# A STUDY OF ASSOCIATION AMONG RURAL HOUSEHOLD EXPENDITURE INEQUALITY, ASSET INEQUALITY, AND POVERTY

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This paper examines the relationship between rural household expenditure inequality and asset inequality and their link with poverty. Nepal was selected for the study because poverty had unexpectedly decreased during the recent years.

Three rural communities that were more likely to have measurable changes in the household expenditures and assets over the recent years and covered by the Living Standard Surveys in 1995/96 and 2003/04 were selected for the study. The analysis covers "expenditure" and "asset" assessments, arguably the most important dimensions of poverty and fundamental inputs into multi-dimensional poverty analyses. For a better understanding of poverty, inequality, relative poverty, and subjective poverty were also assessed.

The poverty rate in the sample households significantly increased between 1995/96 and 2003/04 but it decreased in 2007. There were indications that the panel and the cross-section households saw growth in average per capita assets. However, the growth was associated with an increase in asset inequality. On the other hand, the average per capita expenditure did not grow as much but it was associated with a decrease in expenditure inequality. There was evidence that the households surveyed, in general, had a high propensity to consume, which compromised their ability to maintain or build their productive assets.

# 1. BACKGROUND

The concerns raised about poverty are changing and its dimensions have gradually expanded over the past few decades (B. Adams, 2006; Naderveen Pieterse, 2001). From a conventional income perspective, which was dominant before the 1970s, a person was believed to be poor if his/her income fell below the defined poverty line. The basic needs perspective that gained popularity in the 1970s advanced beyond income. From this perspective, poverty was highlighted as deprivation of material requirements for a minimally acceptable fulfillment of human needs in a society (Leisinger, 2004; A. K. Sen, 1983, 1999, 2000a; UN, 2004; UNDP, 1997, 2000). From the more recent capability perspective, poverty is seen to result from a person lacking some basic capabilities to function in a society (Jackson, 1972; A. K. Sen, 1980, 1981, 1983, 1985, 1992, 2000b, 2006).

The capability approach distinguishes between absolute poverty and relative poverty. Absolute poverty is concerned with identifying the minimum level of income that one requires to stay out of poverty and is closely connected with the absolute income threshold, which is the poverty line. The notion of absolute poverty fails to capture an individual's ability to fully participate in his/her community. The notion of relative poverty, on the other hand, identifies an individual's capacity to access goods and services as compared to the rest of society, irrespective of his/her level of income. So, the term relative poverty incorporates the notion of inequality as well. Relative poverty uses relative thresholds, such as below the community median or below the third quintile or

the bottom 20 percent in the community. From this perspective on poverty, the roles of human rights and economic, social and political freedoms in expanding capabilities come to the forefront (Leisinger, 2004; A. K. Sen, 1983, 1999, 2000a; UN, 2004; UNDP, 1997, 2000).

Though the perspectives on poverty significantly differ among disciplines, all emphasize that assets, which enable individuals or households to draw on income, goods, and services, are the key to escape poverty (IFAD, 2001; ILRI, 2006; Jackson, 1972; Robinson, Fuller, & Waltner-Toews, 2006). Therefore, a simple definition of poverty could be the failure of an individual or a household 1) to access the 'minimal acceptable' levels of different monetary and non-monetary assets necessary for a subsistence standard of living; 2) to enjoy the freedom to participate in political, cultural, and economic decisions; and 3) to manage stress and shocks (Francois & Chakravarty, 2003; Watt, 2000).

The World Bank monitors poverty globally based on the income-based dollar a day poverty line. The 2001 global poverty data, yet to be revised, suggests that there are over 1.2 billion people living in poverty, condemned to short lives stunted by malnutrition, ill health, and illiteracy (IFAD, 2001; Sachs, 2005a; Wolfensohn, 2005). Though poor people live in both urban areas and rural areas, it is largely a rural phenomenon (McKay & Lawson, 2003). Over 900 million, which accounts for around three fourths of the poor people in the world, live in the rural areas of developing countries (IDRC, 2004). However, rural poverty does not receive the attention that it deserves.

Poverty has long been a tragic aspect of human society (IFAD, 2001). However, poverty in our time is unlike that of the past: it is not the result of natural scarcity but it is a poverty amid plenty (IFAD, 2001; Narayan, Patel, Schafft, Rademacher, & Koch-Schulte, 2000; Seabrook, 2003). Modern day poverty co-exists with high levels of income (Heintz, 2002; IFAD, 2001; Kakwani, 1980; Mehanna, 2004; Serge-Christophe, 1999, 2004).

The literature suggests that in a world of unprecedented prosperity and rapid technological advancement, eradicating poverty is a realizable goal (Dyke, 2001; Watt, 2000). In September 2000, the global community pledged to meet the United Nations (UN) Millennium Development Goals (MDGs) and committed themselves to work towards reducing by half the proportion of people living on less than a dollar a day by the year 2015 (UN Millennium Project, 2005b). However, reduction of global poverty is not happening. Instead, in many countries, income and wealth are firstly, becoming concentrated in fewer hands and the gap between the rich and the poor is increasing as evidenced by the sharply rising inter-personal income inequality (Branco Milanovic 1999, 2005) ; and secondly, shifting from the bottom of the society to the top in many countries (Ellwood, 2002; Kerstetter, 2003). As income concentrates and shifts to the top, rural areas see lower incomes and lower consumption (Gittelsohn, Mookherji, & Pelto, 1998; Pradhan & Ravallion, 2000; UNDP, 1998). Nepal, a small mountainous country in South Asia, shows such a trend (NPC, 2003a).

In the past few decades, the rural areas in some countries have managed to grow economically, widening the income inequalities between the less favourable and more

favourable rural areas. Additionally, environmental problems such as water scarcity and degraded natural resources have gradually surfaced in less favourable areas (ICRISAT, 2004). Consequently, many poor households that manage to move out of poverty in a particular year fall back into the poverty trap again in successive years, making poverty and inequality reduction more challenging (Walker & Ryan, 1990). Therefore, we require an improved understanding of the sources of rural household income and consumption inequality and poverty (Pinstrup-Andersen, 1995).

Inequality and poverty are not synonymous, but they are closely enough related so that a careful study of one also yields instructive insights into the other (R. H. Adams & He, 1995). In the developed countries in the "North", analysis of income inequality helps in understanding relative poverty. However, as measuring income accurately continues to be a problem, especially in the developing countries, household consumption patterns, proxied by expenditure patterns, are widely used. It is empirically feasible to measure expenditure inequality and poverty and to discuss their links (Batchelder, 1966; Berghman, 1994; Casley, 1988; Casley & Kumar, 1988; Cling, 2002; Cummings, 2006; Cummings, Beyer, MacDonald, & Bhanjee, 2004; Cummings, Wunas, & Kirby, 1991a, 1991b; Jean Olson Lanjouw, 1998; P. Lanjouw & Prennushi, 1999; P. Lanjouw, Prennushi, & Zaidi, 1996).

Historically, inequality is often more closely associated with political revolutions than poverty. It has long been an area of major interest among Marxist theorists who say it varies as a function of the dominant mode of production in the capitalist or pre-capitalist contexts (Grusky & Kanbur, 2006; MSD/NZ, 2005; Serge-Christophe,

1999; Taras, 2006; Vaughan, 2002; Watt, 2000). In recent years, however, poverty is seen as a problem in more urgent need of attention than inequality (Feldstein, 1998; Kaplow, 2002). Following this line of thought, the Millennium Development Goals (MDGs), brought forward by the United Nations Millennium Declaration in 2000, focus on eradicating extreme poverty and hunger, but remain silent with respect to reducing inequality[1] (UN, 2002; UN Millennium Project, 2005a, 2005b). In reality, many social conflicts in the world, such as the recent armed-Maoist movement[2] in Nepal, are believed to have originated from inequality, poverty and underdevelopment. Therefore, the association between inequality and poverty is useful (ICG, 2004; Mansoob Murshed & Gates, 2006; Taras, 2006).

Causes of inequality poverty can be broadly categorized by two schools of thought: 1) the behaviour constraints paradigm and 2) the policy constraints paradigm. The behaviour constraints paradigm suggests that efforts made by individuals and households are largely responsible for the level of their wellbeing. It points out that individuals and households living in poverty develop a persistent culture of poverty, which they find hard to change. Following this line of argument, individual or "household specific factors" can be presented as the potential contributors to inequality and poverty in this paradigm (W.

[1] It is to be noted that inequality cannot be completely eradicated. In fact, a certain level of economic inequality is widely believed to promote economic growth and benefit everyone (Kuznets, 1966; Rawls, 1971).

[2] The Maoists, following the principles of Mao Tse-Tung, the Chinese communist leader of the 1950s and 1960s, initiated an armed conflict in Nepal aiming to establish hard-line communism in the country (ICG, 2004). The decade long armed conflict ended on November 8, 2006 when the Maoists signed the cease-fire agreement with the Seven Party Alliance (SPA) government. The Maoists later joined the government which is entrusted to hold the election of the Constitutional Assembly that will draft a new, inclusive constitution of Nepal (Ministry of Foreign Affairs/Nepal, 2007).

Berry, 1996, 1999; Buckland, 2004, 2006; Goetz, 2005; O'Malley & Veltmeyer, 2006; Rafter, 2002; B. Sen, 2003; Tetreault, 2006; Tsai, 2006).

The policy constraints paradigm, on the other hand, argues that economic, political, and structural conditions, along with the quality of public policy and politics, external to rural households, make all the difference (Leisinger, 2004). Furthermore, factors such as geographical terrain and physical access to the market also dictate the inequality and poverty outcomes of households and communities. According to this paradigm, it is obvious that "non-household factors" are influential in determining inequality and poverty at the community level (W. Berry, 1996, 1999; Buckland, 2004, 2006; Goetz, 2005; O'Malley & Veltmeyer, 2006; Rafter, 2002; B. Sen, 2003; Tetreault, 2006; Tsai, 2006).

This paper seeks to explain income and expenditure inequality in rural households and its link with rural poverty. The research was conducted in Nepal, a relatively prosperous country in the past, which is currently in a state of disturbing poverty and inequality. Nepal is currently striving hard to stabilize after a decade of armed insurgency that is believed to have originated from the centuries of unethical political and social institutions that promoted rural poverty and inequality. Anomalously, poverty decreased in Nepal during the years of armed insurgency (WB, 2006).

The existing literature does not adequately explain if the rising expenditure[3] and asset[4] in Nepal is associated with increasing inequality[5] and what variables are influential in determining absolute and relative poverty. Furthermore, there appears to be little, if any, literature available that explains the relationship between household expenditure inequality, and poverty[6] at a disaggregated village-level in a situation of armed-conflict originating from inequality and poverty. In this context, the findings of this research will be useful for rural areas beyond Nepal. The findings have direct advantage for Nepal, a country with fragile peace that has a strong rationale for socioeconomic research that addresses the overarching problems of rural inequality and poverty.

The study required rural communities in which the households had experienced recent changes in expenditure. Therefore, the study was limited to the rural communities in and around the Kathmandu Valley, the fastest growing urban cluster in Nepal that has been providing diverse economic opportunities to the rural communities adjacent to it [7]

[3] In poverty analysis, expenditure can be taken as a proxy of consumption (P. Lanjouw, Prennushi, & Zaidi, 1999). In reality, expenditure and consumption are not necessarily equal. A certain proportion of purchased or stored food and non-food items may be lost. Therefore, this research explicitly uses the term *expenditure* instead of *consumption*.

[4] Unless qualified otherwise, "assets" in this paper are the aggregated total market value of the identified assets. Since credible assessment of debt cannot be done in Nepal, the assets may not be in real terms.

[5] The Gini coefficient is commonly used as an indicator of inequality wherein the coefficient varies between 0 percent and 100 percent. The higher the Gini coefficient, the greater the inequality in assets and distribution (ESL, 2008; Tziafetas, 2007; UNDP, 2008c).

[6] Unless qualified otherwise, "poverty" in this paper is used in the sense defined by: a) the incapability of a household to spend on a predefined bundle of food and non-food items that suit the local context; and b) being situated at the bottom of society in relative and subjective terms It is acknowledged that "ability to spend" captures only one of the many dimensions of poverty. However, it is an important one and a fundamental input into multi-dimensional analyses. The relative and subjective poverty analyses done in this research, which are closely related to inequality, cover other dimensions of poverty (Jean Olson Lanjouw, 1998; Jean Olson Lanjouw & Lanjouw, 2001; P. Lanjouw & Prennushi, 1999; P. Lanjouw, et al., 1996; P. Lanjouw, et al., 1999).

[7] The sampling of rural communities in and around the Kathmandu Valley is in agreement with the central place theory in regional economics that suggests economic opportunities, technology used, income and

(CBS/N, WFP, & The World Bank, 2006; Mansoob Murshed & Gates, 2005, 2006; Shilpi & Fafchamps, 2002). In a strict sense, the study covers only the mid hills region of Nepal, which is only one of the three physiographic regions in the country.

Nepal, taken as a case in this study, presents one case but not a unique case. The level of inequality and poverty in Nepal reflects the situation in South Asia, as well as the world, where the minority of the population capture the bulk of income and wealth, while the majority of the population are forced to live in poverty (Baburam Bhattarai, 2003). Therefore, the findings will be of value and interest to a broader rural community in Nepal and elsewhere (CBS/N, WFP, & The World Bank, 2006).

Since this study required tracking changes in poverty and household inequality over time, only the rural communities that were covered by the living standard surveys conducted in 1995/96 and 2003/04 were included in the sampling frame. Then three communities were randomly sampled. All households in the sample communities that were covered by the living standard surveys were established as panel households by default. Altogether 33 panel households were available from the living standard surveys, which was a good sample size to track changes and check their statistical significance (Leech, Barett, & Morgan, 2007; Sirkin, 2006; F. Williams, 1992). The only way to increase the number of panel households was to add more communities, which was not possible with the available resources. To assess the recent situation, a fresh round of

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expenditure in smaller rural communities are influenced by their access to larger economies with bigger markets, centers of information, communication, trade, and finance. The development of the integration process will promote accumulation of income in the more dynamic areas and, in the final instance, it will lead to divergence and even to polarization (Berlianty, 2005; CBS/N, WFP, & The World Bank, 2006; Ezcurra, Gil, Pascual, & Rapun, 2005; Mansoob Murshed & Gates, 2005, 2006; Molotch, 1976; Moretti, 2004; Shilpi & Fafchamps, 2002).

household surveys was conducted in 2007, covering 66 randomly selected households from the sample communities.

With the current research design, the analyses are based on the snapshots of poverty and inequality in the sample households in three time periods, 1995/96, 2003/04, and 2006/07. To avoid measurement error and confirm findings, triangulation and multiple data methods were used. Therefore, the findings can be generalized to the sample households with confidence and to some extent to the sample communities. Generalizing the findings to other rural communities in similar contexts will require some caution while generalizing them to the whole country is not recommended. Given that panel households are the same households observed in two different time periods, some trends are attributable to maturation. The reasons for observed changes in some variables, such as average nominal household size, sex of the household head, etc., are obvious and, at times, irrelevant given the maturation factor.

# 2. EVIDENCE OF RURAL POVERTY AND INEQUALITY

It is difficult to talk about poverty and inequality without using data. This section aims at presenting evidence of rural poverty at the global level, in South Asia, the region with the highest concentration of poverty and noticeable inequality, and in Nepal, a country in South Asia that was sampled for this study.

Poverty has been a persistent global problem. The differences in views as to what poverty means in conceptual terms, as well as how it can be measured, result in astounding differences among various estimates of global poverty. The following table summarizes some major contrasting global poverty estimates (Amarendra, 1998; Chossudovsky, 2003; Naderveen Pieterse, 2001; Rahnema, 1992; Saunders, 2004).

**Table 1. Contrasting estimates of global absolute poverty, number of people living below $ 1/day 1987-1998 (people in million)**

| Source | Basis of measurement | Years | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1987 | | 1990 | | 1993 | | 1998 | |
| | | People | % of global population | People | % of global population | People | % of global population | People | % of global population |
| World Bank | - international poverty line by using a "basket of food and non-food necessities"<br>- Consumption not income<br>- Representative samples, household surveys | 1,197 | 29.7 | 1,293 | 29.3 | 1,321 | 28.5 | 1,214 | 24.3 |
| Salai-i-Martin | - Income distribution based on national accounts | 390 | 8.8 | 400 | 8.6 | 371 | 7.6 | 353 | 6.7 |
| Pogge & Reddy | - Revised estimates of the World Bank's "basket"<br>- Traded goods are more expensive than normally assumed. | - | - | - | - | - | - | 1,640 | 32.2 |

(Adapted from : Pogge & Reddy, 2005; Sala-i-Martin, 2002a; Sala-i-Martin, 2002b; World Bank, 2000)

Among these estimates, many authors use the World Bank's estimate[8] which states that in the year 1998 there were 1.2 billion (around 20 percent of the world population) people living under $ 1 per person per day and close to 3 billion (around half the population) living under $ 2 per person per day (Bhalla, 2002; Buckland, 2006; Firebaugh, 2006; Gilbert, 2004; IFAD, 2001; Macarov,

[8] International poverty line: The World Bank uses the international poverty line to calculate the population living under absolute poverty in the world. The poverty line is the minimum level of socially accepted household expenditure/consumption, often calculated on the basis of an income two-thirds of which is spent on essential food items at lowest cost (Singh & Strickland, 1994 p. 7 ). The international poverty line is adjusted for differences across countries and times in Purchasing Power Parity (PPP ). PPP measures the relative purchasing power of currencies across countries.
The international poverty line varies across countries and regions because the PPPs represent prices paid by the average consumer, as well as his/her structure of consumption, and not that of the poor (Friedman, Dabalen, & Yemtsov, 2003). For the world's poorest countries, the extreme poverty line is based on a daily income of $ 1 per day per person in 1985 dollars . This was increased to $ 1.08 per day per person in constant purchasing power of 1993. The new poverty line is $1.25 a day at 2005 prices (The World Bank, 2010; World Bank, 2000).In Latin America, the poverty threshold is $ 2 per day per person, while Russia's is $ 4 per day per person (M. S. Smith, 2005).

2003; Seabrook, 2003; Sullivan, 2002; World Bank, 2000). However, the poverty line approach to measuring poverty has been criticized as being subjective and biased and concealing the details of poverty. It is also criticized on the grounds that it reflects political and cultural assumptions about poverty rather than any absolute economic reality (Amarendra, 1998; Chossudovsky, 2003 pp. 27-32; Habito, 2006; Townsend, 2002).

Nevertheless, based on international poverty line, Chen and Ravallion (2000) conclude that there has been a reduction in the total number of poor people in the world in the 1990s (1987-1998). In terms of performance of various regions in reducing poverty, they conclude that Asia, the Middle East and North Africa were able to reduce the incidence more than Latin America and Sub-Saharan Africa. Unfortunately, Eastern Europe and Central Asia saw an increase in poverty. S.S. Bhalla's (2002) analysis, as summarized in the table below, corresponds with Chen and Ravallion's (2000) conclusions.

**Table 2. Income growth and poverty change of global regions, 1987-1999**

| Region | Change in per capita levels (percent) | | | Change in head count ratio[9] (percentage points) [a] | |
|---|---|---|---|---|---|
| | Income, National Account (GDP) | Consumption, National Account | Consumption, Survey | Forecast | Actual |
| East Asia | 63.3 | 56.8 | 55.8 | -36.8 | -29.1 |
| South Asia | 35.3 | 34.3 | 15.3 | -10.8 | -12.8 |
| China & India | 67.4 | 60.4 | 51.5 | -31.4 | -27.9 |
| Sub-Saharan Africa | -13.0 | -11.1 | -21.2 | 10.2 | 5.3 |
| Middle East & North Africa | 2.2 | 4.4 | -0.7 | 0.1 | 4.3 |
| Latin America | -0.7 | -0.5 | -23.1 | 4.6 | 4.9 |

[9] The head count ratio calculates the percentage of population below the national or regional poverty line (CBS/N, 2005; WBI, 2005; World Bank, 1993)

| Region | Change in per capita levels (percent) | | | Change in head count ratio[9] (percentage points) [a] | |
|---|---|---|---|---|---|
| | **Income, National Account (GDP)** | **Consumption, National Account** | **Consumption, Survey** | **Forecast** | **Actual** |
| Developing World | 24.1 | 21.0 | 7.1 | -3.4 | -13.0 |
| Developing world, excluding China & India | 8.1 | 9.3 | -7.4 | 2.7 | 0.4 |
| Eastern Europe | -44.0 | -28.4 | -49.3 | 8.9 | 1.8 |
| Non-industrialized World | 12.7 | 13.9 | 2.7 | -1.2 | -12.0 |
| World | **9.0** | **10.2** | **3.5** | **-1.4** | **-9.9** |

a: PPP $1.5 poverty line.
( Source: Bhalla, 2002 p. 85)

Chen and Ravallion's (2004) other analysis presents a more inspiring picture of progress against poverty. They reveal that there were 390 million fewer people living in poverty (less than 1$/day/person) in 2001 than in 1981. This analysis confirms a good performance by East and South Asia and a remarkable lagging behind by Sub- Saharan Africa. They argue that economic growth and reduction in the level of poverty do not correlate in many cases, especially in Latin American countries, China and India. Their latest estimates of measures of absolute poverty for the developing world over a longer period of time (1981-2004) suggest that the developing world, outside China, has seen little or no sustained progress in reducing the number of poor, with rising poverty counts in some regions, notably Sub-Saharan Africa. Although they present some encouraging signs of progress in reducing the incidence of poverty in all regions after 2000, they cannot conclude whether this is indeed a new trend (Shaohua Chen & Ravallion, 2007).

According to Milanovic (2005) and Firebaugh (2006), income inequality "between the nations" is substantial[10] but decreasing. The major concern is the rising trend in "within nations" (Jenkins & Micklewright, 2007; B. Milanovic 2006). This is largely explained by the fact that the benefits of economic growth in the developing countries such as China, India and Brazil are confined to a limited number of people, especially those living in urban areas (Baldauf, 2004; A. Berry, 1987; Giovanni Andrea Cornia, Addison, & Kiisi, 2004; Eastwood & Lipton, 2004; Forster, Jesuit, & Smeeding, 2003; Frenette, Green, & Picot, 2004; Lal, 2004; UNCTAD Secretariat, 2006; Wan & Zhou, 2004).

The incidence of poverty and rurality are positively correlated. The rural areas have clearly been weak in reaping the "spread effects" from national growth. The economic growth in the past decades in several countries such as India and China has left behind a hard core of low-income, immobile, often regionally and ethnically specific groups in rural areas. Though the share of rural to total population in the world is decreasing, rural poverty is not decreasing in the same proportion. In 1975, approximately 85 percent of all absolute poverty was in the rural areas (World Bank, 1975). Rural poverty still covers more than 75 percent of the total poverty in the world, constituting almost 900 million people. Stark rural-urban inequalities in terms of literacy, longevity, and income continue to exist in the world, especially in the developing countries in the South (Afshar, 1994; Agenor, 2004; Baldauf, 2004; Buckland, 2006; Dorward, Kydd,

[10] With a Gini coefficient of between about 63 percent and 68 percent in the 1990s (Jenkins & Micklewright, 2007; B. Milanovic 2006)

Morrison, & Urey, 2004; Eastwood & Lipton, 2004; IDRC, 2004; IFAD, 2001; Lal, 2004; McKay & Lawson, 2003; Riddell & Robinson, 1995; Vidal, 2004; Wan & Zhou, 2004; World Bank, 1975).

The proportion of poor living in rural areas remains, and is expected to remain, strikingly high. As global trends erode the comparative advantage the rural areas have over the urban areas, rural poverty is expected to intensify. It is very likely that poverty will continue to be a predominately rural phenomenon, which will be counteracted by rural-urban migration (Afshar, 1994; Eastwood & Lipton, 2004).

Though the dichotomous division into urban and rural is not valid in some contexts, the way it used to be in the past, rural and urban differences, in general, remain valid. Therefore, a distinction between rural poverty and urban poverty is reasonable. The rural poor and urban poor live and function in different livelihood environments (Afshar, 1994; Dorward, et al., 2004; Friedland, 2002; Halfacree, 1993; Hoggard, 1990; IFAD, 2001; McKie, 1992; Mulley, 1999; Pahl, 1966).

As discussed earlier, when it comes to regional performances, South Asia were successful in reducing poverty during the period 1981-2001, this region still holds the majority (around 44 percent in 1998[11]) of the world's total

[11] As compared to 24 percent each in Sub-Saharan Africa and East Asia, and around 6.5 percent in Latin America (Buckland, 2006; IFAD, 2001)

poor(Buckland, 2006; Shaohua Chen & Ravallion, 2004; IFAD, 2001; Osmani, 1997). The South Asian experience of growth, rural development, inequality and poverty over the past five decades provides rich material for a comparative study among the countries within the region (Parikh, 2006).

With the recent inclusion of Afghanistan, South Asia now consists of eight countries: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka. With 1.42 billion inhabitants, it is one of most populated regions in the world; however, its overall economic performance has so far been dismal (SAARC, 2005). In 2004, the regional combined Gross National Income (GNI) was a mere 2.14 percent of world GNI. In the same year, the per capita GNI in South Asia was a mere US$ 590 compared to the world average of US$ 6,280. In terms of purchasing power parity (PPP) dollars, the South Asian per capita GNI was US$ 2,830 as compared to the world average of US$ 8,760. Except for Sub-Saharan Africa, this region lags behind all other regions of the world in terms of GNI per capita in PPP dollars (SAARC, 2005). One out of two of the world's poor live in South Asia.

South Asia is heterogeneous in terms of geography and terrain, history, economics, politics and government systems. In terms of terrain, Nepal, Bhutan and Afghanistan are landlocked, Sri Lanka is an island nation, and the Maldives is an archipelago. In terms of history, except Nepal, all South Asian countries were either colonized (such as India, Pakistan, Bangladesh, Sri Lanka and

Maldives), intermittently occupied (such as Afghanistan) or indirectly ruled (such as Bhutan) by the British in the past (Narayan & Glinskaya, 2006; Parikh, 2006; SAAPE, 2006; SAARC, 2005; Thapa, 2004).

In terms of economy, GNI in the countries of South Asia ranged between US$ 674.6 billion in India to US$ 0.7 billion in Bhutan in 2004 (SAARC, 2005). The Indian economy has been recording impressive growth in the recent years though it is marred by extreme disparity (Ahmed, 2006; Sengupta, 2006).

South Asia has poor social development indicators. Around 48 percent of global adult illiteracy is found in South Asia. This region holds 36 percent of the global population who are not expected to survive beyond 40 years of age; 34 percent the global population lacking access to health services; and 19 percent of the global population having access to safe water. Around 514 million people lack adequate health and education, of which 330 million lack sufficient income (Gillespie, 1997; UNDP, 1997).

In comparison to Sub-Saharan Africa, another highly impoverished region of the world, South Asia has better per capita incomes and public health provisions. However, child nutrition in South Asia is much worse than in Sub-Saharan Africa. More than half of the world's underweight children live in just three South Asian countries - India, Bangladesh and Pakistan. Under-fives underweight in Bangladesh is 67 percent, in India 53 percent, in Nepal 49 percent,

in Pakistan 40 percent and in Sri Lanka 38 percent. Overall 52 percent of the world's malnourished children live in South Asia (Gillespie, 1997; UNDP, 1997).

As summarized in the table below, the common characteristic of all South Asian countries is that all are poor. Additionally they are corrupt, face huge inequalities, and natural calamities, and deal with internal armed conflict and conflict with neighbouring countries of varying intensities.

**Table 3. Key development indicators of South Asian Countries**

| Countries | GNI[12] per capita (PPP, international dollars), 2007 | HDI[13] | | | | Life expectancy at birth (years), 2003 | Adult literacy (15+ years) (%) 2003 | GDP[14] percapita (PPP US $) 2003 | Population below poverty line (%) 2003 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Value (2005) | Rank (2005) | Value 2003 | Rank 2003 | | | | $1 day | National |
| Sri Lanka | 4,210 | 0.743 | 99 | 0.751 | 93 | 74.0 | 90.4 | 3,778 | 7.6 | 25.0 |
| Maldives | 5,040 | 0.741 | 100 | 0.745 | 96 | 66.6 | 97.2 | 4,798 | - | - |
| India | 2,740 | 0.619 | 128 | 0.602 | 127 | 63.3 | 61.0 | 2,892 | 34.7 | 28.6 |
| Bhutan | 4,980 | 0.579 | 133 | 0.536 | 134 | 62.9 | 47.0 | 1,969 | - | - |
| Pakistan | 2,070 | 0.551 | 136 | 0.527 | 135 | 63.0 | 48.7 | 2,097 | 13.4 | 32.6 |
| Nepal | 1,040 | 0.534 | 142 | 0.526 | 136 | 61.6 | 48.6 | 1,420 | 37.7* | 31 |
| Bangladesh | 1,340 | 0.547 | 140 | 0.520 | 139 | 62.8 | 41.1 | 1,770 | 36.0 | 49.8 |
| Afghanistan | > 935 | - | - | - | - | - | - | - | - | - |

( Source: Bhatta & Sharma, 2006; NPC, 2005; UNDP, 2005a, 2008c; World Bank, 2008b)

* Note: the $1/day poverty rate (PPP) computed by the Nepal Central Bureau of Statistics using the Nepal
Living Standards Survey data is only 24.1
- = not available

[12] GNI stands for Gross National Income
[13] HDI stands for Human Development Index (HDI. It is a simple average of the three dimension indices: 1) income (captured by GDP per capita), 2) Education (captured by literacy and enrolment), and 3) Life expectancy (UNDP, 2008a).
[14] GDP stands for Gross Domestic Product

Nepal, a South Asian country, is an interesting case to study poverty and inequality. Ancient (500 BC-AD 700) and medieval (750-1750) Nepal enjoyed an extraordinary combination of economic prosperity, social and cultural development as evidenced by the founding of Buddhism, innovation of pagoda style architecture, and the long history of urbanism in the Kathmandu Valley. There are several ancient and medieval monuments in Nepal currently included in the list of UNESCO's world heritage sites and considered to be of outstanding universal value (D. R. Regmi, 2007a, 2007b, 2007c; M. C. Regmi, 1971; Savada, 1991; UNESCO, 2008; Whelpton, 2005). Unfortunately, modern Nepal is disturbingly poor, especially in terms of economic and human development. Based on the income-based definition of poverty, Nepal is the poorest country outside of Africa. Nepal's gross national income (GNI) per capita in the year 2007, a mere US$350[15], looks like a misprint (DeParle, 2007; UNDP, 2005b, 2006; World Bank, 2008a).

As will be discussed in detail in the following section, development planning in Nepal does not have a long history. The first development plan was implemented in 1956. In the past five decades of planned development, Nepal implemented ten development plans and is currently implementing the three-year Interim Plan (2007/08-2009/10). All development plans in Nepal consistently put poverty reduction as one of the major goals, if not the only goal. However, the

[15] This figure was based on Atlas methodology (or US dollars). Nepal's GNI per capita, based on purchasing power parity (or international dollars) was $ 1,060.

poverty reduction targets have remained largely unmet (Asian Development Bank, 2002a; Bhatta & Sharma, 2006; FAO & UNDP, 2003).

Like many developing countries, Nepal did not conduct a systematic assessment of national poverty status in the past which makes it impossible to conduct a long-term analysis of national poverty trends. The Survey of Employment, Income Distribution and Consumption Patterns (SEIDCP), conducted by the National Planning Commission in 1976/77, was the first attempt at assessing national poverty status and inequality in Nepal. The second survey that aimed at assessing the national poverty and inequality was the Multi-Purpose Household Budget Survey (MPHBS) conducted by the National Rastra Bank[16] in 1984/85. Unfortunately, these surveys differed in methodology, making their results simply incomparable. Since these surveys did not establish any panel data, a clear understanding of rural poverty dynamics could not be established (Bhatta & Sharma, 2006; CBS/N, WFP, & WB, 2006; Chettri, 2004; Kayastha, 2007; World Bank, 2008a).

The Nepal Living Standard Surveys (NLSSs) of 1995/96 and 2002/03, conducted by the Central Bureau of Statistics, mark the beginning of systematic poverty assessment in Nepal. These surveys used the same methodology. Additionally, to have a better understanding of poverty dynamics, the NLSS 2002/03 included a panel component of 962 households from the NLSS 1995/96

[16] The Nepal Rastra Bank is the central bank of Nepal.

(Bhatta & Sharma, 2006; CBS/N, WFP, & WB, 2006; Chettri, 2004; Kayastha, 2007; World Bank, 2008a).

In the 1990s and the early 2000s, a large number of surveys[17] were undertaken to assess the situation in the social sector. These surveys provided some useful proxy indicators of poverty and inequality which is summarized in the following tables. It needs to be cautioned that only the two NLSSs used comparable methodologies so the results of other surveys cannot be directly compared (Bhatta & Sharma, 2006; CBS/N, WFP, & WB, 2006; Chettri, 2004; Kayastha, 2007; World Bank, 2008a).

**Table 4. Summary of monetary poverty lines in Nepal (1976/77, 1984/85, 1995/96, 2002/03)**

| Information | 1976/77 SEIDCP[a] | 1984/85 MHBS[b] | 1995/96 NLSS[c] | 2002/03 NLSS[c] |
|---|---|---|---|---|
| Nominal poverty line-total (in NRs.) | 720 | 1971 | 5048 | 7695 |
| Nominal food poverty line (in NRs.) | 540 | - | 3488 | 4966 |
| Nominal non-food poverty line (in NRs.) | 180 | - | 1559 | 2729 |
| US $ exchange rate | - | 17.80 | 49.00 | 73.79 |

(Adapted from : Asian Development Bank, 2002b; CBS/N, 2005; NPC, 1977, 2007; NRB, 1988; Ojha, 2004; World Bank, 2006)

a: SEIDCP stands for Survey of Employment, Income Distribution and Consumption Patterns in Nepal b: MHBS stands for Multi-Purpose Household Budget Survey
c: NLSS stands for Nepal Living Standard Survey

[17] Such as Nepal Fertility, the Family Planning and Health Survey, the National Sample Census of Agriculture 1991/92 and 2001/02, the Nepal Rural Credit Review 1991/92 and, the Household Budget Survey: Urban Nepal 1995/96, Nepal Multiple Indicator Surveillance 1995- 97, the Nepal Family Health Survey 1996, Migration; Employment; Birth, Death and Contraception in Nepal 1996, the Nepal Micro Nutrient Status Survey 1998,the Nepal Labour Force Survey 1998/99, A Situation Analysis of Disability in Nepal 1999/2000, Report on the Situation of Women, Children and Households (BCHIMES) 2000, the Demographic and Health Survey 2001, the Access to Financial Services Survey 2006, etc. (Ojha, 2004).

**Table 5. Monetary poverty and inequality in Nepal (1976/77, 1984/85, 1995/96, 2002/03)**

| Information | 1976/77 SEIDCP[a] | 1984/85 MHBS[b] | 1995/96 NLSS[c] | 2002/03 NLSS[c] | Change between 1995/96 & 2002/03 (percent) |
|---|---|---|---|---|---|
| **Poverty** | | | | | |
| Poverty incidence[*] in Nepal | 33 | 41 | 42 | 31 | -26 |
| Urban poverty incidence | 22 | 19 | 22 | 10 | -56 |
| Rural poverty incidence | 33 | 43 | 43 | 35 | -20 |
| Total number of people (million) | 3.9 | 6.9 | 9.0 | - | |
| **Inequality** | | | | | |
| ***Income distribution*** | | | | | |
| Lowest 20 % or 1st Quintile | 5.86 | 10.12 | - | - | |
| 2nd Quintile | 8.23 | 14.93 | - | - | |
| 3rd Quintile | 9.05 | 18.25 | - | - | |
| 4th Quintile | 22.38 | 22.09 | - | - | |
| Top 20% or 5thQuintile | 59.88 | 34.61 | - | - | |
| ***Real mean percapita expenditure (in NRs./year)*** | | | | | |
| Lowest 20 % or 1st Quintile | - | - | 2,898 | 3,524 | +2.47 |
| 2nd Quintile | - | - | 4,347 | 5,186 | +2.23 |
| 3rd Quintile | - | - | 5,687 | 7,121 | +2.85 |
| 4th Quintile | - | - | 7,683 | 10,255 | +3.68 |
| Top 20% or 5th Quintile | - | - | 15,477 | 25,387 | +6.38 |
| Gini Coefficient (percent) | 51 [d] | 25 [e] | 34[f] | 41[f] [18] | +21 |

(Adapted from : Asian Development Bank, 2002b; CBS/N, 2005; NPC, 1977, 2007; NRB, 1988; Ojha, 2004; World Bank, 2006)

* Population below poverty Line
a: SEIDCP stands for Survey of Employment, Income Distribution and Consumption Patterns in Nepal b: MHBS stands for Multi-Purpose Household Budget Survey
c: NLSS stands of Nepal Living Standard Survey
d: Based on gross income including imputed rent and in-kind income
e: Based on consumption (not comparable with NLSSs)
f: Based on consumption (not comparable with MHBS)
Note: Other than the two NLSSs that used identical methodology, poverty data cannot be compared.

As poverty is widely seen in multidimensional terms, several approaches for stepping beyond monetary measures of poverty have been suggested (Chambers, 1983, 1995, 1997; Chambers & Conway, 1991; Hulme & McKay, 2005; Hulme, Moore, & Shepherd, 2003; Hulme & Shepherd, 2003; McKay & Lawson, 2003). The human development approaches, the human development index (HDI),

[18] The Gini coefficient increased to 47.3 percent in 2006 (Asian Development Bank, 2007).

devised by the UNDP in 1990 that is based on three dimension indices: 1) income (captured by GDP per capita), 2) Education (captured by literacy and enrolment), and 3) Life expectancy, is by far the most popular multidimensional poverty assessment indicator.

Nepal's HDI was 0.42 in 1990 and it was placed at the 152nd position. The value significantly increased to 0.48, increasing Nepal's rank to 129th position in the year 2000 (Asian Development Bank, 2002b). In 2002, Nepal graduated to being classified as a country of 'medium human development' from 'low human development'[19]. A number of constraints, such as its rugged terrain with inadequate infrastructure, limited resources endowment, high transport and investment costs, weak governance, high population growth, and the recent armed insurgency have limited Nepal's development (Asian Development Bank, 2002b; UNDP, 2005b).

Considering the short history of modern public administration and infrastructure in the country, Nepal's progress in education and the health sector has been encouraging, more so in recent years. The net primary enrolment in schools has increased from 81 percent in 2002 to 87 percent in 2006 and the completion rate rose from 60 percent in 2002 to 68 percent in 2006. In the health sector, the maternal mortality rate halved from 538 in 1996 to 281 in 2006, while the infant mortality rate dropped from 79 in 1996 to 48 in 2006. The coverage of

[19] A HDI of 0.8 or more indicates high development while a HDI of 0.5 to 0.8 and 0.5 or less denotes medium development and low development, respectively (UNDP, 2008b).

potable water rose from 71 percent in 2002 to 77 percent in 2006. This progress is likely to have a positive effect on the HDI in the future (NPC, 2007; World Bank, 2008a). The following table summarized Nepal's HDI trend and compares with some selected countries.

**Table 6. HDI trend of Nepal and some selected countries**

| Country | 1990 | 1995 | 2000 | 2005 | HDI Rank (out of 177 countries in 2005) |
|---|---|---|---|---|---|
| Iceland | 0.918 | 0.923 | 0.947 | 0.968 | 1 |
| Canada | 0.931 | 0.936 | 0.946 | 0.961 | 4 |
| China | 0.634 | 0.691 | 0.732 | 0.777 | 81 |
| Sri Lanka | 0.702 | 0.721 | 0.731 | 0.743 | 99 |
| Maldives | - | - | - | 0.741 | 100 |
| India | 0.521 | 0.551 | 0.578 | 0.619 | 128 |
| Bhutan | - | - | - | 0.579 | 133 |
| Pakistan | 0.467 | 0.497 | 0.516 | 0.551 | 136 |
| Bangladesh | 0.422 | 0.453 | 0.511 | 0.547 | 140 |
| Nepal | 0.427 | 0.469 | 0.502 | 0.534 | 142 |
| Sierra Leone | - | - | - | 0.336 | 177 |

( Source:UNDP, 2008b)

Nepal's inability to rapidly increase the HDI is largely explained by its slow economic growth in recent years. In 2007, South Asia posted a growth of 8.6 percent while the two big neighbours, India and China witnessed a growth of 9.2 percent and 11.4 percent, respectively (IMF, 2008). However, in Nepal growth during the past five years (ie between 2002/03 - 2006/07) was dismal. The growth of the agriculture sector during these years was near to the minimum target while the growth of non-agriculture sector remained far below the minimum target. Consequently, the minimum growth target (6.2 percent under outstanding improvement in the situation and 4.3 percent under deteriorated situation) was not achieved. The annual GDP growth rate in the past five years

ranged from a minimum of 0.1 percent in 2002 to a maximum of 4.7 percent in 2004 (Nepal Rastra Bank, 2008; NPC, 2003b).

Nepal has fully subscribed to the millennium development goals (MDGs). It prepared two progress reports on the MDGs: in 2002 and 2005. It has taken a number of steps to align the MDGs with the national planning process. While it has established a strong supportive environment to meet some of the MDGs, some areas of institutional support appear to be weak. Despite the 12-year insurgency, it is estimated that Nepal is likely to halve the proportion of people living below the national poverty line by 2015 and reduce under-five mortality by two-thirds by 2015. Nepal is likely to meet several other goals but not the targets related to completion of a full course of primary schooling and halting and reversing the spread of HIV/AIDS (UNDP, 2005b, 2006).

## 3. RURAL POVERTY AND INEQUALITY

Every human being or household must meet three kinds of needs: 1) assets, 2) income, and 3) expenditure/consumption. When an individual or a household cannot fulfill these needs, especially consumption, the existence of the individual or the household is at risk. On the other hand, when these needs are met, the individual will be able to enjoy a long life, and engage in economic, social and political transactions, and freedoms (Batchelder, 1966; Jackson, 1972; Sachs, 2005b; A. K. Sen, 1992, 1997; Wolfensohn, 2005). An individual's or household's capability is restricted when these needs are not adequately met.

Assets are very critical aspects of poverty analysis as they help individuals or households to draw income and consume goods and services (IFAD, 2001; ILRI, 2006; Jackson, 1972; Robinson, et al., 2006). Assets can be categorized into Human assets such as skills, knowledge (including indigenous), labour, and health, natural assets: such as land, forests, water, air, wildlife, biodiversity and other environmental resources, physical asset such as transport, shelter, water, energy and communications that represent the basic infrastructure and production equipment, financial assets such as cash, credit, savings or remittances, and social assets such as group membership, networks and access to institutions and influential people that help in accessing diverse good and services (ILRI, 2006). Poverty alleviation projects or any other development projects concentrate on building or strengthening these assets (Friedmann, 1987). **Assets** and **wealth** are very similar concepts except that wealth is the total value of an individual's or a household's assets. Wealth, like assets, affects a household's choices about consumption and cash holding (Black, 1997). Poverty, originating from inadequate assets, is termed *deprivation* (Jackson, 1972).

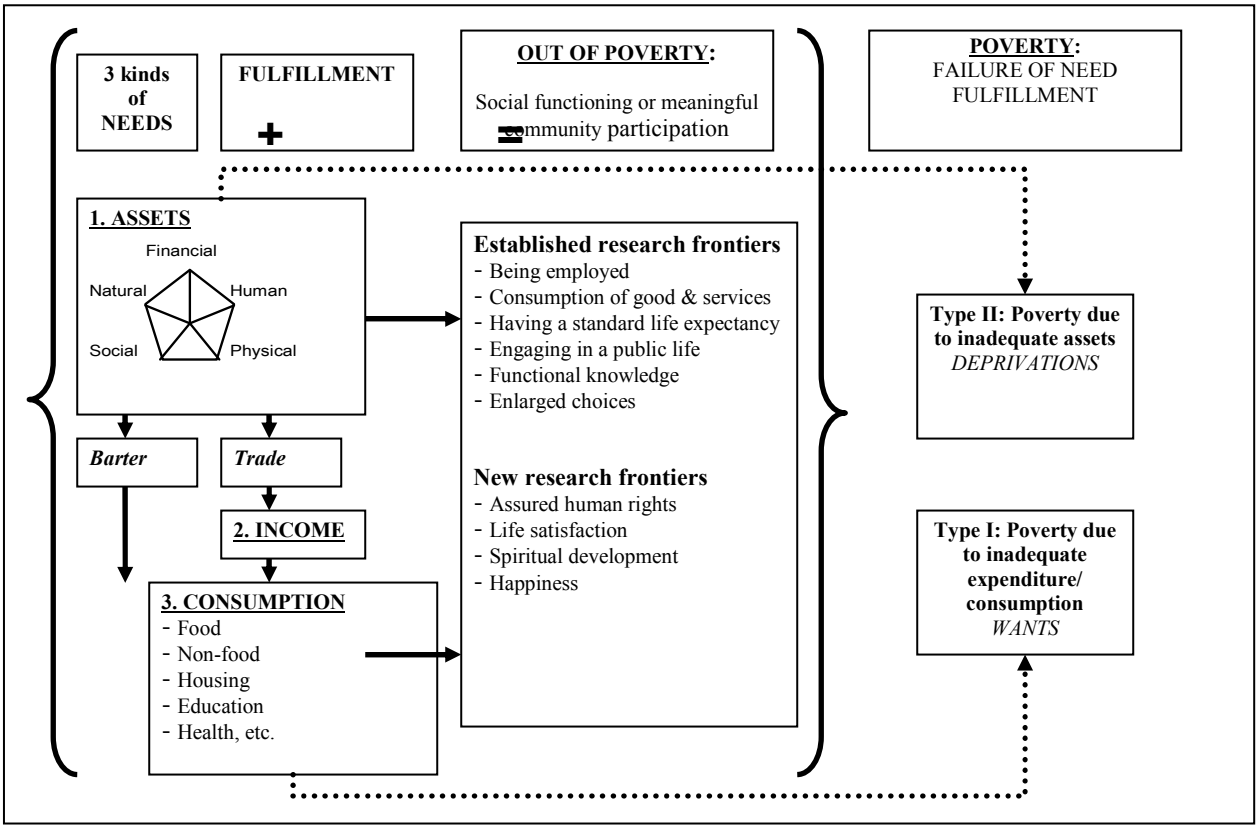
**Income***,* on the other hand, is the amount an individual or a household can spend in a period while leaving his/her assets unchanged. It represents a household's ownership of assets and consumption or expenditure (Black, 1997; Cowell, 1977). In the capitalist market economy where money is used as the means of exchange, cash income is critically required to consume goods and

services. In the traditional peasant economy where goods and services are bartered, cash income is not so relevant. Poverty that originates from inadequate income is termed *income poverty* (Jackson, 1972).

**Consumption**, proxied by expenditure at the empirical level, entails using up the economic value of goods and services, as opposed to providing for future production. Private consumption is divided between durable and non-durable goods, such as goods and services (Black, 1997). Examples of consumable items include food, clothes, housing, as well as attending educational institutions, having health checkups, owning/driving a vehicle, etc. Consumption of non-durable goods, such as foods and clothes, is recurrent in nature.

An individual's or a household's level of consumption is determined by their stock of assets and use, level of income, and the level of a government's social safety net. For example, an individual or a household without any assets can afford all goods and services required for social functioning or meaningful participation in the community if the income can afford to buy them. Similarly, an individual or a household with no income can also live comfortably by bartering or selling their assets. When an individual or a household has neither assets nor income, they have to rely on the social safety net. In the absence of assets, income or safety net, an individual's or a household's consumption or expenditure will have to be derived from charity or begging (Batchelder, 1966; Jackson, 1972).

If a household is successful in fulfilling all the members' consumption needs, either by income or by bartering or selling the assets, its "social functioning" is not restrained and its participation in the community is meaningful, and it is out of poverty: otherwise, they are poor. Poverty that originates from inadequate expenditure/consumption is termed unfulfilled *wants* (Jackson, 1972). The following figure illustrates the structure of poverty.




( Synthesized using : Batchelder, 1966; Cling, 2002; Ellis, 2000; Farrington, Carney, Ashley, & Turton, 1999; ILRI, 2006; Jackson, 1972; Robinson, et al., 2006)

Note:
: Fulfillment
: Failure to fulfil

**Figure 1. The structure of poverty**

The discussion on 'rural poverty' requires a clarification of the term rurality. The word 'rural' or 'rurality' has different meanings depending on country, perspectives, and discipline[20]. All countries have their own unique way of defining rural areas, which often differ considerably (Mulley, 1999). In many cases, the common criteria of differentiating rural and urban areas are population, population densities, services, and the influence on national political economy (Afshar, 1994). For example, Nepal uses population, revenue base, geographical diversity, and facilities relating to transportation, communications, education and health as the criteria to distinguish rural and urban areas (Ministry of Law and Justice/Nepal, 1999; Sharma, 2003).

This research follows Nepal's official definition of rural, which outlines that all geographical areas under village development committees (VDC) are rural. The VDCs have a population of less than ten thousand people and annual revenue of less than NRs. 500,000 (around US $ 7,000). Nepal currently has 3,913 VDCs, where around 80 percentage of the country's population live (Ministry of Law and Justice/Nepal, 1999; Sharma, 2003; XE Corporation, 2008).

[20] Unlike a century ago, a clear dichotomous division between 'urban' and 'rural' is no longer valid in many industrialized countries (Friedland, 2002; Halfacree, 1993; Hoggard, 1990).

# 4. METHODOLOGY

The primary objective of the research was to investigate the changes in rural household income, expenditure/consumption[21] inequality and poverty over time and examine their relationship. The two major steps in conducting this research were to establish an understanding of the phenomena of household expenditure inequality and poverty.

To understand the changes in rural household consumption inequality and poverty over time and analyze their relationship, this research used a quasi-experimental design. The study did not use any comparison or control group but only a set of sample groups and analyzed the changes over time.

To increase the validity and reliability of this design, a multiple source approach was adopted. In this approach, information about the sample communities were collected for all three time frames from diverse sources such as census data, secondary data, and administrative records (Cummings, 2008; Palys, 1992; K. Williams, 1999). The research used a combination of quantitative and qualitative methods. The purpose of using a mixed method was to produce more comprehensive data collection through triangulation and present more valid findings than those resulting from either quantitative or qualitative methods alone (Greene, Caracelli, & Graham, 1989). The purpose of using

[21] Consumption and expenditure are used interchangeably in poverty research. In reality, expenditure and consumption are not necessarily equal. Therefore, this research explicitly uses the term "expenditure".

quantitative methods was to understand the relative importance of numbers and interpreting trends while the purpose of using qualitative methods was to further enrich understanding of the process underlying the phenomena. The following methods were used (Cummings, 2008; R. Kanbur, 2001; Palys, 1992; Razafindrakoto & Roubaud, 2002; K. Williams, 1999).

The fieldwork included 27 key informant interviews, several transect walks, revision of numerous reports[22], three local study support team meetings, five focus group discussions, five large group meetings, thirty household visits for pretesting and training of survey questionnaire, sixty six door to door household survey, direct observation, one presentation for the general public at the World Bank, Kathmandu's Poverty Information Centre, and one final multiple stakeholder workshop to share the preliminary research findings(Cummings, 2008; Palys, 1992; K. Williams, 1999).

Three considerable disagreements over how poverty and inequality can be measured and tracked. The disagreements are often concentrate around the choice of variables and the cut off line or the poverty line, all of which require a certain degree of subjectivity (Nelson & Fleras, 1998). In this research, the variables were selected based on the research questions: 1) is there a fundamental association between rural household consumption (proxied by expenditure) and asset inequality and poverty? and 2) is it generally the case that consumption

[22] Such as wide-coverage household income/expenditure surveys, sample surveys, participatory studies, post- Millennium Declaration special reports related to poverty, local newspapers

inequality increases with overall increase in asset in the community? The variables required to answer these questions were prioritized using the following 1) the a priori knowledge and descriptive classification of families living in poverty; 2) the studies by other researchers in similar contexts and books; and 3) the household and community questionnaires used in the panel survey used in the research.

The literature review and a priori knowledge provided a good starting point in selecting variables. The indentified variables were compared with those included in the questionnaires used in the Nepal Living Standard Survey 1995/1996 and 2003/2004 and were presented in the multiple stakeholder local study support team meetings which recommended the variables for diverse research instruments, namely, the KII checklist, the FGD checklist, the community questionnaire, and the household questionnaire.

There were two sources of primary data in this research: 1) the set of panel data collected by the Central Bureau of Statistics in Nepal; and 2) the cross-section household survey data collected during the fieldwork. The panel data set provided data on community characteristics and household characteristics such as, assets, income, and consumption for the three sample communities in two different time periods: in 1995/1996 and 2003/2004. The panel survey was collected as part of the Nepal Living Standard Survey I (NLSS I) and the Nepal Living Standard Survey II (NLSS II). In addition to the data collected by the NLSSs, the cross-section household survey collected some new information

about women such as their holding of citizenship and assets, as well as their roles in use of assets and household chores.

The main objective of the cross-sectional survey data was to supplement the panel data information. The panel survey covered two time periods: 1995/96 and 2003/2004. The former was collected as a part of the Nepal Living Standard Survey I (NLSS I) and the latter was collected as a part of the Nepal Living Standard Survey II (NLSS II). The panel survey aimed at investigating the extent and dimension of poverty in Nepal, identifying the salient characteristics of the poor, tracing the causal mechanisms in the country and assessing the changes in consumption, poverty and other social indicators in rural and urban communities over the last eight years. The aim of the cross-section survey was to understand the most recent changes in poverty and inequality outcomes in three rural communities covered by the NLSSs.

The cross-sectional household survey covered three rural communities in and around the Kathmandu Valley that were sampled in the Nepal Living Standard Surveys; these communities were randomly sampled. The selected communities were **Kubhinde-4**, **Koshidekha-7**, and **Tokha Sarswoti-6**. All sample communities are situated in the Central Midhills of Nepal, at an altitude of around 1000-1500 m above sea level (see *Figures 5 and 6*). The rural areas in and around Kathmandu were sampled because they were believed to have benefited from the diverse economic opportunities associated with rapid urbanization in Kathmandu (CBS/N, WFP, & The World Bank, 2006; Mansoob

Murshed & Gates, 2005, 2006; Shilpi & Fafchamps, 2002). Since this research aimed at measuring changes in poverty and household inequality, these communities were believed to serve the purpose of the research better than other isolated rural communities in Nepal where the poverty and inequality status was not expected to have changed much over the past decade.

A total of 66 households[23] were interviewed using structured one-to-one questionnaires. The purpose of this section of the chapter is to introduce the three sample communities: These communities are wards from different Village Development Committees[24] (VDCs) from three districts[25] in and around the Kathmandu Valley. As all geographical areas under VDCs are automatically categorized as rural in Nepal, the sample communities were, by default, rural (Ministry of Law and Justice/Nepal, 1999; Sharma, 2003).

The cross-sectional survey drew from the experiences of the NLSS I and the Nepal NLSS II, which followed the globally accepted World Bank's Living Standards Measurement Survey (LSMS) methodology. Like the panel survey questionnaire, the cross-sectional survey questionnaire was integrated: covering consumption, incomes, assets, housing, education, health, fertility, migration,

[23] The margin of error was set at 10 percent, the confidence level at 95% and the response distribution at 50 percent

[24] VDCs are defined as the geographical areas with less than ten thousand residents and an annual income of less than NRs. 500,000 (around US $ 7,000). All VDCs have nine wards (Ministry of Law and Justice/Nepal, 1999; Sharma, 2003; XE Corporation, 2008).

[25] Nepal is divided into 75 districts, which are both administrative and political units. At the sub-district level, there are two major categories of local government: the urban municipalities and the VDCs (Ministry of Law and Justice/Nepal, 1999; Sharma, 2003).

employment, etc. as well as community-level information such as local facilities, prices, the environment facing the households, etc.

Following the NLSSs, the household survey adopted "ascribe a rupee value" approach to calculate expenditure/consumption[26] aggregates and real per capita consumption. However, unlike the NLSSs that took a price index based on the rural Eastern Terai[27,] no price index was constructed. The cross-sectional survey used different prices of items as they were found in the three sample communities without any standardization. This approach was consistent with the Household Consumption Survey of Rural Nepal 2000/2001, the other multi-topic survey that Central Bureau of Statistics/Nepal conducted to determine the pattern of household expenditure/consumption and expenditure on food, non-food, housing, durable goods and own account production of goods and services for rural Nepal (CBS/N, 1996, 2002, 2004; P. Lanjouw, et al., 1996).

To make "rupee values" of three time periods comparable, all nominal values "rupee values" were converted to 1995/96 NRs. The consumer price indexes[28] of these years were used as the deflators. Since the consumer price index in Nepal, with 1995/96 as the base year[29] , was 1.548 in 2003/04 and 1.859 in 2006/07, the nominal "rupee values" of all households in 2003/04 and 2006/07

[26] Consumption was proxied by expenditure.
[27] The Terai is the flat lands in the southern part of Nepal.
[28] The consumer price index (CPI) basically measures the average price of a typical market basket of consumer goods and services in various years. It calculates the cost of living and its change over time. Nepal uses the CPI to calculate the inflation rate.
[29] In economic analyses, a base year is the reference point that is used for comparison with some earlier or later years.

were divided by 1.548, and 1.859, respectively, to convert them to 1995/96 NRs. (ADB, 2008; Nepal Rastra Bank, 2007).

Definitions and concepts of key terms such as households, reference period, household head, and rural area that were adopted from NLSSs. Household expenditure/consumption included food items, housing, non-food items and own account production but excluded public goods and services[30] because it was not possible to put "rupee value" to the services it provided to the households. The aggregate of these four components provided a measure of total annual household consumption. All consumption was the household's reported consumption during the past 12 months. Per capita consumption was calculated by dividing the household's total annual consumption expenditure by the adjusted family size[31].

Like NLSSs, the cross-sectional survey, applied a two-stage sample selection procedure. In the first stage, the primary sampling unit (PSU) i.e. ward[32] or in some cases a sub-ward or an amalgamation of small wards were selected. PSUs were selected with probability proportional to size (PPS) sampling based on the number of households available from the population census. In the second stage, of all households within the selected PSUs, 12 households were selected by systematic sampling with a random start. Using this sample design, 3373 households from 274 PSUs were enumerated in the NLSS I. On the other hand,

[30] However, physical access to public goods and services was assessed.
[31] The adjustment was done by a weighting based on the age of the household members. Children below age 6 were given 0.2, age 6 to 14 was given 0.5, age 15-60 was given 1.0, and above 60 was given 0.7. The age specific weights were determined by focus group discussion and field observation.
[32] A ward is the smallest political, administrative unit in Nepal.

the NLSS II included two sample components: 1) a nationally representative random cross-section sample of 3912 households from 326 PSUs; and 2) 1160 panel households [33] from 95 panel PSUs (CBS/N, 2004, 2005).

The complete list of panel[34] PSUs of the NLSS II formed the Stage I sampling frame for the survey. As the aim of the survey data was to supplement the information for the panel data and to obtain a more recent expenditure/consumption pattern of rural households in and around the Kathmandu Valley, six potential PSUs were selected using a systematic random sampling technique. Of the potential PSUs, three PSUs were sampled based on a proposal by the local study support team (SST) and field visits by the researchers. Once the PSUs were sampled, the most recent voter's list available on the webpage of the Election Commission provided the Stage II sampling frame. The sample size was determined on the basis of probability proportional to size (PPS).

The data collection started in June 2007 and ended in November 2007, while data processing started in December 2007 and ended in January 2008.

[33] Only 962 households were tracked from the NLSS I (1995/96). The remaining 198 households were new households from panel PSUs.
[34] There were 95 panel PSUs in the NLSSs, of which 73 were rural.

# 5. DATA ANALYSIS AND RESULTS

## 5.1. Sample profile

The tables on the following page summarize the profile of the sample households. As expected, in an average the economic status of the sample households were higher than the average rural households of Nepal but the demographic features were identical to the national statistics. However, generalization of the findings to the entire country is not encouraged.

## 5.2. Objective absolute poverty assessment

The purpose of the absolute poverty analysis is to examine what proportion of the panel and cross-section households met the predefined standard of living as proxied by items such as food, housing and non-food items. The absolute poverty assessment entailed the following steps (Jean Olson Lanjouw, 1998; P. Lanjouw & Prennushi, 1999; P. Lanjouw, et al., 1996; P. Lanjouw, et al., 1999).:

i. Calculating the average per capita expenditure on a basket of goods that includes food, housing, and other non-food items.

ii. Establishing a minimum standard of living that is represented by a poverty line. If the per capita expenditure in a household is below the poverty line, the household is considered poor.

**Table 7. Profile of the sample households-continuous data, 1995/96, 2003/04, 2006/07**

| # | Descriptions | Panel survey 1 (**P 1**) 1995/96 (N=33) | | Panel survey 2 (**P 2**) 2003/04 (N=33) | | Cross-Section survey 1 (**C 1**) 2006/07 (N=66) | |
|---|---|---|---|---|---|---|---|
| | | Mean | St. Dev | Mean | St. Dev | Mean | St. Dev |
| 1. | Physical access to basic services (average one way time in minutes) | 67.8 | 33.2 | 37.4 | 24.7 | 40.9 | 37.9 |
| 1. | Average weighted household size | 3.8 | 1.7 | 4.1 | 1.9 | 4.1 | 1.8 |
| 2. | Average percentage of household members in age cohort 15-60 years | 57.3 | 24.8 | 66.7 | 23.6 | 53.2 | 25.0 |
| 3. | Average percentage of males in the household | 46.4 | 16.3 | 51.2 | 21.6 | 51.5 | 20.7 |
| 4. | Average per capita asset aggregate value based on weighted household size (NRs, in 1995/96 rupees value) | 137,215 | 177,893 | 148,275 | 130,670 | 411,473 | 739,207 |
| 5. | Average percentage of household members with a chronic disease | 7.4 | 12.4 | 8.2 | 18.6 | 4.1 | 11.7 |
| 6. | Average number of sources of employment | 1.8 | 0.8 | 2.7 | 0.9 | 3.1 | 0.7 |
| 7. | Average total household employment percentage | 77.3 | 15.5 | 80.7 | 8.2 | 81.8 | 18.6 |
| 8. | Average total household off-farm employment percentage | 9.9 | 12.8 | 15.0 | 12.0 | 48.7 | 28.8 |
| 9. | Average percentage of land cultivated in dry season | 26.7 | 22.6 | 29.5 | 23.7 | 14.7 | 18.2 |
| 10. | Average net agricultural income (NRs, in 1995/96 rupees value) | 4,225 | 993 | 5,039 | 1602 | 4,622 | 1,833 |

(Source: CBS/N, 2007 and fieldwork, 2007)

**Table 8. Profile of the sample households-nominal data, 1995/96, 2003/04, 2006/07**

| # | Descriptions | Panel survey 1 (**P 1**) 1995/96 (N=33) | | Panel survey 2 (**P 2**) 2003/04 (N=33) | | Cross-Section survey 1 (**C 1**) 2006/07 (N=66) | |
|---|---|---|---|---|---|---|---|
| | | % of Category 1 | % of Category 0 | % of Category 1 | % of Category 0 | % of Category 1 | % of Category 0 |
| 1. | Distance to Kathmandu and other urban centres<br>• Category 1= less than 1 hour<br>• Category 0= more than 1 hour | 18.1 | 81.9 | 21.2 | 78.8 | 28.8 | 71.2 |
| 2. | Ethnicity<br>• Category 1= Brahmin or Chettri<br>• Category 0= Not Brahmin or Chettri (ie Newar, Tamang, etc,) | 36.3 | 63.7 | 36.0 | 64.0 | 27.3 | 72.7 |
| 1. | Sex of the household head<br>• Category 1=Male<br>• Category 0= not male (ie female) | 81.8 | 18.2 | 75.8 | 24.2 | 74.2 | 25.8 |
| 2. | Literacy level of the household head<br>• Category 1= The household head can read and write<br>• Category 0= The household head cannot read and write | 36.4 | 63.6 | 42.4 | 57.6 | 45.5 | 54.2 |
| 3. | At least one household member with more than 10 year education<br>• Category 1= At least one household member with 10 or more years education<br>• Category 0= No household member with 10 or more years education | 12.1 | 87.9 | 21.2 | 78.2 | 42.2 | 57.6 |
| 4. | Household receiving domestic or international remittances or pensions<br>• Category 1= Yes, receiving remittance or pension<br>• Category 0= No, not receiving any remittance or pension | 15.2 | 84.8 | 30.3 | 69.7 | 13.6 | 86.4 |

(Source: CBS/N, 2007 and fieldwork, 2007)

iii. Calculating the percentage of the population that falls below the poverty line and analyzing the changes in percentage over time.

iv. Examining the causes behind observed changes in the poverty rates.

**The first step of absolute poverty assessment** entailed aggregating the per capita annual expenditures based on a predefined food basket as well as other items of expenses such as housing and non-food. Three major components of expenditure aggregate in this research were congruent with the national poverty analysis: 1) food items, 2) housing, and 3) other non-food items. Each component included specific items. The expenditure on these items in the past 12 months and their prices were used to convert the annual household expenditure on these components to Nepali Rupees (NRs.) terms (P. Lanjouw, et al., 1999). Since quantities consumed and their prices were critical information for this research, special effort was made to get accurate information. The information on quantities and prices was collected by interviewing the household head or the one who was best informed about the purchases of food items. Consistency in reporting was regularly checked by observing the overall status of the households, such as clothes worn by the household members, inventory of durable goods in the households, general cleanliness in the household, etc. The reported quantities and prices of the specific items were not rounded but used as they were reported

(CBS/N, 1995). As discussed earlier, the per capita expenditure was calculated using the weighed household size ($HHS_W$).

A total of ***37 food items*** that were consumed by Nepali households in the second to fifth decile of the per-capita expenditure distribution were included in the food basket[35]. In this analysis, the data collected in Section 5 of the NLSS questionnaires,[36] as well as the 2007 household survey, was used to calculate the annual food expenditure for the sample households. The values of purchased food, home-produced food, as well as food received in-kind, were added together to obtain a measure of the value of annual food expenditure (P. Lanjouw, et al., 1999).

The food items were the major source of expenditure in the sample households. In 1995/96, per capita food expenditure for the 33 panel households was NRs. 6,429. Though per capita food expenditure decreased* to NRs. 5,039 (in 1995/96 NRs.) in 2003/04, it remained as the leading source of expenditure for the panel households. The average per capita food expenditure in the 66 cross-section households increased[a*] to NRs. 7,688 (in 1995/95 NRs.) and continued to be the leading source of expenditure. Rice, legumes, and animal products covered the major portion of the food expenses.

For the calculation of **housing** expenditure, the rental values of dwellings reported in the NLSS questionnaires, as well as the household survey

[35] Therefore, expensive luxury food items, such as chocolate, cheese, imported alcoholic drinks, etc., were not included in the basket (P. Lanjouw et al., 1999).
[36] Excluding tobacco and tobacco products (P. Lanjouw, et al., 1999).

questionnaire, were used. For the households that owned their dwelling units, the expenditure on housing was taken to be the annual rent that they would have had to pay for their dwelling. For the households that did not own their dwelling units, the annual rent that they had been paying was used. The annual rents for the households that neither owned the dwelling units nor paid any rent were recorded by asking the households what rent they would have been required to pay[37] (P. Lanjouw, et al., 1999).

Housing was the least important expenditure heading in the sample households. Considering the fact that the sample households were rural and lived in houses with very basic facilities, this finding was logical. In 1995/96, the average per capita housing expenditure for the 33 panel households was NRs. 1,842. It increased[a] to NRs. 2, 198 (in 1995/96 NRs.) in 2003/04. The per capita housing increased[*] to NRs. 2,944 (in 1995/96 NRs.) in 2006/07. The increase in the number of brick and cement houses in one community largely accounted for this increase.

The **non-food** component of expenditure included (P. Lanjouw, et al., 1999): frequent non-food expenditures including expenditure on tobacco-related[38]

[37] In panel surveys, there may have been some cases in which the households neither owned the dwelling units nor paid any rent nor could they provide a credible estimate of a rental value for their home. In such cases, the rents were predicted using a set of explanatory variables such as location, measures of the quality of housing units such as number of rooms, number of windows, materials used in the walls, floors and roofs, as well as household characteristics, notably the household's wealth as proxied by the value of consumer durables owned by the households (P. Lanjouw et al., 1999). No such case was observed in the 2007 household survey.

[38] Following the national poverty assessment, alcohol was not included as non-food expenditure. Given that alcohol is an integral part of several ethnic communities, such as the Newars and the Tamangs, it is

products, infrequent non-food expenditures, expenditure on durable household goods[39]. The information required for the calculation of non-food expenditure was acquired from various parts of the NLSS questionnaires, as well as the cross-section survey questionnaire. Most of the information was acquired from the "non-food expenditure and durable goods" section of the NLSS questionnaires and household survey questionnaire. The annual expenditure on non-food items was measured by adding the selected non-food items purchased or received in-kind over the past 12 months (P. Lanjouw, et al., 1999).

The major headings under non-food expenses were apparel and personal care items such as soap and detergent, tooth paste, tooth brushes, haircuts, shampoo, combs, cosmetics, etc., as well as other frequent expenses such as public transportation, gasoline for personal use, entertainment, newspapers and magazines, pocket money for children, etc[40]. The non-food expenditure component included expenditures on garbage collection, electricity, and telephone charges reported in the "utilities and amenities" section of the questionnaires. The non-food goods also included expenditure on tobacco and

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cautioned that adding alcohol as a non-food expenditure could alter the poverty outcomes of the sample households.

[39] Durable goods are items that are often large and last for more than a year. Only the durable goods exclusively used by the household were considered in this calculation. The expenditure on durable goods was calculated by applying the rate of depreciation to the original value of the item(s) (in current prices) owned by the household to impute an annual flow of costs. Finally, the flow of costs for all durable goods owned by each household was aggregated (CBS/N, 1995; P. Lanjouw, et al., 1999).

[40] As suggested by NLSS and confirmed by the focus group discussion, expenditure on firewood, education, housing repairs, and construction, taxes and fines as well as on marriages, dowries, funerals, and other social and religious functions, expenditure on durable goods were excluded for better comparison. Though expenditures on durable goods were excluded in the analysis, the flow of services accruing to the household from the total stock of durable goods was calculated and counted as expenditure. The flow of services from durable goods was derived by calculating the annual depreciation of the durable goods. The annual rates of inflation in Nepal over the years were used when calculating the annual depreciation of various durable goods

tobacco products reported in "food expenses and home production" of the questionnaires (P. Lanjouw, et al., 1999).

The non-food items were the second most important sources of expenditure. The average per capita non-food expenditure for the 33 panel households was NRs. 1, 850 in 1995/96. It increased* to NRs. 2, 198 (in 1995/96 NRs.). Access to electricity in **Kubhinde-4** and land telephone in **Tokha Sarwoti-6** was largely responsible for the increase in non-food expenditure. In 2006/07, it further increased * to NRs. 2, 944 (in 1995/96 NRs.). Access to wireless phone and affordable Chinese clothes, shoes, and electronic was largely responsible for the increase in non-food expenditure in the sample households.

The average per capita expenditure was calculated by adding the food expenditure, housing expenditure as well as expenditure on other non-food items. The per capita expenditure was calculated in real and nominal values. The real values of per capita expenditure were used to examine the changes over time. It was discovered that the average per capita expenditure of the 33 panel households in 1995/96 was NRs. 10,129. In 2003/04, the average per capita expenditure aggregate for the same households decreased* to NRs. 9,315 (in 1995/96 NRs). In 2006/07, the average per capita household expenditure

aggregate for the 66 cross-section households increased [a*] to NRs 12,814 (in 1995/96 NRs).

The nominal values of per capita expenditure were used to assess the poverty rates. As will be discussed later in this chapter, the national poverty lines in Nepal are calculated in nominal prices. Based on nominal values, the average per capita expenditure of the 33 panel households was NRs. 10,129 and NRs. 14, 419 in 1995/96 and 2003/04, respectively. The nominal average value of the 66 cross-section households was 23,820 in 2006/07.

**In the second step of absolute poverty assessment**, the poverty line, often highlighted as the hallmark of absolute poverty analyses, was established. For this purpose, the nutrition-based national and regional absolute poverty lines[41] in Nepal that have been adjusted for price differences over the years were used (Jean Olson Lanjouw, 1998; Jean Olson Lanjouw & Lanjouw, 2001; P. Lanjouw & Prennushi, 1999; P. Lanjouw, et al., 1996; P. Lanjouw, et al., 1999). The national poverty line for 1995/96 was derived based on the assumption that the total daily caloric requirement per person was 2,124 Calories. This nutritional norm was determined based on the minimum caloric requirements for different age and gender groups and the composition of an "average" Nepali household. It should be noted that the nutritional norm of 2,124 Calories was based on

[a*] In this paper [a*] denotes that the change was not statistically different when the figure for 2006/07 was compared with 1995/96 and statistically different when compared with 2003/04. The level of significance in all tests of significance was 0.05.

[41] It is common that the absolute poverty line in developing countries such as Nepal is fixed on a daily nutritional requirement that is expressed in Calories. It is assumed that when calorie requirements are met, other important nutritional inputs such as proteins, vitamins, and micro-nutrients, etc. will also be satisfied.

moderate activity level. It was assumed that people who cannot meet even moderate levels of activity are clearly deprived and thus poor (CBS/N, 2005; P. Lanjouw, et al., 1999). For the 2003/04 national poverty line calculation, the daily caloric requirement per person was increased to 2,144 Calories. This increase was based on the changes in Nepal's demographic composition over the period between 1995/96 and 2003/04 (CBS/N, 2005; P. Lanjouw, et al., 1999). The national poverty line for 2006/07 was calculated by using the national inflation rates in 2004/05, 2005/06, and 2006/07 which were 5 percent, 8 percent, and 6 percent, respectively (Nepal Rastra Bank, 2007). The overall inflation over the three years was compounded based on the daily rate. The following table summarizes the poverty lines used in this research.

**Table 9. National poverty line in Nepal, 1995/96, 2003/04, and 2006/07**
(in NRs., current prices)

| Poverty line | Panel Survey 1 (P1)1995/96 | Panel Survey 1 (P1) 2003/04 | Cross-section survey 1 (CS1) 2006/07 |
|---|---|---|---|
| National poverty line | 5,048.7 | 7,695.8 | 9,465.8 |

(Adapted from: CBS/N, 2005; P. Lanjouw, et al., 1999)

In **the third step of absolute poverty assessment**, the proportion of the sample living under the poverty line (or simply poverty) was calculated. Since the objective of this research was to compare the percentage of people living under the poverty line during various time periods and track the changes in the percentage, the headcount index ($P_0$) method was used[42]. This method was

[42] The objective of this research did not include measuring and comparing the depth and severity of poverty, the poverty gap (P1) or the depth of poverty and squared poverty gap (P2) or the severity of poverty (CBS/N, 2005a; WBI, 2005; World Bank, 1993).

preferred, as it is less sensitive to some common forms of measurement error (CBS/N, 2005; WBI, 2005; World Bank, 1993).

The headcount index ($P_0$) was calculated using the following formula (CBS/N, 2005; WBI, 2005; World Bank, 1993):

$P_0 = q/N$

(Where q = number of people 'below poverty line' and N = total population)

Based on the headcount index method and the national poverty line, the poverty rate in the 33 panel households was 11.5 percent in 1995/96. The national rural poverty rate[43] was 39.1 percent in this year. This suggested that the poverty rate in the 33 panel households was lower than the rural households covered by the national survey. Considering the proximity of the sample communities to Kathmandu and consequently the access to economic opportunities, a lower poverty rate in the sample households was expected.

However, in 2003/04, the poverty rate in the same households increased * to 27.2 percent. The increase in the poverty rate in the 33 panel households between 1995/96 and 2003/04 was not expected. The observed trend in the 33 panel households starkly contradicted the following national and local trends.

[43] Calculated based on 772 rural panel households from across the country.

- The rural poverty rate based on 772 rural panel household from across the country showed that the rural poverty rate decreased* from 39.1 percent in 1995/96 to 32.5 percent in 2003/04 (CBS/N, 2006).

- The poverty rate of the 66 cross-section households sample from the same rural communities in 2006/07 decreased* to 2.4 percent only.

The following table summarizes the results of the head count index calculations based on local and national poverty lines.

**Table 10. Poverty rates based on headcount index method, 1995/96, 2003/04, and 2006/07**

| **Poverty line** | **Panel households** | | **Cross-section survey 1 (C 1) 2006/07 (N=66)** | **Significance of change in poverty rate between surveys at an 0.05 level of significance** | | |
|---|---|---|---|---|---|---|
| | Panel survey 1 (**P 1**) 1995/96 (N=33) | Panel survey 2 (**P 2**) 003/04 (N=33) | | P 1 & P 2 | P 1 & CS 2 | P 2 & CS 2 |
| National poverty line | 11.5 (SE=2.86) | 27.2 (SE= 3.81) | 2.4 (SE=1.49) | Significant | Significant | Significant |

(Source: CBS/N, 2006; CBS/N, 2007 and fieldwork, 2007)

To understand why the poverty rate increased in the 33 panel households while it decreased at the national level, the factors that were considered to be influential in reducing poverty at the national level were examined to see if these factors were applicable in the sample communities or not. The literature attributed the decrease in rural poverty at the national level during the two panel surveys to the following factors (World Bank, 2006):

i. Increase in wage rates in the agricultural and non-agricultural sectors,

ii. Increase in urban areas,

iii. Increase in proportion of active human resources in the population, and

iv. Increase in inflow of remittances

Interestingly, these trends, as summarized in the table below, were observed in the panel households as well. It was evident that the national (macro) trend did not fully explain why poverty, regardless of the magnitude, increased in the panel households that were seemingly in a more advantageous situation than many rural areas in the country. A micro-level analysis entailing an examination of the mobility of households in and out of poverty revealed that the households the availability of relatively cheaper food and non-food items in the sample communities were accountable for reduced expenses in food and clothes. With this methodology, the reduction on expenses did mean poverty but in essence it meant just the opposite.

### 5.3. Subjective poverty assessment

To cross check why absolute poverty rate increased in the panel households in seemingly privileged rural communities, a **subjective poverty assessment** [44] was conducted. The subjective poverty line, drawn by the

[44] Subjective poverty assessment is seen to be a useful estimate of the well-being of a household (CBS/N, 1995, 2005; Fafchamps & Shilpi, 2006; Kingdon & Knight, 2004; Pradhan & Ravallion, 2000; Wagle, 2007).

household head's subjective perception of poverty, gave a sense as to whether the households were able to sufficiently meet their basic needs in the period of investigation or not. In this research, the items such as food, housing, clothing, health care, children's schools, and household income were used as the criteria for subjective poverty assessment. The data required for this analysis was acquired from the "adequacy of expenditure" section of the panel survey questionnaire, as well as the household survey questionnaire. The following table summarizes the findings of the subjective poverty assessment.

**Table 11. Self reported subjective poverty measurement in the sample households, 1995/96, 2003/04, and 2006/07**

| **Criteria** | Panel survey 1 (**P 1**) 1995/96 (N=33) | Panel survey 2 (**P 2**) 003/04 (N=33) | Cross-section survey 1 **(C 1) 2006/07** (N=66) |
|---|---|---|---|
| % of HH reporting adequacy of *food* expenditure | 48 | 91 | 77 |
| % of HH reporting adequacy of *housing* expenditure | 42 | 82 | 65 |
| % of HH reporting adequacy of *clothing* expenditure | 48 | 94 | 89 |
| % of HH reporting adequacy of *health* expenditure | 67 | 91 | 85 |
| % of HH reporting adequacy of *children's education* expenditure | 52 | 61 | 8 |
| % of HH reporting adequacy of *income* | 30 | 52 | 38 |

(Source: CBS/N, 2006; CBS/N, 2007 and fieldwork, 2007)

Based on the table above, the following conclusions were drawn.

i. Despite the increase in absolute poverty rate, subjective poverty was lower in 2003/04, which that supports the fact that relatively cheaper food and clothes[45] distorted the poverty information in 2003/04.

ii. Despite the decrease in absolute poverty rate, subjective poverty was higher in 2003/04, which supports the fact that subjective poverty was probably closely associated with relative poverty. This meant that households' expectation and subjective assessment were based on their relative situation in the community and the people had higher aspiration in 2003/04, especially housing, children' education, and income.

### 5.4. Inequality and relative poverty assessment

To further explain the findings of the absolute poverty analysis, **inequality** assessed. Inequality assessment aimed at understanding how assets and expenditure were distributed in the population over time (Grusky & Kanbur, 2006; Ravi Kanbur, 2001; WB, 2008). The aim was to analyze how many, more or less, assets a particular group of households in the population owned as compared to other group of households and how their expenditure changed over time (Ahluwalia, 1976; A. Berry, 1987; G. A. Cornia, 2004; Creedy, 1998; Feldstein, 1998; Fields, 1980; Heintz, 2002; Jenkins &

[45] Relatively cheaper imported food from India (as well as the Terai region of Nepal) and cheaper imported clothes from China became widely available in the sample communities since 2002.

Micklewright, 2007; Kakwani, 1980; Mitchell & Shillington, 2005; Pearce, 2005; WB, 2008).

The main purpose of assessing inequality was to check whether the assets and expenditure were evenly distributed or not. In this research, this assessment was done by calculating the Gini coefficient, a commonly used indicator of inequality wherein the coefficient varies between 0 percent and 100 percent. The higher the Gini coefficient, the greater the inequality in assets and distribution (ESL, 2008; Tziafetas, 2007; UNDP, 2008c). The Gini coefficient was used to compare inequalities across time; the following paragraphs summarize the results of this analysis.

In 1995/96, the assets[46] were unequally distributed in the 33 panel households. As summarized in the table below, the Gini coefficient of average per capita total asset aggregate in the first panel survey was 52.8 percent. The Gini coefficients of average per capita land value, average per capita house value, and average per capita livestock value were 67.6 percent, 51.8 percent, and 45.5 percent, respectively. All of these coefficients suggest a notable concentration of assets.

In 2003/04, the Gini coefficient of average per capita asset aggregate decreased to 50.2 percent; however, it was still quite high. In this year, the Gini coefficients of average per capita land value, average per capita house value, and average per capita livestock value were 62.3 percent, 48.6 percent, and 46.0 percent, respectively. It was

[46] Assets were compared in terms of real prices. As mentioned in the introductory section, since the amount of debt for the panel and cross-section households could not be assessed, it is cautioned that the asset values may not be in net terms.

thus concluded that the 33 panel households continued to see a considerable concentration of assets in both time periods.

A more recent picture in the field showed further concentration of assets. In 2006/07, the Gini coefficient of the average per capita asset aggregate of 66 cross-section households was 69.7 percent. The Gini coefficients of average per capita land value, average per capita house value, and average per capita livestock value were 74.7 percent, 60.5 percent, and 54.1 percent, respectively. All these coefficients suggested unequal asset distribution in the cross-section households.

**Table 12. Average per capita asset aggregate inequality over time, 1995/96, 2003/04, and 2006/07**

| | **Panel survey 1 1995/96 (P 1) (N=33)** | **Panel survey 2 2003/04 (P2) (N=33)** | **66 cross-section households (C 1) (N=66)** |
|---|---|---|---|
| Gini coefficient of average per capita land value (%) | 67.6 | 62.3 | 74.7 |
| Average share of land value in total asset aggregate | 47.5 | 59.7 | 66.4 |
| Gini coefficient of per capita house value (%) | 51.8 | 48.6 | 60.5 |
| Average share of house value in total asset aggregate | 32.5 | 30.9 | 29.2 |
| Gini coefficient of per capita livestock value (%) | 45.5 | 46.0 | 54.1 |
| Average share of livestock value in total asset aggregate | 20.0 | 9.5 | 4.5 |
| Gini coefficient of average per capita total asset aggregate (%) | **52.8** | **50.2** | **69.7** |

(Source: CBS/N, 2006; CBS/N, 2007 and fieldwork, 2007)

The Gini coefficient of average per capita land distribution was 67.6 percent in 1995/96. This indicated a considerably higher inequality in land distribution. Though it marginally decreased to 62.3 percent in 2003/04, it jumped to 74.7 percent in 2006/07. The Gini coefficient of average per capita house (value) distribution was relatively lower than the Gini coefficient of per capital land; it was 51.8 percent in 1995/96 and was marginally reduced to 48.6 percent in 2003/04. However, it climbed sharply to 60.5 percent in 2006/07. The distribution of livestock (value) was the least unequal. It was only 45.5 percent in 1995/96, marginally increased to 46.0 percent in 2003/04 and increased further to 54.1 percent in 2006/07.

As discussed earlier, land was the major contributor to asset inequality. The upgrading of a dirt road to an asphalt road in one of the sample communities sped up the housing development and consequently rapidly increased the land value. Since the land value in the other two sample communities did not increase at the same rate, it was obvious that the distribution of land value had become unequal. It was also noted that the community with an asphalt road had seen a gradual increase in the number of households that owned cement and brick houses, which have a higher value than the mud and stone houses prevalent in the other two communities. This provided a good explanation as to why the distribution of house values increased in 2006/07.

Of the assets, livestock was the most evenly distributed in 1995/96. The Gini coefficient was 45.5 percent in this year. In 2003/04, it increased to 46.0 percent and further increased to 54.1 percent in 2006/07. It was noted that though the number of

households raising animals and poultry birds have not been drastically reduced in the sample communities, the households raising large animals, namely buffaloes and cows, that are much expensive than smaller animals and birds, were gradually decreasing. Consequently, the distribution was becoming increasingly concentrated.

As compared to assets, expenditures[47] were more evenly distributed in the 33 panel households, In 1995/96, the Gini coefficient of average per capita total expenditure, was 26.5 percent. The Gini coefficients of average per capita food expenditure, average per capita housing expenditure, and average per capita non-food expenditure were 32.5 percent, 44.6 percent, and 32.5 percent, respectively. All these coefficients suggested less concentration of expenditure.

The Gini coefficient of average per capita expenditure aggregate decreased to 26.2 percent in 2003/04. The Gini coefficients of average per capita food expenditure, average per capita housing expenditure, and average per capita non-food expenditure were 22.5 percent, 53.8 percent, and 45.0 percent, respectively. All of these coefficients suggested less concentration of expenditure.

The following conclusions were drawn about the 33 panel households between the two panel surveys.

- Distribution of food expenditure[48] had become more even.

[47] In real prices.
[48] It has to be noted that expenditure is a good proxy of consumption.

- Distribution of housing expenditure had become uneven.
- Distribution of non-food expenditure had also become more uneven.

In 2006/07, the Gini coefficient of average per capita expenditure for the 66 cross-section households was 24.2 percent. The Gini coefficients of average per capita food expenditure, average per capita housing expenditure, and average per capita non-food expenditure were 19.4 percent, 51.6 percent, and 33.5 percent, respectively. Analyzing the Gini coefficients of the second panel survey and the cross-section survey, the following conclusions were drawn.

- Distribution of food expenditure had become more even.
- Distribution of housing expenditure had become more even.
- Distribution of non-food expenditure had also become more even.

The wider affordability of foods such as rice, lentils, animal products, and fresh vegetables, as well as non-food items such as brick and cement houses, electricity, wireless phones, fuel for personal vehicles (namely motorcycle) etc, were largely accountable for changing the distribution of expenditure in the sample households. The following table summarizes the Gini coefficients and their change over time.

**Table 13. Average per capita expenditure inequality over time, 1995/96, 2003/04, and 2006/07**

| | **Panel survey 1 1995/96 (P 1) (N=33)** | **Panel survey 2 2003/04 (P2) (N=33)** | **66 cross-section households (C 1) (N=66)** |
|---|---|---|---|
| Gini coefficient of average per capita food expenditure (%) | 32.5 | 22.5 | 19.4 |
| Average share of food expenditure in total expenditure | 60.9 | 58.0 | 50.5 |
| Gini coefficient of average per capita housing expenditure (%) | 44.6 | 53.8 | 51.6 |
| Average share of housing expenditure in total expenditure | 19.3 | 20.0 | 18.0 |
| Gini coefficient of average per capita non-food expenditure (%) | 32.5 | 45.0 | 33.5 |
| Average share of non-food expenditure in total expenditure | 19.7 | 22.0 | 31.4 |
| Gini coefficient of average per capita total expenditure (%) | **26.5** | **26.2** | **24.2** |

(Source: CBS/N, 2006; CBS/N, 2007 and fieldwork, 2007)

In this research, inequality was further examined by **relative poverty** assessment. This assessment was done using a relative poverty line. The relative poverty line differs from the absolute poverty line. The relative poverty line does not have any absolute monetary value. It is just a relative poverty threshold set up by the researcher (Ravallion, 2008; Ravallion & Chen, 2009). In this research, the relative poverty threshold was set at the lowest 20 percent of the population. The objective of relative poverty analysis is to check how the poorest 20 percent (the first quintile) of the households fare in terms of assets and expenditure in the various time periods and how their changes compare with

households in other relatively better-off quintiles (Ravallion, 2008; Ravallion & Chen, 2009).

Relative poverty analysis in a way covers some elements of inequality but goes went one step further and examines the share of assets and expenditure in the poorest households (Grusky & Kanbur, 2006; Ravi Kanbur, 2001; WB, 2008). The shares of the lowest 20 percent of households (the first quintile) were compared with that of the overall sample population, as well as the highest 20 percent (or the fifth quintile) households.

It was found that the poorest 20 percent of the panel households in all time periods were clearly **deprived of assets**[49]. The poorest 20 percent of 33 panel households, in 1995/96, owned only 4.1 percent of the total assets owned by the total sample population. This share increased to 4.5 percent in 2003/04. The poorest 20 percent of the 66 cross-section households were even more deprived of assets; they possessed only 1.0 percent of the total assets in the sample population.

In contrast, the highest 20 percent of the 33 panel households owned more than half of total assets in all time periods. In 1995/96, they owned 57.9 percent of the total assets. This figure slightly decreased to 53.0 percent in 2003/04. In 2006/07, the highest 20 percent of the 66 cross-section households owned almost two thirds (71.4 percent) of the total assets owned by the population.

[49]As discussed earlier, since the amount of debt for the panel and cross-section households could not be assessed, it should be noted that the asset values may not be in net terms.

The average per capita asset value of the poorest 20 percent households, as compared to the average per capita asset of the entire sample population, was 5 times lower, 5 times lower, and 20 times lower, in 1995/96, 2003/04, and 2006/07, respectively. As compared to the mean per capita asset of the highest 20 percent of households, it was 16 times lower, 14 times lower, and 78 times lower in 1995/96, 2003/04, and 2006/07, respectively. These statistics clearly indicate the poorest 20 percent of households, relative to the highest 20 percent households, as well as overall sample population, lag far behind in their ownership of assets. The following table summarizes the results of this analysis.

**Table 14. Distribution of asset aggregate by quintiles over time, 1995/96, 2003/04, and 2006/07**

| Quintiles | Panel survey 1 1995/96 (N=33) | | | | Panel survey 2 2003/04 (N=33) | | | | 66 cross-section households (N=66) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | # of HHs | Lower limit (NRs.) | Mean (NRs.) | Total% | # of HHs | Lower limit (NRs.) | Mean (NRs.) | Total% | # of HHs | Lower limit (NRs.) | Mean (NRs.) | Total% |
| All households | 33 | 11,400.0 | 137,215 | 100.00 | 33 | 16,122.4 | 198,198 | 100.00 | 66 | 0.0 | 764,929 | 100.00 |
| 1st quintile (Poorest 20 percent) | 7 | 11,400.0 | 26,707.8 | 4.1 | 7 | 16,122.4 | 42,444.3 | 4.5 | 14 | 0.0 | 38,471.4 | 1.1 |
| 2nd quintile (Second poorest 20 percent) | 7 | 49,000.0 | 56,222.3 | 8.7 | 7 | 59,188.4 | 73,538.9 | 7.9 | 14 | 72,592.6 | 110,868.1 | 3.1 |
| 3rd quintile (Third poorest 20 percent | 7 | 73,000.0 | 82,678.0 | 12.8 | 7 | 89,294.1 | 128,965.8 | 13.8 | 14 | 156,000.0 | 271,847.3 | 7.5 |
| 4th quintile (Second highest 20 percent) | 6 | 94,117.6 | 124,867.3 | 16.5 | 6 | 184,500.0 | 226,308.5 | 20.8 | 12 | 564,957.7 | 711,362.3 | 16.9 |
| 5th quintile (Highest 20 percent) | 6 | 186,502.1 | 436,607.7 | 57.9 | 6 | 262,963.0 | 578,007.8 | 53.0 | 12 | 984,598.2 | 3,004,360.1 | 71.4 |

(Source: CBS/N, 2006; CBS/N, 2007 and fieldwork, 2007)

The poorest 20 percent of households had a restricted **ability to spend** on food, housing, and non-food items. As shown in the following table, the poorest 20 percent of the 33 panel households consumed only 10.2 of the total expenditure for the sample population in 1995/96. This figure was reduced to 8.7 percent in 2003/04. The poorest 20 percent of the 66 cross-section households increased to 10.8 percent their total expenditure in 2006/07.

On the other hand, the highest 20 percent in all time periods covered around one third of the total expenditure. In 1995/96, the highest 20 percent of the 33 panel households accounted for 34.1 percent of the total expenditure in the sample households. This figure slightly decreased to 31.2 percent in 2003/04. The highest 20 percent of the 66 cross-section households in 2006/07 accounted for 32.1 percent of the total expenditure.

As compared to the average per capita expenditure on the poorest 20 percent of households, the average per capita expenditure for the sample population in 1995/96, 2003/04, and 2006/07 was greater by 2.0, 2.5, and 1.9 times, respectively. On the other hand, the average per capita expenditure for the highest 20 percent of households was greater by 4 times, 4 times, and 3 times in 1995/96, 2003/04, and 2006/07, respectively. Based on these findings, it was concluded that the poorest households, relative to the highest 20 percent of households, as well as the overall sample population, lagged behind in their ability to spend on basic items. The following table summarizes the results of this analysis.

**Table 15. Distribution of per capita expenditure by quintiles over time, 1995/96, 2003/04, and 2006/07**

| Quintiles | Panel survey 1 1995/96 (N=33) | | | | Panel survey 2 2003/04 (N=33) | | | | 66 cross-section households (N=66) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | # of HHs | Lower limit (NRs.) | Mean (NRs.) | Total% | # of HHs | Lower limit (NRs.) | Mean (NRs.) | Cumulative % | # of HHs | Lower limit (NRs.) | Mean (NRs.) | Cumulative % |
| All households | 33 | 3,433.4 | 10,129.2 | 100.00 | 33 | 4,812.8 | 14,419.8 | 100.00 | 66 | 8,390.9 | 23,820 | 100.0 |
| 1st quintile (Poorest 20 percent) | 7 | 3,433.4 | 4,888.9 | 10.2 | 7 | 4,812.8 | 5,895.0 | 8.7 | 14 | 8,390.9 | 12,141.1 | 10.8 |
| 2nd quintile (Second poorest 20 percent) | 7 | 6,157.1 | 7,368.1 | 15.4 | 7 | 8,212.6 | 10,426.7 | 15.3 | 14 | 15,064.7 | 17,981.3 | 16.0 |
| 3rd quintile (Third poorest 20 percent | 7 | 8,367.9 | 9,279.5 | 19.5 | 7 | 12,917.9 | 14,974.9 | 22.0 | 14 | 20,714.1 | 22,513.5 | 20.1 |
| 4th quintile (Second highest 20 percent) | 6 | 10,449.0 | 11,592.8 | 20.8 | 6 | 16,994.3 | 18,024.8 | 22.7 | 12 | 25,160.7 | 27,502.0 | 21.0 |
| 5th quintile (Highest 20 percent) | 6 | 14,586.5 | 18,991.7 | 34.1 | 6 | 18,849.1 | 24,771.5 | 31.2 | 12 | 29,342.5 | 42,102.0 | 32.1 |

(Source: CBS/N, 2006; CBS/N, 2007 and fieldwork, 2007)

It was evident that except for the highest 20 percent of households, all quintiles had expenditure shares higher than asset shares. This finding suggests that the majority of the quintiles had a high marginal propensity to consume. The second poorest 20 percent and the third poorest 20 percent, commonly labelled as the middle class, clearly had the highest difference between the shares of assets and the shares of expenditure.

The focus group discussions and the field observations revealed that the middle class households were more influenced by the expenditure/consumption pattern of the highest 20 percent households than the poorest 20 percent households. Consequently, borrowing money from the informal lending sources such as neighbours and relatives was more common for the middle class households. Contrary to the past, the households had to pay interest to their relatives as well. The interested rates were pegged on the commercial banks' interest rates and varied from ten percent to 15 percent per year. It was noted that expenditure pattern of the middle class households increased their probability of falling into poverty

In 2006/07, nine (out of the 13 middle class cross-section households) reported outstanding loans. Among them, five households mentioned debt as their immediate economic stress. However, since the precise amount of loans of the households could not be assessed.

## 5.5. Association among growth-poverty- inequality

The aim of this section is to answer one of the most common questions of poverty analysis: "*What is the empirical association among changes in per capita expenditure, per capita assets, inequality, and the poverty rate*?" The answer to this question requires multiple perspectives. The concepts of changes in per capita assets and per capita expenditure are closely related to economics and economic growth. The poverty rate is also closely related to economics, as it basically focuses on identifying those above and below an objectively determined poverty line pegged to real purchasing power (Kanbur, 2004). Inequality is also closely linked to sociology. In this discipline, this concept does not have any economic or monetary value attached to it; instead, it is concerned with social arrangements and, as discussed earlier, it is an added dimension to poverty analysis (Kanbur, 2004).

Contemporary inequality is best understood as an inequality in fundamental human capabilities to effectively function in the society (Grusky & Kanbur, 2006; Jenkins & Micklewright, 2007; A. K. Sen, 1980, 1992). In this research, the concept of social capabilities was proxied by two very basic indicators: 1) households being able to spend on food, housing, and non-food items and being able to meet a certain living standard: and 2) households having access to means or assets, namely, land, house, and livestock to be able to afford the items mentioned above.

As summarized in the table on following page, the 33 panel households saw an increase[a] in average per capita assets between 1995/96 and 2003/04. The increase in average per capita assets suggests that the economy grew for the sample households. However, this growth did not result in an increase in average per capita expenditure; on contrary, the average per capita expenditure decreased[*] over the same years. The household survey conducted in the same rural communities covering 66 households in 2007 confirmed that the average per capita assets increased[a*] in 2006/07.

The asset inequality decreased to 50.2 percent in 2003/04 from 52.8 percent in 1995/96. However, the assets inequality remained considerably high. The inequality of asset value distribution further worsened in 2006/07. The Gini coefficient increased to 67.7 percent.

Inequality of average per capita expenditure, which was reasonably low to begin with, further decreased for the 33 panel households. The Gini index of per capita expenditure was 26.5 percent in 1995/96 and 26.2 percent in 2003/04. The household survey confirmed that the inequality of average per capita expenditure decreased further. In 2006/07, the Gini coefficient of average per capita expenditure was 24.2 percent. The following table summarizes the changes in per capita assets, per capita expenditure, inequality, and poverty rates over time.

**Table 16. Growth, inequality and poverty over time, 1995/96, 2003/04, and 2006/07**
(in 1995/96 NRs. value)

| Categories | Panel survey 1 (*P 1*) 1995/96 (N=33) | | | Panel survey 2 (*P 2*) 2003/04 (N=33) | | | Cross-section survey 1 (*C 1*) 2006/07 (N=66) | | | Significance of difference at an 0.05 level of significance | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | St. Dev. | Gini Index | Mean | St. Dev. | Gini Index | Mean | St. Dev. | Gini Index | P 1 & P 2 | P 1 & C 1 | P 2 & C 1 |
| Per capita value of asset aggregate | 137,215 | 177,893 | 52.8 | 148,275 | 130,670 | 50.2 | 411,473 | 739,207 | 69.7 | Increase [a] | Increase [*] | Increase [*] |
| Per capita total expenditure | 10,129 | 5,496 | 26.5 | 9,315 | 4,476 | 26.2 | 12,814 | 6,347 | 24.2 | Decrease [*] | Increase [a] | Increase [*] |
| Poverty rate based on national poverty line and headcount index method | 11.5 (SE=2.86) | | | 27.2 (SE=3.81 ) | | | 2.4 (SE=1.49) | | | Increase [*] | Decrease [*] | Decrease [*] |

(Source: CBS/N, 2006; CBS/N, 2007 and fieldwork, 2007)

[a] Not significant
[*] Significant

As mentioned in the table above, despite the decrease in inequality in per capita expenditure, the poverty rate of the 33 panel households significantly increased to 27.2 percent in 2003/04 from 11.5 percent in 1995/96. The 66 cross-section households had only a 2.4 percent poverty rate in 2006/07. In summary, the following conclusions were reached about the 33 panel households and 66 cross-section households:

- Average per capita assets increased[a] between 1995/96 and 2003/04. This figure increased[*] in 2006/07.

- The average per capita expenditure decreased[*] between 1995/96 and 2003/04. This figure increased[a*] in 2006/07.

- Distribution of assets, while remarkably unequal to begin with in 1995/96, marginally decreased in 2003/04 but was still very high. It further worsened in 2006/07.

- Distribution of expenditure, while less unequal in 1995/96 further decreased, although marginally, in 2003/04. It further decreased in 2006/07.

- The poverty rate increased[*] between 1995/96 and 2003/04 but it significantly decreased in 2006/07. The poverty rates in the sample communities were lower than the national figure in all time periods.

Though no statistical correlation between changes in per capita assets, per capita expenditure, inequality, and poverty could be established, there are indications that the following are probably true.

- Increase in per capita asset is associated with an increase in per capita expenditure.

- The asset inequality and the expenditure inequality are, however, moving in different directions, thus requiring further analysis[50].

The literature suggests that the association between poverty-growth-inequality of the so called poverty-growth-inequality (PGI) triangle is often complicated (Bourguignon, 2003; Subramanian, 1997); this statement applied to this research as well. There was no clear evidence as to how the following indicators were associated:

- Per capita assets, which are associated with growth, and inequality in per capita asset
- Per capita assets and poverty rate
- Per capita expenditures and poverty rate
- Inequality in per capita assets and poverty rate
- Inequality in per capita expenditures and poverty rate

[50] These field observations also confirmed that expenditure food and clothes were not distinctly different in seemingly poor and non-poor households. It should be noted that food and clothes constituted the bulk of total household expenditure.

# 6. CONCLUSION

Poverty has long been a human tragedy. Recognizing the intensity of the problem, the Millennium Development Goals (MDGs) established poverty reduction as the overarching goal of all development activities in the year 2000. All member countries of the United Nations signed the global commitment towards reducing poverty by half by the year 2015. To bring the poor, as well as all stakeholders of poverty reduction to the planning process, the Poverty Reduction Strategic Paper (PRSP) initiative was instigated in the year 2003.

Although poverty has always been a part of human history, modern day poverty is different. Unlike in the past when the poverty was associated with scarcity in the society, modern day poverty coexists with progress, prosperity and wealth. Therefore, any discussion on poverty is increasingly linked with inequality. The debate about what poverty means and what it encompasses has intensified since the 1970s. The past three decades of extensive discussion seem to have reached a consensus that poverty is multi-dimensional. It is widely believed that reducing poverty is no longer an economic goal; instead, it is a social goal too. There is a growing consensus that fair distribution of assets and opportunities is the key to reducing poverty.

This study examined poverty and inequality in rural communities in Nepal, a relatively prosperous country in the medieval times which, largely because of wrong political and economic decisions in the eighteenth to twentieth centuries, has gradually

turned into one the poorest countries in the world. The rural poor in Nepal have long been neglected by the government. For centuries, the ruling class has enjoyed a luxurious lifestyle by extracting surplus from the rural poor without any compensation to them. The economic and human development in the country has been purposively stalled by the ruling class for decades.

Though the past five decades of planned development in Nepal has managed to bring about some positive changes, they have largely failed to reach out to the poor. Consequently, the country collapsed into armed insurgency in the mid 1990s; currently, Nepal is working towards restoring peace. Despite the huge loss in human lives, as well as physical infrastructure, poverty anomalously decreased in the country during the years of armed insurgency: inequality increased, however. Reducing the disturbingly high poverty and inequality in Nepal is useful for peace and stability not only in the country but also for South Asia, a region which continues to face armed insurgency of a diverse nature.

In this study, three rural communities in and around the Kathmandu Valley covered by the 1995/96 and 2003/04 living standard surveys were randomly sampled. These rural communities were sampled because they had benefited more from the economic opportunities of the rapid urbanization in Kathmandu, especially during the years of armed insurgency. This situation served the goal of this research better than the situation in isolated rural communities where poverty and inequality levels have remained unchanged during the years covered by the study.

As expected, poverty and inequality changed in the sample rural communities largely owing to off-farm employment opportunities in Kathmandu, as well as commercial vegetable farming and raising small livestock and poultry birds. Though the poverty rates in the sample households were less than the national poverty rate in all time periods, it increased from 11.5 percent in 1995/96 to 27.2 percent in 2003/04. This increase was statistically significant.

There was evidence that the factors responsible for reduction of poverty at the national level include the following: 1) increase in wage rates in the agricultural and non-agricultural sectors; 2) increase in urban areas; 3) increase in the proportion of active human resources; and 4) increase in inflow of remittances. These factors were related to Nepal's increasing economic incorporation into global trade. Furthermore, the political transition from a feudal monarchy to a capitalist parliamentary democracy was also instrumental. Even though these factors held true for the sample households, poverty significantly increased between 1995/96 and 2003/04.

It was evident that asset inequality was remarkably high for all time periods. The Gini coefficient of average per capita asset was 52.8 percent in 1995/96, marginally decreased to 50.2 percent in 2003/04, but jumped to 69.7 percent in 2006/07. The difference in land prices was the major reason behind the increase in asset inequality. Expenditure inequality was relatively low for all time periods. The Gini coefficient of per average capita expenditure was 26.5 percent in 1995/96, marginally decreased to 26.2 percent in 2003/04 and decreased to 24.2 percent in 2006/07. The worsening asset

distribution and improving expenditure distribution was not desirable, suggesting that the expenditure pattern of the sample households was not sustainable. It was concluded that such households[51] were vulnerable to shocks such as a decrease in off-farm employment or wages and surges in food prices.

It was discovered that average per capita assets value grew in the sample households largely due to an increase in land value in **Tokha Sarswoti-6**. However, this growth was associated with worsening of asset distribution. On the other hand, average per capita expenditure did not grow as much, but it was associated with a decrease in expenditure inequality.

Currently Nepal is in another transition phase. The newly elected constitution assembly changed Nepal from a Hindu kingdom to a secular republic in the year 2008. The former rebels, with the highest number in the constitutional assembly, are currently leading the coalition government. The country is preparing to draft a new, inclusive constitution. These rapid and profound changes have generated an intense political crisis in Nepal. All ethnicities and interest groups, claiming that they had been marginalized in the past, are demanding an increasing role in the country's political decisions. Violence has increasingly become the way to voice political demands. It is probably safe to assume that the economic and social development in the country will be sidelined until the current political crisis has been resolved.

[51] Many non-poor households were actually living in borderline poverty, a situation in which the households move in and out of poverty based on the availability of work and food (Payne, 2001).

In this context, it is recommended that the reduction in poverty in the sample rural communities will require individual and communal actions from the rural residents and technical and financial supports from the central and district government; as well, the INGOs are urgently required to revive the local farming sector, which has gradually declined over the years covered by this study.

This research is one of many efforts to grapple with complex issues, attempting an interdisciplinary study of the relationship between expenditure inequality and poverty in an academic context where measures and methods of measurement are highly contested, and the debates around economic policy have been highly ideological. In attempting to explain how assets and consumption (proxied by expenditure) have moved in different directions, this research is expected to make an important contribution to the **sustainable livelihoods** literature, and to policy debates about balancing integration into a global economy with incentives to sustain self-reliance and self-provisioning through asset accumulation on the part of households, and the uptake of local economic opportunity in local community economies. It is also expected to contribute to a growing literature on refining appropriate measures to integrate measures of absolute poverty/wealth and distribution (W. Berry, 1996; Carney, 1999; Chambers, 1995; Chambers & Conway, 1991; Ellis, 2000; Farrington, et al., 1999; ILRI, 2006; Narayan, Chambers, Shah, & Petesch, 2000; Naseem, 2003; Robinson, et al., 2006; Scoones, 1998).

This research is also one of many attempts to answer one of the most common questions of poverty analysis: "*What is the empirical association among changes in per*

*capita expenditure, per capita assets, inequality, and the poverty rate*?" It presents a recent picture of the situation in sample rural communities in and around the Kathmandu Valley and adds to the growing evidence that though growth (as proxied by per capita asset and per capita expenditure) has the potential to alleviate poverty, it is less useful in alleviating inequality.

In terms of methodology, a very well designed survey of 66 cross-section households in three separate communities in and around the Kathmandu Valley was conducted, supplemented by a number of steps taken to assure a meaningful understanding both objectively and subjectively of the rural residents. These results were tied in with existing panel data of 33 panel households from the Nepal Living Standard Surveys conducted in 1995/96 and 2003/04. An objective poverty assessment was done using the national poverty line; a subjective poverty assessment was done covering the perceived changes experienced by households; and a relative poverty assessment was done to assess how distribution of assets and expenditure changed over the three time periods.

This research successfully used a mixed method of data collection. Both qualitative and quantitative techniques were used for data collection. One of the unique aims of this research was to confirm participation at the local and the national level by founding a local Study Support Team (SST) composed of representatives from a host of relevant Nepalese agencies and rural residents. The SST participated and guided the research process right from the beginning. The Research Team, consisting of Nepali students, helped the researcher in collecting data. A workshop was organized as a part of

the fieldwork to provide all participants of this research with an opportunity to meet and share their insights about poverty and inequality, especially in the sample rural communities. The local Study Support Team meetings, Research Team meetings, as well as the final workshop provided unique opportunities for the researcher to collect and triangulate information.

The paper reinforces the argument that it is necessary to develop concepts of poverty further by contextualizing poverty in the given rural situation and not just drawing conclusions about it based on panel data analysis (McKay & Lawson, 2003). Further contributions of this research include 1) creation of another data set of sample rural communities which will help in strengthening the longitudinal surveys of poverty and inequality, and 2) recommendation of areas of refinement required in the Nepal Living Standard Surveys (NLSS) (CBS/N, 1995, 2005; P. Lanjouw, et al., 1999).

# 7. RECOMMENDATIONS

This section presents recommendations that could potentially help in reducing poverty and inequality in the sample households and probably other households in a similar context in Nepal. Reduction of poverty and inequality is based on two premises: 1) households in the sample communities being able to afford [52] basic food and non-food items[53] in the short run; and 2) households being able to maintain and/or accumulate assets to sustainably afford basic food and non-food items in the long run.

[52] The term 'affording' covers buying food and non-food items using cash, producing them at home, or receiving as an in-kind wage.
[53] The bundle of food and non-food items was outlined in the earlier chapter.

The recommendations are based on the assumption that the sample rural communities are small and open economic systems that are affected by the changes in national and international policies such as the ones discussed in the preceding chapter. The aim of the recommendations is to make the sample rural communities respond more sensibly to the changes associated with the existing economic system of the country and help the sample rural remain out (or climb out) of poverty as evidenced by their ability to spend on basic food and non-food items. It is reemphasized that poverty is multi-dimensional. However, finding ways to help the households become able to spend on basic food and non-food items provides insights as to how sustainable rural communities can be established.

In terms of their ability to afford basic food and non-food items, the sample households, on average, were found to be doing relatively well as compared to the national data in all three time periods. As discussed earlier, the local economies of all the sample communities were receiving economic inflows from off-farm employment, commercial vegetable farming, and raising birds and animals. However, the precious economic inflows were found to be rapidly leaking out[54], which raises a question as to whether the sample communities can continue to maintain the current pattern of expenditure if they are hit by economic shocks such as increases in food price or reductions in off-farm employment/income.

In this context, there seems to be four practical approaches for the communities to sustain the current expenditure pattern.

[54] Though inter-regional trade is desirable, it is worthwhile to periodically reconsider the net gain / loss of inter-regional trade to the local economy.

i. Increase the economic inflows,

ii. Retain the economic inflows,

iii. Distribute the economic inflows more evenly, and

iv. Reorganize rural poverty reduction planning practices.

The first two approaches cover ways to build critical assets required to reduce poverty. The third one covers how economic inflows and their benefits can be more equally distributed. It is to be noted that these approaches are complementary to each other.

## 7.1. Increasing the economic inflows

The following recommendations are presented to help the sample households increase economic inflows. It is recommended that the economic flows can be increased by a) increasing farm income, b) increasing off-farm income, or c) doing both. These options are discussed in detail in the following sections.

### *7.1.1. Increasing farm income*

Increasing farm income entails the following;

- Reviving the local farming sector
- Founding producer cooperatives
- Modernizing saving and credit cooperatives

It was evident that the sample rural communities have a huge potential to increase their farm income. As demonstrated by eleven (out of 66) households in 2006/07, there are ways to independently[55] increase farm income by targeting vegetables (and to some extent chickens and goats) for the market in Kathmandu as well the district headquarters. Although there was the potential to upscale this success, lack of information on technology and inputs was the greatest stumbling block. Therefore, technical, material, and financial support is required from the district-level offices, such as district development committees, district agricultural and livestock development offices, commercial banks, cooperatives, development agencies, district irrigation offices as well as Kathmandu-based NGOs and INGOs.

Several components of technical support from the district-level agencies are worth discussing. The first one is the technical support on modernizing ***farming techniques*** as it was observed that the farmers clearly lacked crop and livestock management techniques. Except for vegetables, they used local varieties of crops and raised local breeds of animals, limiting farm productivity. For example, the average paddy productivity in the 47 households that cultivated paddy in 2006/07 was 2.812 metric tons per hectare, less than 4.000 metric tons per hectare, the potential productivity of the recommended variety for the region (MOAC, 2006). The average vegetable production of nine households growing vegetables on a comparatively larger scale was 9.918 metric tons per hectare, which was less than the regional average of 10.530 metric tons per hectare.

[55] Without any direct help from any external public or private organizations

Similarly, 22 (out 66) households raising goats, required 53 weeks to get the goats to slaughtering weight[56], which was greater than the standard duration of 48 weeks (Shrestha, 2007). Animal nutrition and disease management and soil management was poor. Crop disease and pest management were done on an ad hoc basis. There was clearly a great possibility for increasing crop and animal productivity, which could potentially increase economic inflows to the households (and local economy).

The increase in local farm productivity does not guarantee an increase in economic income. Therefore, the second component of technical support from the district agriculture and livestock development agencies is recommended. To increase economic inflows, good access to the Kathmandu market is as important as the boosting of local productivity. It was noted that since there was no public transport system, the farmers in the two sample communities, namely, **Kubhinde -4** and **Koshidekha-7**, had to sell their agricultural products, especially vegetables, to middlemen. Though the middlemen should be credited for motivating the farmers to start commercial vegetable production in **Koshidekha-7**, they were normally the unilateral price makers of local farm products. For example, the price for one kilogram of tomatoes that the farmers in **Koshidekha-7** received in 2006/07 ranged from NRs. 2 to NRs. 18. Thus, the farm income is very unpredictable and to some extent the farmers felt exploited.

Considering this problem, it is recommended that the district agricultural development agency and the cooperative development agency help the farmers to found ***producer cooperatives*** in the sample rural communities. As is currently being done in

[56] Which was 13 kilograms (Shrestha, 2007).

other rural areas in Nepal, such cooperatives can directly access information about wholesale prices of agricultural commodities in Kathmandu and devise mechanisms to maximise farm income (PAF/Nepal, 2006, 2007). The proposed cooperatives can potentially run rural public information and communication centres that can provide diverse services to the community members in **Kubhinde-4** and **Koshidekha-7**, the two relatively less accessible sample communities. As demonstrated in other rural communities in Nepal, information and communication centres can effectively help the community members access services from urban-based health service providers, as well as improving communication among the off-farm workers and their household members (FIT-N, 2008).

It has to be acknowledged that many rural cooperatives have failed in Nepal in the past. The reasons behind the failures are that they were largely founded by the central government as a blind imitation of the development models of other countries without assessing the interest of the local people (Uprety, 2001). They managers of many cooperatives were recruited by the central government and were neither evaluated nor trained. The importance of cooperatives for community economics and vitality was simply not understood by the cooperative staff and the local rural residents. Worst of all, they were not fully accountable to the local rural residents. Despite such adversities, some cooperatives, especially diary producer cooperatives, were successfully demonstrating how community surplus can be recirculated within the community (Uprety, 2001). Cooperatives founded based on sound principles are social assets. There is evidence across the world that cooperatives can maintain and obtain goods and services

for the community that a pure market economy might not provide (Fairbairn, Bold, Fulton, Lou, & Ish, 1991).

Cooperatives are not a completely new concept in the sample rural communities. All sample rural communities have saving and credit cooperatives that have been effectively collecting local savings and lending them out to some poor households. However, they had several limitations: their records and accounts were not clearly maintained and they had limited funds and could reach out to only a limited number of poor households. Therefore, another major component of the technical support to the rural communities should include ***modernizing the local saving and credit cooperatives***. The commercial banks and cooperative development office are the agencies that could help the saving and credit cooperatives modernize.

Modernizing saving and credit cooperatives has two aspects. In the short term, they need to be trained in ways to increase membership and fund collection as well as keep track of how the funds are being used. In the long term, the saving credit cooperative should expand its services to the broader population. It was noted that the relatively better off households were generally not members of such cooperatives; the loan amount was too small for their requirements. At the same time, such households failed to get farm loans from banks. Despite the fact that these households were the ones that could afford to make big farm investments[57], they remained out of the formal credit

[57] For example, only relatively better off households can raise herd of cows and buffaloes that can increase the economic inflow in the community. It was noted that the consumer in Kathmandu preferred fresh unpasteurized milk and was willing to pay more for it. Moreover, raising big animals can supply much needed organic manure.

system. The modernized saving and credit cooperatives could potentially forge partnerships with the commercial banks and include all kinds of households. Considering the fact that the commercial banks cannot open branches in all rural communities, the partnership between modernized saving and credit unions and commercial banks probably could have a win-win outcome.

### *7.1.2. Increasing off-farm income*

Farm income is not the only way for the sample rural communities to increase economic inflows. There are ways for the sample communities to increase off-farm income**.** In 2006/07, only 13 (out of 54) households with at least one person doing off-farm jobs reported that they were pleased with their off-farm income. It was noted that people holding permanent government or private jobs, running private businesses and services such as local shops, real estate, and contract businesses had satisfactory off-farm incomes. In general, only the community members with an education held government and private permanent jobs.

The community members with skills such as cooks, trained waiters, masons , carpenters, electricians, and plumbers, were also happy with their off-farm work and incomes but complained that their jobs were not secure. It was discovered that 18 (out of 54) households with at least one member working off-farm experienced exploitation. It was also discovered that the members of such households worked either on construction sites, for brick kilns, or in factories as labourers. Their wages and working hours varied depending on the contractor or employer, and usually changed over the months or

seasons. The off-farm job market in Kathmandu was found to be competitive, unorganized and not regulated by the government. The contractors or employers had the freedom to hire and fire and occasionally set the wage rate at will. In off-farm labour markets, the lower the level of education or skills, the higher the level of exploitation.

Considering the fact that the community residents had to compete for off-farm jobs with people from all over Nepal, as well as several states of India, and increasing off-farm income was directly associated with human assets such as education and skill, it is recommended founding ***apprenticeship programs*** in all sample communities that could provide skills workers, such as cooks, waiters, masons, carpenters, electricians, and plumbers, to the community members who are already in the off-farm jobs in Kathmandu. At the same time, it is recommended devising programs to reduce drop out cases from schools, especially in **Kubhinde-4**.

### 7.2. Retaining economic inflows

Increasing farm and off-farm economic inflows alone is not enough for sustainable rural communities. The communities need to retain the precious economic inflows and recirculate them among the community members. Following the '*rusty bucket*' analogy, it is recommended that the community members work towards stopping the economic leakages associated with: 1) food and 2) non-food items. How these leakages can be controlled is discussed in the following sections.

### *7.2.1. Controlling food associated economic leakages*

To control food associated economic leakages, it is recommended that the ***local farm market*** be developed. As discussed earlier, the local market for locally produced farm products was missing in the sample communities. The farm products were either sent to Kathmandu or the nearest urban centre or consumed by the household's members. Occasionally, they were given out to neighbours and relatives in return for help or for free.

Though this traditional system was found to be useful in increasing local consumption and stopping the economic leakages to some extent, it left the local market wide open to farm products grown elsewhere. For example, six out of 47 households that produced rice in 2006/07 had no other way than to transport rice to urban centres to sell as the local shops that were more accustomed to selling relatively cheaper rice grown elsewhere were hesitant to buy it. The proposed producer cooperative could potentially facilitate the process of establishing local weekly farm markets.

Another way of stopping food related economic leakages is by ***conducting educational campaigns*** to sensitize the community members about the importance of consuming local food. There were indications that new ready made snacks such as bread, biscuits, and instant noodles were gaining popularity in the sample rural communities. On the other hand, traditional snacks such as beaten rice, roasted maize and soybean, etc. were less preferred. Educational campaigns could be expected to alert the community members not only about the economic implications of heavily subscribing to ready

made snacks, but also about the nutritional implications as well. The focus group discussions explicitly stressed that ready made snacks were not as filling or nutritious as traditional snacks.

### *7.2.2. Controlling non-food associated economic leakages*

Health was identified as an area requiring action to control non-food economic leakages. At the same time, this is also an important component of human asset development. It was noted that the community members normally do not have any preventive health check ups such as dental checkups, eye examinations, physical check ups, etc. They normally postponed simple curative treatments, which not only affected their ability to work but also unnecessarily drained out large amounts of money on expensive treatments later on. To prevent such expenses, it is recommended that ***mobile health camps*** for eyes, teeth, reproductive health, and vitamin A should be organized on a regular[58] basis. It was observed in the field in 2007 that rural residents queued for up to an hour to have an eye examination in **Tokha Sarwoti-6**. The organizers of the mobile eye camp explained that the mobile camp was organized by an INGO in Kathmandu and confirmed that such camps are always very effective in rural areas. However, their service area was limited to several districts only.

As discussed earlier, there were several examples of poor households spending hard earned off-farm employment income for mobile phones and big screen television. Such expenses were among the leading non-food economic leakages in **Tokha**

[58] The investment in preventive health projects normally has a high rate of return (Chang, 1996).

**Sarswoti-6**. In today's consumption driven world, it is obviously difficult to devise actions to curtail spending on luxury items; however, it is recommended that the central and local governments devise tax policies that would discourage conspicuous consumption of such items as expensive cell phone sets or television sets, consumption that compromises asset building.

### 7.3. Distributing economic inflows more evenly

In addition to increasing economic inflows and retaining them in the community, improved distribution of economic inflows is a critical part of reducing poverty in a sustainable way. As discovered in this research, growth as proxied by an increase in average per capita assets, increased inequality, whereas growth as evidenced by an increase in average per capita expenditure, decrease inequality. Though this research did not find clear evidence as to how inequality influenced poverty and growth, it makes good sense to target a reduction of inequality in rural households by using simple interventions such as ***food banks*** (Bourguignon, 2003; FBC, 2009).

Establishing community managed food banks is an effective way to distribute economic inflows to the poorer section (first and second quintiles) of the communities. In a context where there no social safety net, the poor households in the sample communities had to either cut their expenditure on food items or borrow cash or foods from relatively better off neighbours or relatives when they were in crisis. In contrast to the past, five households reported paying interest on food loans. One household head

reported paying interest on a food loan even to one of her relatives, which was completely unheard of in the past.

The food bank, which can be managed independently or as a part of a proposed producer cooperative, should receive cash and food donations from the district development committee, the local producer cooperative, the local saving and credit cooperative, as well as individual community members soon after the harvest season. It was interesting to note that cash and food donations to community members, even from the relatively poor households (from the first and second quintiles) donated food and money to their neighbours in events such as marriage, death, etc. Therefore, the concept of donating food and money fits with the local culture. Though the concept of a community managed food bank is new, it could be expected to be a viable institution in the long run. The food bank could employ the poor households to maintain rural infrastructure such as dirt roads, community forestry, community taps, etc. throughout the year and pay them food or cash for their work.

### 7.4. Reorganizing rural poverty reduction planning practices

In a broader scheme, however, increasing economic inflows, reducing poverty as well as inequality goes deeper than technical support and institutional innovations. The inability of the five decades of development planning to provide relief for the rural poor and reduce inequality in Nepal calls for a reorientation in rural development planning. Contrary to the conventional planning approaches, it is recommended that rural communities be established as the centre of rural development planning.

The sample rural communities seem to be confident in their ability to deal with poverty, inequality, and broader community development issues. There was a consensus among the focus group discussion participants in all sample communities that the rural communities need more authority for rural development planning. One focus group participant cited the recurring problem of garbage pick up in Kathmandu to argue that 'the city' that cannot even effectively plan for its own problems cannot be expected to plan for rural poverty and inequality problems. The frustration of rural residents is understandable as they could never connect themselves with the central government or the district government in the past. They have been kept away from planning of rural development projects for decades and without elected local governments since 2002.

There were clear indications from 40 (out of 66) households in 2007 that with the recent political changes in the country they were eager to be a part of inclusive and prosperous rural communities. They emphasized that their decades of experience taking care of their poverty and inequality issues have taught them how their crucial their efforts are to escaping poverty. There was clearly a sense of confidence and hope among the community residents that poverty and inequality could be reduced. It was evident that the rural households had popular positive energy to fight against rural poverty and inequality, qualifying them to be the drivers of the rural poverty planning process. However, their understanding of poverty (and inequality) was limited to being able to buy minimum necessities of life such as food, clothes, and shelter. It was clear that the multi-dimensional nature of poverty was largely not understood by all sample households.

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