhu VDC of Makawanpur district (1994) p. 42.
7. Baral, Rural Poverty in Nepal: A case study of Hansapur VDC (2000) p. 45
8. Pant, Poverty in Rural Nepal: A case study of Chiti VDC (1995) p. 51
9. Field survey (2006) by author

4.2.3 Total Poverty Line and Total poor

The income level of households below the wolf point is regarded as the total poverty. It is the total sum of relative and absolute poverty. So, wolf point is regarded as the total poverty line. The wolf point or breakeven point is the level of income just equal to the expenditure. The wolf point is $\frac{a}{1 Z b}$ in a linear Keynesian consumption function. Regression line is fitted by using per capita daily income and consumption expenditure to find out the wolf point. Then, wolf point is calculated with the regression coefficient. The households or populations whose income lies below this point are regarded as poor while those who have income above this point are regarded as non-poor. (Annex-3)

In the present study, the calculated value of wolf point is Rs. 26.36. It is found that 60 percent of total sampled households (30 out of 50) and 59.0 percent of total sampled populations (174 out of 295) are poor.

Table No. 4.16

Total Poor Households and Population in Different Studies

S.N.	Study area	Total poverty live (wolf point)	Total poor HHS		Total poor populations	
			No.	%	No.	%
1	Raikar Bichwa	23.85	33	55.0	237	58.1
2.	Tribhuvan Municipality	29.02	21	21.0	131	22.3
3.	Sahajpur	23.75	56	60.9	335	58.8
4.	Halawar	39.73	106	78.52	692	79.9
5.	Markhu	15.72	61	76.3	350	74.6
6.	Hanspur	27.23	65	72.2	38.1	72.0
7.	Jhangajoli	29.48	78	78.0	547	81.9
8.	Chiti	16.0	59	59.0	350	60.9
9.	Kapallekhi	26.36	30	60.0	174	59.0

Source:

1. Joshi H.R., Rural Poverty in Nepal: A Case Study of Raikar Bichwa VDC, Kanchanpur, (2003) p. 42
2. Gautam A, A Study of Urban poverty in Tribhuvan Municipality (2004) p. 51
3. Joshi S.R., A study on rural poverty in Sahajpur VDC, Kailali District (2003), p. 48
4. Swarnakar, D.L. A Study analysis of extent and nature of rural poverty in Halawar VDC of Dang District (2001) p. 48.
5. Shrestha B.K. Rural Poverty in Nepal: A Case Study of Markhu VDC of Makawanpur district (1994) p. 43.
6. Baral, Rural Poverty in Nepal: A case study of Hansapur VDC (2000) p. 48

7. Tamrakar S., The extent of rural poverty: A case study of Jhangajhola Ratamata VDC of Sindhuli District (2002) p. 54
8. Pant, Poverty in Rural Nepal: A case study of Chiti VDC (1995) p. 49.
9. Field survey (2006) by Author

4.2.4 Total Non-poor in Different Studies

The income level of households above the wolf point is regarded as the non-poor. So, for this, the wolf point is calculated to determine the total non-poor. In the present study, the calculated value of wolf point is Rs. 26.36. It is found that 40 percent of the total sampled households (20 out of 50) and 41.0 percent of the total sampled population (121 out of 295) are non-poor.

Table No. 4.17

Non-poor Household and Populations in Different Studies

S.N.	Study Area	Non-poor household		Non-poor population	
		No.	%	No.	%
1	Raikar Bichwa	27	45.0	171	41.9
2.	Tribhuvan Municipality	69	69.0	456	77.7
3.	Sahajpur	36	39.1	235	41.2
4.	Halawar	29	21.5	174	20.1
5.	Markhu	19	23.7	119	25.4
6.	Hanspur	25	27.8	148	28.0
7.	Jhangajoli	22	22.0	121	18.1
8.	Chiti	41	41.0	225	39.1
9.	Kapallekhi	20	40.0	121	41.0

Source:

1. Joshi H.R., Rural Poverty in Nepal: A Case Study of Raikar Bichwa VDC, Kanchanpur, (2003) p. 43

2. Gautam A, A Study of Urban poverty in Tribhuvan Municipality (2004) p. 52
3. Joshi S.R., A study on rural poverty in Sahajpur VDC, Kailali District (2003), p. 48
4. Swarnakar, D.L. A Study analysis of extent and nature of rural poverty in Halawar VDC of Dang District (2001) p. 56
5. Shrestha B.K. Rural Poverty in Nepal: A Case Study of Markhu VDC of Makawanpur district (1994) p. 43.
6. Baral, Rural Poverty in Nepal: A case study of Hansapur VDC (2000) p. 48
7. Tamrakar S., The extent of rural poverty: A case study of Jhangajhola Ratamata VDC of Sindhuli District (2002) p. 54
8. Pant, Poverty in Rural Nepal: A case study of Chiti VDC (1995) p. 49.
9. Field survey (2006) by Author

CHAPTER FIVE
NATURE AND EXTENT OF POVERTY PROBLEM IN THE STUDY AREA

5.1 Incidence of Poverty

The incidence of poverty explains the level of deprivation of minimum requirements and resulting human degradation. It measures how low the income level is scratched together to pull on human life. According to sen incidence of poverty explains how poor the poor is. Similarly, the extent of poverty relates with the number of people living under the poverty which estimates the portion of population living under poverty.

Different researches have focused on different types of methodologies with regard to poverty. According to the study of NPC in 1987, 174 population are forced to be under absolute poverty line. So, it is clear that the degree of poverty in rural area is very high with comparison to urban area in ethnic groups in particular. In this study, out of 50 sampled households, 22 households (44 percent) are found to be under the absolute poverty line whose income per capita per day is below Rs. 21.12. In other hand, out of the population of 295, 131 people (44.4 percent) have the income below Rs. 21.12 per capita per day. In the other hand, 8 households out of 50 sampled households (16 percent) and 43 people out of 295 sampled population (14.6 percent) are relative poor in the study area on the basis of wolf point which is equal to Rs. 26.36 for this study (Table no. 5.1) In aggregate, the summation of absolute poor and the relative poor, or, the people with the income less than wolf point, i.e., Rs. 26.36 are known as total poor. So, this study clarified that 30 households out of 50 sampled households (60%) and 174 people out of 295 sampled population (59%) are below total poverty line, i.e. earn the

income less than the level of total poverty line (wolf-point). So, 20 households out of 50 sampled households (40 percent) and 121 people out of 295 sampled populations (41.0 percent) are above total poverty line, i.e., earn the income more than the level of total poverty line (wolf point). (see table 5.1)

Table No. 5.1

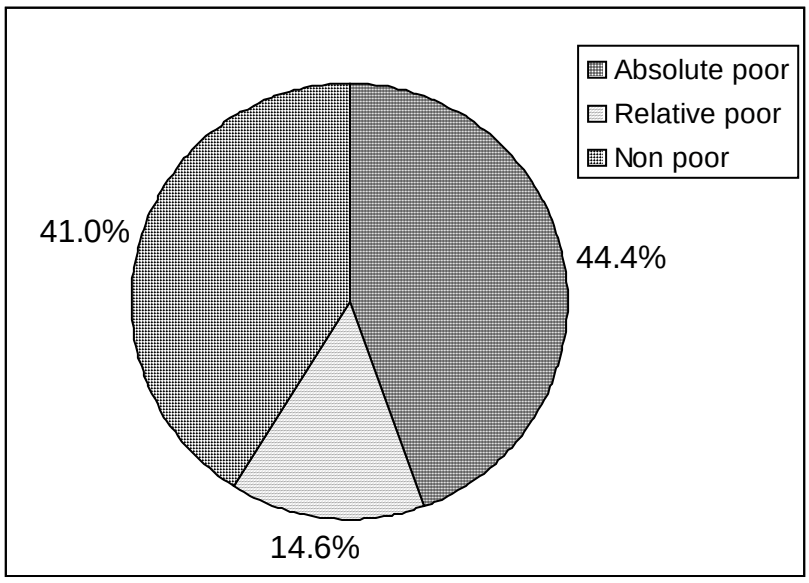
Distribution of Household by Living Standard

S.N.	Categories of poor	Sampled households	Percent	Sampled population	Percent
1.	Absolute poor	22	44.0	131	44.4
2.	Relative poor	8	16.0	43	14.6
3.	Total poor	30	60.0	174	59.0
4.	Non poor	20	40.0	121	41.0

Source: Field survey, 2006.

Fig. 5.1

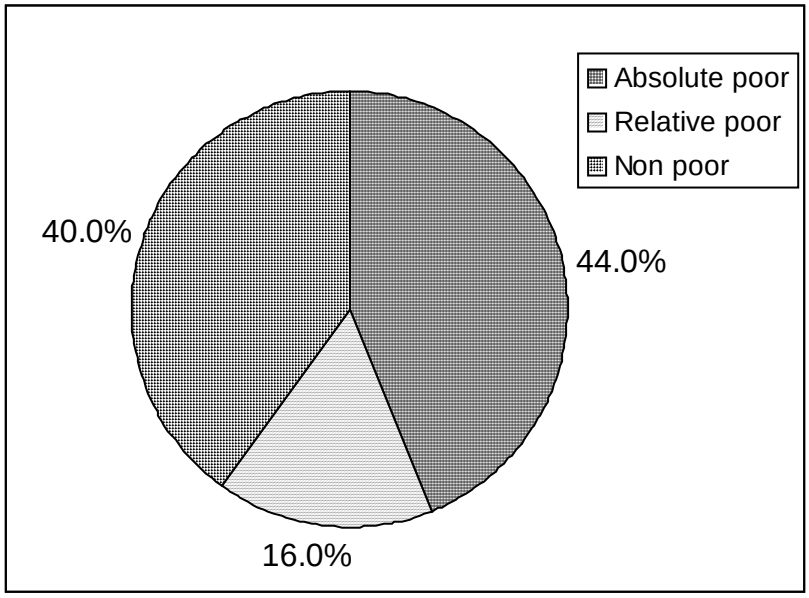
Absolute, Relative and Non-poor Populations in the Study Area



Source: Field survey, 2006.

Fig. 5.2

Absolute, relative and non-poor households in the study area



Source: Field survey, 2006

5.2 Measurement of Poverty and its Extent

Sen's poverty index is the method and hence is calculated in order to measure the intensity of poverty. Sen's poverty index is based on ordinal welfare concept which is derived in two ways by considering income inequality (with Gini coefficient) and without considering income inequality (without Gini coefficient). Sen's poverty index can answer" how poors are the poors?" So, we have to calculate Gini coefficient before computing sen's poverty index. Gini coefficient represents the extent of inequality among sampled populations or households which is taken as one of the major determinants of povertry.

In present study, Gini coefficient among total sampled households according to per capita daily income is calculated as 0.30 (Annex 4 (A). Similarly, Gini coefficient among absolute poor is 0.10 (Annex 4 (B).

This shows that there is serious income inequality among the total sampled households than the absolute poor households because it is the well accepted fact that as the value of Gini coefficient approaches to zero, the inequality of income distribution decreases and if it approaches near to 1, the inequality in the distribution of income increases.

The Gini coefficient ratio among the absolute poor households in different studies are show in table number 5.2.

Table No. 5.2

Gini Coefficient Ratio of the Absolute Poor Among Different Studies

S.N.	Studies	Gini Coefficient
1	Tribhuvan Municipality, Dang	0.11
2	Anpchaur, Gulmi	0.11
3	Halawar, Dang	0.14
4.	Karaun, Morang	0.07
5	Raikar Bichwa, Kanchanpur	0.16
6	Singiya, sunsari	0.16
7.	Kapallekhi, Doti	0.10

Source:

1. Gautam A, A Study of Urban poverty in Tribhuvan Municipality (2004) p. 63
2. Kharel K.R., The rural poverty in Nepal: A Case Study of Anpchaur VDC, Gulmi (1999) p. 59.
3. Swarnakar, D.L. A Study analysis of extent and nature of rural poverty in Halawar VDC of Dang District (2001) p. 62.
4. Adhikari M., The intension of poverty on Dhimal community: A case study of Karaun VDC, Morang (2002) p. 48.

5. Joshi H.R., Rural poverty in Nepal: A case study of Raikar Bichwa VDC, Kanchanpur (2003) p. 49.
6. Dahal G.S., Extent of poverty in rural Nepal: A case study of Singiya VDC, Sunsari (2000) p. 55.
7. Field survey (2006) by Author.

From the above table it is seen that income inequality in the study area is lowest among the above described studies except for Karaun, Morang.

In the other hand, the value of Sen's poverty index calculated by using both method is presented in table number 5.3.

Table No. 5.3

Sen's Poverty Index (P*)

With considering income inequality among absolute poor	0.15
Without considering income inequality among absolute poor	0.12

Source: Field survey (2006) (Annex-5)

The above table shows that Sen's poverty index without considering inequality is less than with considering inequality among absolute poor, i.e. 0.12 <0.15. Thus, the intensity of poverty seems to be higher while considering inequality than that of without considering inequality. From both cases it is clear that the extent of poverty is high, so it is observed that the inequality is one of the important cause of poverty.

The Sen's poverty index in different studies is shown in table no. 5.4.

Table No. 5.4

Sen's Poverty Index in Different Studies

S.N.	Study Area	G.C. with considering	G.C. without considering
1.	Tribhuvan Municipality	0.08	0.06
2.	Anpchaur	0.16	0.12
3.	Sahajpur	0.25	0.19
4..	Raikar Bichwa	0.18	0.13
5.	Singiya	0.20	0.19
6.	Halawar	0.20	0.15
7.	Kapallekhi	0.15	0.12

Source:

1. Gautam A, A Study of Urban poverty in Tribhuvan Municipality (2004) p. 63
2. Kharel K.R., The rural poverty in Nepal: A Case Study of Anpchaur VDC, Gulmi (1999) p. 60.
3. Joshi S.R., A study on rural poverty in Sahajpur VDC Kailali District, Nepal (2003) p. 51.
4. Joshi H.R., Rural Poverty in Nepal: A case study of Raikar Bichwa VDC, Kanchanpur (2003) p. 51
5. Dahal G.S., Extent of poverty in rural Nepal: A case study of Singiya VDC, Sunsari (2000), P. 81.
6. Swarnakar, D.L. A Study analysis of extent and nature of rural poverty in Halawar VDC of Dang District (2001) p. 64.
7. Field survey (2006) by Author.

The value of sen's poverty index in Kapallekhi VDC is lowest among the five different studies excepting Tribhuvan Municipality. It shows that the poverty problem in the study area is less intense than in other described studies excepting Tribhuvan Municipality

5.3 Measurement of Income Inequality in the Study Area

One of the common problem of developing/ third world/ underdeveloped/ less developed countries like Nepal is unequal distribution of income. There is a vast gap between rich and poor in income distribution in Nepal especially in rural Nepal. The rich of Nepal are becoming richer day by day and poor are becoming poorer day by day, i.e., suffering from vicious circle of poverty.

One of the major determinant of the standard of living is income and hence inequality in income distribution is one of the major factor determining the standard of living and hence poverty. In this study, income distribution situation among the total sampled households and the poor households (absolute poor households) has been studied separately Obviously the inequality of income distribution in sampled households is quite serious than the income distribution inequality in absolute poor households but income distribution is very serious in absolute poor households separately.

5.3.1 Income Distribution Among Sampled Households

The sampled households are divided into ten decile income groups of the study area, to study the income distribution and inequality in its distribution. Each group consists of 10 percent of total sampled households, i.e. in each decile group, there are five households. Income has been arranged in ascending order, i.e., it has been ranked from low income group to high. Thus, the first decile group covers 10 percent of households with lowest income groups and last decile group covers 10 percent of households with the highest income household groups. The per capita daily income is used to analyse in this study, i.e. to draw the

Lorenz curve as well as to estimate the value of Gini coefficient as calculated before. Table no. 5.5 presents a picture of per capita daily income distribution among decile groups.

Table No. 5.5

Income Distribution Among Sampled Households per Capita by Decile Group

Group	Percentage of Households	Cumulative % of HHS	Income	Percentage of income	Cumulative % of Income
1.	10.0	10	61.9	4.4	4.4
2.	10.0	20	71.3	51	9.5
3.	10.0	30	76.4	5.5	15.0
4.	10.0	40	90.6	6.5	21.5
5.	10.0	50	109.2	7.8	29.3
6	10.6	60	124.8	8.9	38.2
7.	10.0	70	143.0	10.2	48.4
8.	10.0	80	171.8	12.3	60.7
9.	10.0	90	210.6	15.0	75.7
10.	10.0	100	340.8	24.3	100.0
Total	100.0		1400.4	100.0	

Source: Field Survey, 2006.

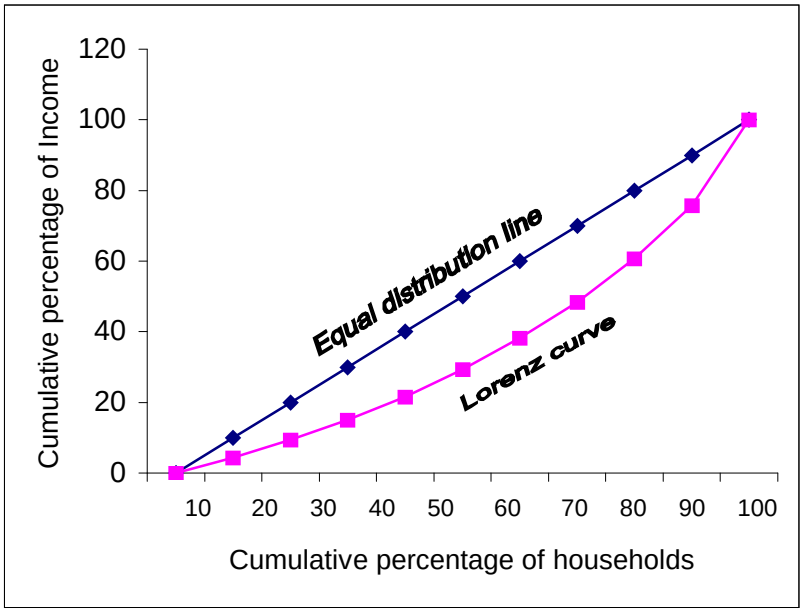
Table no. 5.5 shows that the income is not distributed equally among the different decile groups presenting a real picture of the income distribution. The bottom 10 percent of the households receive only 4.4 percent of total income whereas the top 10 percent of the households receive 24.3 percent of total income. So, there is very high inequality in the share of income of these groups. Similarly, bottom 50 percent of the households receive only 29.3 percent of the total income whereas the top

50 percent of the households receive 70.7 percent of the total income showing a high degree of inequality in the distribution of income.

The inequality in income distribution can be represented graphically in the form of Lorenz curve which is used to show the distribution. In the Lorenz curve, actual distribution of income and equal distribution of income line are plotted, which shows the difference between equal distribution and actual distribution of income. The area between Lorenz curve (actual distribution line and equal distribution line) is called area of concentration, which should be calculated to measure the extent of the inequality. The greater area of concentration shows the large magnitude of income inequality and vice-versa. The inequality in the income distribution among the sampled households in the form of Lorenz curve is shown in figure no. 5.1. In this curve, cumulative percentage of income and cumulative percentage of households are plotted.

Fig. 5.3

Lorenz Curve of the Sampled Households



Source: Table no 5.5

Table no. 5.3 clearly shows that there exists income inequality in the study area. To measure the extent of inequality, we need to measure the area of concentration and to find the value of area of concentration or extent of inequality, Gini coefficient ratio is computed. By considering per capita daily income, the value of Gini coefficient ratio is 0.30 (Annex 4A) which shows that there is high income inequality among the households.

The inequality in the distribution of income can be estimated from other various statistical tools like range, variance, mean deviation, coefficient of correlation etc. The value of other statistical tools of income inequality are presented in table number 5.6.

Table No. 5.6

Alternative Indicators of Measuring the Extent of Income Inequality

S.N.	Statistical Tools	Value	Annex
1	Range	2.51	Annex 9 (A)
2.	Variance	32.9	Annex 10 (B)
3.	Mean Deviation	0.436	Annex 10 (A)
4.	Coefficient of variance	0.574	Annex 10 (C)
5.	Coefficient of correlation	0.84	Annex 8 (A)
6.	Gini coefficient	0.30	Annex 4 (A)

Source: Field Survey, 2006.

From the above table, the value of range, variance, coefficient of variance and mean deviation represent a higher degree of income inequality among sampled households in the study area. Similarly, the value of correlation coefficient shows the direct, positive and close relationship between income and expenditure. Z-test and probable error (P.E.) has been used to test the significance of correlation between income and consumption expenditure. From the calculation, z-value is obtained as 12.2 which is less than tabulated value of z (i.e., 1.96) at 5

percent level of significance. Hence, this shows that the correlation coefficient (r) is insignificant (Annex -15). But from the calculation of probable error, both cases, i.e. 6 P.E. < r and P.E. < r are fulfilled [P.E. = 0.03). Hence, it is concluded that correlation coefficient is significant.

5.3.2 Income Distribution Among Absolute Poor

It is found that there is not only the inequality in the distribution of income in the poor and non-poor, i.e. sampled households but also among the absolute poor. There is a significant difference of income among absolute poor. This is represented by the simple statistical tool range which is calculated to be 0.68 for absolute poor which is much less than that of the range value among the total sampled households which is 2.51 [Annex 9 (A) and (B)]. The income inequality among absolute poor has been depicted in the table number 5.7.

Table No. 5.7

Income Distribution Among Absolute Poor Households

S.N.	No. of HHS	Population in groups	Percent	Cumulative % of population	Average per capita daily income	Percent	Cumulative % of income
1.	2	12	9.2	9.2	11.15	6.5	6.5
2.	2	22	16.8	26.0	13.00	7.6	14.1
3.	2	21	16.0	42.0	13.75	8.0	22.1
4.	2	10	7.6	49.6	14.15	8.3	30.4
5.	2	6	4.6	54.2	14.55	8.5	38.9
6	2	10	7.6	61.8	14.95	8.8	47.7
7.	2	10	7.6	69.4	15.30	9.0	56.7
8.	2	9	6.9	76.3	16.00	9.4	66.1
9.	2	9	6.9	83.2	18.00	10.5	76.6
10.	2	9	6.9	90.1	19.25	11.3	87.9
11.	2	13	9.9	100.0	20.70	12.1	100.0
Total	22	131	100.0		170.8	100.0	

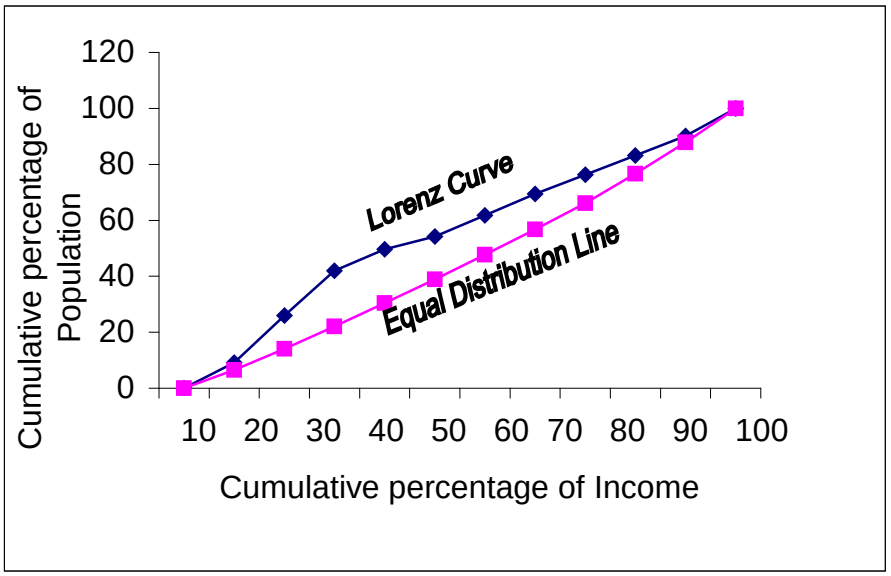
Source: Field Survey, 2006.

The above table shows the division of absolute poor households and populations into eleven income groups, each group of which contains two households. And it is clearly found that there is also a significant difference in the distribution of income even among the absolute poor. Out of the 22 absolute poor households, the first, second, third, fourth, fifth, sixth, seventh, eighth, ninth, tenth, and eleventh households groups constitute 9.2 percent, 16.8 percent, 16.0 percent, 7.6 percent, 4.6 percent, 7.6 percent, 7.6 percent, 6.9 percent, 6.9 percent, 6.9 percent and 9.9 percent of absolute poor population respectively and their average per capita daily income is 11.15, 13.0, 13.75, 14.15, 14.55, 14.95, 15.30, 16.0, 18.0, 19.25 and 20.7 respectively. It is also found that the poorest of the poors, i.e., the first group (constituting 9.2 percent of the absolute poor populations) covers only 6.50 percent of total per capita daily income of the absolute poors, while the upper income group among the absolute poor (constituting 9.9 percent of absolute poor households) secure 12.10 percent. So, it is realized that there is also some degree of inequality in the distribution of income even among the absolute poor.

In this study, Gini coefficient and Lorenz curve are also used to measure the extent of inequality in the distribution of income among absolute poor. The value of the Gini coefficient among the absolute poor according to per capita daily income is calculated as 0.10 [Annex 4 (B)]. By comparing the value of Gini coefficient of absolute poor people, with total sampled households, it is found that the inequality in income among the absolute poor (0.10) is much less than income inequality among the total sampled households (0.30). Figure number 5.4 shows the inequality situation of the income among absolute poor in the study area via Lorenz curve.

Fig. 5.4

Lorenz Curve Among the Absolute Poor



Source: Table no. 5.7

To measure the inequality in the distribution of income among absolute poor, various other simple statistical tools like variousvariance coefficient of variance, mean deviation and correlation coefficient etc. have been used. Table number 5.8 percents the value of such types of various statistical tools.

Table No. 5.8

Alternative Indicators of Measuring the Extent of Income Inequality

S.N.	Statistical tools	Value	Annex
1	Range	0.68	Annex 9 (B)
2	Variance	7.27	Annex 11 (B)
3	Coefficient of variance	0.17	Annex 11 (C)
4	Mean deviation	0.14	Annex 11 (A)
5	Correlation coefficient	0.45	Annex 8 (B)
6	Gini Coefficient	0.10	Annex 4 (B)

Source: Field Survey, 2006.

The existence of income inequality is depicted by the value of range, variance, mean deviation, coefficient of the variance and so on from above table. The positive relationship between income and consumption expenditure is denoted by the value of correlation coefficient but are not highly correlated. Hence, it can be concluded that there is less inequality in income distribution among absolute poor than that of total sampled population. And the value of correlation coefficient shows that there is less positive relationship between income and consumption expenditure among absolute poor than that of the relationship among total sampled population.

5.3.3 Statistical Measurement of Standard of Living

According to the per capita daily income, sampled households can be ranked into two groups for this study. One group consists of poor and other non-poor comprising of 30 HH and 20 HH respectively. Hence, 60 percent households of study area are poor while 40 percent are non-poor. In other words, 44.4 percent of total population (131 out of 295) of the sampled households are below absolute poverty line. Similarly, 59 percent of total population (174 out of 295) are total poor and 41 percent (121 out of 295) are said to be non-poor. The poor and non-poor are ranked by setting absolute poverty line and wolf point as the demarcation lines.

The mean income of the total sampled household, on the basis of per capita daily income is found to be Rs. 28.01. It shows that there are 32 households (64 percent earning less than the average income of the total sampled households. Similarly, the mean income of the absolute poor households is found to be Rs. 15.53. From this, it is found that out of 22 absolute poor households, 14 households (63.64) earn below the

average per capita daily income of absolute poor households. This means 63.64 percent of households hold the large part of income while 36.36 percent of absolute poor households hold the small part of income.

Table No. 5.9

Difference in Mean Income Among Total Sampled and Absolute Poor Households

S.N.	Categories	Mean income (in Rs.)	% of HHs below mean income	% of HHs earning at or above mean income
1.	Poor	15.53	63.64	36.36
2.	Non-poor	37.81	64.29	35.71
3.	Total	28.01	64.00	36.00

Source: Field Survey, 2006.

In this table, the researcher has assumed that non poor households includes all households except absolute poor households. Similarly, percentage of households is determined on the basis of total households situated in the described category. Here, the average per capita daily income of non-poor households is Rs. 37.81. It indicates that, out of 28 non-poor households, 18 households (64.29 percent) earn below this average and 10 households out of 28 non-poor households (35.71 percent) earn above the average.

5.4 Nature of the Poverty Problem in the Study Area

In Nepal, the nature of poverty problem is a multisectoral and multidimensional phenomenon such as family size, landholding, low productivity of land, lack of employment opportunities, lack of modern agricultural instruments and fertilizers, undurable housing, illiteracy etc.

Poverty has become an obstacle in the process of economic development. Poverty generates the social inequality also in the society having strong correlation with the socio-economic structure. The nature of poverty problem is determined by the socio-economic structure at the country level where the majority live in abject poverty are dominated and exploited by well to do farmers, merchants, and money lenders. Due to prevalent socio-cultural institutions, people have been caught in vicious circle of poverty. The case of poverty is due to the social system which imposes the burden upon supporting large families and the presence of able bodied beggars. This part of chapter five examines the correlation and establishments of the socio-economic characteristics of the study area with the poverty problems.

5.4.1 Family Size and The Poverty

The increase in the level of standard is directly affected by the family size. Both types of relationships, i.e. positive and negative are found between family size and income level, i.e. if the family members are skilled and employed, there is positive relationship and if the family members are unskilled and unemployed, there is high dependency ratio, i.e. negative relationship. Field observation shows that poor families have greater family size than that of non-poor families. So, there is negative relationship between family size and income level and positive relationship between family size and poverty in the stud area. The family size varies from 2 to 14 in number showing 5.9 as the average family size which is greater than the national average 5.4. In the present study, main feature is found that non-poor families have largest family size and relative poors have smallest family size, i.e. 6.05, 5.95 and 5.38 for non-poors, absolute poors and relative poors respectively. The family size of absolute and non-poor families is greater than the national average while

that of relative poor is smaller. This indicates that family size and poverty are highly correlated. The following table represents the relationship between poverty and family size.

Table No. 5.10

Household Size and Mean Income of the Poor

S.N.	Household Size	Household		Population		Total daily per capita income in Rs.	Daily per capita mean income in Rs.
		No.	%	No.	%		
1.	<4	4	18.18	10	7.63	61.7	15.43
2.	4-5	7	31.82	31	23.67	110.8	15.83
3.	6-7	6	27.27	39	29.77	100.6	16.77
4.	8-9	3	13.64	25	19.08	41.6	13.87
5.	>9	2	9.09	26	19.85	26.9	13.45
	Total	22	100	131	100	341.6	15.53

Source: Field Survey, 2006.

The above table shows that the total daily per capita income is higher in 4 to 5 family members household groups. From the field observation it is found that the most of the poor with 6 to 7 members are found to be in joint families and mean income of this group is higher than the other categories.

5.4.2 Size of Landholding and the Poor

Poverty is highly affected by the size of landholding and are highly correlated. Land is one of the most important economic asset and one of the major source of income and employment. Nepal is predominantly an agricultural country and hence 18 percent economically active people are

involved in agriculture, out of the total more than 32.45 percent economically active population. Obviously, there is always a positive relationship between the size of landholding and the income level and the negative relationship between size of landholding and the poverty. The following table represents the relationship between size of landholding and income level of the poor.

Table No. 5.11

Distribution of poor by landholding size and the per capita daily mean income

S.N.	Size of landholding (Ropani)	Household		Population		Total daily per capita	Daily per capita mean income.
		No.	%	No.	%		
1.	<10	7	31.8	40	30.5	97.3	13.9
2.	10-20	8	36.4	51	38.9	121.6.	15.2
3.	20-40	4	18.2	20	15.3	67.2	16.8
4.	>40	3	13.6	20	15.3	55.5	18.5
	Total	22	100	131	100	341.6	15.53

Source: Field Survey, 2006.

Table no. 5.11 shows the positive correlation between size of landholding and the income level and hence negative correlation between size of landholding and the poverty. It is evident that population below poverty line decreases with the increase in land asset. But this alone is not the sole determinant of poverty. Income level is found to be significantly higher is case of larger size of landholding and therefore, the poverty problem is highly spread among those poor households who have smaller size of landholding. But it is also found that within the same size of landholding, some households are non-poor, some are absolute poor and

some are relative poor because of the productivity of land, improved seeds and fertilizers, quality of land and available irrigation facilities etc.

5.4.3 Ethnic Group and the Poor

In urban as well as rural areas of Nepal, ethnic groups play a vital role in determining the standard of living. So, it is very important to see the relationship between ethnic group and poverty in the study area. The situation of lower caste and their occupation are regarded as inferior by the society as compared to that of other groups. In the study area, there are various ethnic groups like Brahmins, Chhetris, lower caste and so on. The following table represent the relationship between the ethnic group and poverty as well as ethnic group and income level.

Table No. 5.12

Income by ethnicity among absolute poor households

S.N.	Ethnic Group	Household		Population		Total per capita income (Rs)	Daily per capita mean income (Rs)
		No.	%	No.	%		
1.	Brahman	2	9.1	17	13.0	31.5	15.75
2.	Chhetri	6	27.3	35	26.7	91.9	15.32
3.	Thakuri	3	13.6	18	13.7	49.8	16.60
4.	Lower caste	10	45.5	55	42.0	150.6	15.06
5.	Others	1	4.5	6	4.6	17.8	17.80
	Total	22	100	131	100	341.6	15.53

Source: Field Survey, 2006.

From the above table it is clear that out of 22 absolute poor households, 2 or 9.1 percent are Brahman, 6 or 27.3 percent are Chhetri, 3 or 13.6 percent are Thakuri, 10 or 45.5 percent are lower castes and 1 or

4.5 percent is of other ethnic group. Similarly, out of 131 absolute poor population, 17 or 13.0 percent are Brahman, 35 or 26.7 percent are Chhetri, 18 or 13.7 percent are Thakuri, 55 or 42.0 percent are lower caste and 6 or 4.6 percent are of other ethnic group. The daily per capita mean income of Brahman, Thakuri and other ethnic group is above the overall daily per capita mean income of the study area while that of Chhetri and Lower caste is below that average. Thus, lower caste and Chhetri are the most deprived section of the study area. The daily per capita mean income of different ethnic group is shown in table number 5.12.

It is found that the factors responsible for lower income level are small size of landholding, low productivity, agriculture and labour being the main occupation, high illiteracy, large family size, lack of knowledge, low holding of assets, lack of opportunities, low wage rate for agricultural works, lack of physical facilities, haliya system and so on. Being much more educated, Brahman and Thakuri of the study area have greater opportunities and hence they have high daily per capita mean income. In the study area, out of 50 sampled households, 22 are absolute poor and out of 22 absolute poor households, 16 are Chhetri and lower caste households which is around 72.7 percent of total absolute poor households. So, the nature of poverty is seriously concentrated in the case of Chhetri and lower caste in comparison to other ethnic groups in the study area.

Table No. 5.13

Poor within the ethnic composition

S.N.	Ethnic Group	Absolute poor HHs		Relative poor HHs		Non-poor HHs		Total	
		No.	%	No.	%	No.	%	No.	%
1.	Brahman	2	20.0	1	10.0	7	70.0	10	20.0
2.	Chhetri	6	50.0	2	16.67	4	33.33	12	24.0
3.	Thakuri	3	30.0	1	10.0	6	60.0	10	20.0
4.	Lower caste	10	66.67	3	20.0	2	13.33	15	30.0
5.	Others	1	33.33	1	33.33	1	33.33	3	6.0
	Total	22	44.0	8	16.0	20	40.0	50	100

Source: Field Survey, 2006.

From the table no. 5.13, it is found that out of the total 50 sampled households, 10 or 20 percent are Brahman, 12 or 24 percent are Chhetri, 10 or 20 percent are Thakuri, 15 or 30 percent are lower caste and 3 or 6 percent are of other ethnic group.

Similarly, out of 10 households of Brahman, 2 or 20 percent are absolute poor, 1 or 10 percent is relative poor and 7 or 70 percent are non-poor. Out of 12 households of Chhetri, 6 or 50 percent are absolute poor, 2 or 16.67 percent are relative poor and 4 or 33.33 percent are non-poor. And out of 10 households of Thakuri, 3 or 30 percent are absolute poor, 1 or 10 percent is relative poor and 6 or 60 percent are non-poor. Similarly, out of 15 households of lower caste, 10 or 66.67 percent are absolute poor, 3 or 20 percent are relative poor and 2 or 13.33 percent are non-poor. Lastly, out of 3 households of other ethnic groups 1 or 33.33 percent is absolute poor, 1 or 33.33 is relative poor and 1 or 33.33 percent is non-poor. So, this also indicates the high incidence of poverty in the Chhetri and lower caste group in the study area.

5.4.4 Main Occupation and the Poor

The income level of every households or individuals is highly influenced by the main occupation in which they are engaged. Obviously, as in the case of country, most of the people of the study area are engaged in agriculture and hence their main occupation is agriculture. The poor work hard for low income due to the low productivity of land, marginal and small landholding size and lack of other agricultural opportunities/services. It is also found that the people engaged in business/services have higher income than the people engaged in agriculture. The distribution of the poor by occupation and their income level is shown in the table number 5.14.

Table No. 5.14

Distribution of absolute poor by main occupation

S.N.	Main Occupation	Household		Population		Per capita daily income (Rs.)	Daily per capita mean income (Rs.)
		No.	%	No.	%		
1.	Agriculture	13	59.1	86	65.6	192.3	14.79
2.	Labour work	4	18.3	18	13.7	62.1	15.53
3.	Business/services	3	13.6	17	13.0	55.7	18.57
4.	Cottage industry	1	4.5	4	3.1	16.1	16.10
5.	Others	1	4.5	6	4.6	15.4	15.40
	Total	22	100	131	100	341.6	15.53

Source: Field Survey, 2006.

Table no. 5.14 shows the agriculture as the main occupation of absolute poor (59.1 percent households and 65.6 percent population) but the mean income of this group is lowest among the occupational groups.

The daily per capita mean income is 14.79 for agriculture which is the lowest one compared to other groups who are engaged in business/service, labour work or other non-agricultural economic activities. Daily per capita mean income for labour work, business/services, cottage industry and others equal to 15.53, 18.57, 16.10 and 15.40 respectively which all are greater than the daily per capita mean income of total absolute poor households.

5.4.5 Educational Status and the Poor

It is well observed fact that most of the poor people are illiterate due to their low income and most of the people are poor due to illiteracy. There is always an interrelation between the illiteracy and poverty. Education is a very basic need to every people for social and economic development. Education and skill go together. Lack of education usually means limited skill, limited skill means lack of employment opportunities. Insufficient education can be serious case of individual poverty. Thus, if people are educated, their income levels are generally higher than that of just literate and illiterate. So, nature of poverty is highly affected by the educational status.

In present study, level of education has been divided into three categories, i.e. illiterate, literate and educated. The people who cannot read and write are illiterate, literate are those who can read and write and educated are those who have passed S.L.C. The field study shows a high degree of illiteracy among lower caste group. A lower caste person was hardly found to have passed even secondary level. The relationship between educational status and poverty is shown in table number 5.15.

Table No. 5.15

Literacy Status and Level of Income

S.N.	Level of Education	Household Head				Poor Households			
		Total HH	%	Poor HH	%	Population	Average Family Size	Total per capita daily income (Rs.)	Mean per capita daily income (Rs.)
1.	Illiterate	28	56.0	12	54.5	78	6.5	170.1	14.18
2.	Literate	16	32.0	8	36.4	42	5.3	130.8	16.35
3.	Educated	6	12.0	2	9.1	11	5.5	40.7	20.35
	Total	50	100.0	22	100.0	131	6.0	341.6	15.53

Source: Field Survey, 2006.

From table number 5.15, it is observed that the poverty problem is higher among the illiterate poor than that of literate and educated poor. Out of 22 total poor households, 12 households (54.5 percent) heads are illiterate and their mean per capita daily income is Rs. 14.18. Similarly, 8 household heads (36.4 percent) are literate and their mean per capita daily income is Rs. 16.35. And 2 households heads (9.1 percent) are educated and their daily per capita mean income is Rs. 20.35. So, as the level of education increases, the daily per capita mean income also increases. Thus, it can be said that the poor are poor because they are illiterate and they are illiterate because they are poor in the study area.

In the study area, female illiteracy is higher than that of male illiteracy is i.e. literate and educated female are lower than that of male. This situation is shown in the table no. 5.16.

Table No. 5.16

Level of education of total sampled population by sex (6 years and above)

Sex	Illiterate		Literate		Educated		Total	
	No.	%	No.	%	No.	%	No.	%
Male	25	31.3	60	66.7	50	58.8	135	52.9
Female	55	68.7	30	33.3	35	41.2	120	47.1
Total	80	100.0	90	100.0	85	100.0	255	100.0

Source: Field Survey, 2006.

Out of the total illiterate population, 31.3 percent are male and 68.7% are female. Similarly, out of the total literate population, 66.7% are male and 33.3% are female. And, out of the total educated population, 58.8 percent are male and 41.2 percent are female. Similarly, out of the total male population, 18.5 percent are illiterate, 44.4 percent are literate and 37.1 percent are educated. And out of the total female population, 45.8 percent are illiterate, 25.0 percent are literate and 29.2 percent are educated.

In the present study, the positive relation exists between income and level of education because the large number of population with highest income is educated. The relationship between income and the educational status of the total sampled population is shown in table no. 5.17.

Table No. 5.17

Distribution of population by level of education and income (6 years and above)

Decline Group	Average % of per capita Daily income	Total Population	Illiterate		Literate		Educated	
			No.	%	No.	%	No.	%
1.	4.4	40	20	25.0	15	16.7	5	5.9
2.	5.1	25	12	15.0	10	11.1	3	3.5
3.	5.5	24	10	12.5	11	12.2	3	3.5
4.	6.5	20	9	11.3	9	10.0	2	2.4
5.	7.8	27	10	12.5	10	11.1	7	8.2
6.	8.9	24	6	7.5	9	10.0	9	10.6
7.	10.2	28	5	6.2	8	8.9	15	17.6
8.	12.3	25	4	5.0	7	7.8	14	16.5
9.	15.0	22	2	2.5	7	7.8	13	15.3
10.	24.3	20	2	2.5	4	4.4	14	16.5
	Total	255	80	100.0	90	100.0	85	100.0

Source: Field Survey, 2006.

From table number 5.17, it is observed that out of 255 people 80 (31.4 percent) are illiterate, 90 (35.3 percent) are literate and 85 (33.3 percent) are educated. The lowest income group has 25.0 percent of illiterate, 16.7 percent of literate and 5.9 percent of educated population while the highest income group has 2.5 percent of illiterate, 4.4 percent of literate and 16.5 percent of educated population. Hence, the relationship between the educational status and income can be assumed as positive.

To test the independency of level of income with the level of education, chi-square test is applied. The tabulated value of chi-square at 5 percent level of significance and at 18 degree of freedom is 28.869. But

the value of chi-square is calculated as 59.2 for the observed data. This implies that the level of income is dependent on the level of education (Annex-13). Thus, when there are more illiterate people, the level of income is low and vice-versa.

5.4.6 Employment Status and the Poor

Employment is any job or occupation and is the main source of income. There is the direct and negative relationship between employment and poverty and is the major determinant of income and poverty level. In order to calculate the relationship between poverty and employment, it is assumed that those members in the age group of 15 years to 59 years are taken as the working age group and remaining are considered as non-working age group. Table number 5.18 shows the working age group in the study area.

Table No. 5.18

Distribution of the poor population by working age group

S.N.	Group of Population	Male		Female		Total	
		No.	%	No.	%	No.	%
1.	Working age group	39	55.7	34	55.7	73	55.7
2.	Non-working age group	31	44.3	27	44.3	58	44.3
	Total	70	100	61	100	131	100

Source: Field Survey, 2006.

Above table indicates that, out of the total sampled poor population 55.7 percent are found to be of working age group and among the total working age group population 39 (53.4 percent) are male and 34 (46.6 percent) are female. In other words, 55.7 percent of both male and female, out of 70 and 61 respectively, are of working age group. The nature of poverty is also influenced by the age group. When income level

is high, incidence of poverty is low but when income level is low, incidence of poverty is high. On this assumption, we determine the age composition of the poor population.

For this study, the working age group people are only categorized into three groups. The people who work at least 6 hours of day (36 hours per week) are considered as full employed. Similarly, the people who work less than 6 hours a day are considered as underemployed where as non-active population are considered as unemployed. In this study, only the income generated works are included in categorizing the employment status. Table no. 5.19 shows the distribution of population of age 15 years to 59 years by sex and employment.

Table No. 5.19

Level of employment of total sampled households by sex (15 years to 59 years)

S.N.	Sex	Unemployment		Underemployment		Employment		Total	
		No.	%	No.	%	No.	%	No.	%
1.	Male	30	30.6	30	71.4	42	77.8	102	52.6
2.	Female	68	69.4	12	28.6	12	22.2	92	47.4
	Total	98	100	42	100	54	100	194	100

Source: Field Survey, 2006.

Out of 194 working age group people, 50.5 percent are unemployed, 21.6 percent are underemployed and 27.9 percent are fully employed. As some of the dependent populations are included, the unemployed population seems to be quite high. Similarly, out of 295 sampled population 194 (65.8 percent) are found to be in working age group. Among them 52.6 percent are male and 47.4 percent are female. Out of the total male population, 29.4 percent are unemployed, 29.4 percent are underemployed and 41.2 percent are employed. Similarly, out

of the total female population 13.0 percent, 13.0 percent and 74.0 percent are employed, underemployed and unemployed respectively. The unemployed percentage of female is more than unemployed male and full employed percentage of male is more than full employed female. Hence, there is a high employment inequality among male and female population which is one of the cause of poverty.

The working age group population according to employment status and income group is shown in the table number 5.20.

Table No. 5.20

Distribution of population by employment status and income group (15 years to 59 years)

Decile	% of the per capita daily mean income	Total Population	Unemployed		Under employed		Full employed	
			No.	%	No.	%	No.	%
1.	4.4	29	18	18.4	8	19.2	3	5.5
2.	5.1	18	13	13.3	3	7.1	2	3.7
3.	5.5	16	11	11.2	3	7.1	2	3.7
4.	6.5	18	11	11.2	3	7.1	4	7.4
5.	7.8	21	12	12.2	2	4.8	7	13.0
6.	8.9	16	8	8.2	3	7.1	5	9.3
7.	10.2	20	10	10.2	2	4.8	8	14.8
8.	12.3	17	6	6.1	3	7.1	8	14.8
9.	15.0	15	4	4.1	5	11.9	6	11.1
10.	24.3	24	5	5.1	10	23.8	9	16.7
	Total	194	98	100.0	42	100.0	54	100.0

Source: Field Survey, 2006.

From the table no. 5.20, it is clear that the top 10 percent of households have 16.7 percent of full employed, 23.8 percent of under employed and 5.1 percent of unemployed population, whereas the bottom 10 percent of households have 5.5 percent of full employed, 19.2 percent of underemployed and 18.4 percent of unemployed population. Similarly, out of 194 people, 98 people are unemployed, 42 people are underemployed and 54 people are employed. So, there is a high degree of positive relationship between employment and level of income.

For this study, the hypothesis is made that the income level is dependent on employment. To test the dependency of level of income with the level of employment, chi-square test is applied. The tabulated value of chi-square at 5 percent level of significance and 18 degree of freedom is 28.9. But the calculated value of chi-square is 31.261 (Annex-14). Thus, the calculated value of chi-square is greater than the tabulated value. This implies that level of income is dependent on the level of employment. When there is unemployment, the level of income is low and vice-versa.

CHAPTER SIX
SUMMARY, CONCLUSION AND RECOMMENDATION

6.1 Summary

Poverty is a relative state and may not involve lacking the necessities of life. Half of the people of the earth earn, on average US $70 or less each year and in many countries, poverty means low standards of food and housing. A man may be considered poor in USA on an income that would make him a rich man in many countries. (The World Book Encyclopedia, 1966: 666).

In case of Nepal, poverty is multi-dimensional and deeply rooted in rural areas. It has an per capita income of US $210 showing its developing and the poorest nature. Insecurity and growing incidence of rural poverty are the current major problems of Nepal where more than 80 percent of people are the inhabitants of rural areas and are the major obstacles in the development of the country. In order to analyse the poverty problem for this study, Kapallekhi VDC of Doti district has been selected as the study area and 50 sampled households are taken out of the total 705 households.

6.1.1 Major findings

1. The absolute poverty line has been calculated as Rs. 21.12 per capita per day for the study area. On the basis of this value, 44 percent of households or 44.4 percent of population, i.e. 22 households or 131 people, are absolute poor.
2. As the absolute poverty line and total poverty line are estimated as Rs. 21.12 and Rs. 26.36 per capita per day respectively, the people

whose income lies between these two lines are relative poor. Hence 16 percent of households, i.e. 8 households or 14.6 percent of population, i.e. 43 people are relative poor.

3. As Rs. 26.36 per capita per day is estimated as Wolf point, i.e. total poverty line, 60 percent of households, i.e. 30 households or 59.0 percent of population, i.e. 174 people are total poor. Hence, 40 percent of households, i.e. 20 households or 41.0 percent of populations, i.e. 121 people are non poor.
4. The value of Gini coefficient for total sampled households is 0.30 showing a high degree of inequality in the distribution of income among the total sampled households. Similarly, the value of Gini coefficient for absolute poor households is 0.10 showing some degree of inequality in the distribution of income but the degree of inequality is negligible in comparison to total sampled households.
5. The value of Sen's poverty index considering Gini coefficient is found to be 0.15 and without considering Gini coefficient is found to be 0.12. From both cases, it is clear that the extent of poverty is somewhat high. However, since the index is higher when the Gini coefficient is considered, it can be said that the inequality in the distribution of income is one of the major causes of poverty.
6. Among the total sampled households, the value of range, variance of the income, mean deviation of the income and coefficient of variance is equal to 2.51, 32.9, 0.436 and 0.574 respectively which shows that there is a high degree of inequality in the distribution of income among the total sampled households.
7. Among the absolute poor households, the value of range, variance of income, mean deviation of the income and coefficient of variance is equal to 0.68, 7.27, 0.14 and 0.17 respectively which shows that there is less degree of inequality in the distribution of

income among the absolute poor households than the total sampled households. Similarly, the value of coefficient of variation among the absolute poor households is equal to 0.18.

8. The value of marginal propensity to consume for total sampled households and absolute poor households is equal to 0.47 and 0.94 respectively. Hence, the degree of relationship between income and consumption of both classes are high. This shows that a large proportion of income is spent on consumption.
9. The value of correlation coefficient between income and consumption of total sampled households and absolute poor households is 0.84 and 0.45 respectively. The results show that there is a positive correlation between income and consumption but there is a stronger correlation among total sampled households than that of absolute poor households. In both cases, the consumption is directly proportional to the income of the households.
10. The value of income gap ratio is 0.28, head count index is 0.44, poverty gap index is 0.12 and squared proportionate poverty gap index is 0.04.
11. Among 22 absolute poor households, 54.5 percent household heads are illiterate, 36.4 percent are literate and 9.1 percent are educated. Again daily per capita mean income of illiterate, literate and educated households are 14.18, 16.35 and 20.35 respectively. Similarly, out of 50 sampled households, 28 household heads are illiterate, 16 households heads are literate and 6 household heads are educated. These figures indicate that the earning capacity is directly and positively related with the level of education.
12. Out of 255 people aged 6 years and above, 135 are male and 120 are female. Again out of 80 illiterate people, 31.3 percent are male and 68.7 are female. So, female illiteracy is higher than male

illiteracy, i.e. male literacy is higher than female literacy. Similarly, first decile group having 4.4 average percent of per capita daily income has 25 percent of illiterate population while the last decile group having 24.3 average percent of per capital daily income has 2.5 percent of illiterate population. Hence, literacy and income level are also positively and directly related.

13. Out of 194 people aged 15 years to 59 years, 98 are unemployed, 42 are underemployed and 54 are fully employed. Out of the total unemployed population, 30.6 percent are male and 69.4 percent are female. So, it shows high employment status of male than female. Similarly, first decile group having 4.4 average percent of per capita daily income has 18.4 percent of unemployed population while the last decile group having 24.3 average percent of per capita daily income has 5.1 percent of unemployed population. Hence, the figures imply that the employment level is positively related to income level and negatively related to poverty. Similarly, out of the total absolute poor people, 55.7 percent are of working age group and 44.3 percent are of non-working age group.

14. The family size of the total sampled households is calculated as the 5.9. Similarly, the family size of the absolute poors, relative poors and non-poors is calculated as 5.95, 5.38 and 6.05 respectively. These results imply that there is no significant relationship between the family size and poverty. Similarly, the family having the average size 4 to 7 is more than 59 percent of the total households. The daily per capita mean income of households having 6 to 7 family members is highest and having more than 9 family members is lowest.

15. Out of the total 22 absolute poor households 31.8 percent of households operate less than 10 ropani, 36.4 percent operate 10 to

20 ropani, 18.2 percent operate 20 to 40 ropani and only 13.6 percent operate more than 40 ropani. Similarly, as the landholding size increases, there is the increase in daily per capita mean income, i.e., both are directly and positively interrelated.

16. Out of the total 22 absolute poor households, 45.5 percent are of lower caste, i.e. highest and their daily per capita mean income is 15.06, i.e. lowest. So, there is the significant relationship between the ethnic group and mean income or ethnicity and poverty. Similarly, more than 66.66 percent of lower caste households are absolute poor and more than 86.66 percent are poor (both absolute and relative).

17. Out of the total 22 absolute poor households, more than 59 percent are engaged in agriculture (highest) and their daily per capita mean income is 14.79 (lowest). So, it is clear that the households involved in agriculture are even in the largest number, they have the lowest daily per capita mean income which may be due to various reasons like traditional system of agriculture, less use of fertilizers, insecticides and pesticides, less skill, absence of irrigation and improved seeds etc.

6.2 Conclusion

Since most of the poor people live in rural areas, poverty in Nepal is rural in nature, and most of the poor people are dependent on agriculture. Small size of landholding, low productivity, lack of market facilities, lack of firm jobs, unemployment and underemployment illiteracy, lack of rural credit, lack of agriculture training and other basic infrastructures, etc. are the main causes of poverty in Nepal.

Present study is conducted to findout the situations and problems of poverty in rural Nepal through a case study of Kapallekhi VDC of Doti District. The study mainly focuses on the extent, situation, nature and causes of poverty. It is found that 44.4 percent people are absolute poor. The standard of living in the rural area is very poor and there is a vast income gap between rich and poor. The large rural population are unemployed and underemployed, and hence their basic minimum necessity of life such as food, shelter, clothing, basic education, drinking water and health care etc. has remained unfulfilled.

Land assets is one of the most important economic assets, and is the economic backbone of 59.66 percent of people of Nepal. Due to the small size of landholding or landless, lack of irrigation and traditional method of production, of the poor people of the study area, the agriculture production could not increase. Similarly, income inequality is the serious causes of poverty in the study area which makes rich people richer and poor people poorer than before.

Large amount of income is spent on consumption which is shown by this study. And, the part of income which is spent on education, health, sanitation etc. is found far below, which makes the people poorer than before. In the study area, most of the people are literate or illiterate, i.e. not educated. Most of the literate people are unemployed and they have no capital and skill to do other businesses. That is why, the distribution of income is highly uneven. Due to the less industrial and tourism development, people are unemployed, underemployed or employed with low wages which also helps in the increment in poverty. Similarly, the central government authorities alone are not sufficient to implement the programmes for local development. The local level

organizations with the participation of the local people are essential to implement the programmes.

Field observation shows that the most of the poor have small and Kachchi house. Household lady except lower caste women as agricultural labourer do not go to the work for earning money (professional one), as she has to cook the food for the family and to fulfill the other basic and almost all household activities. Most of the poor people are landless or have small size and is unregistered. Even, most of the poor people have no property and income, they used to smoke, drink alcohol and play cards. Majority of the poor people are ill fed, badly suffering from hunger and malnutrition and their slender body and wrinkled face shows the different types of pictures of poverty. Similarly, some of them are in vast burden of loan. They take loan from the local money lenders with high rate of interest and do not ever try to return that money. Some of them go to India and other countries for the job but they do not get good work.

On the basis of all the results of this study, it can be concluded that the poor people of the study area have low landholding and its uneven distribution, and unequal distribution of income also because they cannot generate sufficient income from various other sources. Most of the poor people are illiterate, unemployed, among lower caste, having average family size, small size of land holding, agriculture as the main occupation and so on. They have also no sufficient income to spend on education. Hence, due to such reasons and current violent/civil war activities, the poor people of the study are becoming poorer day by day.

6.3 Recommendations

The problem of poverty in the study area is serious according to this study. The government as well as other concerned authorities should be committed to overcome this problem. On the basis of the present study, the following points are recommended.

1. In the study area, agriculture is the main source of income and employment. So, transformation of agriculture is essential to reduce the poverty problem. So, to increase income and consumption level and to generate the productive employment, agricultural productivity should be increased.
2. There is the lack of alternative employment opportunities in the non-agricultural sector. As the employment in the agricultural sector is seasonal in nature, the subsidiary employments and benefits during off farming season should be promoted through the establishment and the provision of agricultural infrastructures and these should be utilized in maximum extent. Employment opportunities in other sectors should be created.
3. Irrigation facilities, improved seeds, modern fertilizers and insecticides as well as pesticides, technical assistance etc. should be provided to increase agricultural productivity and to reduce poverty.
4. To make easy access to modern agricultural inputs, there should be provision of subsidy in the inputs and there should be the provision of price support to provide appropriate price to the agricultural products.
5. The status of women in the study area is worse due to illiteracy and unemployment. So, non-formal education and vocational training

should be provided to uplift their condition. For the children especially of lower caste, compulsory education should be enforced. So that the poor after getting education can increase their skill, and hence skilled and educated manpower can have easy access to better sources of income which can help to uplift the standard of living.

6. Provision of vocational education to replace current education, provision of additional employment opportunities, provision of mixed and improved cropping pattern, and provision of transportation and communication facilities should be made.
7. Spending in alcohol, smoking, gambling and unnecessary spending on traditional festivals should be reduced and discouraged by conducting public awareness programmes. They should think over their future and work hard to uplift their social status. Due to such programmes, people can increase their savings than before which helps to raise the standard of living and hence to alleviate poverty.
8. Poverty alleviation programmes should be decentralized rather than centralized, i.e. such programmes must target and reach to the rural area and local poor people.
9. The unemployment among educated youth of the study area is high. So, policies should be formulate to involve and encourage them to involve in agricultural activities and other alternative employment related opportunities.
10. The major factors for the poverty of lower caste are social inferiority, cultural defects, haliya system, illiteracy, unemployment, small size of landholding, low wage rate for agricultural works and inadequate price level for agricultural products etc. Thus, priority should be given to provide informal

education to them and such drawbacks should be reduced gradually both legally and socially.

11. Group credit schemes should be launched without security to enable the poorest of the poors to participate in the income generating and development activities.
12. There should be an establishment of financial institution and banking system in local area to provide financial supports to the poor which provide credit and loans at low interest rates as well as provide an easy access to loan.
13. The promotion of the cottage industries should be designed and implemented for poor people by the medium of cooperatives should be launched as an effective programme. It should incorporate to identify and easy access to new sources of raw materials, production process, marketing etc. Such activities increase the employment, i.e. income sources of the people thereby helps to alleviate the poverty.
14. To pull up the poor people from the vicious circle of poverty, governmental and non-governmental agencies should launch the public awareness programmes related to family planning, gender equity, health, sanitation, environment etc. and income generating, employment generating and high pay job opportunities which are the indirect means of poverty alleviation because they can help to uplift the living standard of the society in slow-motion.
15. The integrated programmes incorporating skill-development training, credit facilities, marketing and management for the semi and full employed people should be conducted.
16. The local based needs should be considered while implementing any policies and the local people must be given with full and free

authorities of handling their activities themselves by a proper guidance from outsiders.

17. Public works should be labour intensive rather than the capital intensive, i.e. works should be formulated and implemented in such a manner that it should require more people than the machinery equipments.
18. Savings of the people should be mobilized into high yielding sectors.
19. The literate and educated youth are unemployed and even they do not help their parents in agricultural sector. So, their standard of living is falling down slowly. So, the government should start plans for them.
20. At last but not the least, there should be a strong commitment of people towards reducing poverty. And there should also be a coordination between NGO, INGO, CBO, government and society in the poverty alleviation programmes.

In this way, only one attempt or measure is not sufficient for reducing or alleviating the poverty from the study area. For this, multisectoral approach should be made at the same time.

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QUESTIONNAIRE

1. General information about household head

1.1 Name of Household head:

1.2 Level of education:

1.3 Age: 1.4 Sex: 1.5 Religion:

1.6 Language: 1.7 Caste: 1.8 Occupation:

2. General information about respondent

2.1 Name of respondent:

2.2 Level of education:

2.3 Relationship with household head:

2.4 Age: 2.5 Sex 2.6 Occupation:

3. (A) Household structure of family by age and sex

Age / Sex	0-5	5-14	14-59	60 and above	Total
Male					
Female					
Total					

(B) Number of working age family member:

S.N.	1	2	3	4	5	6	7
Age							
Level of education							
Profession							
Working months							
Average working days/ month							
Average income per day							

Male ( ) + Female ( ) = Total ( )

4. Education Level

Educational Level / Sex	Illiterate	Literate	Educated	Total
Male				
Female				
Total				

5. Types of house:

a. Hate small cottage
b. Made with mud and roofed with grasses and stones
c. Made with brick and roofed with zinc
d. Made with brick and roofed with cement
e. House less

6. What's the main occupation of your family:

a. Agriculture
b. Business
c. Service
d. Other (Specify)

7. How much land does your family cultivate:

a. Own land: Ropani ( ) Aana ( )
b. Land rented in: Ropani ( ) Aana ( )
c. Land rented out: Ropani ( ) Aana ( )

8. Economically active member engaged in different sectors:

Agriculture ( ) Non Agriculture ( ) Total ( )

9. Source of Income

(a) Income from agriculture production

S.N.	Crops	Cultivated land area	Total production	Local unit price	Total income
1.	Paddy				
2.	Wheat				
3.	Maize				
4.	Pulse				
5.	Vegetable				
6.	Potato				
7.	Others				
	Total				

(b) Income from livestock and poultry farming

S.N.	Kinds	Quantity	Price per live	Total income
1.	Cow			
2.	Ox			
3.	Buffalo			
4.	Goat			
5.	Pig			
6.	Poultry			
7.	Others			
	Total			

10. Is your agricultural production sufficient to meet your family consumption?

If yes, any saving (Rs.)

If No, any deficit (Rs.)

11. How much annual income does your family receive from

a. Selling milk & milk products (Rs.)

b. Selling meat (Rs.)

c. Selling chicken & eggs (Rs.)

d. Others (Rs.)

12. Family income from other sources:

S.N.	Sources	Annual income in Rupees	Number of family members engaged
1.	Business		
2.	Services		
3.	Pensions		
4.	Labours		
5.	Other		
	Total		

13. (a) Does your family total income is enough to fulfill your general necessities?

If yes, any saving (Rs.)

If No, any deficit (Rs.)

(b) If the income could not fulfill your necessities, what are the causes among below?

a. Lack of working age family member
b. Lack of employment to working age family member
c. Lower productivity of agricultural production
d. Lack of proper protection of agricultural production
e. All family members are dependent on only agriculture, None of them are dependent on other economically productive activities.
f. Lack of information about other income generative jobs.
g. Lack of financial support to income generative jobs
h. Others (Specify)

14. Family expenditure

(a) Expenditure on food items:

S.N.	Kinds	Total quantity	Price per unit	Total expenditure
1.	Paddy			
2.	Wheat			
3.	Pulse			
4.	Milk			
5.	Milk products			
6.	Vegetables			
7.	Oil & Salt			
8.	Meat and eggs			
9.	Sugar and tea			
10.	Maize			
11.	Fruits			
12.	Others			
	Total			

(b) Expenditure on non-food items:

S.N.	Kinds	Total expenditure
1.	Clothing/ food wear	
2.	Education	
3.	Health & health services	
4.	Festivals/ customs	
5.	Firewood/ electricity	
6.	Smoking/ Drinking	
7.	Others	
	Total	

15. Coat of live stock & poultry:

S.N.	Kinds	Cost in feeding	Cost in medicine	Other Expenses	Total
1.	Cow				
2.	Ox				
3.	Buffalo				
4.	Pigs				
5.	Goat				
6.	Poultry				
7.	Others				
	Total				

16. Production cost of different crops:

S.N.	Items	Cost in seed	Cost in labour	Cost in fertilizer	Total lost
1.	Paddy				
2.	Wheat				
3.	Maize				
4.	Pulse				
5.	Others				
	Total				

17. Employment status of working age member:

Full employed ( )
Semi employed ( )
Unemployed ( )
Total ( )

18. What types of industry or income generative programmes should be established to generate income of the villagers?

19. What types of help should be provided for that?

a. Loans in low interest rate
b. Raw materials in subsidized price
c. Developing skilled manpower
d. Others (Specify)

20 Causes of children not going to school

a. Due to house work
b. Far school
c. Lack of money
d. Others (Specify)

21. Do you sell local products?

a. If yes, when, where and at what price?
b. No

22. Where is the selling point of your product?

a. Buyer comes to village
b. You take the products to buyer

23. What are the means of transport for taking the products to the buyer?

a.
b.

24. You have to

a. Accept whatever price you given for your product
b. Better chance to bargain for a better price of your product

Annex - 1

Calculation of Minimum Subsistence Level of Income

S.N.	Cereal Items	Price Per Kg (in Rs.)	S.N.	Pulses Items	Price Per Kg (in Rs.)
1.	Rice (Basmati)	35	1.	Rahar	55
2.	Rice (Mansuli)	20	2.	Mushuro	50
3.	Rice (Gurra)	15	3.	Kerau	35
4.	Rice (Thapachini)	15	4.	Bean	30
5.	Rice (Marshi)	18	5.	Soyabean	30
6.	Wheat (Flour)	16	6.	Mass	40
7.	Maize (Flour)	14	7.	Gahat	20
	Total	133		Total	260

Calculation

7000 gms of cereals cost = Rs. 133

1 gms of cereals cost = Rs. $\frac{133}{7000}$

… 605 gms of cereals cost = Rs. $\frac{133}{7000} \times 605$

= Rs. 11.50

Similarly,

7000 gms of cereals cost = Rs. 260

1 gms of cereals cost = Rs. $\frac{260}{7000}$

… 60 gms of cereals cost $= \text{Rs. } \frac{260}{7000} \times 60$

$= \text{Rs. } 2.23$

Therefore, total cost required for 605 gms of cereals and 60 gms. of pulses is equal to

= Rs. 11.50 + Rs. 2.23

= Rs. 13.73

According to National Planning Commission, expenditure on minimum food requirement covers only 65 percent of subsistence consumption expenditure, remaining 35 percent of subsistence consumption expenditure will be spent on other food/non-food items. Thus,

65 percent of subsistence expenditure = Rs. 13.73

1 percent of subsistence expenditure $= \text{Rs. } \frac{13.73}{65}$

… 35 percent of subsistence expenditure $= \text{Rs. } \frac{13.73}{65} \times 35$

$= \text{Rs. } 7.39$

Thus, total required expenditure per capita per day is equal to

= Rs. 13.73 + Rs. 7.39

= Rs. 21.12

Therefore, absolute poverty line for the study area is equal to Rs. 21.12 per capita per day.

… Total expenditure for a year = Rs. 21.12 × 365

= Rs. 7708.8

Annex - 2

A) Income-consumption relationship among total sampled households and their marginal propensity to consumption (MPC)

If, $C = f(y)$

where, C = Consumption and y = Income

Then, Now,

$C = a + by$

$C = na + b \ y$ …… (i)

$Cy = a \ y + b \ y^2$ …… (ii)

where, $C = 1365.5$

$y = 1400.4$

$Cy = 44372.2$

$y^2 = 52791.6$

$n = 50$

Now, solving the equations (i) and (ii)

$$b = \frac{C \quad y\,Z\,n \quad Cy}{y \quad y\,Z\,n \quad y^2}$$

$$\text{or, } b = \frac{1356.5 \mid 1400.4\,Z\,50 \mid 44372.2}{1400.4 \mid 1400.4\,Z\,50 \mid 52791.6}$$

$$\text{or, } b = \frac{1899642.6\,Z\,2218610.0}{1961120.1\,Z\,2639580.0}$$

$$\text{or, } b = \frac{318967.4}{678459.9}$$

$$\text{or, } b = 0.47$$

$$\ldots b = 0.47$$

Similarly, putting the value of b in equation (i) we get,

$C = na + b \quad y$

or, $1356.5 = 50 \times a + 0.47 \times 1400.4$

or, $50a = 1356.5 - 658.2$

or, $a = \frac{698.3}{50}$

$\ldots a = 13.97$

B) Income-consumption relationship among absolute poor households and their marginal propensity to consumption (MPC)

If, $C = f(y)$

where, C = Consumption and y = Income

Then, Now,

$C = a + by$

$C = na + b \quad y$ …… (i)

$Cy = a \quad y + b \quad y^2$ …… (ii)

where, $C = 462.4$

$y = 341.6$

$Cy = 7330.4$

$y^2 = 5464.0$

$n = 22$

Now, solving the equations (i) and (ii)

$$b = \frac{C \quad y\,Zn \quad Cy}{y \quad y\,Zn \quad y^2}$$

$$\text{or, } b = \frac{462.4 \mid 341.6 \; \Sigma 22 \mid 7330.4}{341.6 \mid 341.6 \; \Sigma 22 \mid 5464.0}$$

$$\text{or, } b = \frac{157955.8 \; \Sigma 161268.8}{116690.6 \; \Sigma 120208.0}$$

$$\text{or, } b = \frac{3313.0}{3517.4}$$

$$\text{or, } b = 0.94$$

Similarly, putting the value of b in equation (i) we get,

$$C = na + b \quad y$$

$$\text{or, } 462.4 = 22 \times a + 0.94 \times 341.6$$

$$\text{or, } 22a = 462.4 - 321.1$$

$$\text{or, } a = \frac{141.3}{22}$$

$$\ldots a = 6.4$$

Annex - 3

Derivation of Wolf Point

Wolf point is defined as the point of equality between income and expenditure per capita per day in the Keynesian function.

Here, $C = a + by$

If $C = y$, this gives the value of Wolf point,

$\therefore C = a + bc \quad (\because y = c)$

or, $c - bc = a$

or, $c(1 - b) = a$

or, $c = \frac{a}{1 - b}$

Thus, the Wolf Point $= \frac{a}{1 - b}$

$= \frac{13.97}{1 - 0.47}$

$= \frac{13.97}{0.53}$

$= 26.36$

$\therefore$ The Wolf Point = 26.36

Therefore, this is the value of total poverty line.

Hence, The value of total poverty line = 26.36

Annex - 4

Gini Coefficient

A) Gini Coefficient among the total sampled households according to per capita daily income for group data (Decile groups)

We compute Gini coefficient of group data by using following formula.

$$G.C. = \frac{1}{100} \left| \sum x_i y_{i+1} - \sum x_{i+1} y_i \right|$$

Where,

G.C. = Gini coefficient ($0 \leq G.C. \leq 1$)

x_i = Cumulative percentage of class interval

y_i = Cumulative percentage of income

Decile group	Class Interval (%)	Cumulative % of Class Interval (x_i)	% of income	Cumulative % of income (y_i)	$x_i y_{i+1}$	$x_{i+1} y_i$
1	10	10	4.4	4.4	-	88.0
2	10	20	5.1	9.5	95.0	285.0
3	10	30	5.5	15.0	300.0	600.0
4	10	40	6.5	21.5	645.0	1075.0
5	10	50	7.8	29.3	1172.0	1758.0
6	10	60	8.9	38.2	1910.0	2674.0
7	10	70	10.2	48.4	2904.0	3872.0
8	10	80	12.3	60.7	4249.0	5463.0
9	10	90	15.0	75.7	6056.0	7570.0
10	10	100	24.3	100.0	9000.0	-
Total	100		100		26331.0	23385.0

Now, we have,

$$G.C. = \frac{1}{100^2} \left(x_i y_{i-1} - x_{i-1} y_i \right)$$

$$= \frac{1}{100^2} (26331.0 - 23385.0)$$

$$= \frac{2946}{10000}$$

$$= 0.30$$

Hence, Gini coefficient (G.C.) = 0.30

B) Gini Coefficient among the absolute poor according to per capita daily income:

We compute Gini coefficient of individual series by using following formula.

$$G.C. = 1 - \frac{1}{n} - \frac{2}{n^2 \bar{y}} (n y_1 + (n-1) y_2 + \ldots\ldots\ldots + y_n)$$

Where, $y_1 \leq y_2 \leq y_3 \leq \ldots\ldots\ldots\ldots \leq y_n$

GC = Gini Coefficient

n = Number of income receiving units

$\bar{y}$ = Mean income

y_i = Income of per capita daily income sampled households

Computation

Here, $y_i = 341.6$, $n = 22$

Now, mean income $\bar{y} = \frac{341.6}{22}$

= 15.5

Hence,

$$G.C. = 1\Gamma\frac{1}{n}\ Z\frac{2}{n^2\bar{y}}\bullet ny_1\ \Gamma fn\ Z1Ay_2\ \Gamma.....\Gamma\ y_n\ '$$

$$= 1\Gamma\frac{1}{22}\ Z\frac{2}{f22\AA\ |15.5}\bullet 22\ |10.4\Gamma 21\ |11.9\Gamma.....\Gamma 1\ |21.0'$$

$$= 1 + 0.0454545 - 0.0002665\ [228.8 + 249.9 + \ldots\ldots\ldots + 21.0]$$

$$= 1.0454545 - 0.0002665 \times 3566.0$$

$$= 1.0454545 - 0.950339$$

$$= 0.0951155$$

$$= 0.10$$

Hence, Gini Coefficient = 0.10

Annex - 5

Estimation of Sen's Poverty Index

We estimate Sen's poverty index in two ways, i.e. considering inequality and without considering inequality among the absolute poor, we use following formula:

A) Sen's Poverty index considering inequality, i.e. Gini Coefficient among absolute poor

$$P^* = \frac{X}{C_P^*}\left(C_P^* - \overline{C_p}\right)\left(1 - G_P\right)$$

where, P^* = Sen's Poverty index

X = Percentage of people living below the absolute poverty line = 44.4% = 0.444.

C^*_P = Absolute poverty line daily per capita = 21.12

$\overline{C_P}$ = Per capita mean income of the absolute poor =15.5

G_P = Gini coefficient of absolute poor

Thus,

$$P^* = \frac{0.444}{21.12}\left(21.12 - 15.5\right)\left(1 - 0.10\right)$$

$$= 0.0210227\ [21.12 - 13.95]$$

$$= 0.0210227 \times 7.17$$

$$= 0.1507327$$

$$\approx 0.15$$

$\therefore P^* = 0.15$

B) Sen's Poverty index without considering inequality, i.e. without considering Gini Coefficient

$$P^* = \frac{X}{C_P^*}(C_P^* - \overline{C_p})$$

where, P^* = Sen's Poverty index

X = Percentage of people living below the absolute poverty line = 44.4% = 0.444.

C^*_P = Absolute poverty line daily per capita = 21.12

$\overline{C_P}$ = Per capita mean income of the absolute poor =15.5

Thus,

$$P^* = \frac{0.444}{21.12}(21.12 - 15.5)$$

$$= 0.0210227 \times 5.62$$

$$= 0.1181475$$

$$\approx 0.12$$

$\therefore P^* = 0.12$

Note: In the above equation, $\overline{C_P}$ can also be taken as the mean consumption expenditure of the poor, if we take the G_P as the Gini Coefficient consumption expenditure of the absolute poor.

Annex - 6

Estimation of Coefficient of variation among absolute poor population

S.N.	Average income (X)	Family Size (f)	fx	fx^2
1.	10.4	5	52.0	540.8
2.	11.9	7	83.3	991.3
3.	12.7	8	101.6	1290.3
4.	13.3	14	186.2	2476.5
5.	13.6	12	163.2	2219.5
6	13.9	9	125.1	1738.9
7.	14.1	7	98.7	1391.7
8.	14.2	3	42.6	604.9
9.	14.4	2	28.8	414.7
10.	14.7	4	58.8	864.4
11.	14.9	2	29.8	444.0
12.	15.0	8	120.0	1800.0
13.	15.2	4	60.8	924.2
14.	15.4	6	92.4	1423.0
15.	15.9	5	79.5	1264.1
16.	16.1	4	64.4	1036.8
17.	17.8	6	106.8	1901.0
18.	18.2	3	54.6	993.7
19.	18.8	5	94.0	1767.2
20.	19.7	4	78.8	1552.4
21.	20.4	6	122.4	2497.0
22.	21.0	7	147.0	3087.0
Total	341.6	131	1990.8	31223.4

Now, we have,

Mean $\int\bar{X}$ $= \frac{fx}{N}$

$= \frac{1990.8}{131}$

$= 15.2$

Hence, $\bar{X} = \bar{Y}_P = 15.2$

Similarly,

Variance ($\exists^2$) $= \frac{fx^2}{N} Z \int\bar{X}$

$= \frac{31223.4}{131} - (15.2)^2$

$= 238.4 - 231.0$

$= 7.4$

Therefore,

Coefficient of Variation $= \sqrt{\frac{\exists^2}{\int\bar{X}}}$

$= \sqrt{\frac{7.4}{\int 15.2}}$

$= \sqrt{\frac{7.4}{231.0}}$

$= \sqrt{0.0320346}$

$= 0.18$

Hence, coefficient of variation = 0.18

Annex - 7

Foster Greer Thorbecks (FGT) measure of absolute poor (P_a)

A) Income Gap Ratio

We, have

$$I = \frac{1}{q} \sum_{i=1}^{q} \frac{z_p - y_i}{z_p}$$

$$= 1 - \frac{\bar{y}_p}{Z_p}$$

where,

I = Income gap ratio

Z_p = Poverty line (Absolute) = 21.12

Y_i = Income of i^{th} poor person

q = Number of poor below poverty line

$\bar{y}_p$ = Mean income of the poor = $\frac{1}{q} \sum_{i=1}^{q} y_i = 15.2$

we have,

$$I = 1 - \frac{\bar{y}_p}{Z_p}$$

$$= 1 - \frac{15.2}{21.12}$$

$$= 1 - 0.72$$

$$= 0.28$$

… Income gap ratio (I) = 0.28

B) Head Count Index

we have,

$$H = \frac{q}{N}$$

Where, H = Head count Index = P_o

q = Number of poor below poverty line = 131

N = Total Number of population = 295

So, $H = \frac{q}{N} = \frac{131}{295} = 0.44$, Hence, H = 0.44

C) Poverty Gap Index:

we have

$$P_1 = \frac{1}{N} \sum_{i=1}^{q} \frac{z_p - Zy_i}{z_p} = I.P_o$$

Where, P_1 = Poverty gap index

N = Total number of population

q = Number of poor below poverty line

Z_P = Absolute Poverty line

Y_i = Income of the i^{th} poor person

I = Income gap ratio

P_o = H = Head count index

Hence, $P_1 = I.P_o$

$= 0.28 \times 0.44$

$= 0.12$

Hence, Poverty gap index (P_1) = 0.12

D) Squared proportionate poverty gap index

we have,

$$P_2 = \frac{1}{N} \sum_{i=1}^{q} \left(\frac{z_p - Zy_i}{z_p} \right)^2 = P_o[I^2 + (1-I)^2 C^2]$$

where, P_2 = Squared proportionate poverty gap index

N = Total number of population,

q =No. of poor below poverty line

Zp = Absolute poverty line,

Y_i = Income of the i^{th} poor person

I = Income gap ratio, P_o = H = Head count index

C = Coefficient of variance

Hence, $P_2 = P_o [I^2 + (1-I)^2 . C^2]$

$= 0.44 [(0.28)^2 + (1-0.28)^2 \times (0.18)^2]$

$= 0.44 [0.08 + 0.52 \times 0.03]$

$= 0.44 \times 0.10 = 0.04$

Hence, squared proportionate poverty gap index (P_2) = 0.04

ANNEX - 8

CORRELATION

A) Correlation between income and consumption expenditure among total sampled households:

Here, the correlation coefficient is calculated as:

$$r_s = \frac{N \sum y_i c_i - \sum y_i \sum c_i}{\sqrt{\left[N \sum y_i^2 - \left(\sum y_i\right)^2\right]\left[N \sum c_i^2 - \left(\sum c_i\right)^2\right]}}$$

where, r_s = Correlation coefficent

y_i = Income of the i^{th} households

c_i = Consumption expenditure of the i^{th} households

N = Number of observation sampled households

Thus,

$$r_s = \frac{N \sum y_i c_i - \sum y_i \sum c_i}{\sqrt{N \sum y_i^2 - \left(\sum y_i\right)^2}\sqrt{N \sum c_i^2 - \left(\sum c_i\right)^2}}$$

$$= \frac{50 \times 44372.2 - 1400.4 \times 1356.5}{\sqrt{50 \times 52791.6 - (1400.4)^2}\sqrt{50 \times 41102.1 - (1356.5)^2}}$$

$$= \frac{2218610.0 - 1899642.6}{\sqrt{2639580.0 - 1961120.1}\sqrt{2055105.0 - 1840092.2}}$$

$$= \frac{318967.4}{\sqrt{678459.9} \times \sqrt{215012.8}}$$

$$= \frac{318967.4}{823.7 \times 463.7}$$

$$= \frac{318967.4}{381949.7} \times 0.84$$

Hence, $r_s = 0.84$

B) Correlation between income and consumption expenditure among absolute poor households

Here, the correlation coefficient is calculated as:

$$r_a = \frac{N \sum y_i c_i - \sum y_i \sum c_i}{\sqrt{N \sum y_i^2 - (\sum y_i)^2}\sqrt{N \sum c_i^2 - (\sum c_i)^2}}$$

where, r_a = Correlation coefficient

y_i = Income of the i^{th} households

c_i = Consumption expenditure of the i^{th} households

N = Number of absolute poor households

Thus,

$$r_a = \frac{N \sum y_i c_i - \sum y_i \sum c_i}{\sqrt{N \sum y_i^2 - (\sum y_i)^2}\sqrt{N \sum c_i^2 - (\sum c_i)^2}}$$

$$= \frac{22 \times 7330.4 - 462.4 \times 341.6}{\sqrt{22 \times 5464.0 - (341.6)^2}\sqrt{22 \times 10421.1 - (462.4)^2}}$$

$$= \frac{22 \times 7330.4 - 462.4 \times 341.6}{\sqrt{22 \times 5464.0 - (341.6)^2}\sqrt{22 \times 10421.1 - (462.4)^2}}$$

$$= \frac{161268.8 - 157955.8}{\sqrt{120208.0 - 16690.6}\sqrt{229264.2 - 213813.8}}$$

$$= \frac{3313.0}{\sqrt{3517.4}\sqrt{15450.4}}$$

$$= \frac{3313.0}{59.3 \times 124.3}$$

$$= \frac{3313.0}{7371.0} = 0.45$$

Hence, $r_a = 0.45$

ANNEX - 9

RANGE

A) Computation of range among total sampled households

$$R_s = \frac{Max_y \; ZMin_y}{\bar{y}}$$

Where,

R_s = Range

Max_y = Maximum per capita income per day

Min_y = Minimum per capita income per day

$\bar{y}$ = Mean per capita income per day

Here, $\bar{y} = \frac{y_i}{N} = \frac{1400.4}{50} = 28.01$

Hence, $R_s = \frac{Max_y \; ZMin_y}{\bar{y}} = \frac{80.6 \; Z10.4}{28.01} = 2.51$

Hence, Range (R_s) = 2.51

B) Computation of range among absolute poor households

$$R_a = \frac{Max_y \; ZMin_y}{\bar{y}}$$

Where,

R_a = Range

Max_y = Maximum per capita income per day

Min_y = Minimum per capita income per day

$\bar{y}$ = Mean per capita income per day

Here, $\bar{y} = \frac{y_i}{N} = \frac{341.6}{22} = 15.53$

Hence, $R_a = \frac{Max_y \; ZMin_y}{\bar{y}} = \frac{21.0 \; Z10.4}{15.53} = 0.68$

Hence, Range (R_a) = 0.68

ANNEX - 10

Relative Mean Deviation, Variance and Coefficient of Variance among sampled households

Decile group	Percentage of income (%)	Mean income $\bar{y}$	$\lvert \bar{y} - y_i \rvert$	$(\bar{y} - y_i)^2$
1	4.4	10.0	5.6	31.36
2	5.1	10.0	4.9	24.01
3	5.5	10.0	4.5	20.25
4	6.5	10.0	3.5	12.25
5	7.8	10.0	2.2	4.84
6	8.9	10.0	1.1	1.21
7	10.2	10.0	0.2	0.04
8	12.3	10.0	2.3	5.29
9	15.0	10.0	5.0	25.00
10	24.3	10.0	14.3	204.49
Total	100.0	100.0	43.6	328.74

Now, $\bar{y} = \frac{y_i}{N} = \frac{100}{10} = 10$

[$\because$ N = 10, because it is taken into decile group]

A) Computation of relative mean deviation among the sampled households

Here, Mean Deviation (MD) $= \frac{\sum_{i=1}^{n} \lvert \bar{y} - y_i \rvert}{n \mid \bar{y}}$

$$= \frac{43.6}{10 \mid 10}$$

$$= 0.436$$

Hence, Mean Deviation (MD) = 0.436

B) Computation of variance among the sampled households

We have, Variance ($\exists^2$) $= \frac{\sum_{i=1}^{n} |\bar{y} - y_i|}{n \mid \bar{y}}$

$$= \frac{328.74}{10}$$

$$= 32.874 \rceil 32.9$$

Hence, Variance ($\exists^2$) = 32.9

Hence, $\exists$ $= \sqrt{\text{Variance}}$

$$= \sqrt{32.9}$$

$$= 5.74$$

C) Computation of coefficient of variance among the sampled households

We have, coefficient of variance = $\frac{\exists}{\bar{y}}$

$$= \frac{5.74}{10}$$

$$= 0.574$$

Hence, Coefficient of variance = 0.574

ANNEX - 11

Relative Mean Deviation, Variance and Coefficient of Variance among absolute poor households

S.N.	y_i	$\bar{y} = \frac{y_i}{N}$	$\lvert \bar{y} Z y_i \rvert$	$\lvert \bar{y} Z y_i \rvert^2$
1.	10.4	15.5	5.1	26.01
2.	11.9	15.5	3.6	12.96
3.	12.7	15.5	2.8	7.84
4.	13.3	15.5	2.2	4.84
5.	13.6	15.5	1.9	3.61
6	13.9	15.5	1.6	2.56
7.	14.1	15.5	1.4	1.96
8.	14.2	15.5	1.3	1.69
9.	14.4	15.5	1.1	1.21
10.	14.7	15.5	0.8	0.64
11.	14.9	15.5	0.6	0.36
12.	15.0	15.5	0.5	0.25
13.	15.2	15.5	0.3	0.09
14.	15.4	15.5	0.1	0.01
15.	15.9	15.5	0.4	0.16
16.	16.1	15.5	0.6	0.36
17.	17.8	15.5	2.3	5.29
18.	18.2	15.5	2.7	7.29
19.	18.8	15.5	3.3	10.89
20.	19.7	15.5	4.2	17.64
21.	20.4	15.5	4.9	24.01
22.	21.0	15.5	5.5	30.25
Total	341.6	341.6	47.2	159.92

Here, $\bar{y} = \frac{y_i}{N} = \frac{341.6}{22} = 15.5$

A) Computation of relative mean deviation among absolute poor households

We have, Relative Mean Deviation (MD) $= \frac{\sum_{i=1}^{n} |\bar{y} - y_i|}{n \bar{y}}$

$= \frac{47.2}{22 \times 15.5}$

$= 0.14$

Hence, Mean Deviation (MD) = 0.14

B) Computation of variance among absolute poor households

We have, Variance (σ^2) $= \frac{\sum_{i=1}^{n} f_{\bar{y}} (\bar{y} - y_i)^2}{n}$

$= \frac{159.92}{22}$

$= 7.27$

Hence, Variance (σ^2) = 7.27

Hence, σ $= \sqrt{\text{Variance}}$

$= \sqrt{7.27}$

$= 2.70$

C) Computation of coefficient of variance among absolute poor households

We have, coefficient of variance = $\frac{\exists}{=}$
y

$$= \frac{2.70}{15.5}$$

$$= 0.17$$

Hence, Coefficient of variance = 0.17

ANNEX - 12

t-test

To test the significance of regression parameters, i.e., intercept parameter (a) and slope parameter (b), t-test will be used

The regression model : $c = a + by + e$

Test statistics : $t_b = \frac{b}{S_b}$ and $t_a \ X \frac{a}{S_a}$

Where,

c = Total consumption

y = income

a = Autonomous cousumption (intercept parameter)

b = Regression Coefficient (Slope parameter)

e = Error term

S_b = Standard error of the slope parameter (b)

S_a = Standard error of the intercept parameter (a)

Again, S_e is the standard error of estimation

$$S_e X \sqrt{\frac{c^2 Za \quad c Zb \quad cy}{n Z2}}$$

If $t \geq t_{n-2}$, ℑ/2, then we reject H_o and accept H_1. and

If $t < t_{n-2}$, ℑ/2, then we accept H_o and reject H_1

i.e.,

if calculated t ≥ tabulated t, then regression coefficient is significant and if calculated t < tabulated t, then regression coefficient is insignificant

A) Test of the significance of intercept parameter (a)

Here, $S_e = \sqrt{\frac{c^2 Za \quad c\,Zb \quad cy}{n\,Z2}}$

$= \sqrt{\frac{41102.1\,Z13.97 \mid 1356.5\,Z0.47 \mid 44372.2}{50\,Z2}}$

$= \sqrt{\frac{41102.1\,Z18950.3\,Z20854.9}{48}}$

$= \sqrt{\frac{1296.9}{48}}$

$= \sqrt{27.0}$

$= 5.2$

Now, $S_a = S_e \quad \sqrt{\frac{1}{n}\,\Gamma\,\frac{\text{f}\overline{\text{y}}\text{Å}^2}{y^2}}$

$= 5.2 \quad \sqrt{\frac{1}{50}\,\Gamma\,\frac{\text{f}28.0\text{Å}^2}{52791.6}}$

$= 5.2 \bullet \sqrt{0.02\,\Gamma\,0.01}'$

$= 5.2 \times 0.17$

$= 0.9$

Now, $t_a = \frac{a}{S_a} = \frac{13.97}{0.9} = 15.5$

$\ldots t_a = 15.5$

Result:

Tabulated value of t_a at n - 2 (48) degree of freedom and ℑ/2 (0.025) level of significance equals to $2.319 > t_a > 2.311$. And Calculated value of t_a equals to 15.5. Hence, calculated value of t_a is greater than the tabulated value. So, the intercept parameter is significant.

B) Test of the significance of slope parameter (b)

Here, $S_e \text{ X} \sqrt{\dfrac{c^2 \text{ Za} \quad c \text{ Zb} \quad cy}{n \text{ Z} 2}}$

$= \sqrt{\dfrac{41102.1 \text{ Z} 13.97 \,|\, 1356.5 \text{ Z} 0.47 \,|\, 44372.2}{50 \text{ Z} 2}}$

$= \sqrt{\dfrac{41102.1 \text{ Z} 18950.3 \text{ Z} 20854.9}{48}}$

$= \dfrac{1296.9}{48}$

$= \sqrt{27.0}$

$= 5.2$

Now, $S_b = \dfrac{S_e}{\sqrt{\quad y^2 \text{ Zn} ƒy\text{Å}^2}}$

$= \dfrac{5.2}{\sqrt{52791.6 \text{ Z} 50 \,|\, (28.0)^2}}$

$= \dfrac{5.2}{\sqrt{52791.6 \text{ Z} 50 \,|\, 784.4}}$

$= \dfrac{5.2}{\sqrt{52791.6 \text{ Z} 39220.0}}$

$= \dfrac{5.2}{\sqrt{13571.6}}$

$= \dfrac{5.2}{116.5}$

$= 0.045$

Now, $t_b = \dfrac{b}{S_b} = \dfrac{0.47}{0.045} = 10.44$

$\ldots t_b = 10.4$

Result:

Tabulated value of t_b at n - 2 (48) degree of freedom and $\mathfrak{I}/2$ (0.025) level of significance equals to $2.319 > t_b > 2.311$. And Calculated value of t_b equals to 10.4. Hence, calculated value of t_b is greater than the tabulated value. So, the slope parameter is significant.

ANNEX - 13

Chi-square test (Test Statistics on level of income and education)

Decile group	Average percentage of per capita daily mean income	Number of Illiterate Population (6 years and above)	Number of Literate Population (6 years and above)	Number of Educated Population (6 years and above)	Total Number of Population (6 years and above)
1	4.4	20	15	5	40
2	5.1	12	10	3	25
3	5.5	10	11	3	24
4	6.5	9	9	2	20
5	7.8	10	10	7	27
6	8.9	6	9	9	24
7	10.2	5	8	15	28
8	12.3	4	7	14	25
9	15.0	2	7	13	22
10	24.3	2	4	14	20
Total	100.0	80	90	85	255

Now,

$$\text{Expected frequency} = \frac{\text{Row Total} \mid \text{Column Total}}{\text{Total Number of Observation}}$$

i.e., $E = \frac{RT \mid CT}{N}$ (where, N = 255)

Degree of Freedom (n) = (r - 1) (c - 1)

where, r = number of rows

c = number of columns

And, chi-square value (χ^2) = $\frac{(O Z E)^2}{E}$

where, O = observed frequency

E = expected frequency

Now, Calculation of χ^2 :

χ^2 Table:

Decile group	O	E	O - E	$(O - E)^2$	$(O - E)^2/E$
1	4.4	15.8	-11.4	130.0	8.2
2	5.1	9.8	-4.7	22.1	2.3
3	5.5	9.4	-3.9	15.2	1.6
4	6.5	7.8	-1.3	1.7	0.2
5	7.8	10.6	-2.8	7.8	0.7
6	8.9	9.4	-0.5	0.3	0.03
7	10.2	11.0	-0.8	0.6	0.05
8	12.3	9.8	2.5	6.3	0.6
9	15.0	8.6	6.4	41.0	4.8
10	24.3	7.8	16.5	272.3	34.9
Total	100.0	100			53.38

Hence, the value of chi-square (χ^2) = 53.38

Computation

Null hypothesis (H_0) : Level of income is independent of education

Alternative hypothesis (H_1) : Level of income is dependent of education

Here, Degree of freedom (n) = (r - 1) × (c - 1)

= (10 - 1) × (3 × 1)

$$= 9 \times 2$$

$$= 18$$

Level of significance = 5 percent = 0.05

Tabulated value pf chi-square on the level of significance 0.05 and degree of freedom 18 = 28.869

Similarly,

Calculated value of chi-square = 53.38

Hence, calculated value is greater than tabulated value. So, null hypothesis is rejected and alternative hypothesis is accepted. That means levels of income is dependent of employment.

ANNEX - 14

Chi-square test (Test Statistics on level of income and employment)

Decile group	Average percentage of per capita daily income	Number of unemployed Population (15-59 years)	Number of underemployed Population (15-59 years)	Number of employed Population (15-59 years)	Total Population (15-59 years)
1	4.4	18	8	3	29
2	5.1	13	3	2	18
3	5.5	11	3	2	16
4	6.5	11	3	4	18
5	7.8	12	2	7	21
6	8.9	8	3	5	16
7	10.2	10	2	8	20
8	12.3	6	3	8	17
9	15.0	4	5	6	15
10	24.3	5	10	9	24
Total	100.0	98	42	54	194

Now,

$$\text{Expected frequency} = \frac{\text{Row Total} \mid \text{Column Total}}{\text{Total Number of Observation}}$$

i.e., $E = \frac{RT \mid CT}{N}$ (where, N = 194)

Degree of Freedom (n) = (r - 1) (c - 1)

where, r = number of rows

c = number of columns

And, chi-square value (χ^2) = $\frac{(O Z E)^2}{E}$

where, O = observed frequency

E = expected frequency

Now, Calculation of χ^2 :

χ^2 Table

Decile group	O	E	O - E	$(O - E)^2$	$(O - E)^2/E$
1	4.4	14.9	-10.5	110.3	7.4
2	5.1	9.3	-4.2	17.6	1.9
3	5.5	8.2	-2.7	7.3	0.9
4	6.5	9.3	-2.8	7.8	0.8
5	7.8	10.8	-3.0	9.0	0.8
6	8.9	8.2	0.7	0.5	0.06
7	10.2	10.3	-0.1	0.0	0.001
8	12.3	8.8	3.5	12.3	1.4
9	15.0	7.8	7.2	51.8	6.6
10	24.3	12.4	11.9	141.6	11.4
Total	100.0	100.0			31.261

Computation

Null hypothesis (H_0) : Level of income is independent of education

Alternative hypothesis (H_1) : Level of income is dependent of education

Here, Degree of freedom (n) $= (r - 1) \times (c - 1)$

$= (10 - 1) \times (3 \times 1)$

$= 9 \times 2$

= 18

Level of significance = 5 percent = 0.05

Tabulated value f chi-square on the level of significance 0.05 and degree of freedom 18 = 28.869

Similarly,

Calculated value of chi-square = 31.261

Hence, calculated value is greater than tabulated value. So, null hypothesis is rejected and alternative hypothesis is accepted. That means levels of income is dependent of education.

ANNEX - 15

Z-test

Z-test for test of the significance of correlation coefficient (r)

Test statistics

$$Z = \frac{1}{2} \log_e \frac{1+r}{1-r}$$

Where, r = correlation coefficient = 0.84

Now, $z = \frac{1}{2} \log_e \frac{1+r}{1-r}$

$$= \frac{1}{2} \log_e \frac{1+0.84}{1-0.84}$$

$$= \frac{1}{2} \log_e 11.5$$

$$= \frac{1}{2} \times 2.4423$$

$$= 1.22$$

Hence, calculated value of z = 1.22

Similarly, tabulated value of z at $\alpha/2$ (0.025) level of significance= 1.96. Since calculated z < tabulated z, correlation coefficient is insignificant.

Probable Error

Probable error will be used for the test of calculated statistics such as correlation coefficient between total income and total consumption expenditure. Here, we test the significance of correlation coefficient (r).

Probable error is defined as:

$$P.E. = 0.6745 \times \frac{1-r^2}{\sqrt{N}}$$

$= 0.6745 \times S_e$

where, P.E. = Probable error of correlation coefficient

N = Number of observation

S_e = standard error of correlation coefficient

r = correlation coefficient

Result:

Case I: If r < P.E., the value of r is not significant at all, i.e., there is no evidence of correlation.

Case II: If r > P.E., the value of r is significant, i.e., the correlation is practically certain.

We have, r = 0.84, N = 50

Then,

$$\text{P.E.} = 0.6745 \times \frac{1 - r^2}{\sqrt{N}}$$

$$= 0.6745 \times \frac{1 - (0.84)^2}{\sqrt{50}}$$

$$= 0.6745 \times \frac{1.071}{7.1}$$

$$= \frac{0.20}{7.1}$$

$$= 0.03$$

Hence, P.E. = 0.03

Similarly 6 P.E. = 6 × 0.03 = 0.18

Now, r = 0.84

Hence, r > P.E., i.e., 0.84 > 0.03 and

r > 6P.E., i.e., 0.84 > 0.18

Hence, the value of correlation coefficient (r) is significant.

ANNEX - 16

Sampled households - An Introduction

S.N.	HH size (N)	Per Capita Daily income (y_i)	Per Capita Daily consumption expenditure (c_i)	$(y_i)^2$	$(c_i)^2$	$y_i \times c_i$	$c_i \times (y_i)^2$
1.	5	10.4	15.5	108.2	240.3	161.2	1677.1
2.	7	11.9	16.2	141.6	262.4	192.8	2293.9
3.	8	12.7	18.2	161.3	331.2	231.1	2935.7
4.	14	13.3	25.3	176.9	640.1	336.5	4475.6
5.	12	13.6	20.6	185.0	424.4	280.2	3811.0
6	9	13.9	18.0	193.2	324.0	250.2	3477.6
7.	7	14.1	14.5	198.8	210.3	204.5	2882.6
8.	3	14.2	32.5	201.6	1056.3	461.5	6552.0
9.	2	14.4	10.3	207.4	106.1	148.3	2136.2
10.	4	14.7	22.8	216.1	519.8	335.2	4927.1
11.	2	14.9	18.2	222.0	331.2	271.2	4040.4
12.	8	15.0	20.2	225.0	408.0	303.0	4545.0
13.	4	15.2	24.1	231.0	580.8	366.3	5567.1
14.	6	15.4	25.2	237.2	635.0	388.1	5977.4
15.	5	15.9	16.3	252.8	265.7	259.2	4120.6
16.	4	16.1	20.4	259.2	416.2	328.4	5287.7
17.	6	17.8	15.0	316.8	225.0	267.0	4752.0
18.	3	18.2	23.7	331.2	561.7	431.3	7849.4
19.	5	18.8	19.2	353.4	368.6	361.0	6785.3
20.	4	19.7	28.4	388.1	806.6	559.5	11022.0
21.	6	20.4	33.2	416.2	1102.2	677.3	13817.8
22.	7	21.0	24.6	441.0	605.2	516.6	10848.6
23.	4	21.6	24.4	466.6	595.4	527.0	11385.0
24.	8	22.8	16.9	519.8	285.6	385.3	8784.6

25.	7	23.4	28.8	547.8	829.4	673.9	15770.9
26.	6	23.7	23.3	561.7	542.9	552.2	13087.6
27.	4	24.1	26.8	580.8	718.2	645.9	15565.4
28.	5	25.3	20.2	640.1	408.0	511.1	12930.0
29.	6	25.6	35.6	655.4	1267.4	911.4	23332.2
30.	3	26.1	26.0	681.2	676.0	678.6	17711.2
31.	8	26.7	22.0	712.9	484.0	587.4	15683.8
32.	10	27.6	28.0	761.8	784.0	772.8	21330.4
33.	3	28.4	25.4	806.6	645.2	721.4	20487.6
34.	6	29.8	28.4	888.0	806.6	846.3	25219.2
35.	5	30.5	35.0	930.3	1225.0	1067.5	32560.5
36.	4	31.4	31.2	968.0	973.4	979.7	30763.2
37.	6	32.0	33.4	1024.0	1115.6	1068.8	34201.6
38.	7	34.8	39.3	1211.0	1544.5	1367.6	47592.3
39.	4	35.9	40.2	1288.8	1616.1	1443.2	51809.8
40.	5	37.7	37.9	1421.3	1436.4	1428.8	53867.3
41.	6	38.5	22.4	1482.3	501.8	862.4	33202.5
42.	5	39.5	28.5	1560.3	812.3	1125.8	44468.6
43.	4	40.9	27.6	1672.2	761.8	1128.8	46152.7
44.	2	41.3	31.2	1705.7	973.4	1288.6	53217.8
45.	6	50.4	33.6	2540.2	1129.0	1693.4	85350.7
46.	8	55.2	35.4	3047.0	1253.2	1954.1	107863.8
47.	12	60.2	44.2	3624.0	1953.6	2660.8	160180.8
48.	7	68.4	48.8	4678.6	2381.4	3337.9	228315.7
49.	7	76.4	49.2	5837.0	2420.6	3758.9	287180.4
50.	6	80.6	50.4	6496.4	2540.2	4062.2	327418.6
Total	295	1400.4	1356.5	52791.6	41102.1	44372.2	1945217.2