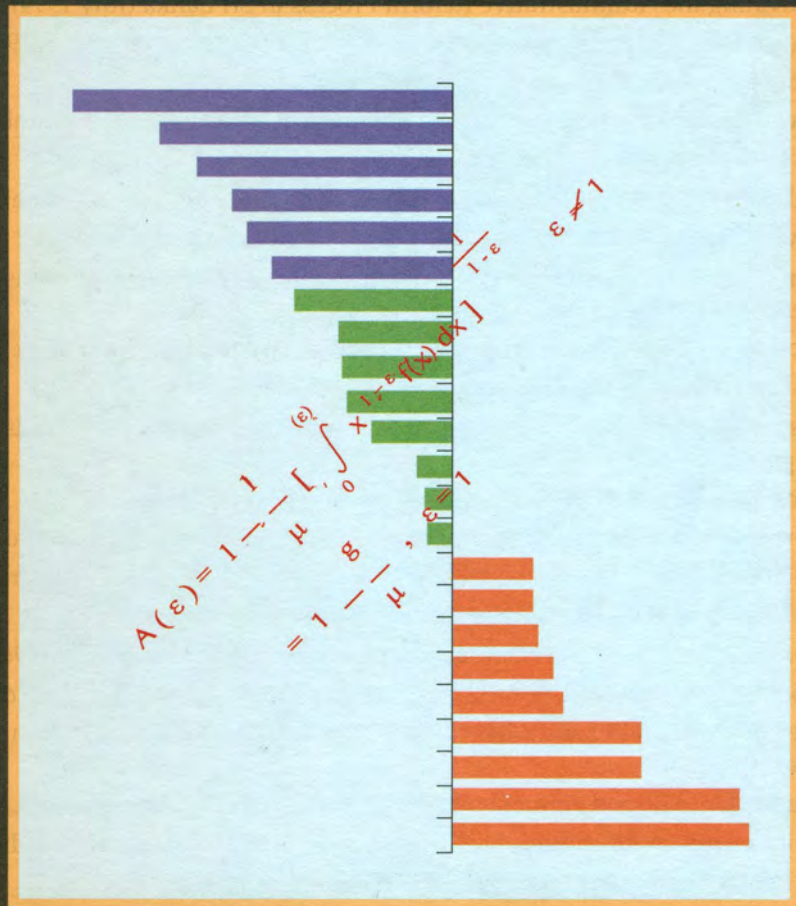


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Identification of the Poor in Sri Lanka: Development of Composite Indicator and Regional Poverty Lines



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INSTITUTE OF POLICY STUDIES

99 St. Michael's Road, Colombo 3, Sri Lanka

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Executive Summary

The identification of the poor and the definition of poverty is rather complex since poverty dimensions are multifaceted. Poverty is not just an inadequacy of income to meet basic needs or the inability to spend. It is largely associated with numerous demographic, socio-economic, cultural, environmental, health and psychological factors. The aim of this study is therefore to compute a composite indicator of multidimensional poverty and regional poverty lines to identify the severity of poverty and regional disparities of poverty in terms of the characteristics of and the availability of resources to the poor. The study was based on the two data sets derived from the Consumer Finance and Socio Economic Survey (CFS) in 1996/97 and the Sri Lanka Integrated Survey (SLIS) in 1999/2000.

Based on the poverty line, 22.4 per cent and 25.2 per cent of the households are identified as poor households whilst 25.8 and 25.3 per cent of the population is identified as poor, in the CFS and SLIS respectively. Poverty in Sri Lanka is predominantly a rural phenomenon whilst the lowest poverty is recorded in the estate sector. The salient feature of rural poverty is that it accounts for more than three-fourths of aggregate poverty in Sri Lanka. However, this contribution to national poverty is largely invariant over the different poverty measures and regional poverty lines. As far as the proportion of poor households and poor population is concerned, there is a decrease in the rural sector whilst a significant increase is apparent in the urban sector though the data in the two relevant surveys is not comparable.

There are more males than females among the poor whilst the sex composition is the opposite among the non-poor (more females than males). Also, the poor are younger than the non-poor, the proportion of older persons aged 60 and above is relatively lower among the poor when compared with the non-poor and the educational attainments are relatively low among the poor as compared with the non-poor. The proportion of the poor in the labour force was lower and their unemployment rate higher than for the non-poor in the SLIS. The labour participants among the poor are more noticeable in employment in agricultural and other primary production activities, while the unemployment level is high among the poor in the rural and the estate sector. The proportion of unemployed poor tends to be higher than the non-poor in the primary and secondary level. The conditions of housing, water and sanitation tend to be low in the poor households when compared with the non-poor. The differentials of these household characteristics and sanitation exist mostly in the estate sector.

The high incidence of poverty is largely seen in the Eastern Province in the SLIS whilst the highest severity of poverty in terms of the squared poverty gap index is recorded in the Uva Province. The lowest severity of poverty is recorded in the North Central Province in both surveys. According to both surveys, the Southern, Central and Western Provinces experienced a relatively high proportion of poverty when the single country poverty line is taken into account. The regional differences using the Single Consumption Based Poverty Line certainly do not provide a clear portrait of poverty differentials by regions because the basket of food consumption is different from region to region. When the regional poverty line and different poverty indices such as Headcount Index (HI), Poverty Gap Index (PDI), and Squared Poverty Gap Index (SPGI), and income inequality indices such as Gini and Atkinson are used, the portrait of the regional variations of poverty would change from the above. The North Central, Central, Uva, Western and Eastern Provinces emerged as relatively more vulnerable provinces for poverty. District-wise there is a considerable incidence of poverty in the districts of Moneragala, Polonnaruwa, Matale, Kegalle and Mannar. Colombo is recorded as the district with the greatest inequality of income followed by Hambantota.

According to the traditional income based indices which are used in this study (i.e., FGT, regional disparities on expenditure based measures), Badulla, Kegalle, Batticaloa, Matara and Kalutara are identified as the poor districts. However, under the Composite Indicator of Multidimensional Poverty, those districts are noticeably different from the districts identified as severely poor districts such as Moneragala, Polonnaruwa, Anuradhapura, Matale, Vavuniya and Mannar due to the consideration of multidimensional factors prevailing in the severely poor districts. These districts suffer relative deprivation in terms of lack of sanitation, water, education, income, calorie consumption and housing facilities etc.

The above findings may be useful in the formulation of policies and implementation of strategies to reduce poverty in the identified districts in Sri Lanka. Moreover, there is no clear national policy for the alleviation of poverty in the country. Therefore, it is important to formulate better policies in this regard by way of identification of genuine characteristics of the poor households and poor people, as revealed in this study. The improvement of infrastructure, particularly in the field of sanitation, water, nutrition and housing conditions should be targeted to reduce poverty for which a national policy has to be adopted by the national government. Moreover, it is important that every district formulates its own poverty reduction strategies for the lessening of poverty because each region has its own carrying capacity based on availability of resources.

Development programmes must be intensified to cover more projects in rural areas where the majority of the poor reside. Further, the government should develop poverty reduction programmes in urban areas where the poor have apparently increased over the last few decades. It is imperative that such development projects be targeted at female, youth and older heads of households. The regional poverty variations in this study provide a basis for making decisions concerning needs-based rules for the allocation of budget expenditure to districts in the provinces in Sri Lanka.

The caste and class association has an important role to play in poverty reduction in Sri Lanka, through empowerment of the household. This has to originate both from community participation and institutional guidance where social and political awareness of poverty reduction will be transmitted to individual households. This type of approach is necessary as there is a regional bias in severe poverty as indicated by data used in this analysis and by many other researchers cited. Therefore, it is timely to engage in projects of micro-level research in the regional context of poverty in Sri Lanka.

The identification of regional disparities of income inequality per se provides insights into the poverty dimensions for formulation of better policies and programmes by the government. The ranking order for sector, province and district reveals the regional disparities of poverty in terms of indices of headcount, poverty gap and severity of poverty, which may be useful for the formulation and implementation of policies for the elimination of poverty and thereby for the improvement of their welfare facilities. When funds are allocated on a provincial basis consequent to devolution of power by the government, these differentials in the ranking order in terms of poverty status could be taken into account. The strategies to reduce income inequality either through welfare programmes or fiscal or financial interventions would be useful in poverty reduction.

1. Introduction

In the South Asian context, Sri Lanka is unique in providing a remarkable package of social welfare measures including free universal education and health care services, subsidized food, income transfer assistance and certain other sectoral subsidies, and also achieving a high human development status since its independence. Nevertheless, the per capita income of the Sri Lankan population still remains under the group of “lower middle income countries” of US \$ 860 in 2001, and between one-third and one-fourth of the population remains below the poverty line, depending on the benchmark poverty line used (Kelegama, 2001). As revealed in the Household Income and Expenditure Survey- 2002 of the Department of Census and Statistics, 23.9 per cent of households are identified as poor households whilst 28 per cent of the total population is poor. Moreover, when one US dollar per person per day is considered as the poverty line (adjusted for purchasing power parity), only about 7 per cent of the Sri Lankan population is poor, but when the poverty line is increased to US \$ 2 a day, the proportion of poor population increases to 45 per cent (UNDP, 2002). Thus, it is generally accepted that more than one-fourth of the Sri Lankan population receives income inadequate to meet their basic needs. Furthermore, large regional variation in poverty is also an issue in Sri Lanka where national level programmes have not been able to distribute opportunities and resources equitably.

Since its independence, successive governments in Sri Lanka have taken several remedial actions and adopted several policies, such as food stamps, Janasaviya and Samurdhi programmes to alleviate as well as to reduce poverty in Sri Lanka. However, the significant change of the status from being poor to being non-poor has not been clearly effected for several reasons such as management inefficiency, ineffective targeting of poor in these programmes due to the type of selection criterion used, which is based on household income, and the inability to have access to and assess accurate information about household income. This is largely due to two factors. Firstly, most of the poor are employed as casual employees; and secondly, their work is seasonal which leaves these categories economically vulnerable, only during certain periods of the year. If income assessment takes place at peak labour demand periods, some of the poor will not be captured. Also, due to past experience in obtaining state transfers, some of the non-poor households tend to underestimate their income in order to obtain state assistance. As a result, mis-targeting was common where surveys show that 65 per cent of the last income decile and 5 per cent of the highest income decile received poverty alleviation assistance under the “Samurdhi” programme launched by the state. This benefit accrues also to the deciles in-between who are not entitled to such benefit.

Furthermore, mis-allocation of household transfers through poverty alleviation programmes occur even in the education and health sectors. Although education is provided free, hidden costs such as transport, purchase of stationery, uniforms etc. discourage the poor from continuing school or obtaining other vocational training. Similarly health, although provided free, also has hidden costs when the patients have to purchase certain drugs, injections etc. from private sources, due to shortages of medical supplies etc, in state dispensaries/hospitals.

2. Objectives

The main objectives of the study are:

1. Identification of the poor by using a broader definition of poverty, which will take into account a number of indices in defining a poverty line. (Defining such a broad based poverty line requires a closer examination of characteristics and availability of resources to the poor).
2. Measurement of regional differences on poverty using the poverty indices and constructed poverty lines.
3. Development of a Composite Indicator of Multidimensional Poverty to identify poverty by severity¹ and also to examine regional disparities of poverty.

3. Conceptual Issues of Poverty

Identification of the poor or the definition of poverty is rather complex since the dimensions of poverty are multi-faceted. Poverty is not just an inadequacy of income to meet basic needs or the inability to spend. In most cases, it is associated with numerous characteristics like lack of assets, landlessness, unemployment or underemployment, illiteracy, malnutrition, high infant mortality, large family, low productivity, low position in the social hierarchy, less access to publicly provided goods, poor infrastructure facilities and extreme vulnerability to natural calamities, disease and social conflicts.

Poverty can be measured by way of income of the household and aggregate consumption on a per capita basis. However, in view of the inaccuracy of available information on household income or per capita income, consumption-based poverty is believed to be the better measure to identify the poor. Furthermore, the levels and patterns of expenditure on consumption tend to be smooth over time, and are more precise and have fewer fluctuations than income (Kakwani, Sisouphanhthong et al., 2001). As the Asian Development Bank (1999) defines it, poverty is a deprivation of essential assets and opportunities to which every human is entitled. The United Nations (1997:5) defines poverty as the “denial of choices and opportunities which are most basic to human development to lead a long healthy creative life and enjoy a decent standard of living, freedom, self esteem and respect of others”. Though Amartya Sen in the first instances (1976, 1981, 1985, 1987) emphasized that income was the only valuable factor for increasing the ability to overcome the issues of poverty, in the later instances, Sen (1999) highlighted, by the term “capabilities framework”, that poverty is the lack of certain basic capabilities, such as avoiding hunger and illiteracy, as much as a lack of adequate income. In the new definition formulated by the World Development Report 2000/2001 of the World Bank (2001¹), health, education, vulnerability to risk and empowerment are placed alongside economic indicators in the identification of levels and location of poverty. By this method, poverty is better measured in terms of different dimensions, most of which are non-economic dimensions, such as basic education, health care, nutrition, water, sanitation, household amenities, as well as in terms of economic dimensions such as income, consumption, employment and wages. Therefore, a Composite Indicator of Multidimensional Poverty including the above variables is more meaningful than a single based measure like household income or per capita income that is taken into account to capture the magnitude of poverty. In a study of resettlement and health in Sri Lanka,

¹ At present, the use of one poverty cut off point prevents understanding the variation among the poor that ranges from poverty to severe poverty.

Seneviratne (2003) has indicated that there is a significant relationship between the immediate living environment of the poor and health, which makes the place factor formed by caste and class, an important variable to be considered in poverty studies in Sri Lanka. This study therefore constructs a Composite Indicator of Multidimensional Poverty to capture poverty status in Sri Lanka.

4. Measures of Poverty: Poverty Line

Sri Lanka does not have a poverty line stipulated by the state but what is available as a poverty line is a cut-off point for household income that has been decided, over time, on a relatively ad hoc basis for each household transfer programme. As the mechanism for identification was weak, once selected for the programme, there was no facility available for those placed above the poverty line to be removed or those below the poverty line to be included. Therefore, nearly all households that are initially selected continue to obtain assistance until the programme or project is terminated, which often occurs with the change of the political regime. A more focused welfare programme for the poor will assist in upgrading the quality of life, until benefits from economic growth accrue to them. However, in order to do so, one needs to be able to identify the poor more accurately. This requires a poverty line, which is not confined to household income alone. Moreover, there are two approaches in defining the minimum level of material well being, which is widely called the poverty line. Based on these two approaches, poverty is identified as absolute poverty and relative poverty. Absolute poverty is most commonly measured in relation to the ability of a household to afford a minimum set of goods and services that are required for consumption. In this approach, the food poverty line is first derived using the cost of a food basket that satisfies a food energy requirement. Then an amount equal to the average non-food consumption of those who can just afford to meet their food energy requirements is added to the cost of food consumption. Relative poverty involves some definition of a ratio of income or consumption relative to the average level for the society. Although both approaches are appropriate for identifying the poverty line, absolute poverty, which is usually used to measure the poverty line in developing countries, is more appropriate for Sri Lanka. Absolute poverty measures are therefore used to determine poverty and regional poverty lines, in this study.

The scope of this study is therefore to identify the poor and develop a better indicator such as a composite indicator of multidimensional poverty and regional poverty lines for future programmes on poverty reduction in Sri Lanka.

5. Data and Methodology

The study is based on an analysis of data from two household surveys in Sri Lanka, viz., Sri Lanka Integrated Survey (SLIS) of 1999/2000 commissioned by the World Bank and the Consumer Finance and Socio Economic Survey (CFS) of 1996/97 conducted every ten years by the Central Bank of Sri Lanka. Although the latter survey is slightly out-dated and it covers only seven provinces in the country excluding the Northern and Eastern Provinces due to the civil disturbances in those areas, it is better for the task in hand as it includes information on other aspects of the household than income-expenditure.

The World Bank commissioned Sri Lanka Integrated Survey (SLIS) is part of a living standard study covering 7,500 households in 1999/2000 and covers the whole island including the Northern and Eastern Provinces except Kilinochchi and Mullativu districts. With the exception of the North and East, the sample was designed by the Department of Census and Statistics to draw a multi-stage probability random sample.

Sample selection in the North and East was designed to be the number of communities for each district proportional to the square-root of the population in that district. The total number of communities for the North and East was fixed at 50 — Jaffna 11, Vavuniya 6, Mannar 5, Trincomalee 10, Batticaloa 8 and Ampara 10. In each district, communities were selected at random within each Divisional Secretariat (DS) and the number of communities was proportional to the population in the Grama Niladari Divisions (GND). Finally, fifteen households were selected within each community.

The Consumer Finance and Socio Economic Survey of 1996/1997 was conducted on the basis of a multi-stage probability stratified random sample covering a sample of 8,631 households and 9,351 spending units in the seven provinces. Data was collected only from the persons living in households and therefore persons living in commercially run boarding houses, hotels, defence services camps and police barracks were not represented in the sample. The response rate in the coverage of sampled household was 99.3 per cent.

Although strict comparison may not be possible due to differences in sampling and coverage, the data from both sets of surveys can be used to verify the reliability of the poverty characteristics/indices identified. Apart from identifying common characteristics of the poor in order to define a poverty line, analysing both sets of data at different points of time (i.e., 1996/97 and 1999/2000) will also permit the observation of any shift in characteristics of the poor over time and, if so, how the indices selected need to be updated for the future. Moreover these two surveys provide comprehensive information on the poor and non-poor for this study. As Martin Ravallion (1994) has correctly pointed out “Household surveys are a source of data for monitoring the relations between the determinants and the living standards in a society”.

The quality of data collected, particularly in the SLIS, however, is a limitation that must be kept in mind. Cleaning of data in the SLIS seems not to have been done for some variables where missing data is taken into account. On the other hand, the completeness of the collection of data in both cleared and uncleared areas of the North and Eastern Provinces is doubtful due to the prevailing civil disturbances and displacement of population.

However, within these limitations both data sets will be analysed to:

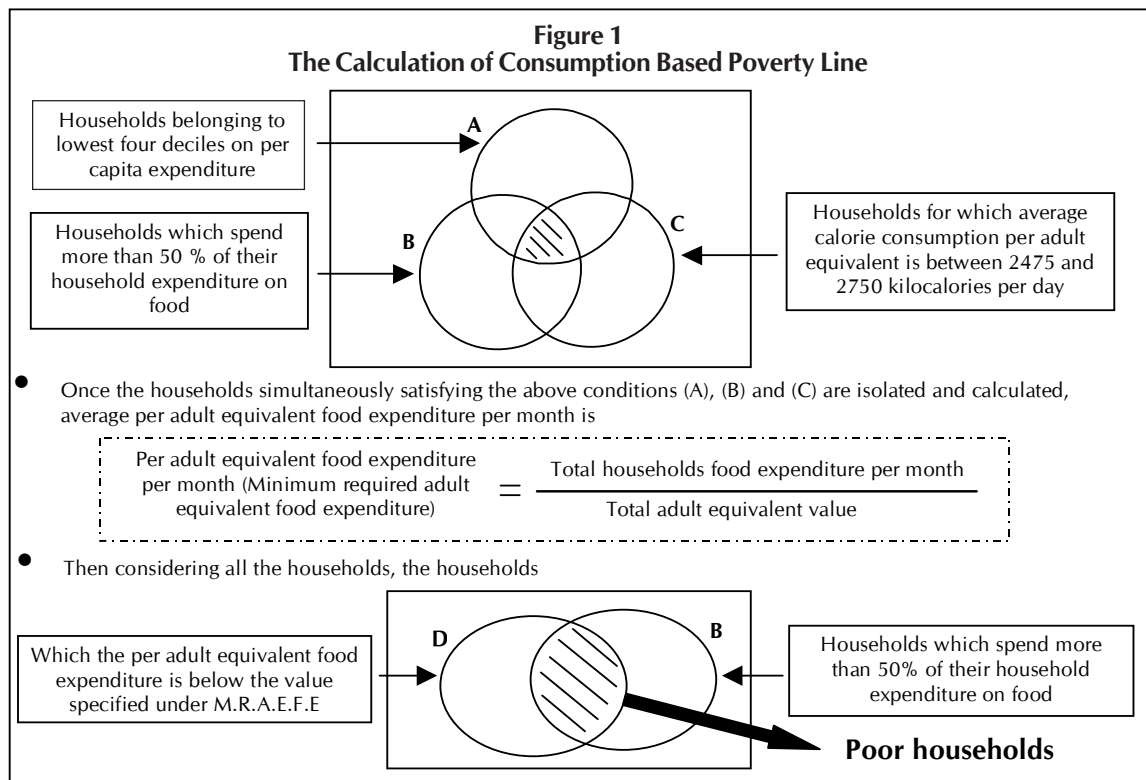
1. Assess characteristics common to the poor.
2. Assess the degree of poverty in relation to expenditure, income and hiring of labour (as the majority of the poor are casual workers in agriculture and industries).
3. Formulate a national poverty line based on findings of 1 and 2 above.
4. Formulate poverty cut-off points/definitions to identify varying severity in poverty in the population to permit differential policy/programme action.
5. Formulate a set of regional poverty lines.
6. Develop maps on poverty for Sri Lanka.

5.1 Methodology

5.1.1 Derivation of poverty lines and measures of poverty

The analysis of poverty and the construction of poverty lines for regions were based on consumption/expenditure-based poverty, and begins with the establishment of a poverty line. The poor households and the population under poverty were measured using per capita **Minimum Required Adult Equivalent Food Expenditure (M.R.A.E.F.E.)** (Department of Census and Statistics, 2003) taking the poverty line of SLIS and CFS for the two data sets.

In order to calculate M.R.A.E.F.E., firstly, the number of households belonging to the lowest four deciles of per capita expenditure was selected. Secondly, from those selected, the households that spend more than 50 per cent of their expenditure on food were filtered. Thirdly, from the households already filtered, the households for which equivalent calorie consumption per adult is between 2,475 and 2,750 kilocalories were sorted out and average expenditure per adult on food computed for those households. This average value is called M.R.A.E.F.E. Finally, the poor households were defined upon the conditions of the households that spend over 50 per cent of their household expenditure on food and for which the per adult equivalent food expenditure is below the value specified under M.R.A.E.F.E. The construction of this poverty line based on M.R.A.E.F.E is clearly illustrated by the following diagram (Figure 1). All the other households are defined as non-poor households, and their people are the non-poor population in this study. However, as the food expenditure or the cost of the food basket is different in each region (sector/province/district), separate poverty lines using M.R.A.E.F.E for different regions were calculated to identify the poor households. The minimum needs approach usually defines needs on a per capita basis and therefore per capita expenditure is a more appropriate measure to determine the poor.



The basic unit of analysis of poverty is at household level in this study. However, in order to identify some characteristics of the poor, the population who resided in those households was considered. A household, as defined in the Sri Lanka Integrated Survey as well as the Consumer Finance and Socio Economic Survey, refers to a person or a group of persons who usually live in the same housing unit and have a common arrangement for the preparation and consumption of food. The purpose of the study based on the detailed information on expenditure on food and other characteristics is to look at expenditure based poverty, the spending unit within the household which represents the sampled population in the Consumer Finance and Socio Economic Survey (CFS).

This study used several measurements to identify the status of the poor, the depth and severity of poverty, the dispersion of income distribution and variations amongst the poor. These measurements also provide insights into understanding the incidence and severity of poverty with the multidimensional composite poverty index which is computed at the end of the study. Moreover, the importance of the multidimensional composite poverty index could be justified when the conventional measurements are considered. These measurements are the Headcount Index, Poverty Gap Index based on the calculation of the *Foster-Greer-Thorbecke Index* (FGT Index, 1984), *Atkinson Index*, *Gini Index* and the *Lorenz Curve* which are described in the following section.

The study elaborates the construction of a Composite Poverty Index, which was based on seven factors that poor persons are in deprivation of, such as nutrition, primary education, health care, sanitation, safe water, household factors and income. These factors were scaled and weighted using Principal Component based Factor Analysis (PCFA). Sanitation and drinking water are constructed as two indices based on the type of latrine and sources of drinking water. Further, the required calorie consumption, expenditure on food, level of education and per capita household monthly income are also used as multidimensional factors in the calculation of the composite poverty indicator. The household factors which are based on several household variables such as floor type, wall type and source of lighting are utilized. The eigen values² in the PCFA have been taken to weigh and rescale these variables. Thus, composite indices are constructed for the regions considering the status of the above factors in the region. Developing a Composite Poverty Index could be used to define a poverty line and this identifies the poor more accurately and can be easily made operational at regional level. A poverty line thus developed will also be able to encompass the severity of poverty and regional differences in poverty that will guide efficient allocation of resources to the poor.

For the above, all computations were made by using the different software packages such as SPSS 10.0 (Statistical Package for the Social Sciences), STATA 8.0, and DAD 4.3 (Distributive Analysis/Analyze Distributive). The maps were drawn using GIS (Geographical Information System) techniques. The incidences of poverty, the gap of poverty, the severity of poverty and income inequality among the poor are measured by the following indices.

² The eigen values are the variances extracted by the factors.

5.1.2 The Foster-Greer-Thorbecke Index (FGT)

FGT measure has been used in capturing the number of the poor and the depth and severity of poverty. The **Foster-Greer-Thorbecke (FGT) Index** is defined as:

$$P_{\alpha} = \frac{1}{n} \sum_{i=1}^q \left(\frac{z - y_i}{z} \right)^{\alpha}$$

Where:

n = total population

z = poverty line

y_i = income or expenditure of the i^{th} individual

q = the number of persons with income below the poverty line

α = measure of sensitivity of the index to poverty

If $\alpha = 0$, the **FGT Index** reduces to the **Headcount Index (HI)**. When $\alpha = 1$, the index is the **Poverty Gap Index (PGI)** and if $\alpha = 2$, the index reduces to the **Squared Poverty Gap Index (SPGI)** (Foster, Greer and Thorbecke, 1984).

Headcount Index – HI ($\alpha = 0$)

This indicator is a measure of the incidence of poverty and the simplest measure of poverty. The Headcount Index (also called poverty rate or headcount rate) is the proportion of the population for whom per capita income (or other measures of living standard) is less than the poverty line. Using the same notation as above, HI can be derived as;

$$P_0 = \text{HI} = \frac{1}{n} \sum_{i=1}^q \mathbf{1} = \frac{q}{n}$$

Although HI is simple to construct and easy to understand, it disregards differences in the quality of life of different poor households as it assumes that all poor are in the same situation and it does not take the intensity of poverty into account. Further, this index does not account for changes over time, if individuals below the poverty line become poorer or richer, as long as they remain below the poverty line (World Bank, 2001^b).

Poverty Gap Index - PGI ($\alpha = 1$)

Depth of poverty is measured by the Poverty Gap Index, also called the Foster-Greer-Thorbecke (FGT) P1 measure. This indicates how much income is to be transferred to poor individuals in order to allow them to reach the poverty line. That means this indicator measures the magnitude of poverty, considering both the number of poor people and how poor they are. The Poverty Gap (PG) is the average among all people, of the gaps between poor people's living standards and the poverty line. It indicates the average extent to which individuals fall below the poverty line (if they do). The Poverty Gap Index (PGI) is defined as the ratio of the PG to the poverty line. It is the poverty gap expressed as a percentage of the line. Using the same notation as presented before, PGI can be denoted as:

$$P_1 = \text{PGI} = \frac{1}{n} \sum_{i=1}^q \left(\frac{z - y_i}{z} \right)$$

However, the PG and PGI complement the HI; they do not capture differences in the severity of the poverty amongst the poor and ignore “inequality among the poor” (World Bank, 2001^b).

Squared Poverty Gap Index – SPGI ($\alpha = 2$)

Squared Poverty Gap Index is an indicator which is used to measure the severity of poverty. This index takes inequality among the poor into account. This means that a transfer of any measure of the standard of living from poor to even poorer would reduce the index or a transfer of the same from very poor to less poor would increase the index. Therefore, the index in itself is difficult to interpret the poverty gap of the poor. Using the previous notations noted under section 5.1.2, SPGI can be denoted as:

$$P_2 = \text{SPGI} = \frac{1}{n} \sum_{i=1}^q \left(\frac{z - y_i}{z} \right)^2$$

Further, it is the average value of the square of depth of poverty for each individual. Poorest people contribute relatively more to the index [also called the Foster-Greer-Thorbecke (P2)]. The poverty severity index provides a weight to the poverty gap. Larger values of the parameter indicate that a greater weight is attached to the poverty gap of the poorest unit. The SPGI is defined as the average of the square relative to the poverty gap of the poor.

5.1.3 Gini Index and Lorenz Curve

One of the most commonly used measures of a welfare improvement indicator is the *Gini Coefficient* whilst the *Lorenz Curve* is used to measure changes in the income distribution. The Gini Coefficient is usually measured as follows:

$$G = \frac{1}{n^2 \bar{y}} \sum_{i=1}^n \sum_{j=1}^n |y_i - y_j|$$

Where:

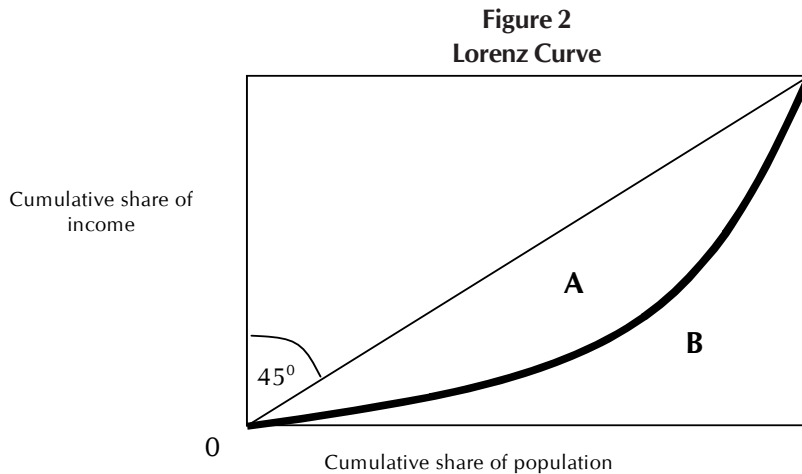
n = total number of population

\bar{y} = mean income of the total population

y_i and y_j represent income assigned to individuals i and j

The value of the Gini Coefficient is bound between zero and one —zero indicates the case of full equality where the Lorenz curve coincides with the 45-degree straight line, and one indicates the case where there is complete inequality and all income accrues to a single individual. Hence, low values of the Gini are associated with more equal distribution of income.

The Lorenz curve illustrates the cumulative income share on the vertical axis against the cumulative share of population on the horizontal axis (Figure 2). If each individual had the same income, the income distribution curve would be a straight line and the more bowed downward the Lorenz curve is, the more unequal is the distribution of income in the graph.



The Gini Coefficient can also be calculated as the ratio of the area under the egalitarian triangle (the sum of the areas A and B) and the area between the Lorenz curve and the forty-five degree line (A).

$$\text{Gini Coefficient} = \frac{A}{A + B}$$

If $A = 0$ the Gini Coefficient becomes 0 which means perfect equality, whereas if $B = 0$ the Gini coefficient becomes 1, which means complete inequality. It is important to note, however, that the Gini Coefficient represents less information than the full Lorenz Curve; different Lorenz Curves may possess the same Gini Coefficient.

5.1.4 Atkinson Index

Another class of inequality measures was proposed by Atkinson (1970). This class also has a weighting parameter ε (which measures aversion to inequality) and some of its theoretical properties are similar to those of the extended Gini Index. The Atkinson Index is one of the few inequality measures that explicitly incorporate normative judgments about social welfare (Atkinson, 1970). The Atkinson Index is defined as:

$$A_\varepsilon = 1 - \left[\frac{1}{n} \sum_{i=1}^n \left(\frac{y_i}{\bar{y}} \right)^{1-\varepsilon} \right]^{1/(1-\varepsilon)}$$

where:

n = total population

\bar{y} = mean income of the total population

y_i = income of the i^{th} individual

ε = weighted parameter which is bound from 0 to 1

The Atkinson Index is used to measure the welfare improvement as “*Inequality Aversion Parameter*” which captures social aversion to inequality in the distribution of income. The ϵ parameter, which is bound by the limits of 0 and 1, determines the level of inequality aversion. The Atkinson Index is more sensitive to changes at the lower end of the income distribution as ϵ approaches its limit of 1. Conversely, as the level of inequality aversion falls (that is, as ϵ approaches 0) the Atkinson Index represents more sensitivity to changes in the upper end of the income distribution (Allison, 1978).

The Atkinson Index A , is defined as $A = 1 - y_e / \bar{y}$, where y_e is the “Equal distribution income,” that is, the amount of income which, if distributed equally, would produce the same level of social welfare, and \bar{y} is average actual income. The definition of y_e uses an inequality aversion parameter ϵ , which is less than or equal to one, and functional form can be derived as follows:

$$y_e = \left\{ \left[(y_1)^\epsilon + (y_2)^\epsilon + \dots + (y_n)^\epsilon \right] / n \right\}^{1/\epsilon}$$

or

$$A(\epsilon) = 1 - \frac{1}{\mu} \left[\int_0^g x^{1-\epsilon} f(x) dx \right]^{\frac{1}{1-\epsilon}}, \quad \epsilon \neq 1$$

$$= 1 - \frac{g}{\mu}, \quad \epsilon = 1$$

Where:

g = the geometric mean of the distribution

ϵ = measure of the degree of inequality aversion or the relative sensitivity to income transfers at different income levels

This index is derived from the social welfare function, which is utilitarian, and every individual has exactly the same utility function. Under the assumptions³ that the individual utility function is homothetic this measure can be written as above. The higher the value of ϵ the more society is concerned about

³ The Atkinson Index satisfies the five requirements of the “axiomatic” approach:

(a) *The Pigou-Dalton Transfer Principle*: This axiom requires the inequality measure to rise (or at least not fall) in response to a mean-preserving spread: an income transfer from a poorer person to a richer person should register as a rise (or at least not as a fall) in inequality and an income transfer from a richer to a poorer person should register as a fall (or at least not as an increase) in inequality.

(b) *Income Scale Independence*: This requires the inequality measure to be invariant to uniform proportional changes: if each individual’s income changes by the same proportion (as happens say when changing the currency unit) then inequality should not change.

(c) *Principle of Population*: The population principle requires inequality measures to be invariant to replications of the population: merging two identical distributions should not alter inequality.

(d) *Anonymity*. This axiom - sometimes also referred to as ‘Symmetry’ - requires that the inequality measure be independent of any characteristic of individuals other than their income (or the welfare indicator whose distribution is being measured).

(e) *Decomposability*. This requires overall inequality to be related consistently to constituent parts of the distribution, such as population sub-groups. For example, if inequality is seen to rise amongst each sub-group of the population then we would expect inequality overall to also increase. The Atkinson set of inequality measures can be decomposed but the two components of within- and between-group inequality do not sum to total inequality (J. Litchfield, 1999).

inequality (Atkinson, 1970). The Atkinson class of measures ranges from 0 to 1, with zero representing no inequality. For example, Nanak Kakwani (1986) used the Atkinson index as above to measure the social welfare improvement in Sri Lanka.

5.1.5 Construction of composite indicator of multidimensional poverty

As income or expenditure based measures alone do not provide a comprehensive profile of poverty status in Sri Lanka, a Composite Indicator of Multidimensional Poverty was constructed to combine the important dimensions such as nutrition, primary education, primary health care, sanitation, safe water, housing facilities and income/expenditure which indicates capabilities of individuals, households and communities to meet their basic needs (Asselin, 2002). Thus, multidimensional poverty, per se, is a richer concept than the traditional income approach (Asselin, 2002).

In order to develop the composite indicator of multidimensional poverty, this study used the Weighted Principal Component (PC) based Factor Analysis. In comparison with the Generalized Canonical Analysis (GCA) and Multiple Correspondence Analysis (MCA), which are also used to develop a composite indicator, the Principal Component Analysis based Factor Analysis is more efficient in sequentially capturing significant factors out of multiple variables in developing a composite indicator (Meulman, 1992; Anderson, 1984).

The methodological procedure of the construction of a composite indicator of multidimensional poverty is by using the PC based Factor analysis in different steps. Firstly, Factor Analysis is used for all variables to identify the significant factors (all with an eigen value [\ddot{e}] greater than 1) and variance structure or covariance matrix (Σ). Secondly, using a covariance matrix, the original variables (X_i) are rescaled by dividing by their respective standard deviations (σ_i) and assigned specified weights (ω_i) into the factor structure of the model using eigen values.

$$X_i^* = \frac{X_i}{\sigma_i \omega_i}$$

Where:

$$X_i^* = \text{rescaled variable}$$

$$\omega_k = 1/\sqrt{\ddot{e}_{1k}}$$

$$(k = 1, 2, \dots, p)$$

Thirdly, Factor Analysis is used for rescaled variables and extracted factor scores. Finally, based on these factor scores and the relevant eigen values (all greater than 1) the factors are finally weighted and those weighted factor scores are used as the final measure of the composite indicator (for further discussion of the methodological procedure, see Garcia del and Pueyra, 1997; De Silva, Thattil and Samita, 2000).

Based on the ultimate composite poverty indicator, all districts are ranked in order to understand the poverty status in Sri Lanka. The selected districts with negative values on the composite indicator are identified as districts with severe poverty. The negative values are the result of the lower values of the variables, representing low status of living standards. Thus, the districts with negative values are divided

into two equal groups: the districts with high negative composite poverty indicator values are considered as *highly-severe poor districts* in Sri Lanka and the other districts with negative values as *moderately-severe poor districts*. The remaining districts with positive composite indicator values represent the *relatively-low poor districts* because the positive values, per se, indicate a fair standard of living (i.e., relatively better housing facilities, water and sanitation).

6. Results

The results of both surveys are discussed in the following sections: sample distribution and background characteristics of households, identifying the poor households and poor population based on poverty lines, profile of the poor in terms of demographic, socio-economic and health conditions in comparison with non-poor, housing conditions of the poor, regional distribution of the poor households based on the poverty lines, regional poverty lines and poverty indices, regional disparities of poverty using indices and identification of poverty status by using the constructed Composite Indicator of Multidimensional Poverty.

6.1 Sample Distribution and Background Characteristics of Households

The size of the sample and distribution of population in both surveys are presented in Table 1. The surveyed sample size and the household population covered in the Consumer Finance Survey (CFS) are higher than that of the Sri Lanka Integrated Survey (SLIS) though SLIS had national coverage. The SLIS in 1999/2000 surveyed 7,500 households and 34,330 household population, whereas CFS in 1996/97 covered 8,663 households and 39,928 household population.

The distribution of sample by sector reveals that 76.4 per cent (5,730) of surveyed households was from the rural sector whereas in CFS 82.4 per cent of households (7,137) was from the rural sector. The coverage of the size of the urban sample (19.0 per cent or 1,425 households) and surveyed urban population (19.5 per cent or 6,700 population) in SLIS exceeded those in CFS (12.2 per cent or 1,055 households and 12.9 per cent or 5,163 population) and in contrast, the coverage of estate sample and their population in the CFS has been more than those in the SLIS (Table 1). It is noted that in both surveys the definition of urban and rural is the same as the definition used by the Department of Census in 1994 – all areas under Municipal and Urban Council are considered as urban whilst the area under “Pradesiyasabha” is rural.

As seen in Table 1, the coverage of sample size and the surveyed population in both surveys are mostly similar. The highest number of households (18 per cent or 1,350 households) and the highest surveyed population (17.3 per cent or 5,945) for the SLIS were from the Western Province whilst the lowest sample size (6.8 per cent or 510) and the surveyed population (6.8 per cent or 2,344) were from the North Central Province. It is noteworthy that a considerable size of sampled households and population were covered in the Northern (11 per cent or 825) and Eastern (14 per cent or 1,050) Provinces in the SLIS. The highest sample size and recorded population were also from the Western Province in the CFS whilst the lowest was also recorded in the North Central Province. The coverage of samples in the Eastern Province in the CFS is negligible (Table 1). All apparent differences of the sample distribution in the two surveys are due to their different sample frame and coverage used.

Table 1
Distribution of Household and Population by Sector and Province

Province	SLIS				CFS			
	Households		Population		Households		Population	
	No.	%	No.	%	No.	%	No.	%
Sample Size	7,500	100.0	34,330	100.0	8,663	100.0	39,928	100.0
Sector								
Urban	1,425	19.0	6,700	19.5	1,055	12.2	5,163	12.9
Rural	5,730	76.4	26,045	75.9	7,137	82.4	32,533	81.5
Estate	345	4.6	1,585	4.6	471	5.4	2,232	5.6
Province								
Western	1,350	18.0	5,945	17.3	2,659	30.7	12,392	31.0
Central	930	12.4	4,354	12.7	1,318	15.2	6,140	15.4
Southern	930	12.4	4,315	13.2	1,256	14.5	5,939	14.9
Northern	825	11.0	4,151	12.1	NA	NA	NA	NA
Eastern	1,050	14.0	4,554	13.3	8	0.1	37	0.1
North Western	705	9.4	3,086	9.0	1,172	13.5	5,119	12.8
North Central	510	6.8	2,344	6.8	603	7.0	2,703	6.8
Uva	540	7.2	2,521	7.3	652	7.5	3,066	7.7
Sabaragamuwa	660	8.8	2,860	8.3	995	11.5	4,532	11.4

Note: NA = Data not available.
Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.

In both surveys, the household questionnaire was used to collect demographic and socio-economic characteristics of the sampled population. The basic important characteristics of age and sex composition, the household size, marital status and ethnicity are given in Table 2.

The age distribution is almost identical in both surveys. There is a considerable proportion of surveyed population under 10 years in both surveys (17 per cent in CFS and 15 per cent in SLIS). Further, over 50 per cent of the population is in the age group 10-39 and above 9 per cent of the population is aged 60 years and above. The mean age and median age of the surveyed population are 30 and 27 years respectively.

In both surveyed populations, females outnumbered males as seen in recent surveys in Sri Lanka (Table 2). This sex composition of the surveyed population in favour of females is mostly evident in the CFS.

Average household size in both surveys is about 4.5 persons. This fact is confirmed by the distribution of the household size in which the highest percentage (about 48 per cent) is recorded in the 4-5 persons category.

As revealed from Table 2, a considerable proportion of the surveyed population (51.1 per cent) is in the "never married" category in the CFS, whilst half of the surveyed population in the SLIS is in the "married" category. Among the surveyed population, there are more widowed persons (6.4 per cent) in the SLIS than in the CFS.

Table 2
Main Characteristics of the Sampled Population and Household Size

Characteristics	SLIS %	CFS %
Age Distribution		
Less than 10	14.8	16.6
10 - 19	21.4	21.8
20 - 29	18.6	15.6
30 - 39	14.0	14.1
40 - 49	12.8	12.7
50 - 59	9.2	8.5
60 +	9.2	10.7
Total (N)	34,330	39,928
Mean Age	30.1	30.2
	(SD = 19.5)	(SD = 20.5)
Median Age	27.0	27.0
Sex		
Male	49.6	48.4
Female	50.4	51.6
Total (N)	34,330	39,928
Marital Status		
Never Married	42.9	51.1
Married	49.9	42.6
Widowed	6.4	5.4
Separate/ Divorced	0.9	0.8
Total (N)	29,241*	39,928
Ethnicity**		
Sinhalese	67.5	86.6
Sri Lankan Tamil	20.6	2.7
Indian Tamil	1.9	4.7
Sri Lankan Moor	9.4	5.6
Other (Malay + Burgher + Other)	0.6	0.3
Total (N)	34,330	39,928
Household Size		
1	2.1	1.4
2 - 3	24.4	27.1
4 - 5	48.4	48.8
>5	25.1	22.6
Total (N)	7,499	8,663
Average household size	4.58	4.45
Note: * System missing 5089.		
** Ethnic distribution for the sampled population was calculated based on head of household records.		
Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.		

Ethnic distribution of the surveyed population in both surveys indicates that the majority are Sinhalese. Their proportion is higher (86.6 per cent) in the CFS than in the SLIS due to the obvious reason of the non-coverage of the Northern and Eastern Provinces.

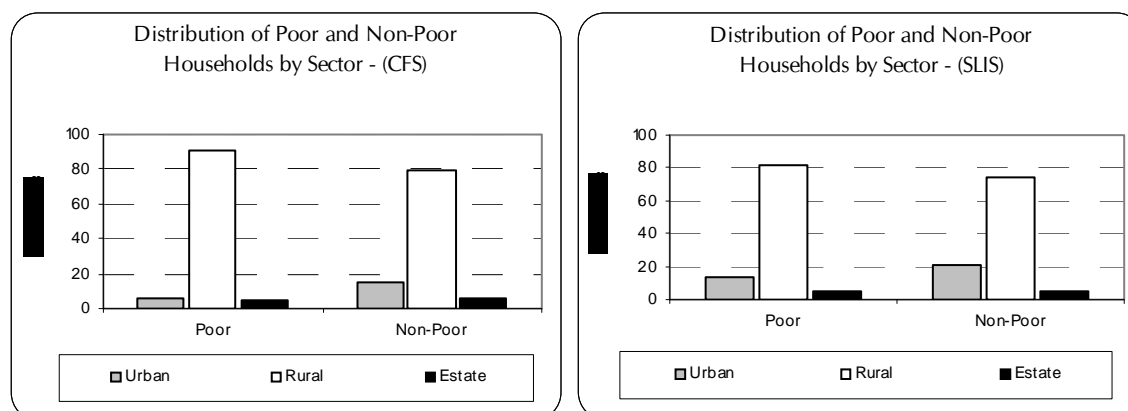
6.2 Identifying the Poor Households and Poor Population Based on Poverty Line

The identification and differentiation of poor households and poor population from those of non-poor categories are presented using the poverty line. The Minimum Required Adult Equivalent Food Expenditure (M.R.A.E.F.E- computed as described in Figure 1) which equals Rs. 1,206 per month for the SLIS and Rs. 883 per month for the CFS are used as the National Poverty Lines for the two surveys respectively. Also, the analysis of the distribution of the poor and the non-poor by sector and province which is presented in this section is based on these National Poverty Lines. In order to identify regional disparities of poverty incidence, the computed different regional poverty lines are used and presented in the last section.

Under the poverty line in the CFS, 22.4 per cent of the households (1,937 out of 8,663 households) are identified as the poor households whilst 25.8 per cent of the population (10,285 out of 39,928 population) are identified as poor. According to the poverty lines of the SLIS, 25.2 per cent of the households (1,889 out of 7,500) are identified as poor households whilst 25.3 per cent of population (8,677 out of 34,330) are poor (Table 3). Apparently, the higher percentage of poor households recorded in the SLIS is due to its coverage of national samples.

As evident from Table 3 and Figure 3, poverty in Sri Lanka is predominantly a rural phenomenon (more than 80 per cent in both surveys) and the lowest poverty is recorded in the estate sector. Several studies have shown that poor households are more likely to be found in the rural than in urban areas due to working members being employed in agriculture and other primary production activities (Datt and Gunewardena, 1995). Further, where the proportion of poor households and poor population are concerned, there is a decrease in the rural sector whilst a significant increase is apparent in the urban sector though the data in the two relevant surveys is not comparable. During the corresponding period, the proportion of poor households and poor persons also slightly increased in the estate sector (Table 3).

Figure 3
Distribution of the Poor and the Non-Poor Households by Sector – SLIS & CFS



Source: Consumer Finance & Socio Economic Survey 1996/1997; Sri Lanka Integrated Survey 1999/2000.

The level of poverty is highest in the Eastern Province (over 16 per cent) followed by the Western Province (nearly 15 per cent) in the SLIS. In the CFS, the highest poverty level recorded is in the Southern Province (nearly 18 per cent). The lowest poverty level is recorded in the North Central Province in both SLIS and CFS. Further, as seen in Table 3, this provincial distribution of the poor is different from that of the non-poor and the difference is significant at $p < .05$ level.

Table 3
Distribution of Poor and Non-Poor Household and Population by Sector and Province

Province	SLIS				CFS			
	Households %		Population %		Households %		Population %	
	Poor	Non-Poor	Poor	Non-Poor	Poor	Non-Poor	Poor	Non-Poor
Poor and non-poor status	25.2	74.8	25.3	74.7	22.4	77.6	25.8	74.2
Sector								
Urban	13.5	20.9	14.3	21.3	4.9	14.3	5.8	15.4
Rural	81.1	74.8	79.9	74.5	90.9	79.9	90.0	78.5
Estate	5.4	4.3	5.8	4.2	4.2	5.8	4.3	6.1
Province								
Western	14.8	19.1	14.9	18.1	15.7	35.0	16.1	36.2
Central	13.0	12.2	12.8	12.6	17.4	14.6	17.9	14.5
Southern	13.6	12.0	13.7	13.0	18.3	13.4	18.8	13.5
Northern	7.3	12.3	8.0	13.5	NA	NA	NA	NA
Eastern	16.3	13.2	16.6	12.1	0.2	0.1	0.2	0.1
North Western	9.7	9.3	9.0	9.0	15.0	13.1	14.1	12.4
North Central	7.2	6.7	7.5	6.6	7.8	6.7	7.7	6.5
Uva	7.8	7.0	8.0	7.1	11.9	6.3	11.8	6.2
Sabaragamuwa	10.4	8.3	9.4	8.0	13.7	10.8	13.5	10.6
Total (N)	1,889	5,611	8,677	25,653	1,937	6,726	10,285	29,643
Note:	NA = Data not available.							
Source:	Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.							

6.3 The Characteristics of the Poor

This section provides insights into the characteristics of the poor compared with the non-poor in both surveys. Thus, identifying the characteristics of the poor households and the poor population in comparison with the non-poor households and non-poor population is useful for developing the composite indicator and mapping the poverty status in Sri Lanka. The significance of the difference between the characteristics of the poor and the non-poor status is examined by using the chi-square test.

6.3.1 Demographic and social characteristics of the poor

Table 4 presents the demographic and socio-economic characteristics of the poor and non-poor population in the two surveys, SLIS and CFS. It is interesting to note that in both CFS and SLIS, more males are poor than females, whilst the proportion of poor males (51 per cent) is more discernible in the SLIS than in the CFS, and as far as the non-poor are concerned, more females than males are recorded as discussed above.

Demographic characteristics

Age distribution

As shown in Table 4, where the age distribution of the poor and non-poor is concerned, it is noticeable that the poor are younger (mean age is 27.9 and median 22) than the non-poor (mean 31 and median 28) in the CFS, whilst in SLIS the poor are older than the non-poor— the mean and median age of the poor are 32 and 28 respectively as against 29.5 and 26 respectively for the non-poor. The reason for the difference between the age profile of the poor and the non-poor in the two sample surveys is perhaps due to the coverage of the sample in the SLIS, i.e., national coverage. Moreover, 46.6 per cent of the poor (or over one-third) was found to be below 20 in the sample of CFS whilst this figure was 29.6 per cent for the same age in the SLIS sample. The proportion of the poor in the age group 20-29 is considerably higher (23.9 per cent) than that of the non-poor in the sampled population of the SLIS. Conversely, the proportion of older persons aged 60 and above is relatively lower among the poor (8.9 per cent) when compared with the non-poor (11.3 per cent) in the CFS surveyed population whilst the corresponding proportion is relatively higher for the poor (12.2 per cent) than the non-poor (8.3 per cent) in the population surveyed by the SLIS. The above discussion further emphasizes that among the poor, a considerable proportion are young and in youth ages as well as in elderly ages (Table 4).

Age-sex distribution

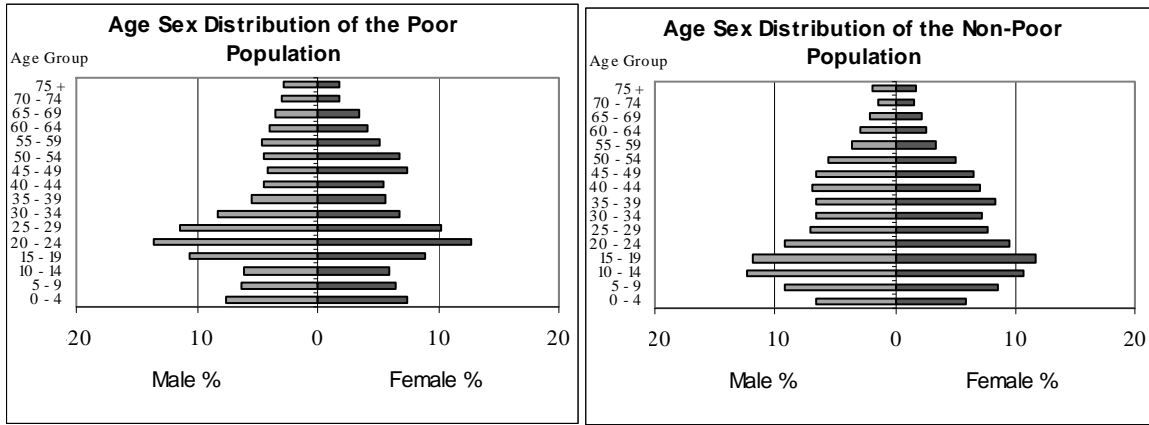
The demographic characteristics of the poor group could be clearly understood when the age-sex distribution of the poor is compared with the non-poor. As revealed from the age-sex pyramids shown in Figure 4, both males and females of the poor are considerably fewer in the younger ages (less than age 15 years) as reported, consisting of 20 per cent of males and 19.8 per cent of females, compared with the non-poor of 28 per cent and 25 per cent respectively recorded in SLIS. However, in CFS, children below 15 years of age in the poor group are considerably more than the non-poor — the proportions of male children and female children among the poor is 33.4 and 31.4 per cent whilst among the non-poor these proportions are 27.1 and 24.2 per cent respectively. This indicates a higher dependency of the young among the poor group when compared with the non-poor. Moreover, as the pyramids show, both males and females are more in the age groups 20-29, and 60 and above, among the poor when compared with the non-poor. This indicates that the poor may have more burdens (economic dependency) than the non-poor with the young people of poor groups unable to enter into the labour market. Also, the apex of the pyramid tends to be more for the poor groups than for the non-poor, indicating that a higher dependency for the older groups exists for the poor than for the non-poor (Figure 4).

Marital status

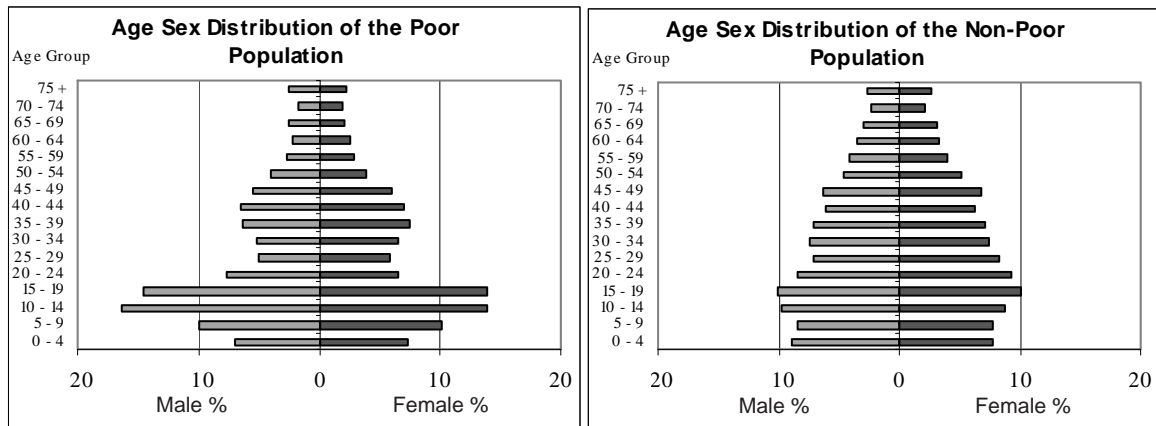
When comparing poor and non-poor population distribution by marital status (age 10 and above), the highest number of poor population (48.7 per cent) is in the unmarried category whereas non-poor consists of 39 per cent in that category according to the CFS. However, according to the SLIS data the majority of the poor is in the married category (50.4 per cent) followed by never married (41.1 per cent). In general, a considerable proportion of the poor is never married in both surveys.

Figure 4
Age - Sex Distribution of the Poor and the Non-Poor – SLIS & CFS

SLIS



CFS



Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.

Social characteristics

Education level

As far as the educational status of the poor in terms of literacy and educational attainment (age 10 and above) is concerned, it is apparent that poor persons are relatively less educated compared with the non-poor, and this difference is statistically significant at $p < .01$ level. According to the CFS and the SLIS, 14 per cent and 15 per cent respectively of the poor persons are illiterate and these proportions are much less in the case of the non-poor persons.

Where the level of educational is concerned, it is revealed that educational attainment is substantially low in the case of the poor when compared with the non-poor. As evident from Table 4, the majority of the poor have followed through primary education, i.e., grade less than 6, (32 per cent in the SLIS and 40 per cent in the CFS) as compared with the non-poor. Further, as regards the attainment of secondary and

higher educational levels are concerned poor persons are fewer than the non-poor. For instance, in both surveys the proportion of poor with higher education is less than 1 per cent whereas that of the non-poor is almost 2 per cent (1.7 per cent) in the CFS, and higher than 2 per cent (2.6 per cent) in the SLIS. These differences of educational attainments in other categories are also noticeable (e.g., G.C.E. (O/L and A/L)). This difference is statistically significant at $p < .01$ level and thus it suggests that the poor are relatively less educated than the non-poor.

Table 4
Demographic and Social Characteristics of the Poor and Non-Poor Population

Sex				
Male	50.7	49.2	50.2	47.8
Female	49.3	50.8	49.8	52.2
Total (N)	8,677	25,653	10,285	29,638
Age Group				
Less than 10	13.9	15.1	17.2	16.4
10 - 19	15.7	23.3	29.4	19.2
20 - 29	23.9	16.8	12.5	16.6
30 - 39	13.0	14.3	12.7	14.6
40 - 49	10.8	13.4	12.5	12.7
50 - 59	10.5	8.8	6.7	9.1
60 +	12.2	8.3	8.9	11.3
Total (N)	8,677	25,653	10,285	29,643
Mean	32.0	29.5	27.9	31.0
	(SD = 9.5)	(SD = 19.3)	(SD = 20.0)	(SD = 20.6)
Median	28.0	26.0	22.0	28.0
Marital Status**				
Never Married	41.1	43.6	48.7	38.9
Married	50.4	49.7	44.5	53.4
Widowed	7.5	6.0	5.6	6.8
Separate/ Divorced	1.0	0.7	1.2	0.8
Total (N)	7,469*	21,772*	8,514	24,774
Literacy**				
Literate	85.3	90.3	86.0	92.3
Illiterate	14.7	9.7	14.0	7.7
Total (N)	7,401	2,639	8,514	24,774
Education Level**				
No Schooling	11.2	6.0	11.4	6.8
Less than 6	31.7	24.0	39.5	26.8
Grade 6 - 9	36.1	37.2	39.4	39.1
G.C.E. (O/L)	15.8	20.5	7.9	18.3
G.C.E. (A/L)	4.7	9.7	1.6	7.2
Higher	0.5	2.6	0.2	1.7
Total(N)	7,472	21,771	8,514	24,774

Note: * System missing 5089 for both poor and non-poor totals.

** Data based on age 10+.

Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.

Moreover, where educational attainment by age is concerned, it is significant that the gap in the proportion for educational attainment between the poor and the non-poor tends to widen with age (Table 5A and 5B). Though the recorded proportion of no schooling for the poor and the non-poor is almost none in the SLIS, the gap in the proportion with no schooling between the poor and the non-poor is evident in the CFS. For instance, the proportion of the poor aged 20-29 with no schooling is 8 per cent whilst the proportion for those of the non-poor is 4 per cent. Further, the proportion of poor with no schooling increased sharply beyond the age of 30 compared with the non-poor (Table 5B). Further, at the higher level of education (i.e., G.C.E. O/L; A./L. and above), the gap in the educational attainment between the poor and the non-poor appears to be greater with increasing age generally in both the CFS and SLIS. For the age group 20-29, which is the age of persons seeking actively to enter into the labour force, 37.2 per cent of the poor had obtained G.C.E O/L and above, whilst the corresponding figure for the non-poor group was 54.7 per cent in the SLIS. This educational gap for G.C.E O/L and above in the age group 30-39 was recorded as 26.9 per cent for the poor and 35.9 per cent for the non-poor. Moreover, the same educational gap in the relevant age group between the poor and non-poor is particularly noticeable in the CFS (Table 5B). According to the CFS, 21.9 per cent of the poor in the age group 20-29 had obtained G.C.E. (O/L) and above whereas the relevant proportion for the non-poor was much higher at 41.7 per cent. Thus, this indicates that the educational attainment is substantially low in the poor groups when compared with the non-poor groups and the difference between these two groups is highly significant at $p < .01$ level. These findings of the difference between the educational attainment of the poor and non-poor are confirmed by other studies (De Alwis, 1996).

Table 5A
Education Levels of Poor and Non-Poor Population by Age Groups - SLIS**

Age Groups \ Level of Education	10 - 19		20 - 29		30 - 39		40 - 49		50 - 59		60 & Over	
	P %	N.P %	P %	N.P %	P %	N.P %	P %	N.P %	P %	N.P %	P %	N.P %
No Schooling	4.1	1.7	5.8	4.0	9.1	6.5	14.4	6.0	14.1	9.1	27.6	17.8
Less than 6	30.6	25.0	13.0	9.4	26.3	20.8	43.5	27.3	49.7	32.8	49.3	42.0
Grade 6-Grade 9	47.2	49.3	43.9	31.8	37.6	36.9	30.1	35.4	26.2	30.7	19.0	24.6
G.C.E. (O/L)	16.7	19.0	26.5	28.6	17.7	19.8	10.1	20.9	8.5	18.1	3.1	11.0
G.C.E. (A/L)	1.2	4.8	9.7	20.4	8.3	12.6	1.7	8.4	1.4	6.2	0.7	2.8
Higher	0.2	0.1	1.0	5.7	0.9	3.5	0.2	2.0	0.1	3.2	0.3	1.8
Total (N)	1,363	5,980	2,076	4,306	1,128	3,665	938	3,449	911	2,253	1,056	2,118

Note: ** Differences are statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
P: Poor; N.P: Non-poor.
Source: Sri Lanka Integrated Survey, 1999/2000.

Table 5B
Education Levels of Poor and Non-Poor Population by Age Groups - CFS**

Age Groups Level of Education	10 - 19		20 - 29		30 - 39		40 - 49		50 - 59		60 & Over	
	P %	N.P %	P %	N.P %	P %	N.P %	P %	N.P %	P %	N.P %	P %	N.P %
No Schooling	2.1	1.5	7.9	3.8	13.4	5.1	13.4	5.9	19.7	10.4	34.9	20.7
Less than 6	38.3	30.9	24.9	12.3	38.5	19.7	42.2	26.0	51.7	35.5	52.3	44.3
Grade 6-Grade 9	53.8	55.7	45.3	42.2	35.1	35.5	33.4	35.6	21.6	28.1	11.4	23.3
G.C.E. (O/L)	5.5	11.1	14.5	23.3	10.3	23.6	10.0	23.2	6.6	20.0	1.4	9.8
G.C.E. (A/L)	0.3	0.8	6.2	14.9	2.4	13.7	1.0	7.3	0.3	4.2	0.0	1.0
Higher	0.0	0.0	1.2	3.5	0.2	2.4	0.0	2.0	0.0	1.9	0.0	0.9
Total (N)	3,028	5,696	1,283	4,928	1,307	4,316	1,286	3,779	694	2,696	916	3,359

Note: **Differences are statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
P: Poor; N.P: Non-poor.
Source: Consumer Finance & Socio Economic Survey, 1996/1997.

6.3.2 Economic characteristics of the poor and non-poor

Labour force participation

Table 6 shows the labour force status of the poor and non-poor. The proportion of the poor in the labour force (both employed and unemployed) was lower at 34.4 per cent when compared with the non-poor at 39.9 per cent in the CFS. This may be attributed to the fact that a considerable proportion of children under 14 years was among the poor when compared with the non-poor. The proportion of unemployed among the poor is less than that of the non-poor in the CFS. Moreover, there is no distinct difference in the unemployment rate between the poor and the non-poor in the CFS. In contrast, in the SLIS, the persons who are in the labour force are higher for the poor (40.8 per cent) than for the non-poor (34.7 per cent). Further, the higher number of unemployed persons is among the poor (6.7 per cent) than the non-poor (4.5 per cent). Thus, the higher number of persons that entered into the labour force could be attributed to the fact that more youths aged between 20-29 are among the group than those among the

Table 6
Labour Force Status of Poor and Non-Poor

	SLIS %		CFS %	
	Poor	Non-Poor	Poor	Non-Poor
Employed	34.1	30.2	31.9	36.9
Unemployed	6.7	4.5	2.5	3.0
Not in labour force	59.1	65.3	65.5	60.1
Total	100.0	100.0	100.0	100.0
(N)	(8,677)	(25,653)	(10,285)	(29,643)
Unemployment rate	16.5	12.9	7.5	7.4

Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.

non-poor (see Figure 4) and the sample coverage. The unemployment rate is considerably higher among the poor than the non-poor in the SLIS. This shows that there is a relationship between unemployment and poverty.

Occupational distribution by poverty

The economic activities of the poor and the non-poor as revealed in the two surveys are given in the Tables 7A and 7B. The poor working members are employed in agriculture and other primary production activities (about 40 per cent) and the proportion of non-poor in these activities is considerably lower (about 35 per cent in the SLIS and 30 per cent in the CFS). On the other hand, as seen in both surveys the

Table 7A
Activities of Poor and Non-Poor Population – SLIS**

Activity During Last 12 Months	Poor		Non-Poor		Total	
	No.	%	No.	%	No.	%
Professional / Technical and Related	189	6.1	891	10.8	1,080	9.5
Administrative and Managerial	10	0.3	107	1.3	117	1.0
Clerical and Related	99	3.2	580	7.0	679	6.0
Sales Workers	253	8.1	938	11.4	1,191	10.5
Service Workers	248	8.0	619	7.5	867	7.6
Agriculture / Animal Husbandry / Forestry / Fishing / Hunting	1,305	41.9	2,895	35.0	4,201	36.9
Production and Related	326	10.5	717	8.7	1,043	9.2
Armed Forces	118	3.8	380	4.6	498	4.4
Unclassified	567	18.2	1,136	13.7	1,703	15.0
Total	3,115	100.0	8,263	100.0	11,379	100.0

Note: ** Differences are statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Sri Lanka Integrated Survey, 1999/2000.

Table 7B
Activities of Poor and Non-Poor Population – CFS**

Occupation (Professional/Technical Skills)	Poor		Non-Poor		Total	
	No.	%	No.	%	No.	%
Professional, Technical and Related Workers	354	9.6	1,821	15.0	2,175	13.7
Administrative and Managerial Workers	3	0.1	99	0.8	102	0.6
Clerical and Related Workers	65	1.8	852	7.0	917	5.8
Sales Workers	267	7.2	1,340	11.0	1,607	10.1
Service Workers	127	3.4	704	5.8	831	5.2
Agriculture / Animal Husbandry/ Forestry/ Fishing / Hunting	1,485	40.3	3,633	29.9	5,118	32.3
Production and Related Workers, Transport Equipment Operators and Labourers	1,382	37.5	3,720	30.6	5,102	32.2
Total	3,683	100.0	12,169	100.0	15,852	100.0

Note: ** Differences are statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Consumer Finance & Socio Economic Survey, 1996/1997.

proportion of poor that are engaged in White Collar jobs such as the professions in Technical, Administrative and Managerial fields, are significantly higher among the non-poor when compared with the poor (Tables 7A and 7B). The difference in economic activities of the poor and non-poor is statistically significant at $p < 0.01$ level, which indicates obviously that the poor tend to have low income, compared with the non-poor. Moreover, undoubtedly these economic activities of the poor are associated with their low educational levels.

Unemployment and poverty

It is also observed that members of the poor households who are in the labour force are more likely to be unemployed, and this is demonstrated further in Table 8. In both surveys, more males are unemployed among the poor than among the non-poor and, in contrast, fewer females among the poor are unemployed than those among the non-poor. Unemployment by sector clearly indicates that a significant proportion of unemployed poor are found in the rural and estate sectors than the unemployed non-poor in those sectors. Further, the proportion of unemployed poor tends to be higher than the non-poor at the primary and secondary levels of education (less than 6 and grade 6-9). This provides some insights to policy makers that the unemployed poor are not as educated as the non-poor, suggesting that what is needed is more remunerative work for the poor to overcome their burdens (Alailima, 1997).

Table 8
Proportion of Unemployed Persons among Poor and Non-Poor
by Sex, Sector and Level of Education

	SLIS				CFS			
	Poor		Non-Poor		Poor		Non-Poor	
	No.	%	No.	%	No.	%	No.	%
Sex								
Male	227	57.6	417	50.0	130	49.6	348	39.2
Female	167	42.4	417	50.0	132	50.4	540	60.8
Total	394	100.0	834	100.0	262	100.0	888	100.0
Sector								
Urban	83	21.1	213	25.5	23	8.8	168	18.9
Rural	298	75.6	600	71.9	222	84.7	686	77.3
Estate	13	3.3	21	2.5	17	6.5	34	3.8
Total	394	100.0	834	100.0	262	100.0	888	100.0
Level of Education[#]								
No Schooling	0	0.0	0	0.0	3	1.1	2	0.2
Less than 6	19	4.9	34	4.1	28	10.7	36	4.1
Grade 6 - Grade 9	142	36.3	218	26.4	148	56.5	337	38.0
G.C.E (O/L)	134	34.3	291	35.2	50	19.1	252	28.4
G.C.E (A/L)	90	23.0	244	29.5	30	11.5	219	24.7
Higher	6	1.5	40	4.8	3	1.1	42	4.7
Total	391	100.0	827	100.0	262	100.0	888	100.0
Note:	Only in SLIS data are the sex and sector groups differences statistically significant at $\alpha = 0.05$ (Pearson's Chi-Square). All others groups in both data sets are statistically significant at $\alpha = 0.01$ (Pearson's Chi-Square).							
	[#] 8 System missing data in SLIS.							
Source:	Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.							

6.4 Income and Expenditure Level of the Poor and the Non-Poor

Table 9 clearly indicates the distribution of total household monthly income and per capita household monthly income among the categories of the poor and the non-poor in the two surveys. It is clearly apparent from both surveys that the lower the income (particularly less than Rs. 4,000/=), the higher the proportion of the poor to the non-poor, and conversely, the higher the income, (more than Rs. 4,000/=), the lower the proportion of the poor to the non-poor. Particularly in the CFS, the gap between the income of the poor and the non-poor is greater than in the SLIS (Table 9). As in the SLIS, the mean and the median household income of the poor are Rs. 6,204/= and Rs. 4,771/= respectively and these income figures are 40 per cent (from Rs. 10,275) and 18 per cent (from Rs. 5,862) for the non-poor respectively. The gap between the mean and the median income of the poor and the non-poor is greater in the CFS. Further, per capita household monthly income also reflects, in both surveys, the same pattern among the poor and non-poor and all these income differences between the poor and the non-poor are highly significant at $p < .01$ level.

Table 9
Distribution of Total Household Monthly Income of the Poor and the Non-Poor**

Income Level Rs.	SLIS				CFS			
	Poor		Non-Poor		Poor		Non-Poor	
	No.	%	No.	%	No.	%	No.	%
Less than 1500	225	11.9	506	9.0	220	11.4	286	4.3
1501 - 4000	565	29.9	1,223	21.8	1,067	55.1	1,533	22.8
4001 - 6500	464	24.6	1,370	24.4	495	25.6	1,908	28.4
6501 - 9000	273	14.5	851	15.2	109	5.6	1,121	16.7
9001 - 11500	136	7.2	518	9.2	23	1.2	634	9.4
11501 - 14000	87	4.6	350	6.2	13	0.7	400	5.9
14001 - 16500	55	2.9	188	3.4	7	0.4	260	3.9
16501 - 19000	22	1.2	147	2.6	1	0.1	137	2.0
19001 - 21500	18	1.0	100	1.8	1	0.1	103	1.5
21501 - 24000	11	0.6	61	1.1	1	0.1	71	1.1
24001 - 26500	9	0.5	49	0.9	1,937	100	57	0.8
26500 and above	24	1.3	247	4.4	220	11.4	216	3.2
Total	1,889	100.0	5,610	100.0	1,067	55.1	6,726	100.0
Mean	6,204.3		10,274.9		3,655.6		8,464.4	
	(SD = 6,326.7)		(SD = 36,365)		(SD = 2,207.4)		(SD = 11,428.5)	
Median	4,771.1		5,861.6		3,275.0		6,000.0	
Per capita household monthly income								
Mean	1,603.2		2,830.1		874.0		2,562.2	
	(SD = 1,572.2)		(SD = 9,155.5)		(SD = 476.3)		(SD = 3,507.4)	
Median	1,330.9		1,680.0		800.0		1,800.0	
Note: **Differences are statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).								
Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.								

The distribution of the expenditure level among the poor and non-poor, which is in Table 10, clearly indicates that the different levels of expenditure obviously depend on the income of the two groups as discussed above. More than three-fourths of the poor in the SLIS (75.3 per cent) and the CFS (89.3 per cent) spend less than Rs. 6,500/= monthly while in contrast more than 60 per cent of the non-poor spend more than Rs. 6,500/= monthly. The average measures of the mean and the median household monthly expenditure and the per capita household monthly expenditure, further reflect the economic status of the poor (Tables 9 and 10). It is observed that a large proportion of expenditure of the poor is allocated for their consumption of food.

Table 10
Distribution of Total Household Monthly Expenditure of Poor and Non-Poor**

Expenditure Level Rs.	SLIS				CFS			
	Poor		Non-Poor		Poor		Non-Poor	
	No.	%	No.	%	No.	%	No.	%
Less than 1500	62	3.3	27	0.5	31	1.6	28	0.4
1501 - 6500	1,361	72.0	1,224	21.8	1,699	87.7	2,463	36.6
6501 – 11500	430	22.8	1,795	32.0	202	10.4	2,592	38.5
11501 – 16500	30	1.6	1,034	18.4	5	0.3	901	13.4
16501 – 21500	6	0.3	501	8.9	0	0.0	349	5.2
21501 – 26500	0	0.0	271	4.8	0	0.0	163	2.4
26501 – 31500	0	0.0	157	2.8	0	0.0	67	1.0
31500 and above	0	0.0	602	10.7	0	0.0	163	2.4
Total	1,889	100.0	5,611	100.0	1,937	100.0	6,726	100.0
Mean	5,169.2		19,649.5		4,388.8		10,177.1	
	(SD = 2,590.2)		(SD = 55,752.9)		(SD = 1,752.2)		(SD = 14,465.6)	
Median	4,777.0		10,712.6		4,160.4		7,671.4	
Per capita household monthly expenditure								
Mean	1,126.4		4,483.1		1,055.3		3,081.6	
	(SD = 330.3)		(SD = 15,166.2)		(SD = 341.0)		(SD = 3,922.7)	
Median	1,117.3		2,343.5		1,012.1		2,269.3	
Note: **Differences are statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).								
Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.								

6.5 The Characteristics of the Poor and Non-Poor by Household Facilities

It is widely accepted that poverty is associated with the low conditions of the household, obviously due to the inadequate income of the poor to meet their basic needs. On the other hand, the poor people, do not generally demand high-class amenities like the non-poor since they are used to living under minimum conditions according to their life styles. This section presents the characteristics of the poor households in comparison with the non-poor households in terms of floor type, wall type, source of drinking water, type of latrine used, source of lighting and method of cooking.

As evident from Tables 11A and 11B, a relatively higher proportion of the poor households had prepared clay floors when compared with the non-poor households, particularly in the CFS (40 per cent versus 17

per cent for poor households and non-poor households respectively). In the SLIS, the poor households with prepared clay floors amounted to 28 per cent whereas in the non-poor households it was 17 per cent. In addition, a considerable percentage of households had used cement in both poor and non-poor households. However, the use of cement in poor households was less than in non-poor households.

Table 11A
Distribution of Floor Type by Poor and Non-Poor – SLIS**

Floor Type	Poor		Non-Poor		Total	
	No.	%	No.	%	No.	%
Unprepared Earth	66	3.5	223	4.0	289	3.9
Prepared Clay	536	28.4	946	16.9	1,482	19.8
Cement	1,276	67.6	4,320	77.1	5,596	74.7
Wood	3	0.2	2	0.0	5	0.1
Terrazo	1	0.1	46	0.8	47	0.6
Tiles	0	0.0	40	0.7	40	0.5
Brick	3	0.2	14	0.2	17	0.2
Other	2	0.1	10	0.2	12	0.2
Total	1,887	100.0	5,601	100.0	7,488	100.0

Note: ** Differences are statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Sri Lanka Integrated Survey, 1999/2000.

Table 11B
Distribution of Floor Type by Poor and Non-Poor – CFS**

Floor Type	Poor		Non-Poor		Total	
	No.	%	No.	%	No.	%
Unprepared Earth	117	6.0	204	3.0	321	3.7
Prepared Clay	777	40.1	1,146	17.0	1,923	22.2
Cement	1,041	53.7	5,304	78.9	6,345	73.2
Wooden	0	0.0	3	0.0	3	0.0
Terrazo	2	0.1	43	0.6	45	0.5
Tiles	0	0.0	14	0.2	14	0.2
Other	0	0.0	12	0.2	12	0.1
Total	1,937	100.0	6,726	100.0	8,663	100.0

Note: ** Differences are statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Consumer Finance & Socio Economic Survey, 1996/1997.

The distribution of the type of their walls among the poor and non-poor households which is depicted in Tables 12A and 12B, clearly indicate the difference in the status of the poor and the non-poor. Among the poor households, the highest percentage of households had used bricks for their walls in both surveys (54 per cent in the SLIS and 40 per cent in the CFS), but the percentage was higher for the non-poor households. In addition, according to both surveys, mud (22 per cent) wattle and daub (28 per cent) for walls are characteristics of the poor households.

Table 12 A
Distribution of Wall Type by Poor and Non-Poor - SLIS**

Wall Type	Poor		Non-Poor		Total	
	No.	%	No.	%	No.	%
Brick	1,013	53.7	3,397	60.7	4,410	58.9
Cabook	105	5.6	250	4.5	355	4.7
Cement Block	236	12.5	938	16.8	1,174	15.7
Mud	414	21.9	790	14.1	1,204	16.1
Plank/Metal Sheet	52	2.8	84	1.5	136	1.8
Cadjan / Palmyrah	42	2.2	61	1.1	103	1.4
Other	25	1.3	80	1.4	105	1.4
Total	1,887	100.0	5,600	100.0	7,487	100.0

Note: ** Differences are statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Sri Lanka Integrated Survey, 1999/2000.

Table 12 B
Distribution of Wall Type by Poor and Non-Poor - CFS**

Wall Type	Poor		Non-Poor		Total	
	No.	%	No.	%	No.	%
Bricks	781	40.3	3,895	57.9	4,676	54.0
Cement Block	138	7.1	599	8.9	737	8.5
Mud	217	11.2	458	6.8	675	7.8
Wattle and Daub	537	27.7	803	11.9	1,340	15.5
Kabok / Metal	153	7.9	706	10.5	859	9.9
Wooden	43	2.2	118	1.8	161	1.9
Cadjan	23	1.2	53	0.8	76	0.9
Sheet	2	0.1	5	0.1	7	0.1
Other	43	2.2	89	1.3	132	1.5
Total	1,937	100.0	6,726	100.0	8,663	100.0

Note: **Differences are statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Consumer Finance & Socio Economic Survey, 1996/1997.

It is also observed that the sources of drinking water in the poor household are unprotected wells (20 per cent in SLIS), common wells (38 per cent in CFS), own wells (24 per cent -CFS) or public taps whereas in the non-poor households protected wells (41 per cent -SLIS), own wells (32 per cent -CFS) or pipe borne tap service inside households (19.9 per cent -CFS and 16 per cent -SLIS) are used. This discloses that the poor are more likely to consume drinking water from an unprotected source when compared with the non-poor. This implies that the poor have more exposure to water borne diseases and other infectious diseases which adversely affect health. The incidence of water borne diseases can be reduced by using boiled water for drinking (Department of Census and Statistics, 2002). However, this fact cannot be examined in this study because that information has not been collected in the two relevant surveys.

Table 13A
Source of Drinking Water by Poor and Non-Poor - SLIS**

Drinking Water	Poor		Non-Poor		Total	
	No.	%	No.	%	No.	%
Protected Well	799	42.3	2,322	41.4	3,121	41.7
Unprotected Well	379	20.1	878	15.7	1,257	16.8
Public Tap	248	13.1	757	13.5	1,005	13.4
Tube Well	104	5.5	233	4.2	337	4.5
Tap Within Unit	144	7.6	918	16.4	1,062	14.2
Tap Outside Unit	90	4.8	256	4.6	346	4.6
River/Tank/Streams	78	4.1	139	2.5	217	2.9
Other	45	2.4	101	1.8	146	1.9
Total	1,887	100.0	5,604	100.0	7,491	100.0

Note: **Differences are statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Sri Lanka Integrated Survey, 1999/2000.

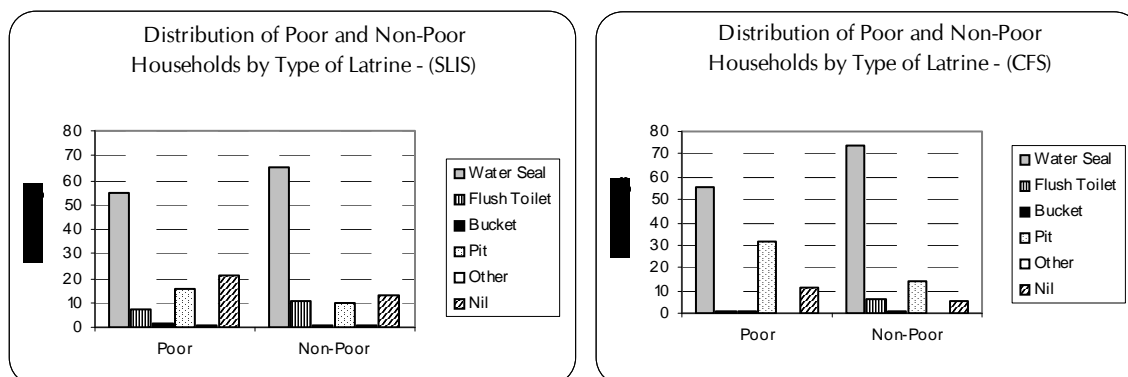
Table 13B
Source of Drinking Water by Poor and Non-Poor - CFS**

Drinking Water	Poor		Non-Poor		Total	
	No.	%	No.	%	No.	%
Pipe borne inside (Water Board)	52	2.7	860	12.8	912	10.5
Pipe borne inside (Other)	24	1.2	480	7.1	504	5.8
Stand Pipe (Water Board)	118	6.1	413	6.1	531	6.1
Stand Pipe (Other)	189	9.8	557	8.3	746	8.6
Own Well	466	24.1	2,177	32.4	2,643	30.5
Common Well	727	37.5	1,545	23.0	2,272	26.2
Tube Well	123	6.4	294	4.4	417	4.8
River/Stream/Tank	109	5.6	179	2.7	288	3.3
Other	129	6.7	221	3.3	350	4.0
Total	1,937	100.0	6,726	100.0	8,663	100.0

Note: **Differences are statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Consumer Finance & Socio Economic Survey, 1996/1997.

The use of sanitation measures is also useful to identify poverty status. As shown in both surveys (Figure 5), though the use of water seal exists in the poor households, the proportion is less than in the non-poor households whilst the use of pit (19 per cent in SLIS and 31 per cent in CFS) is remarkably high in the poor households. This reveals that the poor are more vulnerable through unhygienic sanitary conditions which lead to several illnesses and contagious diseases. The inadequate sanitation among the poor is closely related to the lack of safe drinking water in the poor households (UNDP, Sri Lanka, 1998).

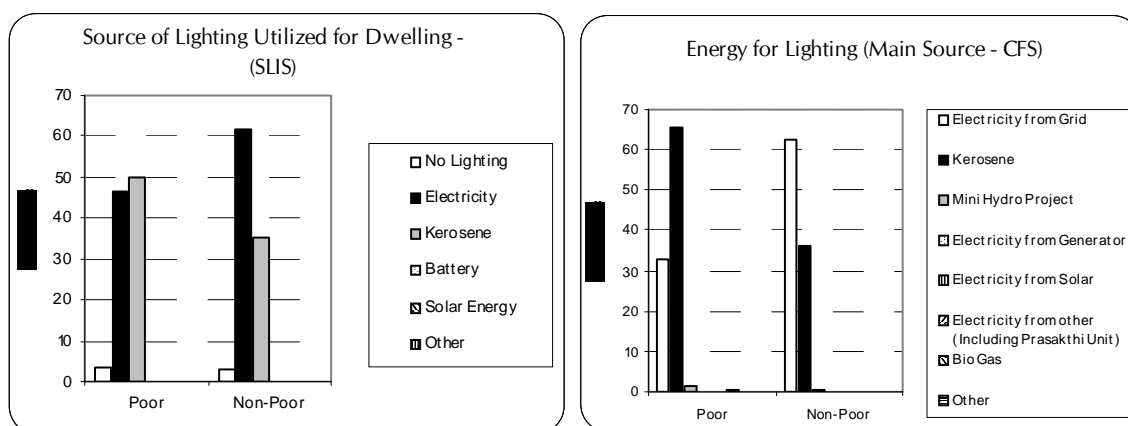
Figure 5
Distribution of Poor and Non-Poor Households by Type of Latrine – SLIS & CFS



Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.

The poor households use largely kerosene (50 per cent in SLIS and 65 per cent in CFS) as a source of lighting whereas in the non-poor households electricity (62 per cent-SLIS and CFS) was largely the source of lighting (Figure 6). The usage of firewood as a fuel for cooking is quite common and relatively high (more than 94 per cent in both surveys) in the poor households when compared with the non-poor households. This reveals that the poor do not have access to electricity and energy, which hinders their well-being as a result of limiting their economic activities that require electricity and energy. Further, lack of electricity and energy has an impact on their physical safety and learning through electronic media when compared with the non-poor (UNDP, Sri Lanka, 1998).

Figure 6
Source of Lighting Utilized for Dwelling – SLIS & CFS



Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.

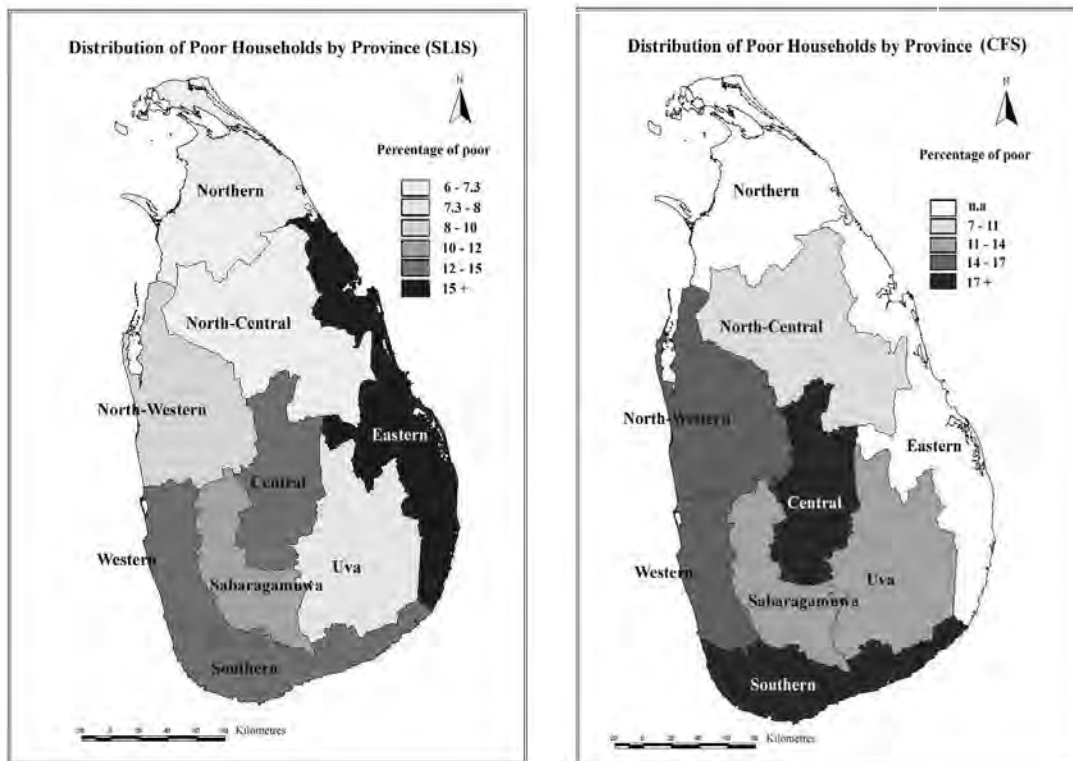
The above household characteristics are further classified according to urban, rural and estate sectors and it is found in this study that the most differentials of the poor and the non-poor households appear in the estate sector (see Appendix A).

In sum, the above characteristics of the poor and the non-poor households provide insights into demarcating the poor households and the non-poor households and hence these characteristics could be used as variables in the development of a composite poverty index and in the identification of regional disparities of poverty, which are discussed in the following sections.

6.6 Regional Distribution of the Poor Households

In this study, the term “Region” refers to the provinces or districts which are demarcated for administrative purposes in Sri Lanka. The regional distribution of the poor households identified is based on the country poverty line, which was described in the methodology section. As shown in Figure 7, in the SLIS it is recorded that the highest percentage of the poor households are in the Eastern Province (16.3 per cent) followed by Western Province (14.8 per cent) whilst the lowest percentage is recorded in the North Central Province (7.2 per cent). However, in relation to seven provinces, which were covered in the CFS, the highest proportion of poor households was recorded in the Southern Province (18.3 per cent) followed by the Central Province (17.4 per cent) whilst the lowest recorded was in the North Central Province (7.8 per cent) in spite of the harsh climatic conditions in that province. The distribution of the proportion of the poor also shows a similar regional pattern. Thus in both surveys, the Eastern, Southern, Central, and Western Provinces have experienced a relatively high proportion of poverty (Figure 7). However, this configuration would be changed when regional poverty lines are considered. The regional differences using a single consumption based poverty line certainly do not provide a clear portrait of poverty differentials

Figure 7
Regional Disparities of Proportion of Poor – SLIS & CFS



Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.

by region because the basket of food consumption is different from region to region. This is reflected in certain districts like Polonnaruwa and Anuradhapura in the North Central Province where the percentages of poor households and population are considerably high (Tables 14 and 15).

6.7 Regional Poverty Lines and Poverty Indices

As described, the methodologies for the estimation of the poverty line, and the regional food consumption baskets are considered separately in constructing the regional poverty lines. Sectors, provinces and districts are considered as regions for the analysis of poverty. The sample weights for each stratum and province are used to avoid the unequal variations among the regions. Most of the poverty estimates discussed in this study are anchored on these poverty lines as cut off points to identify the poor. The minimum requirements of calorie intake together with a consumption based poverty line, were not apparently developed for regions in Sri Lanka, though a national poverty line has been developed in a few studies using either expenditure or income measures (Gunaratne, 1985; Bhalla and Glewwe, 1986; Datt and Gunewardena, 1995; Vidyaratne and Tilakaratne, 2003).

Tables 14A and 14B show the regional poverty lines for each sector, province and district as well as the percentage of poor households and poor population on the basis of these poverty lines. However, the small sample size of the SLIS has prevented regional differentials in the minimum required adult equivalent food expenditure and therefore the district regional poverty lines were not constructed using the SLIS. The district-wise proportions of the poor households and the poor population were identified using province poverty lines.

In the SLIS, the highest poverty line of Rs. 1,391 was recorded in the urban sector followed by the rural (Rs. 1,190) and the lowest was in the estate sector (Rs. 1,067). Based on these poverty lines, the highest proportion of poor households (26.1 per cent) is recorded in the rural sector followed by the urban sector (22 per cent) (Table 14A). This finding suggests that even using separate poverty lines by sectors, the rural phenomenon of poverty has become a salient feature in Sri Lanka. The distribution of the sectoral poverty lines and the poverty status by sector in the CFS are also the same as in the SLIS (Table 14B). Thus, the findings of predominant rural poverty in Sri Lanka confirm the previous studies. (Bhalla and Glewwe, 1986; Datt and Gunewardena, 1995; Vidyaratne and Tilakaratne, 2003).

When different poverty lines by province are taken into consideration, in the SLIS the highest poverty line is found in the Sabaragamuwa Province (Rs. 1,401) followed by Western (Rs. 1,258) Northern (Rs. 1,244) and Eastern Provinces (Rs. 1,227). The lowest is in the Central Province (Table 14B). According to these poverty lines, the highest percentages of poor households and poor population (37 per cent and 34.7 per cent respectively) are identified in Sabaragamuwa Province followed by Eastern (30 per cent and 32 per cent) and Uva (28.3 per cent and 28.5 per cent) Provinces (Table 14B). These findings would substantially vary when the CFS poverty lines are taken into account. The highest proportion of poor households is in the Southern (30.6 per cent) and the lowest in the North Western (24.7 per cent) Provinces. However, these two instances cannot be strictly compared due to their sample designs, as discussed above.

As CFS had enough cases to capture the minimum required adult equivalent food expenditure, the study developed the district regional poverty lines. According to Table 14B, Colombo (Rs. 1,110) was recorded

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as the district with the highest poverty line followed by Gampaha (Rs. 1,006) whilst Moneragala (Rs. 683) recorded the lowest poverty line. Nuwara-Eliya (Rs. 784), Matale (Rs. 798) and Badulla (Rs.807) were also noticed as the districts which had low poverty lines. However, as in a case like Hambantota, there is a contrast in the proportion of poor households and poor population in the two surveys as shown in Tables 14A (14.9 and 14.4 respectively) and 14B (40.1 and 44.3 respectively) due to the different basis of calculation of poverty lines used in the two surveys as discussed above.

Table 14A
Regional Poverty Lines with Percentage of Poor Households and Population – SLIS

Area	Poverty line	Percentage of poor households	Percentage of poor population	No. of Poor households	No. of Poor population	Total No. of households	Total No. of population
Sri Lanka	1,206.04	25.2	25.3	1,889	8,677	7,500	34,330
Sector							
Urban	1,391.46	22.0	22.5	314	1,507	1,425	6,700
Rural	1,189.56	26.1	26.0	1,493	6,770	5,730	26,045
Estate	1,067.54	21.4	23.6	74	374	345	1,585
Province							
Western	1,258.45	22.4	23.4	303	1,394	1,350	5,945
Central	1,065.86	21.4	20.6	199	897	930	4,354
Southern	1,071.02	24.3	23.8	226	1,076	930	4,515
Northern	1,243.71	18.5	18.6	153	773	825	4,151
Eastern	1,226.74	30.0	32.3	315	1,472	1,050	4,554
North Western	1,214.62	26.2	25.5	185	787	705	3,086
North Central	1,082.91	21.0	22.8	107	534	510	2,344
Uva	1,217.86	28.3	28.5	153	719	540	2,521
Sabaragamuwa	1,401.14	37.0	34.7	224	993	660	2,860
District							
Colombo	-	21.2	21.6	108	499	510	2,312
Gampaha	-	21.6	22.6	107	472	495	2,089
Kalutara	-	25.5	27.4	88	423	345	1,544
Kandy	-	24.9	22.6	101	437	405	1,931
Matale	-	23.8	22.2	57	249	240	1,124
Nuwara Eliya	-	14.4	16.2	41	211	285	1,299
Galle	-	25.6	25.1	92	428	360	1,708
Matarata	-	30.5	31.0	96	461	315	1,487
Hambantota	-	14.9	14.2	38	187	255	1,320
Jaffna	-	17.5	19.3	71	409	405	2,115
Mannar	-	18.5	17.2	36	170	195	989
Vavuniya	-	20.4	18.5	46	194	225	1,047
Batticaloa	-	34.0	35.5	102	448	300	1,263
Ampara	-	27.2	28.4	102	441	375	1,555
Trincomalee	-	29.6	33.6	111	583	375	1,736
Kurunegala	-	30.3	30.2	132	564	435	1,867
Puttalam	-	19.6	18.3	53	223	270	1,219
Anuradhapura	-	17.3	18.4	52	255	300	1,385
Polonnaruwa	-	26.2	29.1	55	279	210	959
Badulla	-	31.4	32.4	99	455	315	1,403
Moneragala	-	24.0	23.6	54	264	225	1,118
Ratnapura	-	31.9	31.1	110	466	345	1,500
Kegalle	-	42.5	38.8	134	527	315	1,360
Note:	“-” Not constructed.						
Source:	Sri Lanka Integrated Survey, 1999/2000.						

Table 14B
Regional Poverty Lines with Percentage of Poor Households and Population – CFS

Area	Poverty line	Percentage of poor households	Percentage of poor population	No. of Poor households	No. of Poor population	Total No. of households	Total No. of population
Sri Lanka	883.34	22.4	25.8	1,937	10,285	8,663	39,928
Sector							
Urban	1091.45	17.4	21.2	184	1,096	1,055	5,163
Rural	869.34	23.6	27.3	1,686	8,885	7,137	32,533
Estate	882.26	17.2	19.4	81	433	471	2,232
Province							
Western	1,044.62	18.7	21.4	497	2,655	2,659	12,392
Central	810.46	20.8	24.5	274	1,502	1,318	6,140
Southern	913.98	30.6	35.2	384	2,089	1,256	5,939
Northern	NA	NA	NA	NA	NA	NA	NA
Eastern	NA	NA	NA	NA	NA	NA	NA
North Western	877.40	24.7	28.3	289	1,447	1,172	5,119
North Central	838.22	20.9	24.5	126	663	603	2,703
Uva	758.16	23.9	27.7	156	848	652	3,066
Sabaragamuwa	855.11	24.6	28.2	245	1,279	995	4,532
District							
Colombo	1,110.24	16.2	19.1	174	975	1,074	5,118
Gampaha	1,006.02	16.4	18.4	164	843	1,002	4,582
Kalutara	971.52	23.0	26.2	134	706	583	2,692
Galle	961.75	25.8	30.0	140	742	542	2,475
Matara	888.98	31.6	36.4	130	728	412	2,000
Hambantota	881.18	40.1	44.3	121	648	302	1,464
Moneragala	683.33	17.6	21.3	38	222	216	1,040
Polonnaruwa	825.71	18.8	21.6	36	190	191	879
Anuradhapura	843.39	21.4	25.5	88	465	412	1,824
Puttalam	941.43	22.9	26.0	64	315	279	1,211
Kandy	820.09	22.1	25.7	156	857	707	3,329
Matale	798.42	17.2	20.4	49	259	285	1,271
Nuwara-Eliya	783.78	20.9	24.5	68	377	326	1,540
Badulla	807.38	27.3	30.5	119	617	436	2,026
Ratnapura	844.12	26.3	30.2	146	788	556	2,608
Kegalle	888.48	23.0	26.0	101	500	439	1,924
Kurunegala	841.53	23.3	26.6	208	1,040	893	3,908
Note: NA = Data not available.							
Source: Consumer Finance & Socio Economic Survey, 1996/1997.							

6.8 Regional Disparities of Poverty Using Indices

The different poverty measures, which are described in the methodology section, are used to identify the regional disparities of poverty in Sri Lanka. The poor population identified is based on overall poverty lines in both surveys. The Foster-Greer Thorbecke Index (FGT index) was used mainly to derive the incidence of poverty (Headcount Index), depth of poverty (Poverty Gap Ratio) and severity of poverty (Squared Poverty Gap Index). To study income inequality, the Gini and Atkinson indices were used by sector, province and district. The values of each index are ranked by sector, province and district. These results from the two surveys are presented in Table 15, Table 16 and Figures 8-10.

As revealed from Table 15, it is clear that the Headcount Index is the highest in the estate sector followed by the rural sector in both surveys. Thus, the incidence of poverty in both surveys and therefore ranking of the sectors are in the same direction. This reveals that the measurement of HI, which represents the proportion of the population, is less than the poverty line in the estate sector in relation to the other two sectors. However, this does not provide insights into the intensity of poverty among the poor in the estate sector as described in the methodology section.

However, as far as the province is concerned, three provinces achieved the same ranking orders in both surveys. According to SLIS and CFS, Uva (.54), North Central (.45), and Central (.42) Provinces show a relatively high incidence of poverty. In both surveys, the lowest incidence of poverty was recorded in the Western Province.

The results of the depth of poverty indicator (Poverty Gap Ratio) discloses that the depth of poverty is high in the estate sector (.22) followed by the rural (.16) in the SLIS. However in the CFS, it was highest in the rural sector (.08).

The different ranking orders for the sectors in terms of PGI are not comparable due to indifferent sample frame and coverage as discussed frequently above. Moreover, the poverty dominance in the estate sector contrasts with that in the rural sector and thereby portrays the drawbacks of the PG indicator as described in the methodology section.

As far as provinces are concerned, the depth ratio is the highest in the Uva Province, followed by the North Central Province and the lowest in the Western Province in both surveys (Table 15). The ranking orders for other districts are different in the two surveys.

Severity (Squared Poverty Gap Index) is an important poverty index, which is used in many studies to understand the poverty gap of the poorest unit. In both surveys, Uva was recorded as the highest province for severity of poverty while the Western and Eastern Provinces were recorded as the lowest for severity of poverty (Table 15). The severity of poverty indicates how the extent of poverty varies among the poor groups.

The identification of ranking orders for sector, province and districts depicts the regional disparities of poverty in terms of indices of Headcount, Poverty Gap and severity of poverty, which may be useful for the formulation and implementation of policies for the elimination of poverty and thereby improve welfare facilities when funds are allocated on a provincial basis consequent to devolution of power by the government. These differentials in the ranking order in terms of poverty status could be taken into account even though the two surveys provide slightly different results.

Table 15
Poverty Indices by Sector, District and Province

	Headcount Index (Incidence of poverty)				Poverty Gap Index (Depth of poverty)				Squared Poverty Gap Index (Severity of poverty)			
	SLIS		CFS		SLIS		CFS		SLIS		CFS	
	Values	R	Values	R	Values	R	Values	R	Values	R	Values	R
Sri Lanka	0.36		0.22		0.15		0.07		0.09		0.04	
Sector												
Urban	0.25	3	0.10	3	0.10	3	0.03	3	0.06	3	0.02	3
Rural	0.37	2	0.24	2	0.16	2	0.08	1	0.09	2	0.04	1
Estate	0.52	1	0.28	1	0.22	1	0.07	2	0.13	1	0.03	2
Province												
Western	0.25	9	0.11	7	0.10	9	0.03	7	0.06	8	0.02	7
Central	0.42	3	0.28	3	0.19	3	0.09	4	0.11	3	0.04	4
Southern	0.36	6	0.27	4	0.14	7	0.09	3	0.07	7	0.04	3
Northern	0.38	5			0.15	5			0.09	5		
Eastern	0.28	8			0.10	8			0.06	9		
North Western	0.34	7	0.21	6	0.14	6	0.06	6	0.09	6	0.03	6
North Central	0.45	2	0.32	2	0.21	2	0.13	2	0.13	2	0.08	2
Uva	0.54	1	0.39	1	0.24	1	0.15	1	0.14	1	0.09	1
Sabaragamuwa	0.39	4	0.24	5	0.17	4	0.08	5	0.10	4	0.04	5
Districts												
Colombo	0.25	21	0.08	17	0.10	18	0.02	17	0.07	15	0.01	17
Gampaha	0.19	23	0.11	16	0.07	22	0.03	16	0.04	22	0.02	16
Kalutara	0.33	14	0.16	14	0.14	13	0.05	14	0.08	13	0.02	14
Kandy	0.40	10	0.26	10	0.17	10	0.08	10	0.10	10	0.04	10
Matale	0.54	3	0.29	8	0.25	3	0.09	9	0.15	3	0.05	9
Nuwara Eliya	0.37	12	0.34	5	0.16	12	0.10	6	0.09	12	0.05	8
Galle	0.31	16	0.17	13	0.12	15	0.05	13	0.06	16	0.02	12
Matara	0.34	13	0.31	6	0.13	14	0.10	7	0.07	14	0.05	6
Hambantota	0.44	8	0.42	1	0.17	9	0.15	2	0.10	11	0.08	4
Jaffna	0.27	18	NA	NA	0.08	21	NA	NA	0.04	21	NA	NA
Mannar	0.60	1	NA	NA	0.28	1	NA	NA	0.18	1	NA	NA
Vavuniya	0.39	11	NA	NA	0.16	11	NA	NA	0.10	9	NA	NA
Batticaloa	0.32	15	NA	NA	0.11	16	NA	NA	0.06	19	NA	NA
Ampara	0.27	20	NA	NA	0.10	19	NA	NA	0.06	18	NA	NA
Trincomalee	0.27	19	NA	NA	0.10	20	NA	NA	0.06	20	NA	NA
Kurunegala	0.44	7	0.23	11	0.20	8	0.07	11	0.12	7	0.03	11
Puttalam	0.20	22	0.15	15	0.06	23	0.04	15	0.03	23	0.02	15
Anuradhapura	0.41	9	0.29	7	0.20	7	0.11	5	0.13	6	0.06	5
Polonnaruwa	0.50	6	0.38	4	0.23	4	0.17	1	0.14	4	0.11	1
Badulla	0.51	5	0.40	2	0.21	6	0.15	3	0.12	8	0.09	2
Moneragela	0.57	2	0.38	3	0.27	2	0.15	4	0.17	2	0.08	3
Ratnapura	0.28	17	0.28	9	0.11	17	0.09	8	0.06	17	0.05	7
Kegalle	0.52	4	0.19	12	0.23	5	0.05	12	0.13	5	0.02	13

Note: R = Rank; NA = Data not available.
Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.

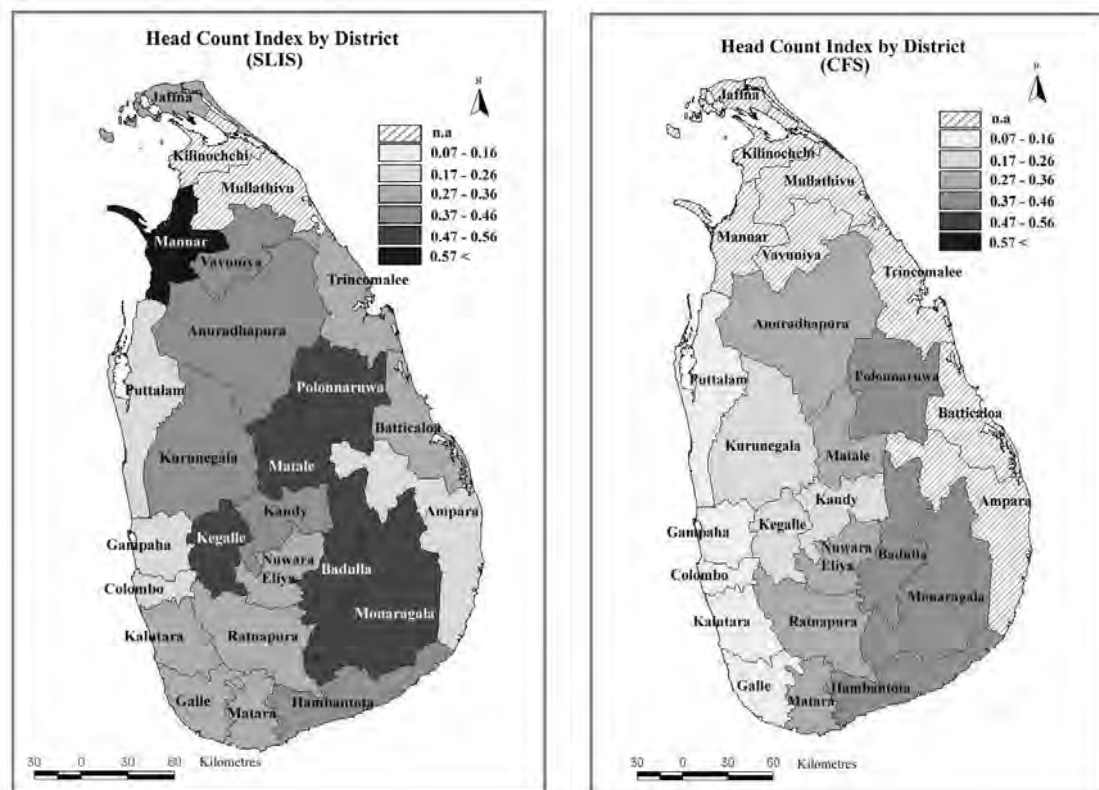
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The incidence, depth and severity of poverty by districts are clearly depicted in the set of maps (Figures 8-10). The GIS is used to derive these maps in order to highlight district-wise variations.

As shown in Figure 8, the highest incidence of poverty (Headcount Index) was recorded in Mannar by the SLIS. Moneragala, Matale, Kegalle and Badulla are the other districts (up to rank 5) with high incidence of poverty in the SLIS. According to the CFS, Hambantota was recorded as the district with the highest incidence of poverty followed by Badulla, Moneragala, Polonnaruwa and Nuwara Eliya districts (up to rank 5). This index may not convincingly capture the severity of poverty among the poor.

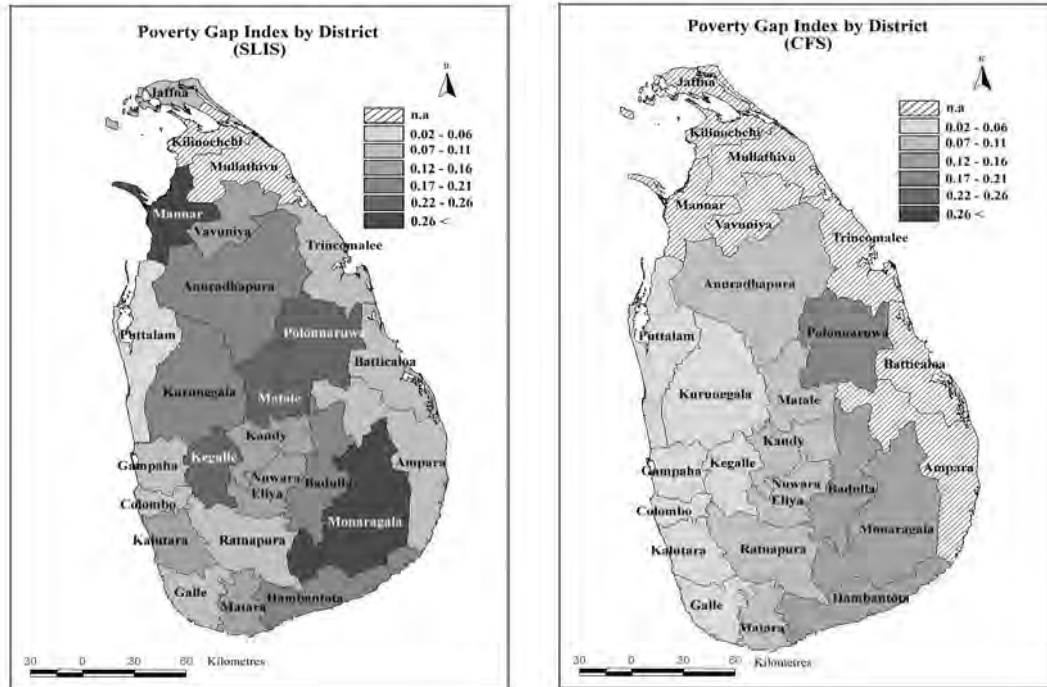
The magnitude of poverty captured through the Squared Poverty Gap Index and its district variations are depicted in Figure 9. The severity of poverty is depicted in Figure 10. As indicated in the above two indices, the highest depth and the severity of poverty was recorded in the Mannar District in the SLIS. Moneragala, Matale, Polonnaruwa and Kegalle are the other districts (up to rank 5) which have higher depth and severity of poverty in the SLIS. In the CFS (Figure 10), Polonnaruwa was recorded as the district with the greatest depth and the severity of poverty, while Badulla, Moneragala, Hambantota and Anuradhapura are the other districts which recorded a high severity of poverty.

Figure 8
Headcount Index by District – SLIS & CFS



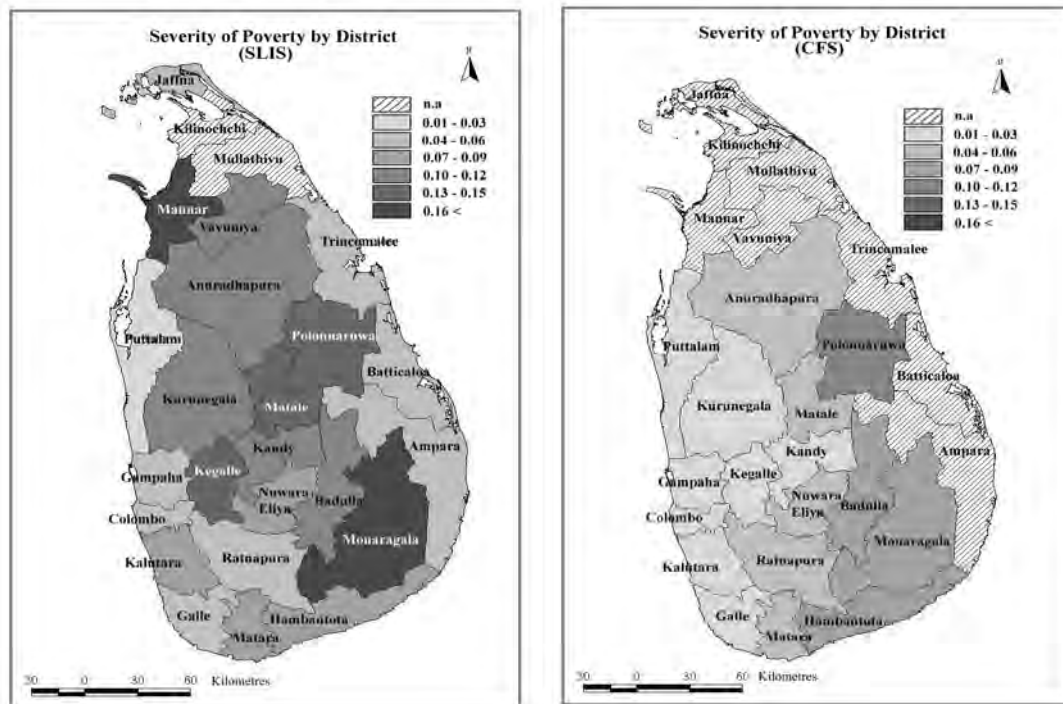
Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.

Figure 9
Poverty Gap Index by District – SLIS & CFS



Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.

Figure 10
Severity of Poverty by District – SLIS & CFS



Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.

The inequality between the poor and the non-poor are identified by using the Gini Coefficient, Atkinson Index and the Lorenz Curve, as described in the methodology section. The results of the two surveys are given in Tables 15 and 16 (Corresponding Lorenz curves are in Appendix B). As expected, the highest inequality of income is reported in the urban sector in the two surveys. As far as the inequality of income by province is concerned, the highest inequality is reported in the Western Province followed by North Western Province, whilst the lowest is recorded in the Northern Province, in the SLIS. In the CFS, Uva Province is recorded as the most inequality of income district and North Western Province the lowest inequality of income district.

	Gini Index			
	SLIS	Rank	CFS	Rank
Sri Lanka	0.53		0.46	
Sector				
Urban	0.64	1	0.50	1
Rural	0.46	2	0.43	2
Estate	0.41	3	0.30	3
Province				
Western	0.61	1	0.45	3
Central	0.50	6	0.45	4
Southern	0.52	4	0.40	6
Northern	0.38	9	NA	NA
Eastern	0.38	8	NA	NA
North Western	0.58	2	0.40	7
North Central	0.55	3	0.46	2
Uva	0.50	5	0.46	1
Sabaragamuwa	0.47	7	0.44	5
Districts				
Colombo	0.71	1	0.47	2
Gampaha	0.50	9	0.42	11
Kalutara	0.48	12	0.40	13
Kandy	0.56	4	0.47	4
Matale	0.42	17	0.47	3
Nuwara Eliya	0.42	18	0.34	17
Galle	0.44	14	0.39	15
Matara	0.48	11	0.39	14
Hambantota	0.65	2	0.43	10
affna	0.34	23	NA	NA
Mannar	0.47	13	NA	NA
Vavuniya	0.35	22	NA	NA
Batticaloa	0.37	20	NA	NA
Ampara	0.38	19	NA	NA
Trincomalee	0.36	21	NA	NA
Kurunegala	0.56	5	0.37	16
Puttalam	0.58	3	0.43	9
Anuradhapura	0.55	6	0.44	8
Polonnaruwa	0.54	7	0.49	1
Badulla	0.53	8	0.46	6
Moneragela	0.43	15	0.46	7
Ratnapura	0.43	16	0.42	12
Kegalle	0.49	10	0.46	5
Note:	NA = Data not available.			
Source:	Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.			

The Gini Index by district, which is presented in Table 16, indicates that Colombo (0.71) is recorded as the district with the most inequality of income followed by Hambantota (0.65) and Puttalam (0.58) which are the districts with the least inequality of income as recorded in the SLIS. According to the CFS, Polonnaruwa (0.49) is recorded as the district with the most inequality of income followed by Colombo, Kandy and Matale (0.47 for all) and least inequality is recorded in Nuwara Eliya (0.34). Thus, income inequality provides an insight into how wide the status of the poor and non-poor is.

Moreover, according to the Atkinson index which captures the magnitude of the gap between the intra-region inequality in the regions, the urban sector (0.53), the Western Province (0.49) and Colombo district (0.61) had the highest inequality at the degree of inequality aversion [$\epsilon = A(0.1)$] in the SLIS. In the CFS, the highest Atkinson index was recorded in the urban sector (0.35), Uva Province (0.31) and in the Polonnaruwa district (0.36) at the above degree of inequality aversion (see Tables 17A, 17B and 17C).

Table 17
Atkinson's Measures for Per Capita Household Monthly Income – SLIS & CFS

Sector	Atkinson's Measure							
	SLIS				CFS			
	<i>A (0.5)</i>	<i>A(1.0)</i>	<i>A(1.5)</i>	<i>A(2.0)</i>	<i>A(0.5)</i>	<i>A(1.0)</i>	<i>A(1.5)</i>	<i>A(2.0)</i>
Urban	0.3760	0.5338	0.6370	0.7309	0.2122	0.3496	0.4495	0.5292
Rural	0.1892	0.3328	0.4724	0.6377	0.1569	0.2775	0.3814	0.4830
Estate	0.1380	0.2638	0.3894	0.5205	0.0715	0.1400	0.2085	0.2802
All Sectors	0.2592	0.4070	0.5342	0.6762	0.1741	0.2993	0.4023	0.4997

Provinces	Atkinson's Measure							
	SLIS				CFS			
	<i>A (0.5)</i>	<i>A(1.0)</i>	<i>A(1.5)</i>	<i>A(2.0)</i>	<i>A(0.5)</i>	<i>A(1.0)</i>	<i>A(1.5)</i>	<i>A(2.0)</i>
Western	0.3526	0.4977	0.5942	0.6826	0.1717	0.2907	0.3832	0.4613
Central	0.2226	0.3768	0.5144	0.6482	0.1732	0.2910	0.3870	0.4820
Southern	0.2619	0.3996	0.5140	0.6389	0.1328	0.2442	0.3440	0.4402
Northern	0.1233	0.2418	0.3742	0.5305	NA	NA	NA	NA
Eastern	0.1199	0.2366	0.3645	0.5138	NA	NA	NA	NA
North Western	0.2967	0.4682	0.6212	0.8243	0.1293	0.2292	0.3116	0.3850
North Central	0.2567	0.4394	0.5916	0.7267	0.1735	0.3100	0.4308	0.5439
Uva	0.2286	0.3722	0.4870	0.5872	0.1745	0.3102	0.4335	0.5632
Sabaragamuwa	0.1803	0.3366	0.4891	0.6527	0.1723	0.2886	0.3795	0.4605

Note: NA = Data not available.

Table 17 C
Atkinson's Measures by District

Districts	Atkinson's Measure							
	SLIS				CFS			
	A (0.5)	A(1.0)	A(1.5)	A(2.0)	A(0.5)	A(1.0)	A(1.5)	A(2.0)
Colombo	0.4600	0.6122	0.6934	0.7620	0.1904	0.3146	0.4071	0.4832
Gampaha	0.2324	0.3684	0.4783	0.5916	0.1487	0.2607	0.3534	0.4367
Kalutara	0.2026	0.3408	0.4556	0.5628	0.1260	0.2286	0.3130	0.3843
Kandy	0.2791	0.4418	0.5697	0.6848	0.1897	0.3085	0.3964	0.4699
Matale	0.1471	0.2948	0.4551	0.6230	0.1840	0.3230	0.4403	0.5583
Nuwara Eliya	0.1465	0.2840	0.4173	0.5478	0.0921	0.1792	0.2710	0.3852
Galle	0.1818	0.3081	0.4359	0.6046	0.1229	0.2176	0.2951	0.3627
Matara	0.2056	0.3505	0.4767	0.6065	0.1236	0.2330	0.3332	0.4278
Hambantota	0.4042	0.5443	0.6316	0.7072	0.1445	0.2696	0.3825	0.4906
Jaffna	0.1019	0.1869	0.2728	0.3831	NA	NA	NA	NA
Mannar	0.1888	0.3491	0.4927	0.6192	NA	NA	NA	NA
Vavuniya	0.1023	0.2228	0.3791	0.5711	NA	NA	NA	NA
Batticaloa	0.1252	0.2348	0.3511	0.4884	NA	NA	NA	NA
Ampara	0.1212	0.2457	0.3842	0.5424	NA	NA	NA	NA
Trincomalee	0.1075	0.2174	0.3427	0.4948	NA	NA	NA	NA
Kurunegala	0.2679	0.4506	0.6269	0.8418	0.1153	0.2095	0.2903	0.3646
Puttalam	0.3020	0.4448	0.5345	0.6053	0.1511	0.2595	0.3423	0.4105
Anuradhapura	0.2635	0.4448	0.5898	0.7159	0.1517	0.2817	0.3980	0.5069
Polonnaruwa	0.2414	0.4255	0.5885	0.7352	0.2202	0.3625	0.4829	0.5940
Badulla	0.2589	0.4023	0.5080	0.5979	0.1771	0.3142	0.4443	0.5878
Moneragela	0.1571	0.2987	0.4282	0.5443	0.1694	0.3023	0.4110	0.5040
Ratnapura	0.1510	0.2873	0.4157	0.5385	0.1516	0.2620	0.3557	0.4453
Kegalle	0.2025	0.3646	0.5231	0.6923	0.1863	0.3055	0.3906	0.4573

Note: NA = Data not available.
Source: Consumer Finance & Socio Economic Survey, 1996/1997; Sri Lanka Integrated Survey, 1999/2000.

Thus, the above discussion helps to provide a better understanding of the regional variations, and poverty dimension through the income inequality, persisting in the regions. The relationship between income inequality in terms of the Gini Index or Atkinson Index and the severity of poverty demonstrates the regional disparities in poverty. The regions with higher income inequality show a high severity of poverty, particularly in the urban sector (eg., Western Province and Colombo District). Therefore, identification of regional disparities of income inequality per se provides insights into the dimension of poverty which will assist the formulation of better policies and programmes by the government. The strategies to reduce income inequality either through welfare programmes or fiscal or financial intervention would be useful in poverty reduction.

6.9 Composite Indicator of Multidimensional Poverty

In order to achieve the ultimate objective of the study, the Composite Indicator of Multidimensional Poverty was developed to capture the non-income dimension of poverty in Sri Lanka. As discussed above, due to the limitations of income and expenditure as a measure of identification of the poor, the study analysed several other socio-economic dimensions including income in the identification of poor districts using two data sets. The number of variables such as nutrition, water, sanitation, housing facilities – type of wall, type of floor, source of drinking water, source of lighting and source of cooking—minimum level of calorie consumption, food expenditure, level of education and per capita total household monthly income are initially used and significant factors are taken into account using the Principal Component based Factor Analysis. In order to compare the Composite Indicator of Multidimensional Poverty in the two surveys, the Northern and Eastern Provinces were excluded from the SLIS. The variables are weighted and rescaled with the eigen (more than 1) value and accordingly the two types of the regional poverty pattern viz., highly-severe poor districts and moderately-severe poor districts are identified.

Using the methodological procedure of Principal Component based Factor Analysis, the Composite Indicator of Multidimensional Poverty has been developed and, using this indicator, the regional disparities of poverty are analysed. This indicator provides a realistic configuration of poverty in Sri Lanka because it accounts for the multidimensional situations in each district. As discussed elsewhere in this study, some districts are strong in nutritional status while others are strong in having good amenities of water and sanitation and so on.

The results of the Principal Component based Factor Analysis using SPSS are presented in Table 18. Since the three eigen values (greater than 1) in the SLIS and two eigen values in the CFS (greater than 1) explained 51 per cent and 42 per cent of the variability respectively (Table 18A), the factors provide sufficient explanation of the nine variables listed (Table 18 B). Thus, three factors (F1 = Household Condition Factor; F2 = Socio Economic Status Factor and F3 = Nutrition Factor)⁴ were extracted in the SLIS and two factors (F1 = Household Condition Factor; F2 = Socio Economic Status and Nutrition Factor)⁵ were extracted in the CFS (Table 18B). The composite indicators for SLIS and CFS were separately developed using the mean value of three factors in the SLIS and mean value of two factors in the CFS, multiplying them with the corresponding eigen values.

⁴ In the SLIS, the variables included in the factors are:

F1 = Type of floor + Type of wall + Type of latrine+ Lighting utilized.

F2 = Expenditure on food + Drinking water + Level of Education + Per capita household income.

F3 = Calorie consumption.

⁵ In the CFS, the variables included in the factors are:

F1 = Type of floor + Type of wall + Type of latrine+ Lighting utilized+ Drinking water.

F2 = Expenditure on food + Level of Education + Per capita household income + Calorie consumption.

Table 18
Eigen Values (18A) and Factor Scores (18B) of the Factor Analysis

SLIS			(18A)			CFS		
Eigen value	Percentage	Cumulative %	Eigen value	Percentage	Cumulative %	Eigen value	Percentage	Cumulative %
2.4790	27.55	27.55	2.6440	29.38	29.38			
1.0970	12.19	39.73	1.1620	12.91	42.29			
1.0400	11.56	51.29	0.9500	10.56	52.85			
0.9300	10.34	61.63	0.9050	10.06	62.91			
0.8830	9.81	71.44	0.7670	8.52	71.43			
0.8210	9.12	80.56	0.7500	8.33	79.77			
0.6840	7.60	88.16	0.6590	7.32	87.09			
0.5710	6.34	94.50	0.6190	6.88	93.97			
0.4950	5.50	100.00	0.5420	6.03	100.00			

SLIS				(18B)			CFS		
Rotated Component Matrix ^a				Rotated Component Matrix ^a			Rotated Component Matrix ^a		
	Component				Component			Component	
	1	2	3		1	2		1	2
CALORY	-0.0304	0.2400	0.8040	CALORY	0.1960	0.3760			
FOOD_EXP	0.0159	0.3540	-0.6550	FOOD_EXP	0.1200	0.7050			
FLOOR_T	0.7890	0.0832	0.0352	FLOOR_T	0.7220	0.2040			
WALL_TY	0.7320	0.0367	0.0280	WALL_TY	0.5690	0.1510			
DRINK_WA	0.2220	0.4420	-0.0057	DRINK_WA	0.4730	-0.2590			
TY_LATR	0.7110	0.1400	-0.0442	TY_LATR	0.6520	0.2090			
LIGHT_UT	0.6940	0.1890	-0.1090	LIGHT_UT	0.6480	0.3450			
LEV_EDU	0.2390	0.5690	-0.0721	LEV_EDU	0.2520	0.5180			
P_HOINCO	-0.0809	0.7020	0.0459	P_HOINCO	-0.0381	0.7580			

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a: Rotation converged in 5 iterations.	Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a: Rotation converged in 3 iterations.
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Note : CALORY= Calorie consumption per day; FOOD_EXP= Expenditure on food; FLOOR_T = Type of floor; WALL_TY= Type of wall; DRINK_WA= Drinking water; TY_LATR= Type of latrine; LIGHT_UT= Lighting utilized; LEV_EDU= Level of education; P_HOINCO = Per capita household income.

Source: Consumer Finance & Socio Economic Survey 1996/1997; Sri Lanka Integrated Survey 1999/2000.

Based on these composite indicators for SLIS and CFS, the variability of district-wise poverty was measured and the results are presented in Table 19.

Table 19
Composite Poverty Indicator by District

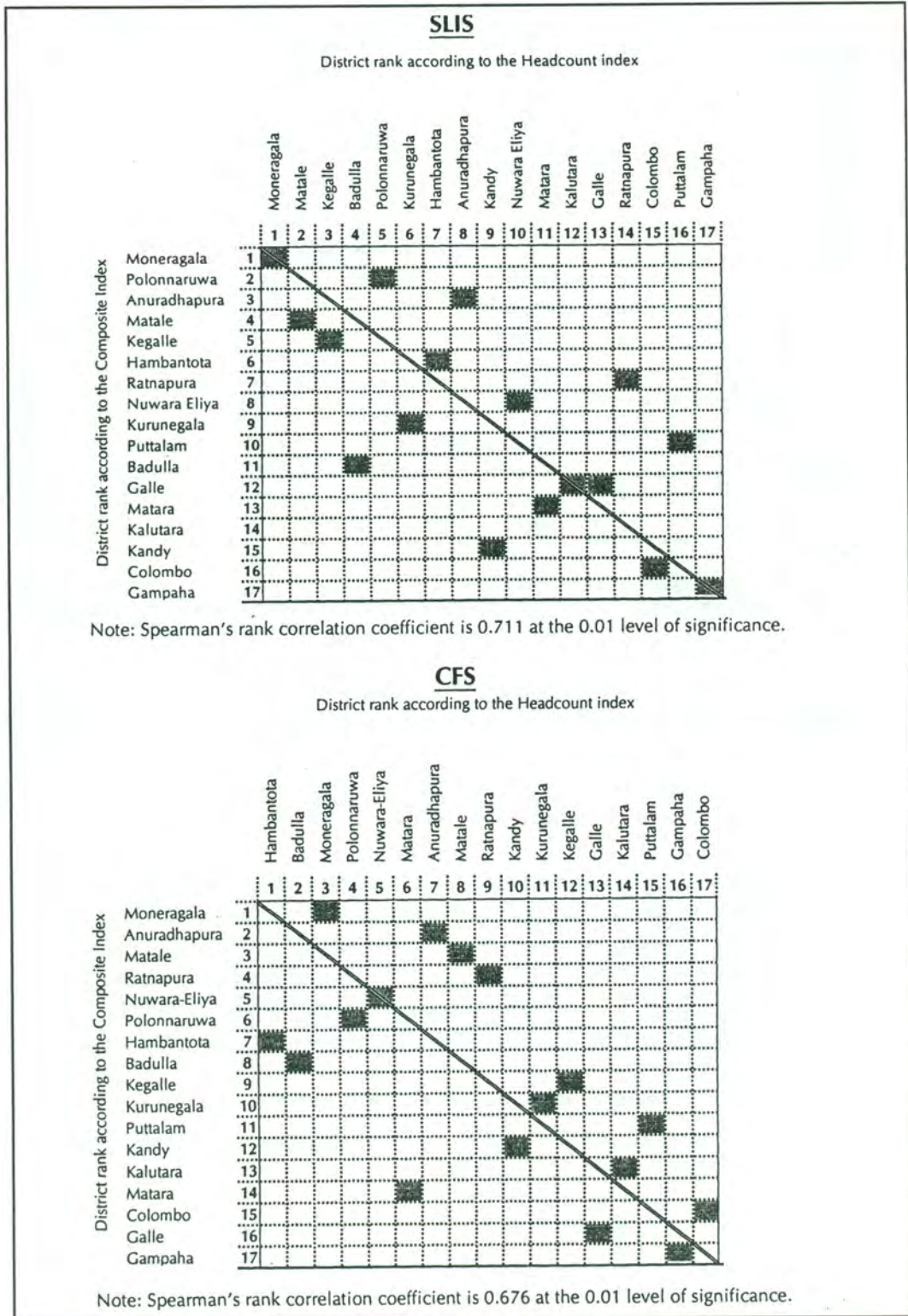
Districts	Composite Indicator			
	SLIS	Rank	CFS	Rank
Colombo	0.407	16	0.992	15
Gampaha	0.424	17	1.110	17
Kalutara	0.143	14	0.829	13
Kandy	0.158	15	0.557	12
Matale	-0.315	4	0.026	3
Nuwara Eliya	-0.116	8	0.185	5
Galle	0.117	12	1.015	16
Matara	0.124	13	0.917	14
Hambantota	-0.154	6	0.270	7
Kurunegala	-0.051	9	0.464	10
Puttalam	-0.038	10	0.522	11
Anuradhapura	-0.366	3	-0.096	2
Polonnaruwa	-0.421	2	0.214	6
Badulla	-0.033	11	0.332	8
Moneragala	-0.545	1	-0.221	1
Ratnapura	-0.152	7	0.051	4
Kegalle	-0.164	5	0.382	9

Source: Consumer Finance & Socio Economic Survey, 1996/1997;
Sri Lanka Integrated Survey, 1999/2000.

As revealed from the ranking order of the composite indicator in the Table, Moneragala represents the most deprived district having the largest number of the poor whilst Gampaha represents the most privileged district to have the least number of poor people in both SLIS and CFS. The districts of Polonnaruwa, Anuradhapura, Matale (in both SLIS and CFS) and Ratnapura (CFS) are the other districts which are relatively deprived by having a large number of the poor.

The ranking order based on the composite poverty indicator is more realistic than the ranking order based on the Headcount Index. As shown in Figure 11, the district ranking order in the composite index is conspicuously different in comparison to the district ranking order of the Headcount Index. The similar district ranking order represents the diagonal of the figure whilst the deviations from the diagonal indicate the different district ranking order. Thus, as Figure 11 shows other than very few districts (i.e., Moneragala, Galle and Gampaha in the SLIS and Nuwara-Eliya in the CFS) there are many districts that have a different ranking order.

Figure 11
Rank Order Comparison (Districts) between Composite Indicator
and Headcount Index – SLIS and CFS



Moreover, the Spearman's rank correlation coefficient values also show that there is no perfect relationship between these two ranking orders in SLIS and CFS (Figure 11). These results suggest that the district ranking order for poverty is more properly indicated by the Composite Poverty Indicator than the Headcount Index because the multidimensional factors such as sanitation, drinking water, level of education etc. are included in the Composite Indicator. Based on the ranking order of the Composite Indicator for the two surveys, the districts are classified into **highly-severe poor districts** and **moderately-severe poor districts** (Table 20).

Rank	Districts		
	SLIS	CFS	
1	Moneragala	Moneragala	Highly-Severe Poor Districts
2	Polonnaruwa	Anuradhapura	
3	Anuradhapura	Matale	
4	Matale	Ratnapura	
5	Kegalle	Nuwara-Eliya	Moderately-Severe Poor Districts
6	Hambantota	Polonnaruwa	
7	Ratnapura	Hambantota	
8	Nuwara Eliya	Badulla	
9	Kurunegala	Kegalle	
10	Puttalam	Kurunegala	
11	Badulla	Puttalam	
12	Galle	Kandy	
13	Matara	Kalutara	
14	Kalutara	Matara	
15	Kandy	Colombo	
16	Colombo	Galle	
17	Gampaha	Gampaha	

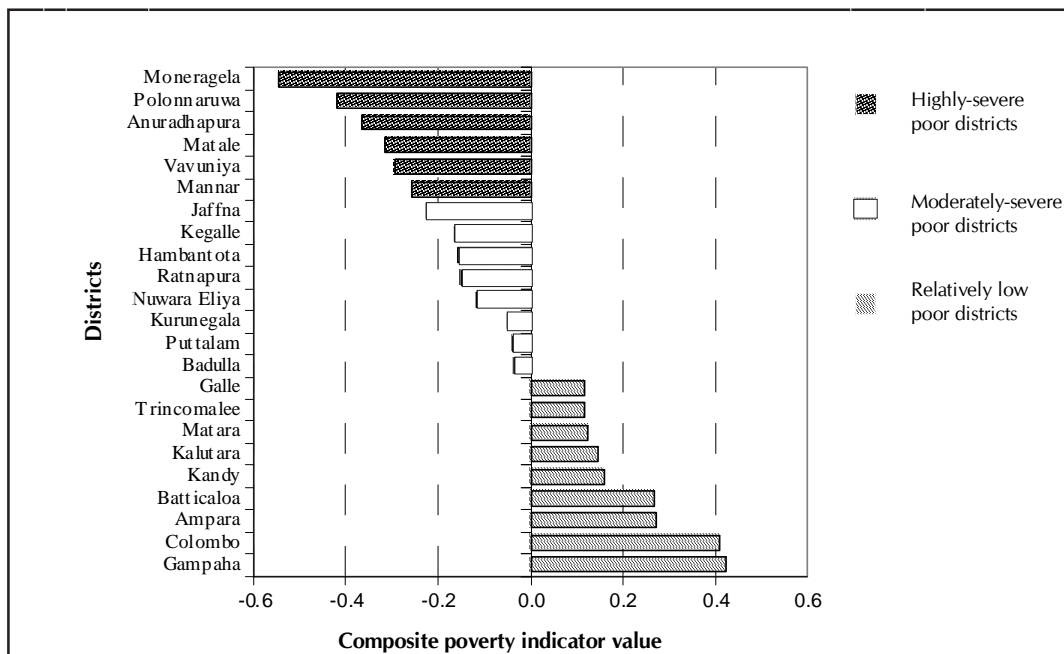
Although the two surveys do not categorize the districts as ones with highly or moderately severe districts with poverty, most districts belong to the same category. According to the SLIS data, using the Composite Indicator of Multidimensional Poverty, the study categorized in order of rank, Moneragala, Polonnaruwa, Anuradhapura and Matale as **highly-severe poor districts** and Kegalle, Hambantota, Ratnapura, Kurunegala, Puttalam as **moderately-severe poor districts** (which gives the negative values of the mean). According to CFS data, it is observed that Moneragala, Polonnaruwa, Anuradhapura and Matale districts are the **highly-severe poverty districts** while Kegalle, Hambantota, Ratnapura, Kurunegala and Badulla are **moderately-severe poverty districts**. The relationship between the ranking orders of districts with poverty in the SLIS and CFS are measured by using Spearman's rank correlation coefficient. Spearman's rank correlation coefficient is 0.887 at the 0.01 level of significance. The high value of the rank correlation coefficient indicates that there is a close relationship between district ranking of CFS and SLIS data. Thus, both surveys clearly indicate that the districts of Anuradhapura, Polonnaruwa, Moneragala and Matale emerge as relatively the most deprived districts with poor in terms of the lack of sanitation, water, education, income, calorie consumption, and housing facilities etc.

In addition, accessibility to services and frontier location have also contributed to the condition of highly-severe poor districts (Seneviratne, 2003). Poor accessibility to services leads to low mobility, low exposure to new ideas and increase in expenditure in case of family emergencies particularly health. This will result in missed opportunities, which are generally available in the surrounding areas and prevent the enhancement of economic and social status of the very poor. The border location has two major hazards, which lead to formation of very poor condition. Firstly, the high prevalence of endemic malaria and many other infectious diseases in the border areas of these districts makes the general poverty situation more severe through increase in household expenditure on health and loss of man days, which are critical to low income families. Secondly, place originated hazards like conflict, war and localized drought are common in most of the districts cited in the relationship established above.

The effects of conflicts and war and other confounding factors on poverty may have been observed when the Northern and Eastern Provinces were taken into account. Thus, this study finally paved the way to develop the composite indices for all provinces in the SLIS. Accordingly, Mannar and Vavuniya districts were also identified as *highly-severe poor districts* and Jaffna identified as a *moderately-severe poor district*. The positive values of the composite indicator are categorized as relatively low poor districts such as Colombo and Gampaha etc. (Figure 12).

Thus, according to the traditional income based indices which are used in this study (i.e., FGT, Regional disparities on expenditure base), Badulla, Kegalle, Batticaloa, Matara and Kalutara are identified as the poor districts. However, under the Composite Indicator of Multidimensional Poverty, those districts are noticeably different from the districts identified as severely poor such as Moneragala, Polonnaruwa,

Figure 12
Categorization of the Poor Districts - SLIS



Source: Sri Lanka Integrated Survey, 1999/2000.

Anuradhapura, Matale, Vavuniya and Mannar. In sum, it is interesting to note that the Composite Indicator in this study makes a significant difference to the classification of districts from what is obtained by using the more traditional income/consumption based poverty line due to the consideration of multidimensional factors prevailing in the above severely poor districts.

7. Summary and Conclusions

7.1 General Findings

The identification of the poor households and the poor population are presented in this study using a constructed poverty line for the two data sets of Consumer Finance and Socio Economic Survey (1996/97) and Sri Lanka Integrated Survey (1999/2000). The Minimum Required Adult Equivalent Food Expenditure which equals to Rs.883 and Rs. 1,206 in the CFS and SLIS respectively, are used as the National Poverty line for the above two surveys.

Based on this poverty line, 22.4 per cent and 25.2 per cent of the households are identified as poor households whilst 25.8 and 25.3 per cent of the population are identified as poor in the CFS and SLIS respectively. Apparently, the higher value of the percentage of poor households in the SLIS is due to its adoption of a national sample.

Poverty in Sri Lanka is predominantly a rural phenomenon whilst the lowest poverty is recorded in the estate sector. The salient feature of rural poverty is that it accounts for more than three-fourths of aggregate poverty in Sri Lanka. However, this contribution to national poverty is largely invariant over the different poverty measures and regional poverty lines. As far as the proportion of poor households and poor population are concerned there is a decrease in the rural sector whilst a significant increase is apparent in the urban sector though the data in the two relevant surveys is not comparable. During the corresponding period, the proportion of poor households and poor persons also slightly increased in the estate sector.

The high incidence of poverty is seen mostly in the Eastern Province according to the SLIS whilst the highest severity of poverty in terms of squared poverty gap index is recorded in the Uva Province. The lowest severity of poverty is recorded in North Central Province in both surveys.

The demographic and social characteristics of the poor and the non-poor disclose that in both surveys, there is a sex differential (slightly more males than females) among the poor though it is not significant whilst the sex composition is the other way round among the non-poor (more females than males). The poor are also younger than the non-poor, the proportion of older persons aged 60 and above is relatively lower among the poor when compared with the non-poor and the educational attainments are relatively low among the poor compared with the non-poor. All these differences in the characteristics between the poor and the non-poor are significant at $p < .01$ level.

The economic characteristics show that according to the SLIS, (i) the rate of poor in the labour force was lower and their unemployment higher than the non-poor, (ii) the labour participants among the poor are noticeable in the employment of agricultural and other primary production activities, (iii) the unemployment level is high among the poor in the rural and the estate sector and, (iv) the proportion of unemployed poor

tends to be higher than the non-poor in the primary and secondary level. More than three-fourths of the poor in the two surveys spend less than Rs. 6,500 per month and this expenditure is largely on their consumption of food. The economic characteristics of the poor and the non-poor are also highly significant.

The conditions of housing, water and sanitation tend to be low in the poor households when compared with the non-poor. The differentials of these household characteristics and sanitation exist mostly in the estate sector.

According to both surveys, the Southern, Central and Western Provinces experience a relatively high proportion of poverty when the single country poverty line is taken into account. The regional differences using Single Consumption Based Poverty Line certainly do not provide a clear portrait of poverty differentials by region because the basket of food consumption is different from region to region. When the regional poverty line and different poverty indices such as FGT, Gini and Atkinson indices are used, the features of the regional variations of poverty would change from the above. North Central, Central, Uva, Western and Eastern Provinces emerged as relatively more vulnerable provinces for poverty. Considerable incidence of poverty exists in the districts of Moneragala, Polonnaruwa, Matale, Kegalle and Mannar. Colombo is recorded as the district with the most inequality in income followed by Hambantota.

Based on the regional poverty lines and the Composite Indicator of Multidimensional Poverty, the poor household and its regional variations are clearly identified. The poverty indicator provides a realistic configuration of poverty in Sri Lanka because it accounts for the multidimensional factors. Therefore, the district variations of poverty status emerged better by the Composite Indicator than the Headcount Index. Thus, the Composite Indicator of Multidimensional Poverty has set out several districts as highly-severe poor districts: Moneragala, Polonnaruwa, Anuradhapura and Matale. These districts are relatively deprived in terms of lack of sanitation, water, education, income, calorie consumption and housing facilities etc.

According to the traditional income based indices which are used in this study (i.e., FGT, regional disparities on expenditure based measures), Badulla, Kegalle, Batticaloa, Matara and Kalutara are identified as the poor districts. However, under the Composite Indicator of Multidimensional Poverty, these districts are noticeably different from the districts identified as severely poor districts such as Moneragala, Polonnaruwa, Anuradhapura, Matale, Vavuniya and Mannar. It is interesting to note that the Composite Indicator in this study makes a significant difference to the classification of districts compared with what is obtained by the more traditional income/consumption based poverty line due to the consideration of multidimensional factors prevailing in the above severely poor districts.

7.2 Policy Implications and Further Research

Undoubtedly, the above findings may be useful in the formulation of policies and implementation of strategies to reduce poverty in the identified districts in Sri Lanka. The improvement of infrastructure, particularly in the fields of sanitation, water, nutrition and housing conditions should be targeted to reduce poverty for which a national policy has to be adopted by the national government. Moreover, it is important that every district formulates its own poverty reduction strategies for the lessening of poverty because each region has its own carrying capacity based on resource availability.

There is no clear national policy for the alleviation of poverty in the country. Therefore it is important to formulate better policies in this regard by way of identification of genuine characteristics of the poor households and poor people as revealed in this study.

Development programmes must be intensified to cover more projects in rural areas where the majority of the poor reside, such as micro-finance induced project, self employment, housing project, health service improvements, enhancing quality of education and other infrastructural facilities. Further, the government should develop poverty reduction programmes in urban areas where the poor have apparently increased over the last few decades, such as access to safe water, sanitation facilities, living environment and accessibility to primary health care. It is imperative that such development projects be targeted at both male and female, youth and older heads of households. The regional poverty variations in this study based on the district ranking of the composite poverty indicator and the regional poverty lines provide a basis for making decisions concerning needs-based-rules for the allocation of the budget expenditure to districts in the provinces in Sri Lanka. Furthermore, the highly severe poor districts should be prioritized for fiscal spending, especially when regional budgets are formulated for the improvement of the well-being of people of those districts.

It is clear that place or locality (i.e., caste and class association) has an important role to play in poverty reduction in Sri Lanka, through empowerment of the household. This has to originate both from community participation and institutional guidance where social and political awareness of poverty reduction will be transmitted to individual households. This type of approach is necessary as there is a regional bias in severe poverty as indicated by data used in this analysis and by many other researchers cited. Therefore, it is timely to engage in projects of micro-level research in the regional context of poverty in Sri Lanka.

The ranking orders for sector, province and districts reveal the regional disparities of poverty in terms of indices of headcount, poverty gap and severity of poverty, which may be useful for the formulation and implementation of policies for the elimination of poverty and consequent improvement of welfare facilities. When funds are allocated on a provincial basis consequent to devolution of power by the government, these differentials of ranking order in terms of poverty status could be taken into account. Therefore, identification of regional disparities of income inequality per se provides insight into dimensions of poverty which will assist in the formulation of better policies and programmes by the government. The strategies to reduce income inequality either through welfare programmes or fiscal or financial interventions would be useful in poverty reduction.

Further research on specific areas of poverty linked to the household may be conducted in the areas of conflict, resettled areas and urban fringe, where severe poverty has been confirmed by this study. This is because these areas have produced a large number of unemployed youth and displaced persons leading to numerous social problems, which lead to communal insecurity.

Appendix A

Table A1 (a): Distribution of Dwelling Tenure of Poor Households by Sector - SLIS**

Dwelling Tenure	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Owned By The Household	178	69.8	1,217	79.5	37	36.3
Owned By Employer	3	1.2	27	1.8	38	37.3
Owned By Relative (Kin or In-Laws)	21	8.2	156	10.2	3	2.9
Owned By Government	23	9.0	33	2.2	24	23.5
Owned By Other Person	11	4.3	47	3.1	0	0.0
Squatting \ Encroaching	10	3.9	16	1.0	0	0.0
No Dwelling Unit	0	0.0	1	0.1	0	0.0
Other	9	3.5	34	2.2	0	0.0
Total	255	100.0	1,531	79.5	102	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).

Source: Sri Lanka Integrated Survey, 1999/2000.

Table A1 (b): Distribution of Dwelling Tenure of Poor Households by Sector - CFS**

Tenure of Accommodation	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Own House	76	80.0	1,685	95.7	6	7.3
Owned By Govt./ Employer	0	0.0	9	0.5	63	76.8
Leased In / Rent	10	10.5	17	1.0	0	0.0
Other Rented (Chummyery etc.)	0	0.0	1	0.1	0	0.0
Free of Rent	6	6.3	39	2.2	13	15.9
Other	3	3.2	9	0.5	0	0.0
Total	95	100.0	1,760	100.0	82	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).

Source: Consumer Finance & Socio Economic Survey, 1996/1997.

Table A2 (a): Distribution of Type of Poor Households by Sector - SLIS**

Type of Housing	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Single House	191	74.9	1,447	94.6	30	29.4
Attached House	34	13.3	34	2.2	14	13.7
Annex	1	0.4	3	0.2	0	0.0
Flat	8	3.1	0	0.0	0	0.0
Shanty	17	6.7	25	1.6	4	3.9
Line Room	4	1.6	19	1.2	54	52.9
Other	0	0.0	1	0.1	0	0.0
Total	255	100.0	1,529	100.0	102	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).

Source: Sri Lanka Integrated Survey, 1999/2000.

Table A2 (b): Distribution of Type of Poor Households by Sector - CFS**

Type of Housing	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Single House	59	62.1	1,706	96.9	9	11.0
Attached House	28	29.5	46	2.6	67	81.7
Annexe	1	1.1	1	0.1	0	0.0
Condominium	0	0.0	1	0.1	0	0.0
Flat	0	0.0	1	0.1	0	0.0
Shanty	7	7.4	2	0.1	0	0.0
Other	0	0.0	3	0.2	6	7.3
Total	95	100.0	1,760	100.0	82	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Consumer Finance & Socio Economic Survey, 1996/1997.

Table A3 (a): Distribution of Floor Type of Poor Households by Sector - SLIS**

Floor Type	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Unprepared Earth	6	2.4	56	3.7	4	3.9
Prepared Clay	23	9.0	471	30.8	42	41.2
Cement	223	87.5	998	65.2	55	53.9
Wood	0	0.0	2	0.1	1	1.0
Terrazo	1	0.4	0	0.0	0	0.0
Tiles	0	0.0	0	0.0	0	0.0
Brick	1	0.4	2	0.1	0	0.0
Other	1	0.4	1	0.1	0	0.0
Total	255	100.0	1,530	100.0	102	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Sri Lanka Integrated Survey, 1999/2000.

Table A3 (b): Distribution of Floor Type of Poor Households by Sector - CFS**

Floor Type	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Unprepared Earth	5	5.3	107	6.1	5	6.1
Prepared Clay	7	7.4	726	41.3	44	53.7
Cement	83	87.4	925	52.6	33	40.2
Wooden	0	0.0	0	0.0	0	0.0
Terrazo	0	0.0	2	0.1	0	0.0
Tiles	0	0.0	0	0.0	0	0.0
Other	0	0.0	0	0.0	0	0.0
Total	95	100.0	1,760	100.0	82	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Consumer Finance & Socio Economic Survey, 1996/1997.

Table A4 (a): Distribution of Wall Type of Poor Households by Sector - SLIS**

Wall Type	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Brick	164	64.3	802	52.4	47	46.1
Cabook	14	5.5	72	4.7	19	18.6
Cement Block	32	12.5	192	12.5	12	11.8
Mud	10	3.9	384	25.1	20	19.6
Plank/Metal Sheet	28	11.0	23	1.5	1	1.0
Cadjan / Palmyrah	3	1.2	38	2.5	1	1.0
Other	4	1.6	19	1.2	2	2.0
Total	255	100.0	1,530	100.0	102	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).

Source: Sri Lanka Integrated Survey, 1999/2000.

Table A4 (b): Distribution of Wall Type of Poor Households by Sector - CFS**

Wall Type	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Bricks	36	37.9	725	41.2	20	24.4
Cement Block	10	10.5	112	6.4	16	19.5
Mud	4	4.2	203	11.5	10	12.2
Wattle and Daub	10	10.5	524	29.8	3	3.7
Kabok/Metal	9	9.5	116	6.6	28	34.1
Wooden	21	22.1	22	1.3	0	0.0
Cadjan	2	2.1	21	1.2	0	0.0
Sheet	0	0.0	2	0.1	0	0.0
Other	3	3.2	35	2.0	5	6.1
Total	95	100.0	1,760	100.0	82	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).

Source: Consumer Finance & Socio Economic Survey, 1996/1997.

Table A5 (a): Distribution of Roof Type of Poor Households by Sector - SLIS**

Roof Type	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Tiles	123	48.2	934	61.1	16	15.7
Asbestos	71	27.8	100	6.5	8	7.8
Metal Sheet	43	16.9	195	12.8	73	71.6
Cadjan / Palmyrah	7	2.7	272	17.8	5	4.9
Other	11	4.3	27	1.8	0	0.0
Total	255	100.0	1,528	100.0	102	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).

Source: Sri Lanka Integrated Survey, 1999/2000.

Table A5 (b): Distribution of Roof Type of Poor Households by Sector - CFS**

Roof Type	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Tiles	28	29.5	955	54.3	4	4.9
Asbestos	24	25.3	135	7.7	14	17.1
Metal/Tar Sheet	38	40.0	282	16.0	64	78.0
Thatched	5	5.3	370	21.0	0	0.0
Other	0	0.0	18	1.0	0	0.0
Total	95	100.0	1,760	100.0	82	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Consumer Finance & Socio Economic Survey, 1996/1997.

Table A6 (a): Distribution of Source of Drinking Water of Poor Households by Sector - SLIS**

Drinking Water	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Protected Well	47	18.4	747	48.8	5	4.9
Unprotected Well	17	6.7	344	22.5	18	17.6
Public Tap	78	30.6	114	7.5	56	54.9
Tube Well	5	2.0	99	6.5	0	0.0
Tap Within Unit	70	27.5	73	4.8	1	1.0
Tap Outside Unit	32	12.5	54	3.5	4	3.9
River/Tank/Streams	1	0.4	63	4.1	14	13.7
Other	5	2.0	36	2.4	4	3.9
Total	255	100.0	1,530	100.0	102	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Sri Lanka Integrated Survey, 1999/2000.

Table A6 (b): Distribution of Source of Drinking Water of Poor Households by Sector - CFS**

Drinking Water	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Pipe borne inside (Water Board)	15	15.8	37	2.1	0	0.0
Pipe borne inside (Other)	4	4.2	18	1.0	2	2.4
Stand Pipe (Water Board)	42	44.2	64	3.6	12	14.6
Stand Pipe (Other)	14	14.7	125	7.1	50	61.0
Own Well	5	5.3	460	26.1	1	1.2
Common Well	12	12.6	708	40.2	7	8.5
Tube Well	2	2.1	121	6.9	0	0.0
River/Stream/Tank	0	0.0	101	5.7	8	9.8
Other	1	1.1	126	7.2	2	2.4
Total	95	100.0	1,760	100.0	82	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Consumer Finance & Socio Economic Survey, 1996/1997.

Table A7 (a): Distribution of Type of Latrine of Poor Households by Sector - SLIS**

Type of Latrine	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Water Seal	196	84.1	812	68.5	47	65.3
Flush Toilet	23	9.9	101	8.5	9	12.5
Bucket	2	0.9	11	0.9	0	0.0
Pit	12	5.2	254	21.4	16	22.2
Other	0	0.0	7	0.6	0	0.0
Total	233	100.0	1,185	100.0	72	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).

Source: Sri Lanka Integrated Survey, 1999/2000.

Table A7 (b): Distribution of Type of Latrine of Poor Households by Sector - CFS**

Type of Latrine	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Water Seal	68	71.6	977	55.5	36	43.9
Flush Toilet	3	3.2	17	1.0	0	0.0
Bucket	0	0.0	11	0.6	1	1.2
Pit	16	16.8	572	32.5	21	25.6
Nil	8	8.4	183	10.4	24	29.3
Total	95	100.0	1,760	100.0	82	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).

Source: Consumer Finance & Socio Economic Survey, 1996/1997.

Table A8 (a): Source of Lighting Utilized for Dwelling of Poor Households by Sector - SLIS**

Source of Lighting Utilized for Dwelling	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
No Lighting	7	2.7	50	3.3	10	9.8
Electricity	186	72.9	654	42.8	36	35.3
Kerosene	62	24.3	823	53.8	56	54.9
Battery	0	0.0	0	0.0	0	0.0
Solar Energy	0	0.0	1	0.1	0	0.0
Other	0	0.0	1	0.1	0	0.0
Total	255	100.0	1,529	100.0	102	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).

Source: Sri Lanka Integrated Survey, 1999/2000.

Table A8 (b): Source of Lighting Utilized for Dwelling of Poor Households by Sector - CFS**

Energy for Lighting (Main Source)	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Electricity from Grid	57	60.0	566	32.2	8	9.8
Mini Hydro Project	2	2.1	23	1.3	3	3.7
Electricity from Generator	0	0.0	4	0.2	0	0.0
Electricity from Solar	0	0.0	0	0.0	0	0.0
Electricity from other (Including Prasakthi Unit)	1	1.1	4	0.2	1	1.2
Kerosene	35	36.8	1,160	65.9	70	85.4
Bio Gas	0	0.0	2	0.1	0	0.0
Other	0	0.0	1	0.1	0	0.0
Total	95	100.0	1,760	100.0	82	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Consumer Finance & Socio Economic Survey, 1996/1997.

Table A9 (a): Source of Cooking of Poor Households by Sector -SLIS**

Source of Cooking	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Firewood	201	78.8	1,485	97.1	102	100.0
Saw Dust/Paddy Husk	2	0.8	9	0.6	0	0.0
Kerosene	21	8.2	14	0.9	0	0.0
Gas	30	11.8	21	1.4	0	0.0
Electricity	0	0.0	0	0.0	0	0.0
Other	1	0.4	0	0.0	0	0.0
Total	255	100.0	1,529	100.0	102	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Sri Lanka Integrated Survey, 1999/2000.

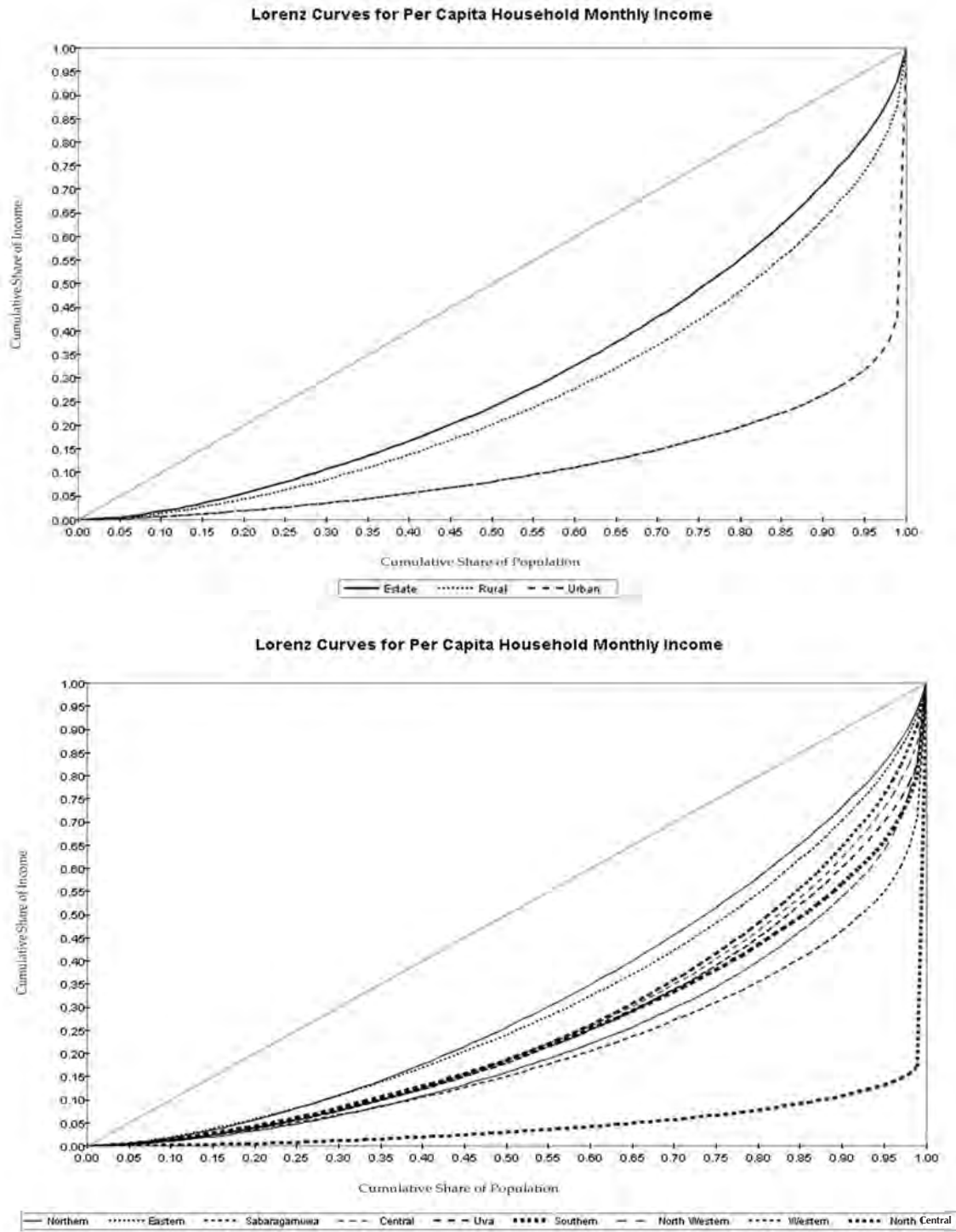
Table A9 (b): Source of Cooking of Poor Households by Sector - CFS**

Source of Cooking (Main Source)	Urban		Rural		Estate	
	No.	%	No.	%	No.	%
Firewood	72	75.8	1,745	99.1	82	100.0
Kerosene	13	13.7	7	0.4	0	0.0
Electricity	0	0.0	1	0.1	0	0.0
L.P. Gas	5	5.3	1	0.1	0	0.0
Charcoal/Timco	0	0.0	0	0.0	0	0.0
Bio Gas	3	3.2	3	0.2	0	0.0
Saw Dust	2	2.1	3	0.2	0	0.0
Other	0	0.0	0	0.0	0	0.0
Total	95	100.0	1,760	100.0	82	100.0

Note: **Difference is statistically significant at $\alpha = 0.01$ level (Pearson's Chi-Square).
Source: Consumer Finance & Socio Economic Survey, 1996/1997.

Appendix B: Lorenz Curves – SLIS and CFS

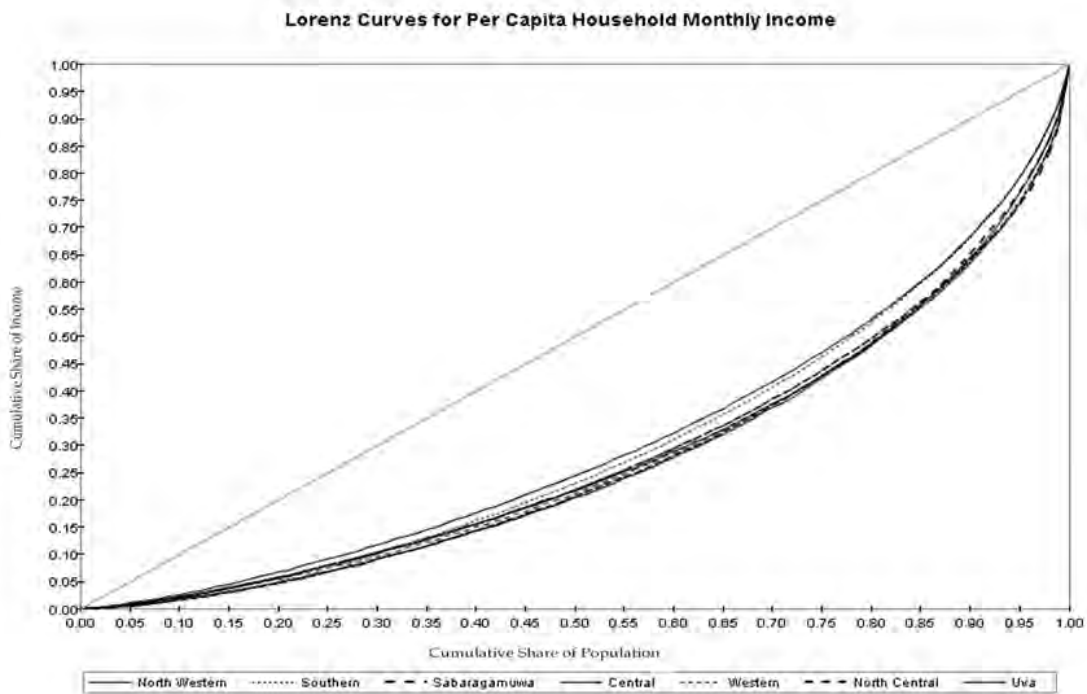
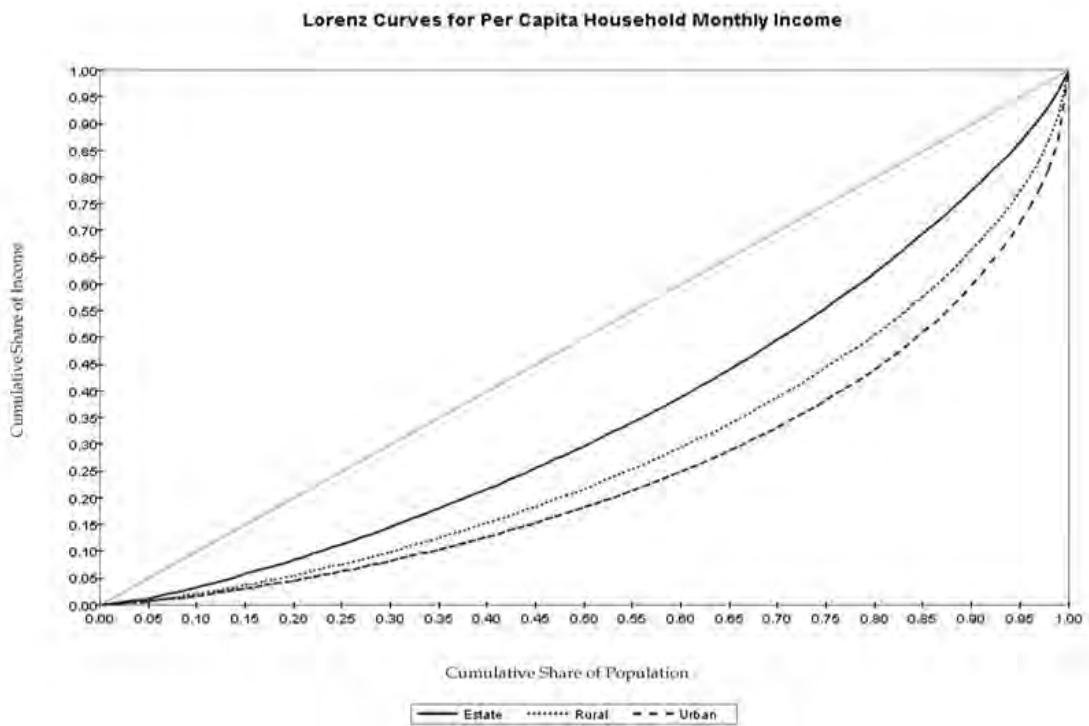
Figure B1: Lorenz Curves – SLIS



Note: Order of the legend displays increasing degree of inequality.

Source: Sri Lanka Integrated Survey, 1999/2000.

Figure B2: Lorenz Curves – CFS



Note: Order of the legend displays increasing degree of inequality.
Source: Consumer Finance & Socio Economic Survey, 1996/1997.

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